CENSUSES OF ASIA AND THE PACIFIC

1980 ROUND

East-West Population Institute
East-West Center
Honolulu, Hawaii

Edited by Lee-Jay Cho
and Robert L. Hearn

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With a Foreword by Philip M. Hauser

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The photo on the cover shows a plantation gathering for the 1980 Papua New Guinea census. Photo by Neil Gray, used with the permission of the National Statistical Office, Papua New Guinea.

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FOREWORD

For the second time, the East-West Population Institute of the East West Center has made it possible to gain ready access in a systematic way to the vast statistical information flowing from the national censuses in Asia and the Pacific. The census subjects covered in this volume have been expanded and include history, legal status, organization of the census office, design and execution, definitions employed, data processing, tabulations, and publications. Also contained is information on the census budget and timetable. This volume is edited by Dr. Lee Jay Cho, Director of the East-West Population Institute and editor of the earlier volume, and Robert L. Hearn, managing editor of the *Asian and Pacific Census Forum*. Whereas the earlier work covered 15 nations, the present volume contains information for 19, including for the first time materials from the People's Republic of China.

In addition to covering a larger number of countries, reflecting the increase in population census taking in less developed countries, a number of improvements has been effected in the presentation of the materials. These include more consistent and comparable descriptions of the census materials for each nation, achieved by stricter adherence to a common outline. Moreover, there has been a considerable improvement in the summarization of the characteristics of each census and of the questions asked—set forth in two tables at the beginning of the volume. Readability has been improved by placing the census questionnaires in an appendix. An additional change in format that will facilitate comparability is the construction of an index of chapter subdivisions located at the back of the volume.

It should be noted that the Asian and Pacific censuses taken in and around 1980 manifest the input of nine international census conferences attended by census officials and staff. These conferences were held under the aegis of the East-West Center with the cooperation of Asian and Pacific organizations. For example, the ninth census conference held in Tokyo, 1-5 March 1983, involved the cooperation of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the Statistical Institute for Asia and the Pacific (SIAP), and was cosponsored by the Statistics

Bureau of the Prime Minister's Office of Japan. That conference was attended by over 40 participants representing 15 countries. As a result of the conferences, which have been held since 1972, censuses conducted by Asian and Pacific countries have expanded in subject matter and have improved in comparability with respect to definitions employed, processing procedures, tabulations, and published statistics.

The 1980 round of censuses in the Asian and Pacific region will illuminate changes in population growth, composition, and distribution that occurred during the 1970s. The statistics will also reveal the extent to which urbanization has progressed and will update for most of the nations the changes in the size and makeup of the work force. Moreover, improved demographic analytical techniques will make possible depiction of changes in fertility, mortality, and migration. Especially important will be the new opportunity for the measurement of changes in birth rates, which, in general, began to decline in Third World countries in the mid-1960s. Finally, the availability of descriptions of the new censuses in Asia and the Pacific, including that of the People's Republic of China, will enable laymen as well as experts to become conversant with the rich data that have been collected and are being tabulated and disseminated.

This volume will undoubtedly both stimulate and accelerate the analyses of Asian and Pacific census materials. Of special significance will be research relating population data to social and economic development. It may be anticipated that the resultant descriptive and analytical studies will add to scientific knowledge, will provide a more solid basis for the formulation of national demographic and related policies, and will facilitate, both in the public and private sectors, the implementation and evaluation of relevant demographic, social, and economic programs.

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ACKNOWLEDGMENTS

The East-West Population Institute (EWPI) has been working with the United States Agency for International Development (USAID) since 1969 on projects designed to enhance the capacity of developing countries in Asia and the Pacific to collect, process, evaluate, and analyze population data. A major goal of the cooperative agreement between EWPI and USAID is to promote the exchange of experiences relating to the collection and analysis of demographic data. Funding from USAID has supported nine workshop-conferences for census officials, the quarterly newsletter *Asian and Pacific Census Forum*, and, with this book, two volumes describing censuses of Asia and the Pacific. We are pleased to have this opportunity to thank USAID for the encouragement and financial support given to us over the years.

This book would not have been possible without the cooperation of the governments whose censuses are represented here. We are deeply appreciative of the assistance we have received from those governments and for the esteem they have shown for this project. The chapter for each country was prepared by or under the direction of a high-level administrator in the official census organization, and the staffs of those organizations often played an important role in assembling the information. To the representatives of the census organizations, whose names appear in the list of contributors immediately preceding chapter 1, we extend our deepest gratitude for the unfailing cooperation they have given us.

In addition, certain other census officials deserve mention. In many different ways they have made significant contributions to this work.

From Australia, John K. Cornish, Assistant Statistician, Population Census & Demography Branch, Australian Bureau of Statistics, and Frank Parsons, Director, Processing & User Services Section, Population Census Branch, Australian Bureau of Statistics. From India, Om Prakash Sharma, Deputy Director of Census Operations, Office of the Registrar General.

From Indonesia, Abdulmadjid, Director General of the Central Bureau of Statistics until 1982. From Japan, Shoichi Ueda, Statistical Councillor (now retired), Statistics Bureau; and Michio Matsumura, Specialist for the Census Analysis, Population Census Division, Statistics Bureau. From Korea, Yun Jae Shin, Director-General of the National Bureau of Statistics since 1982; and Seung-Hun Chun, Director since 1983 of the Population Statistics Division, National Bureau of Statistics.

From Papua New Guinea, John Shadlow, National Statistician. And from the United States, Samuel P. Baum, Director, International Demographic Data Center, Bureau of the Census, and Meyer Zitter, former Assistant Director for International Programs and Acting Associate Director for Demographic Fields, Bureau of the Census.

The chapter on the U.S. census was written by Thomas A. Jones, under the general supervision of Frederick G. Bohme, Chief, Census History Staff, Data User Services Division. On several occasions these men were particularly accommodating.

We would also like to acknowledge assistance from Minja Kim Choe, Merrill Cherlin, and Tahera Ahmed. And finally we would like to thank Elizabeth Gould for making the preliminary arrangements for the project, the research associates and fellows at East-West Population Institute who gave helpful advice, and the staff of the Publications Office of the East-West Center.

As can be seen from the above list, this book is the product of the efforts of many people. Their hard work is reflected in the wealth of valuable information presented here. It is inevitable, however, that in our efforts to take the information they have provided, to organize it and make it consistent enough to permit comparisons between countries, errors have been introduced. We, the editors, take full responsibility for these errors. At the same time, we are confident that the reader will find the final product useful enough to overcome its weaknesses.

INTRODUCTION

A census of population is the largest single statistical operation a country is likely to undertake. It is the primary source of benchmark data on the size, distribution, composition, and social and economic characteristics of the population. Often it is combined with a housing census to yield basic statistics on the housing supply as well.

Censuses are taken in nearly every country of the world and virtually all share the same basic characteristics. Censuses collect, process, and disseminate demographic, economic, and social data for all persons in a specifically defined territory as of a specified time (see UN 1980:2-3). The essential features of a census are individual enumeration (it records information for each individual separately), universality (it covers all persons within the defined territory), simultaneity (the data obtained refer to the same reference time), and periodicity (censuses are taken at regular intervals so that comparable information is available in a fixed sequence).

Census data are essential for national development planning and demographic research. They provide the information needed to formulate and institute programs affecting population growth and distribution, public health, education, housing, income, and manpower utilization. A census can identify the characteristics not only of individuals, but also of families, households, the labor force, migrants, rural and urban populations, racial and religious groups, classes of workers, and groups with different educational characteristics. Furthermore, it can provide this information for administrative and geographical units ranging from small areas to the country as a whole.

But census data, like all survey data, are affected by the methods used to collect and compile them. How the census was taken and how the data were tabulated are important facts for data users to know. In this volume we provide basic facts about 19 censuses: how the enumeration was done, what questions were asked, how the data were processed, what efforts were made to evaluate the data, and what information is available from the census organization. We hope this will enable data users

to discern the weaknesses and strengths of the data. We also hope this book will help data collectors better plan their own operations by showing them methods used in other censuses.

This is the second volume on censuses of Asia and the Pacific produced by the East-West Population Institute (EWPI). Both volumes are products of an ongoing cooperative agreement between EWPI and the U.S. Agency for International Development (USAID). Most of the 19 censuses covered here were taken in either 1980 or 1981 (the exceptions are the 1976 Fiji census and the 1982 China census). The first volume covered 15 censuses taken in and around 1970.

Publication of the first census volume was recommended at a 1973 EWPI workshop-conference on tabulation plans for the 1970-round censuses. This was the second in what became a series of workshop-conferences bringing together academics who use census data and the administrators responsible for collecting and compiling the data. The EWPI census conferences (nine have been held to date) promote the sharing of experiences concerning the planning and execution of censuses, the examination of problems of comparability between nations and over time, and the modification of questionnaires and tabulations to facilitate the application of new techniques of demographic analysis.

The fourth through seventh conferences focused on preparations for the 1980-round censuses. Participants, most of whom are contributors to this book, discussed methods of evaluating the census, the use of packaged computer programs for editing and tabulation, training programs, mapping, and methods and uses of sampling. The need for improved data on marriage and fertility, socioeconomic status, migration, and labor force received particular attention, and the conference deliberations resulted in the recommendation of new questions on these subjects.

The issues debated at the conferences are frequently reflected in the reports in this book. Nearly all countries attempted a postenumeration survey (PES), and many used other dual-estimation systems and demographic

analysis to evaluate the success of their censuses. Computer programs discussed at the conferences, such as CONCOR and COCENTS, were widely used in the 1980 censuses. Furthermore, many countries used sophisticated sampling techniques to select a sample of the population for more detailed interviewing, to provide quick tabulations of major characteristics, and to ensure the representativeness of the PES.

In response to the demand for migration information, Indonesia, Malaysia, Nepal, and Thailand included questions on reason for migration, and both Hong Kong and the Philippines introduced questions on residence five years before the census. Thirteen countries asked questions that will yield information on children ever born and children surviving, and seven specifically identified mothers of children, which will facilitate own-children fertility estimation. To supplement the information on marital status, nine countries collected information on age at marriage (usually age at first marriage), and six collected information on previous marriages.

Labor force data—activity status, occupation, and industry—were collected from all countries either on a complete or sample basis. Also receiving near-universal treatment were employment status (i.e., employer, employee, self-employed) and educational attainment. Six countries asked for time worked in a specified period, and six also requested information on income. These data will be useful in labor utilization studies and studies concerned with socioeconomic status.

Other conferences in the region also helped to shape the 1980-round censuses; for example, conferences were sponsored by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the South Pacific Commission (SPC), and the Statistics Bureau of Japan. Training programs and technical assistance were made available by such organizations as ESCAP, EWPI, SPC, USAID, the Statistical Institute for Asia and the Pacific, and the United Nations Fund for Population Activities. But perhaps the most comprehensive guide for census organizers was the UN's *Principles and Recommendations for Population and Housing Censuses*.

United Nations Recommendations

The United Nations has long taken an interest in assisting countries with their censuses. In 1958 the UN Statistical Office prepared a document entitled *Principles and Recommendations for National Population Censuses*. This publication offered guidance to countries having little or no prior census experience and offered suggestions that might increase the international comparability of national population data. Based on the 1960 census experience and the needs of the 1970 program, the

report was revised, expanded, and reissued in 1967. It was revised again prior to 1980. The UN recommendations have effected a high level of standardization, especially with respect to census topics, definitions, classifications, and tabulations.

The UN project that compiled the 1980 recommendations differed from similar earlier projects in several respects. The main departure was the decision to have the regional commissions take the lead in developing the recommendations. This meant that the revision of the 1970 regional recommendations preceded the revision of the worldwide recommendations, and that the global recommendations on census content were made to complement regional recommendations rather than to supercede them. As a result, two documents were available to census planners in Asia and the Pacific: *Asian and Pacific Recommendations for the 1980 Population and Housing Censuses* produced in 1978 by ESCAP, and *Principles and Recommendations for Population and Housing Censuses* released in 1980 by the UN Statistical Office. (The discussion that follows draws heavily on both documents and on Yu 1983, which outlines their differences.)

Although the global recommendations go into greater detail on some aspects of methodology, they generally agree with the ESCAP recommendations. Both the global and regional documents combined the recommendations for population and housing censuses, which had been issued separately in the past. Also, chapters on operational aspects were substantially revised and expanded to reflect technical and policy developments.

Both the UN (global) and the ESCAP documents were organized in three parts: part one dealt with planning, organization, and administration of population and housing censuses; part two discussed topics and tabulations pertaining to population censuses; and part three discussed topics and tabulations pertaining to housing censuses.

Part one provided a general overview of censuses and then identified and discussed seven phases of a typical census operation: (1) preparatory work, (2) enumeration, (3) data processing, (4) evaluation of the operation and of the data, (5) data analysis, (6) dissemination of results, and (7) systematic recording of the census experience. Part one also discussed the use of technical assistance and sampling in censuses.

PREPARATION

Preparatory work, according to the UN recommendations, comprises establishing the legal basis for the census, setting up the administrative organization (if there is not a permanent one already) and procuring office space and equipment, fixing the census date and preparing a census calendar, setting up budget and cost controls, consulting users and publicizing census activi-

ties, preparing maps and a system of small-area identification, constructing census control lists, preparing the questionnaires, testing the census operations, and recruiting and training the census staff. Substantially new to the 1980 recommendations were certain communication activities and small-area identification.

The recommendations suggested a comprehensive program of communications covering three distinct audiences: major users of census data, persons and institutions participating in the census operations, and the general public. Major users were to be consulted on topics, definitions, and particularly on planned tabulations, analyses, and the development of a census data base. Communications with both governmental organizations outside the census office and nongovernmental organizations were stressed because such organizations could be called upon to provide personnel, equipment, supplies, space, transportation, or communication facilities. Communication with the general public enlists the interest, understanding, and cooperation of the people, which is essential to the quality of the census.

Small-area identification was added to the recommendations to meet the growing need for statistical information for units other than major and minor civil divisions. Increasing activity in economic and social planning created a demand for information for such divisions as metropolitan areas and small local areas. Small-area identification can be accomplished by extending the administrative hierarchy down to enumeration districts or by the use of geocoding (the division of areas by a grid usually related to lines of longitude and latitude). The identification of data by small areas makes possible greater flexibility in aggregation.

ENUMERATION

The enumeration section of the recommendations discussed units of enumeration, place of enumeration, enumeration period and reference time, enumeration procedures, and field supervision. It was expected that most countries would choose the canvasser method over the household- or self-enumeration method. Although household or self-enumeration can result in cost savings, this method requires almost universal literacy in the population. (Of the 19 countries reported on here, only Australia, Japan, New Zealand, and the United States used household enumeration.)

DATA PROCESSING

The fundamental consideration in census data processing is the interdependence of questionnaire design, type of entry and processing equipment, and desired output. The data processing section of the recommendations dealt with this interrelationship, with processing methods, with data dissemination decisions, and with processing control. The stages of data processing identified

were manual entry, manual editing, transcription of records to computer medium (via punch cards, keyboard entry, or optical scanning), machine processing (editing, imputation, and organization into files), and production of tables.

EVALUATION

Evaluation is the assessment of sampling errors and coverage (wrong inclusion or exclusion) and content (inexact information) errors. A postenumeration survey was considered essential for evaluation. It was recommended that the PES be independent of the original operation, represent the whole country and population, and permit one-to-one matching and reconciliation of records. The recommendations said the PES should be as close as possible to the census to ensure a minimum of population movement and a minimum problem of recall, and to take advantage of census publicity.

It was also recommended that clerical aspects of data processing be regularly inspected, that tabulations be subject to quality control, that estimates of error be published, and that corrections of inconsistent and missing data be documented.

ANALYSIS

The census office plays an important role in analytical studies. The recommendations noted that the census office can and should coordinate studies to avoid duplicated efforts and to ensure the fullest use of the data. To this end, a program of analytical studies can be drawn up in consultation with outside experts. The office can conduct some studies itself, but should encourage studies by other agencies both in and outside of government.

DISSEMINATION

The dissemination plan recommended was to publish the principal results on age, sex, and geographic distribution as soon as possible, to make tabulations of "recommended" and "other useful" topics, to publish analytical studies, and to provide maps where feasible. Three levels of data output—published tables, special tabulations on computer printout or similar media, and public use tapes—were suggested to accommodate different levels of demand.

An administrative report was recommended to provide information for appraising and interpreting the census results. Such a report would assemble complete records on the methodology, an evaluation of the techniques employed, and costs.

POPULATION TOPICS

The UN recommendations suggested some 36 topics for the population census, including four to be "derived" from the census questions—total population, locality, urban or rural status, and household composition.

These topics were grouped under the following headings: geographical and migration characteristics, household characteristics, demographic and social characteristics, fertility and mortality, educational characteristics, and economic characteristics. The topics were those recommended by a majority of the regional commissions.

ESCAP listed 25 "recommended" topics (including the same four derived topics) and 10 "other useful" topics. These were topics that had proved of greatest utility in the region.

The differences between the global and the ESCAP recommendations on census topics are minor. Two global topics—"Residence at a specified date in the past" and "Deaths of infants born in the 12 months preceding the census"—were subsumed in related ESCAP topics. ESCAP included in its "other useful" topics such items as "Number of dependents," "Professional or vocational education," "Secondary occupation," and "Physical disabilities," which were not among the global recommendations. On the other hand, three topics included in the global recommendations were not on the ESCAP list: "Maternal orphanhood," "Educational Qualifications," and "Sector of Employment."

One of the tables following this introduction lists the population topics covered by each country featured in this book, including those topics not among either the global or the ESCAP recommendations. The table also lists the topics for housing censuses.

With regard to the preparation of the questionnaire, the recommendations suggested that the following factors be considered: method of enumeration, type of questionnaire, data to be collected, most suitable form of questions, arrangement of questions, and processing techniques. It was also pointed out that questions must be free from ambiguity and must not be offensive, and if separate housing and population questionnaires are used, the designs must permit subsequent matching of living quarters and occupants.

TABULATIONS

The ESCAP recommendations suggested 50 population and 23 housing tables. The global recommendations suggested a similar number. While other tabulations might be more appropriate for a particular country, the suggested tabulations illustrated how the most important census information might be presented to provide a basis for programs of economic and social development and for research.

Organization of this Volume

One of the first things the reader will notice on examining the chapters that follow is the similarity between the census operations described there and the recommenda-

tions summarized above. One reason for this is that an outline with headings similar to the aspects of the census described in the UN recommendations was provided to the official census organization of each country for use in preparing the chapter for that country. Each chapter thus covers a similar range of topics in a level of detail determined by its sponsor. The focus is on policies, programs, and procedures, and the chapters reveal some creative ideas in census taking as well as innovations on the UN recommendations. Even where a country has simply selected from among options presented by the UN, that country's experience can reveal how successful the recommendation was in the particular circumstances where it was employed.

For easy reference, lists of publications and tabulations are placed at the ends of chapters. Facsimiles of the census schedules are collected in appendix 1 at the back of the book. The PES schedules that were available are gathered in appendix 2. The reader will note that some of the schedules are reproductions of the actual forms used by the country, others are simulations.

At the end of the book is a simplified index. It is primarily an index of the chapter subdivisions, which generally correspond to the subdivisions of the outline that each author was requested to follow. As such, the index covers the major census characteristics described by the UN recommendations and makes it possible to locate the discussion of these characteristics for each country. Unfortunately, it was not possible to construct a complete subject index, but the index of chapter subdivisions is meant to serve much the same purpose.

Following this introduction are a table of census characteristics and a table of the census topics covered by each country. These tables are a good starting point for international comparisons.

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NOTE: These tables, particularly the table of census topics, should be used as a general guide only. The topics listed are necessarily abbreviated and may include different details in different countries. For a better idea of the data available from each census, the reader should consult the discussions in each chapter, the lists of tabulations in chapters where these appear, and the questionnaires in appendix 1.

Characteristics of 1980-Round Censuses

	Country and Date of Census																			
	Aus 6/30/81	Ban 3/5/81	Chi 7/1/82	Fiji 9/13/76	HK 9/3/81	Indi 3/1/81	Indo 10/31/80	Jap 10/1/80	Kor 11/1/80	Mal 6/10/80	Nep 4/1/81	NZ 3/24/81	Pak 3/1/81	PNG 1980 ¹	Phil 5/1/80	Sing 6/24/80	SL 3/17/81	Thai 4/1/80	US 4/1/80	
<i>Basis of Census</i>																				
De facto	X	X	—	X	X	—	—	—	—	X	—	X	—	—	—	—	X	—	—	
De jure	—	—	X	—	—	—	—	X	X	—	—	—	—	—	—	—	—	X	—	
Combination	—	—	—	—	—	X	X	—	—	—	X	—	X	X	X	X	—	—	X	
<i>Type of Census</i>																				
Population and housing combined	X	X	—	—	X	X	X ²	X	X	—	—	X	—	X	X	X	X	X	X	
Population only or separately	—	—	X	X	—	—	—	—	—	X	X	—	X	—	—	—	—	—	—	
Housing separately	—	—	—	—	—	—	—	—	—	X	—	—	X	—	—	—	—	—	—	
<i>Types of Field Operations</i>																				
Complete enumeration only	X	—	X	X	—	—	—	X	—	X	X	X	—	—	—	—	—	—	—	
Sample and complete enumerations ³	—	X	—	—	X	X	X	—	X	—	—	—	X	X	X	X	X	X	X	
Postenumeration survey	X	X	X	—	X	X	X	X	X	X	X	—	X	X ⁴	X	X	X	X	X ⁴	
Village information survey	—	—	—	—	—	—	X	—	—	—	—	—	—	—	X	—	—	—	—	
<i>Types of Questionnaires</i>																				
Population or combination																				
Separate for each household	X	X	X	X	X	—	X	X	X	X	X	—	X	X	X	X	X	X	X	
Separate for each individual	—	—	—	—	—	X	—	—	—	—	—	X	—	—	—	—	—	—	—	
Separate housing questionnaire	—	—	—	—	—	X	—	—	—	X	—	X	X	—	—	—	—	—	—	
Houselist	—	—	—	—	—	X	X	—	—	—	X	—	X	—	X	X	—	X	—	
<i>Data Entry</i>																				
Key to disk or tape	—	—	X	—	—	—	X ⁵	—	X	—	X	—	X	X	X	X	—	X	—	
Keypunch (punch cards)	—	—	—	X	—	—	—	—	—	—	—	—	—	—	—	—	X	—	—	
OMR ⁶	X ⁷	X	—	—	—	—	—	X	—	X	—	—	—	—	—	—	—	—	—	
OCR ⁸	—	—	—	—	—	—	—	—	—	—	—	X ⁷	—	—	—	—	—	—	—	

KEY: X Category applies.

— Category does not apply.

¹ Papua New Guinea data were collected as of the day of enumeration. The census operations ran from March to October 1981.

² Some housing questions on houselisting form.

³ For sample size, see Sample Design section of respective chapters.

⁴ Matching done with a subsequent population survey.

⁵ Nonsample questionnaires processed manually.

⁶ Optical Mark Recognition device.

⁷ Transcribed to machine-readable form by census office staff.

⁸ Optical Character Recognition device.

Topics Covered in 1980-Round Censuses: UN Global Recommendations, ESCAP Recommendations, and Country-Specific Topics

		Aus 1981	Bangl 1981	China 1982	Fiji 1976	HK 1981	India 1981	Indo 1980	Japan 1980	Korea 1980	Mal 1980	Nepal 1981	NZ 1981	Pak 1981	PNG 1980	Phil 1980	Sing 1980	SL 1981	Thai 1980	US 1980
POPULATION TOPICS																				
Geographic and Migration Characteristics																				
Place found at time of census	ER	●	●	—	●	●	●	—	—	—	●	—	●	●	●	—	●	●	—	●
Usual residence	ER	●	—	●	—	●	—	●	●	●	●	●	●	●	●	●	●	○	●	●
Place of birth	ER	●	○	—	●	○	○	○	—	○	●	●	●	—	●	○	●	○	○	○
Duration of residence	ER	—	—	●	—	○	○	○	●	—	●	●	—	○	○	—	—	○	○	—
Previous residence	ER	—	○	—	—	—	○	○	●	—	●	—	—	○	—	—	—	○	○	—
Residence <i>n</i> years ago		●	—	—	●	○	—	○	—	○	—	—	●	—	○	○	—	—	—	○
<i>Birthplace of father and mother</i>		●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Registration status, for residence</i>		—	—	●	—	—	—	—	—	—	●	—	—	—	—	—	●	—	●	—
<i>Persons absent from household</i>		—	—	●	—	●	—	—	—	—	H	H	H	●	—	—	●	—	●	●
<i>Reason for absence</i>		—	—	—	—	—	—	—	—	—	H	—	—	—	—	—	●	—	—	●
<i>Visitors present</i>		—	—	—	—	●	—	—	—	—	H	—	—	●	○	—	—	●	—	●
<i>Year arrived to begin residence</i>		●	—	—	—	○	—	—	—	—	—	—	—	—	—	—	●	—	—	○
<i>Place of origin</i>		—	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Reasons for migration</i>		—	—	—	—	—	○	—	—	—	●	●	—	—	—	—	—	—	○	—
Household Characteristics																				
Relationship to head of household or other reference member	ER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Demographic and Social Characteristics																				
Sex	ER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Age ¹	ER	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Marital status	ER	●	●	●	●	○	●	●	●	●	●	●	●	●	○	●	●	●	●	●
Citizenship	ER	●	—	—	—	—	●	●	●	—	●	●	—	—	●	○	●	●	—	○
Religion	ER	●	●	—	●	—	●	●	—	—	●	●	●	●	○	—	○	●	○	—
Language, spoken	ER	●	—	—	—	—	●	○	—	—	●	●	—	—	○	○	●	○	—	○
Ethnic group	EO	●	—	●	●	—	●	—	—	—	●	●	●	—	—	—	●	●	—	●
(Physical disabilities)	EO	—	○	—	—	○	H	●	—	●	●	H	—	○	—	—	—	●	—	○
<i>Married more than once</i>		●	—	—	●	—	—	○	—	—	●	—	—	—	—	○	—	—	—	○
<i>Tribal household</i>		—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fertility and Mortality																				
Children born alive ²	ER	●	○	●	●	○	○	○	—	○	●	●	●	○	○	○	○	—	○	○
Children living ²	ER	●	○	●	●	—	○	○	—	○	●	●	—	○	○	○	—	—	○	—
Age at marriage	EO	—	○	—	—	—	○	○	—	○	●	—	—	—	—	○	○	—	○	○
Duration of marriage	EO	●	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Live births in last 12 months ³	EO	—	○	●	—	—	○	○	—	—	—	●	—	○	○	○	—	—	—	—
Infant deaths in last 12 mos. ³	EO	—	○	—	—	—	—	○	—	—	—	—	—	—	○	—	—	—	—	—
Maternal orphanhood		—	—	—	●	—	—	—	—	—	—	—	—	—	○	—	—	—	—	—
<i>Own father⁴</i>		—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Own mother⁴</i>		—	○	—	●	—	—	○	—	—	—	●	—	—	○	●	—	—	○	—
<i>Sex of last live birth</i>		—	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Deaths in household last <i>n</i> years</i>		—	○	●	—	—	—	—	—	—	—	H	—	—	—	—	—	—	—	—
<i>Birth order of last child</i>		—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Age at first birth</i>		—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Contraceptives ever used</i>		—	—	—	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—
<i>Contraceptives currently using</i>		—	—	—	—	—	—	○	—	—	—	—	—	—	—	—	—	—	○	—
<i>Illness in past week</i>		—	—	—	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—
<i>Medical service used</i>		—	—	—	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—
<i>Smoke cigarettes</i>		—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—
<i>Ever widowed</i>		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○

Continued on next page

Topics Covered in 1980-Round Censuses (continued)

		Aus 1981	Bangl 1981	China 1982	Fiji 1976	HK 1981	India 1981	Indo 1980	Japan 1980	Korea 1980	Mal 1980	Nepal 1981	NZ 1981	Pak 1981	PNG 1980	Phil 1980	Sing 1980	SL 1981	Thai 1980	US 1980
Educational Characteristics																				
Educational attainment ⁵	ER	—	●	●	●	○	●	○	●	●	●	●	●	●	●	○	●	●	●	○
Literacy	ER	—	●	●	—	—	●	○	—	—	●	●	—	●	—	○	●	●	○	—
School attendance	ER	●	●	—	—	—	●	●	●	●	●	—	—	○	●	○	●	●	○	○
Educational qualifications ⁶		●	—	—	—	—	—	—	—	—	●	●	●	●	—	○	●	●	—	—
(Professional/vocational educ.)	EO	●	—	—	—	—	—	○	—	—	●	—	●	—	○	—	—	—	—	—
Age when left school		●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Field of education		—	○	—	—	○	—	○	—	○	—	●	●	○	—	○	—	—	—	—
Economic characteristics																				
Activity status ⁷	ER	●	●	●	●	○	●	○	●	○	●	●	●	○	●	○	●	●	●	○
Occupation	ER	●	○	●	●	○	●	○	●	○	●	●	●	○	○	○	●	●	●	○
Industry	ER	●	○	●	●	○	●	○	●	○	●	●	●	○	○	○	●	●	●	○
Status in employment ⁸	ER	●	○	—	●	○	●	○	●	○	●	●	●	○	—	—	—	●	●	○
Time worked	EO	●	—	—	—	○	—	○	—	—	●	—	●	—	—	—	—	—	—	○
Income	EO	●	—	—	—	○	—	—	●	—	—	—	●	—	—	—	○	—	—	○
Sector of employment ⁹		—	—	—	—	○	—	—	—	—	—	—	—	—	○	—	—	●	—	○
(Number of dependents) ¹⁰	EO	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of work/school		●	—	—	●	—	●	—	●	○	●	—	●	—	○	○	●	●	—	○
Means of travel to work		●	—	—	—	—	—	—	●	○	—	—	●	—	—	—	○	●	—	○
Cottage industry		—	●	—	—	—	—	—	—	—	—	H	—	—	●	—	—	—	—	—
Secondary occupation		—	—	—	—	○	●	○	—	—	—	—	—	—	—	—	—	—	—	—
Whether seeking more work		—	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Social Security benefits		—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	○
Activity 5 years ago		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○
Military service		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○
Agricultural activity		—	—	—	—	—	H	●	—	—	—	H	—	—	●	—	—	—	—	○
HOUSING TOPICS																				
Building in Which Living Quarters Are Located																				
Type of building, structure	ER	●	○	—	—	—	—	○	●	●	H	—	H	—	○	H	●	○	○	●
Material of outer walls	ER	●	●	—	—	—	H	○	—	●	H	—	H	—	H	—	—	○	○	—
Year of period of construction	ER	—	—	—	—	—	—	—	—	●	H	—	—	—	H	—	—	○	—	○
(Material of roof or floors)	EO	—	●	—	—	—	H	○	—	●	H	—	H	—	H	—	—	○	—	—
(State of repair)	EO	—	—	—	—	—	—	—	—	—	H	—	—	—	—	—	—	—	—	—
Builder of structure		—	—	—	—	—	—	—	—	—	H	—	—	—	—	—	—	—	—	—
Use of building/living quarters		—	—	—	—	—	—	H	—	—	—	—	—	H	—	—	—	—	○	●
Living Quarters																				
Location	ER	●	●	●	—	●	H	H	H	●	H	H	H	H	○	H	●	○	●	●
Type of living quarters ¹¹	ER	●	●	●	—	●	H	H	●	●	H	—	H	H	—	H	●	○	●	●
Type of ownership ¹²	ER	●	—	—	—	—	—	—	●	—	H	—	H	—	○	—	—	—	○	—
Occupancy status ¹³	ER	●	—	—	—	—	—	—	—	—	H	—	—	H	○	—	H	—	—	●
Number of rooms	ER	●	○	—	—	—	H	—	●	●	H	—	H	H	—	H	—	○	○	●
Source of lighting	ER	—	○	—	—	—	—	○	—	—	H	—	—	H	—	h	—	○	○	—
Toilet facilities	ER	—	○	—	—	—	H	○	—	●	H	—	—	H	—	h	—	○	○	○
Water supply	ER	—	●	—	—	—	H	○	—	●	H	—	—	H	—	○	—	○	○	● ¹⁴
Bathing facilities	EO	—	—	—	—	—	—	○	—	●	H	—	—	H	—	—	—	—	○	○
Cooking facilities	EO	—	—	—	—	—	—	—	—	●	H	—	—	H	—	—	—	—	○	○
(Type of cooking fuel)	ER	—	○	—	—	—	—	○	—	●	—	—	H	H	—	h	—	○	○	○
(Useful or living floor space)	EO	—	—	—	—	—	—	○	●	●	—	—	—	—	—	H	—	—	—	—
(Outdoor space)	EO	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(Temperature control)	EO	—	—	—	—	—	—	—	—	●	—	—	H	—	—	—	—	—	—	○

		Aus 1981	Bangl 1981	China 1982	Fiji 1976	HK 1981	India 1981	Indo 1980	Japan 1980	Korea 1980	Mal 1980	Nepal 1981	NZ 1981	Pak 1981	PNG 1980	Phil 1980	Sing 1980	SL 1981	Thai 1980	US 1980
<i>Separate storage for paddy</i>		—	O	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Electricity</i>		—	—	—	—	—	H	—	—	—	—	H	—	—	—	—	—	—	—	—
<i>Hot water supply</i>		—	—	—	—	—	—	—	—	—	—	—	H	—	—	—	—	—	—	O
<i>Ethnicity of owner</i>		—	—	—	—	—	—	—	—	—	H	—	—	—	—	—	—	—	—	—
<i>Type of entrance</i>		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
<i>Connected to public sewer</i>		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O
<i>Utility costs</i>		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O
<i>Real estate taxes on house</i>		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O
<i>Value of property</i>		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
<i>Mortgage on house</i>		●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O
<i>Insurance on living quarters</i>		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O
<i>Char. of marine living quarters</i>		—	—	—	—	O	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Occupants																				
Conjugal family nucleus ¹⁵	ER	—	—	—	—	—	H	—	—	—	—	—	—	—	—	—	—	—	—	—
Char. of household head ¹⁶	ER	—	—	—	—	—	H	—	—	—	H	—	—	—	—	—	—	—	—	—
Households ¹⁷	ER	—	—	—	—	O	—	H	—	●	H	—	—	H	—	H	●	O	●	—
Occupants	ER	—	O	●	—	●	H	●	●	—	H	H	H	H	—	H	●	O	●	—
Tenure of living quarters ¹⁸	ER	●	●	—	—	O	H	O	●	●	H	—	H	H	O	h	●	O	O	●
Rent paid	EO	●	—	—	—	O	—	—	—	—	—	—	H	—	—	—	—	—	O	●
(Income level of household)	EO	—	—	—	—	—	—	—	—	—	H	—	—	—	—	—	—	—	—	—
(Tenure of land)	EO	—	●	—	—	—	H	O	—	—	—	—	—	—	—	h	—	—	O	—
(Household appliances)	EO	—	O	—	—	—	—	O	—	●	H	H	H	—	—	h	—	—	O	O
<i>No. of motor vehicles</i>		●	—	—	—	—	—	—	—	—	H	—	●	—	—	—	—	—	—	O
<i>Means of transportation</i>		—	●	—	—	—	—	—	—	O	H	—	●	—	—	—	—	—	O	—
<i>Own agricultural land</i>		—	●	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—
<i>Own holiday residence</i>		—	—	—	—	—	—	—	—	—	—	—	H	—	—	—	—	—	—	—

KEY: Topics in roman type not enclosed in parentheses are from the 1980 global recommendations from the UN Statistical Office.

Topics in parentheses are ESCAP topics that were not among the global recommendations.

Topics followed by the letters ER were included in the ESCAP "recommended" topics; topics followed by EO were ESCAP "other useful" topics.

Topics in italic type were in neither the global nor the ESCAP recommendations.

● Asked of all persons/households on population questionnaire.

O Asked of a sample of persons/households on population questionnaire.

H Asked of all persons/households on housing questionnaire only.

h Asked of a sample of persons/households on housing questionnaire only.

— Not asked.

¹ Or date of birth.

² Sometimes asked in combination with children who died.

³ Or last live birth.

⁴ Identification of natural parents if in household. For fertility tabulations by own parent, e.g., for own-children fertility estimation.

⁵ Highest grade completed.

⁶ Degrees or certificates obtained; sometimes includes field of study.

⁷ Employed, looking for work, housekeeper, student, etc.

⁸ Self-employed, employer, employee, etc.

⁹ Mainly public (government) or private.

¹⁰ As shown by source of livelihood of each individual.

¹¹ Permanent, temporary, institutional, etc.

¹² Mainly government or private.

¹³ Occupied or vacant.

¹⁴ Refers to all plumbing facilities: hot and cold piped water, flush toilet, and bathing facilities.

¹⁵ Identification of couples and their children (usually this information can be derived from the population census questions and is not asked for separately).

¹⁶ Usually this information is available from the population census questions and is not asked separately.

¹⁷ Households identified separately (usually this information is available from the population census questions).

¹⁸ Own, rent, occupy without paying rent, etc.

SELECTED ABBREVIATIONS

AGA	assistant government agent (SL)	LGA	local government area (Aus.)
AK & NA	Azad Kashmir and Northern Areas (Pak.)	LQ	living quarters
BBS	Bangladesh Bureau of Statistics	MOD	Ministry of Overseas Development (Fiji)
BG	block group (US)	NBOS	National Bureau of Statistics (Korea)
BNA	block numbering area (US)	NCC	National Computer Center (PNG)
CAF	Census of Agriculture and Fisheries (Phil.)	NCCB	National Census Coordinating Board (Phil.)
CB	census block	NCSO	National Census and Statistics Office (Phil.)
CBS	Central Bureau of Statistics (Indo. and Nepal)	NEDA	National Economic and Development Authority (Phil.)
CCD	census county division (US)	NSC	National Statistical Council (Ban.)
CD	census division or collection district	NSO	National Statistical Office (Thai.)
CDMDB	Collection District Master Data Base (Aus.)	NWFP	Northwest Frontier Province (Pak.)
CDP	census designated place (US)	OCR	optical character recognition
CENTS	Census Tabulation System (computer program)	OMR	optical mark recognition or reading
CES	census evaluation study	PCO	provincial census officer (PNG)
CLUSTERS	Computation and Listing of Useful Statistics on Errors of Sampling (computer program)	PDS	Provincial Data System (PNG)
COCENTS	COBOL Census Tabulation System (computer program)	PEC	postenumeration check
CONCOR	Consistency and Correction (computer program)	PES	postenumeration survey
CPO	Census Promotion Office (US)	PLA	People's Liberation Army (China)
CSD	Computer Services Department (Sing.)	RCC	regional census center (US)
CU	census unit (PNG)	RCO	regional census officer (PNG)
DCO	district census officer (PNG)	RNV	rural nonvillage (PNG)
DID	densely inhabited districts (Japan)	Rs	rupees, usually preceded by initial of country using the currency
DTCP	UNDP/Asia and Pacific Programme for Development Training and Communication Planning	SCSA	standard consolidated statistical area (US)
EA	enumeration area	SD	sanitary district (Thai.)
EB	enumeration block	SIAP	Statistical Institute of Asia and the Pacific
ED	enumeration district	SLC	school leaving certificate
EDP	electronic data processing	SMA	statistical metropolitan area (Ban.)
FATA	Federally Administered Tribal Area (Pak.)	SMSA	standard metropolitan statistical area (US)
FILAN	File Analysis System (computer program)	STF	summary tape file (US)
GCE	general certificate of education	SUPAS	Indonesia's 1976 intercensal population survey
GS	<i>grama sevaka</i> (SL)	TIDE	The Identification of Errors (computer program)
HDB	Housing and Development Board (Sing.)	UNDP	United Nations Development Programme
HPL	High Level Programming (computer language) (Japan)	UNFPA	United Nations Fund for Population Activities
JTC	Jurong Town Corporation (Sing.)	URA	Urban Redevelopment Authority (Sing.)
		USAID	United States Agency for International Development

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AUSTRALIA 1981

Population Census Branch
Australian Bureau of Statistics
Belconnen, Australian Capital Territory

Introduction

HISTORY AND LEGAL STATUS

Although only some of the results of Australia's first enumerations have been preserved, it is known that they were conducted very early in the history of the country. These counts were known as "musters" and were important for keeping track of convicts and for matching critical supplies to the number of people needing them. The earliest muster was held in 1788; musters were repeated at intervals of not more than a year until 1825.

The first regular census in Australia was taken in November 1828 in New South Wales and included Moreton Bay (now Queensland). This census obtained information on the number, names, age groups, sex, and civil conditions of the inhabitants of the colony. The first census to be held concurrently throughout all the states was taken in 1881. These censuses essentially adopted the methods used in England at the time, although after some use, it became evident that they were in certain respects ill adapted to Australian conditions. In 1890 and 1900, conferences of state statisticians were held to determine how census information could be collected and tabulated throughout Australia in a uniform and effective manner. Uniformity of schedule content was attained in the 1901 census, but the method of presentation of results differed considerably in the several states and there was no coordinating authority to bring the results together so as to form a total for Australia.

National uniformity was finally achieved with federation, when census taking became the responsibility of the Commonwealth government. With federation, the census took on an important role in relation to political representation. In the lower house, each of the states was to have representation proportional to its population, hence the need to have an accurate count of the population. Provisions for census taking were made in the Census and Statistics Act of 1905, which authorized the appointment of a Commonwealth statistician, one

of whose duties was to conduct the census. The act provided that the census should be taken by delivering to every dwelling a householder's schedule requesting particulars of the dwelling and its inmates. The act also stipulated a number of topics that had to be asked in each census and allowed for other topics to be prescribed by regulation. The first Australian census conducted under the authority of the Census and Statistics Act was held in 1911, and the act stipulated that a census was to be taken every tenth year thereafter.

The 1911 census was tabulated almost solely by hand, but the second Australian census, held in 1921, saw the introduction of automatic machines in the processing operation. In 1921, operational control of the census was removed from the states. For the first time the Commonwealth Electoral Office's regional network was utilized for the conduct of the census. The field system has subsequently maintained its link with the Commonwealth Electoral Office with very few changes to the basic system that was established in 1921.

The 1931 census was postponed until 1933 because of the economic depression prevailing at the time. The Census and Statistics Act was amended in 1930 by the addition of the words, "or at other times as prescribed," to make the year in which the census was to be conducted more flexible. Subsequently, the fourth census was not held until 1947 because of World War II, and the fifth census was conducted in 1954 (the midpoint between 1947 and 1961), since 1951 was regarded as too soon after the 1947 census. In the 1961 census an investigation of census coverage was undertaken for the first time. This was not designed as an evaluation of the census, but rather of the quarterly labor force survey that was introduced in 1960. But this was the initial step toward the Australian Bureau of Statistics's census evaluation studies. The seventh census, held in 1966, saw the introduction of computers in the processing operation. This allowed detailed edit and amendment procedures to be incorporated into processing for the first time.

Since 1961 a census has been held every five years

because of demand for more frequent counts of the population. In 1977 an amendment to the Census and Statistics Act required future censuses to be carried out on a quinquennial basis. This alteration made mandatory what had to be prescribed previously.

The 1976 census was the largest census, in terms of the number of questions, ever attempted in Australia. The census questionnaire, asking 53 questions compared with 37 in 1971, was an ambitious social inquiry, largely because the government then in power required information on a wide range of issues for implementation of its policies. The length of the 1976 census schedule and the more sensitive nature of a number of the questions combined to generate considerable public criticism of the census.

Elections brought about a change of government in late 1975. The new government undertook to reduce government expenditure and decided that all but preliminary processing would be deferred until the next financial year (July 1977 to June 1978). Early in 1977 further expenditure reductions resulted in the decision to process only every second schedule. All forms from institutions were processed, along with all the schedules from the Northern Territory, but only 50 percent of the household forms were processed for the remaining states and for the Australian Capital Territory. (For a fuller discussion of the 1976 census and these decisions, readers should refer to articles by Elizabeth Gould in the No-

vember 1977 issue of the *Asian and Pacific Census Newsletter*).

Long before processing of the 1976 census was completed, and while the unfavorable publicity and other difficulties experienced were still fresh, planning and testing began for the tenth Australian census to be held 30 June 1981.

ORGANIZATION OF THE AUSTRALIAN BUREAU OF STATISTICS

The Australian Bureau of Statistics (ABS) is headed by the Australian statistician, who is responsible to the treasurer. The Bureau is the national statistical agency responsible for a large number of statistical collections, of which the Census of Population and Housing is only one. The Population Census Branch is one of three branches within the Demography, Social and Manpower Division and has the responsibility for developing and conducting the census. It has no responsibility for household surveys.

Permanent staffing within the ABS for the 1981 census was about 100 persons at the central office in Canberra and in the seven state offices. Temporary employees included 2,600 group leaders and 26,000 collectors for the collection phase of the census. Essential support for the census operation came from various non-ABS agencies, such as the Australian Electoral Office whose officers were appointed (by invitation) to administer the

Figure 1.1. ABS Organizational Chart

collection system, and cartographic staff from the Division of National Mapping who were responsible for the design, drafting, and compilation of all census mapping materials.

Design and Execution

PREPARATION AND PLANNING

Planning for the 1981 census began in mid 1977 and was undertaken with the following objectives in mind:

- To provide an opportunity for public comment on the topics to be included;
- To reduce the form-filling burden on the public;
- To investigate the possibility of conducting a census without asking each person's name;
- To minimize the invasion of privacy while maintaining the accuracy of the data; and
- To improve the quality of the census data, that is, to reduce the number of people missed by the census and reduce the proportion of unanswered questions.

The pursuit of these objectives formed the basis of a comprehensive program of field testing and analysis.

Scope and Coverage

Every individual in Australia on census night (except those with diplomatic status) had to be entered on a census form. The Census and Statistics Act provides penalties for those who refuse to be included. Visitors to Australia are included, but usual residents temporarily absent overseas are not.

It has been general practice in Australia to collect census information on an actual-location basis; that is, all members of the community are enumerated at the dwelling in which they stayed on census night. It is considered easier to collect and process data on this basis, especially since householder self-enumeration is employed (householders are required to complete the census schedule for themselves and their households). In addition, the census is taken in midwinter when there is minimum population displacement. There are, however, questions included on the schedule that facilitate the production of population estimates on a usual-residence basis.

Enumeration Districts and Mapping

The collection district (CD) is the geographical unit of collection for the Australian census. In urban areas, CDs average 200–300 dwellings or households, whereas in rural areas, CDs can contain very few dwellings and cover extensive land areas. Collection districts adjoin but do not overlap the boundaries of local government areas (LGAs). Consequently, data from CDs can be aggregated exactly to LGAs.

States are subdivided into divisions (areas closely co-

inciding with Federal electoral divisions and having, on average, a population of 120,000), which are subdivided into areas that cannot overlap LGA boundaries. The subdivisions are then divided into collection districts. As far as possible, comparability of CD boundaries is maintained between censuses. That is, in the situation where a CD has grown too large to be handled by one census collector, attempts are made to split it in two so that when the two CDs are aggregated, they are still comparable to the previous census area. Likewise in the case of population decline, the CD boundary is maintained wherever possible.

One crucial requirement in ensuring complete population coverage by the field system is the availability of up-to-date, clear, and easily read field maps. Prior to the 1981 census, the entire Australian landmass was divided into approximately 26,000 CDs on the basis of estimated population. These areas were mapped so that they provided each collector with sufficient information to enable him or her to contact every household within the particular CD.

To obtain such maps for the 1981 census, the 1976 base field maps were sent out to local government authorities who were asked to update and return them. Using this information and information obtained from 1976 collectors' comments, the Division of National Mapping updated their topographic maps, which, together with air-photos, were used by the ABS to make decisions as to where boundaries should be changed. The ABS holds air-photos of all urban settlements in Australia. Before each census, areas that are known to have grown or for which the presently held photos are more than seven years old are photographed again. Each CD was tentatively classified as either urban or rural according to these photographs. This classification is subject to confirmation after the final census data are tabulated. The census boundaries were then superimposed over the topographic maps to provide the final field maps. For the production of 1981 field maps, all air photography was completed by early 1980.

The 1981 field maps have been produced at a scale of 1:10,000 for urban centers and rural localities, but as density of population decreases, the scale becomes smaller, with areas in western New South Wales being mapped at a scale of 1:500,000. All 1981 map sheets are of C3 size (324 x 458 mm). Each map sheet is a component of a final network and abuts its neighbors in that network. To enable collectors to locate their CDs and orient themselves, each collector received a map sheet that completely isolated his or her area and included a reasonable area around it (see fig. 1.2).

The uniform size and design of the field maps facilitated their reproduction onto microfiche for dissemination. This is the first Australian census where this has been attempted, and considerable study was given to the

production of microfiche that could retain geographic details such as boundaries and street names.

For the 1981 census, National Mapping is digitizing the boundaries of all CDs for each state. These digitized boundaries will be used to produce computer-generated maps of census data. Computer atlases are expected to be published by National Mapping in association with the ABS using the digitized boundaries and computer facilities of National Mapping and the census data collected by the ABS. Similar atlases were produced from the 1976 census under the title *Atlas of Population and Housing*.

Schedule Content and Pretests

A topic evaluation program was designed to establish the content of the 1981 census. It began with the user submission scheme, which was initiated in November 1977 when the ABS wrote to all known users of census data and advertised in all capital city newspapers requesting submissions. Users were required to justify the inclusion (or exclusion) of particular topics for the 1981 census, to provide details as to how they intended to use the information, what topics they would like their topics cross classified by, the geographic level at which they needed the data, and, where appropriate, the response categories that would most suit their needs.

Response to the scheme was excellent—over 1,600 topic requests were received. The topics most frequently requested for inclusion were related to income, occupation, ethnic origin, and religion. Only 50 submissions were received requesting the exclusion of particular topics in the 1981 census, and 10 of these related to name.

Each topic requested by users was subject to an initial evaluation based on the following criteria: the need for the information, whether the information was available from other sources, whether the type of data requested justified inclusion of the topic in a census, whether the census would produce reliable information for the topic, and whether the topic was likely to be acceptable to the Australian public.

Topics that met all the desired criteria were then extensively evaluated to determine whether the questions were confusing, intrusive, or ambiguous, and whether they were likely to obtain information in line with the users' requirements. Topics for which there was doubt as to whether the data requested could be collected accurately from a census or whether the topic would be acceptable to the Australian public were evaluated in three small census tests, each covering approximately 500 households. The topics tested are detailed in table 1.1.

The methodology adopted for these pretests consisted of simulated census procedures supplemented by follow-up interviews. Because one purpose of the pretests was to evaluate response or nonresponse to partic-

Table 1.1 Topic Evaluation Pretests

<i>Date</i>	<i>Test Area</i>	<i>Topics Evaluated</i>
25 May 1978	Canberra	Age; marriage duration; religion; childcare; languages (proficiency in English, first language, and languages used last week)
29 Jun 1978	Sydney	Source of income; pensions; retirement provisions/schemes; leisure; holidays; trips taken (150 km or more and overseas); household relationship; age; marriage duration
27 Sep 1978	Melbourne	Labor force; major activity; voluntary work; holidays; childcare; income; family structure; fertility; unemployed; languages (first language and languages used last week); racial origin; source of mortgage

ular topics under conditions similar to the actual census, the interviewers delivered census schedules to households in much the same way as they would in the census itself. Follow-up interviews were undertaken to ascertain accuracy of response and reasons for nonresponse. From such information, some topics justified by users were found to be inappropriate for the census because the census could not collect data of acceptable quality.

In February of 1979, after analyzing the census tests, the ABS published a document entitled "Preliminary Views on the Nature and Content of the Census." Subsequently, meetings were held with users in the capital cities. All known users were informed and the meetings were advertised in the respective metropolitan newspapers. Following the users meetings, discussions were held with the Australian Statistics Advisory Council and final recommendations were made to the government. The 1981 census topics were tabled in Parliament by the treasurer in November 1979 in the document "Topic Evaluation and Proposed Questions." Parliament approved regulations stipulating the census topics in March 1980.

Four additional tests were conducted in 1979 to evaluate the layout of the 1981 census schedule. Because the government's decision on the content of the census was not announced until November 1979, the first three tests had to be conducted without knowing the actual census topics; however, the topics had been decided by the time the fourth test was conducted in November.

Twelve schedule designs were evaluated in terms of wording and layout of questions, wording and layout of response categories, design and usefulness of instructions, and the order of questions within the schedule. It

was found that all these factors had a significant effect on the quality of the data, both in terms of response rates and in terms of accuracy of responses. Follow-up interviews were used to determine reasons for inaccuracies and nonresponse, and this information was used to redesign questions to reduce errors. In this way, most significant systematic errors were removed from the 1981 census schedule.

Procedures for the collection, processing, and evaluation system were tested in a "dress rehearsal" twelve months before census day. Three local government areas were selected for this test, which involved 17,000 households. People were recruited for temporary employment as group leaders, collectors, and processing staff in order to simulate recruitment and training conditions. From this test, procedures were refined and improvements incorporated into the relevant manuals. The dress rehearsal schedules were used to test processing systems and to provide processing rates for estimating staffing requirements for the census.

PUBLICITY

The issues of privacy and confidentiality have always been raised in connection with the census, but the 1976 controversy seemed more acute than had been experienced previously. In May 1976, the attorney general requested that the Law Reform Commission examine the implications of the census for individual privacy. Following the recommendation of the Law Reform Commission that the public be more fully informed about the census, a budget of \$A1.2 million was allocated for an integrated public relations and advertising campaign. The public relations campaign commenced in early March 1981, coinciding with advertising for recruitment of field staff. The advertising was concentrated in the three weeks preceding census day using newspaper, radio, and television advertisements to inform the public of the census and to seek cooperation. All elements of the campaign had the underlying theme, "The Census helps us plan the things that really count." In addition, a brochure explaining all aspects of the census was delivered to every household together with the census schedule. A census telephone enquiry service operated in each state.

Advertisements were run some days after census night with the caption, "Thanks, we knew we could count on you." These were designed to reinforce the positive pre-census message of cooperation and to inform persons who did not receive a census form, or whose form was not collected, what action they should take.

To ensure that migrants understood the purpose of the census, a multilingual folder was produced in English and ten other languages to briefly outline the purpose of the census and to advise where help could be obtained. In addition, census advertisements were

placed in major ethnic newspapers in 23 languages, and the ABS prepared three information releases that were translated into 34 languages. The information releases provided advice on how to complete the form and gave reasons for asking some of the more sensitive questions. A telephone interpreter service in each state was arranged through the Department of Immigration and Ethnic Affairs to enable those respondents who had difficulty with English to have the schedule explained in their own language. Ethnic centers where migrants could seek assistance in the completion of their schedules were established in areas with large ethnic populations. A special program, designed to reach all sections of the aboriginal population was also implemented.

ENUMERATION AND TRAINING OF ENUMERATORS

A hierarchical network of field staff was used for the delivery and collection of census schedules. Since 1921, the ABS has used the Commonwealth Electoral Office's network of regional offices and personnel to supervise the collection system. State field supervisors and the level below them, divisional field supervisors, are recruited from among officers of the Commonwealth Electoral Office. Their duties are mainly administrative and supervisory. The final two levels of staff in the field system, the group leader and the collector, are recruited from the general population. These officers are appointed under the Census and Statistics Act of 1905 and are subject to the confidentiality provisions of that act. The 1981 census required the employment of group leaders over a period of two months and collectors over a period of three weeks.

The group leaders were responsible for approximately ten collection districts (CDs). Their main duty was the training and supervision of the collectors in their subdivision. Additionally they checked the completed forms and record books for their districts for accuracy and completeness of coverage. Where households refused to cooperate or returns were not adequately completed, the group leader returned to the households and attempted to obtain the required information.

The census collectors were expected to enumerate their CDs in 10 days. In urban areas, a CD included 200-300 dwellings, but in remote rural areas there were as few as 30 dwellings in a CD. Collectors delivered the census forms to every household in their CDs prior to census night, making personal contact wherever possible. They then returned to each household and collected the forms, checking each one to ensure that it was adequately completed.

The collectors attended training sessions given by their group leaders, and group leaders were trained by the divisional field supervisors. Each group leader received a manual and a control chart (a step-by-step, day-by-day list of duties) and was provided with a ver-

batim training guide that was fully structured and had to be followed in detail. The verbatim training guide was used to ensure that all collectors received standard training.

Special Enumeration Procedures

In its final report "Privacy and the Census," the Law Reform Commission recommended that the ABS provide special envelopes for people who did not wish to have their census forms examined by the collector. This recommendation was adopted and incorporated into the field system. Respondents were informed of the availability of the special envelopes through the publicity campaign, the census brochure, and on the census schedule.

Nonprivate dwellings were enumerated by special collectors who distributed personal census forms to each person (as opposed to the household) spending census night in that dwelling, and who collected the completed forms as soon as possible. Each person to whom a personal form was delivered was listed on a special form, which then provided a summary of persons enumerated in each nonprivate dwelling. In most cases, the special collectors were persons in authority at the nonprivate dwelling—for example, the manager in a hotel, or the matron in a hospital. Similar procedures were adopted for persons in transit on census night. Persons on board ship in or between Australian ports, or on long distance trains or buses were required to complete personal forms. They were then allocated to a special CD designated "migratory" within the respective state.

Separate collection procedures were also developed for aboriginals living in their traditional life-style. After the 1976 census, it was believed that standard collection methods were not appropriate for aboriginals. Aboriginal areas were identified through consultation with aboriginal organizations and the Department of Aboriginal Affairs, and from the 1976 census data. Census field officers with aboriginal assistants traveled among aboriginal communities prior to the census to explain and gain support for the census. An interview method of enumeration was developed because many aboriginals in remote areas were not capable of self-enumeration. At census time, the communities were enumerated by aboriginal interviewers. The concepts measured in the interview approach were consistent with those on the census schedule.

Data Processing

The function of the data input system was to convert the information reported on the 4.5 million census schedules into a form suitable for computer processing and tabulation. Senior management positions at the Data Transcription Centre (a separate, temporary office

building located in Melbourne) were filled by permanent officers from the central and state offices of the ABS, and operational staff were appointed on a temporary basis from the local area. Information from the dress rehearsal, which was fully processed, together with expected staff turnover rates, was invaluable in determining the initial level of recruitment and the disposition of staff across the various coding and marking operations.

DATA PREPARATION AND CODING

The processing operation was designed as a series of independent processes through which census schedules passed sequentially. The first process was the receipt and storage of the packs of schedules from each collection district. Census schedules then passed through a number of marking and coding operations in CD batches. Coding was broken into three operations: coding of family, usual residence, and qualifications; coding of occupation and occupational status; and coding of industry and place of work.

The next-to-the-last process was the most labor intensive. In this operation over 800 staff members worked on the transcription of information from the census schedule to an optical mark reader (OMR) document. Marking consisted of two phases: the initial transcription of sex, age, marital status, and state of usual residence for preliminary data; and the transcription of all characteristics for final data. The final process was the reading of the OMR documents to magnetic tape by the ICL Document Reader.

In summary, the processes were:

1. Receipt and storage of census schedules
2. Preliminary check
3. Preliminary data transcription
4. Data entry, edit, and amendment of preliminary data
5. Coding for family, usual residence, internal migration, and qualifications
6. Coding for occupation and occupational status
7. Coding for industry and place of work
8. Final data transcription to OMR forms
9. Data entry, edit, and amendment of final data

All processing activities were controlled by a computer-based management information system incorporating a flow control system and a quality control system. The flow control system recorded and monitored the movement of CD packs of census schedules from process to process and provided an interrogation facility to ascertain the location of packs. The quality control system was based on the principle of "acceptance sampling" and maintained a prespecified level of average outgoing quality. It provided detailed information to management on performance (speed) and quality (error rates) of individual clerks and groups, along with a detailed analysis of errors made. This information was

used to maximize productivity and minimize errors through speedy detection and retraining.

Computer services specialists were responsible for the site preparation, installation, operation, and maintenance of the computer hardware, which consisted of two ICL 2903s, two ICL 2904s, and 3 ICL Universal Document Readers.

The census schedules were processed in collection district batches in a predetermined order. To protect the confidentiality of respondents, names and addresses are not retained in the Bureau's census records. After the schedules had been processed, they were sent under tight security for pulping.

EDITING AND IMPUTATION

After the census information had been transcribed onto the OMR documents, the documents were transferred to magnetic tape via the document readers. This tape was edited and amended where necessary. Computer editing eliminated unacceptable combinations of data (e.g., a person aged 9 with a marital status of "married" was considered unacceptable). Additional edits were employed to ensure the following:

- that "duration of present marriage" and "married more than once" were marked for "now married females" only;
- that "year of arrival" and "citizenship" were marked for persons born overseas, and that "year of arrival" was not earlier than year of birth;
- that a person's race was not Aboriginal/Torres Strait Islander if that person's parents were born overseas; and
- that the person's age was not less than age left school.

For cases not subject to automatic edit correction, the computer produced a listing referred to as the "edit report" on which persons, dwellings, balancing errors, and other summary information for the CD were reported.

Where there was no response given for age, sex, marital status, or employment status, a response based on other information on the schedule was allocated during processing. If other information was not available, a response to these questions was randomly imputed. Country of birth was also imputed in certain cases where other information was available. For nonresponding households (e.g., noncontacts, refusals), a dummy household was imputed, usually based on information supplied by the census collector.

The labor force was defined as those persons 15 years of age and over who worked during the week prior to the census or who had a job from which they were temporarily absent, were temporarily laid off without pay, or did not work or did not have a job but were actively looking for work during the whole of the reference week. The unemployed members of the labor force were defined as persons who did not work during the refer-

ence week and either looked for work or were temporarily laid off from a job. In the 1981 census, industry (i.e., the activity carried out at an establishment by an employed person) was coded to four digits in accordance with the Australian Standard Industrial Classification (ASIC).

Before information for a collection district could be cleared, one final check was performed to see that the totals of dwellings and persons recorded by the computer for each CD were the same as those recorded by the collector in the record book. After edit and amendment the clean data tapes, which contained unit record data, were sent to the central office for output processing.

Tabulations and Publications

The same commitment to public participation shown in the design of the 1981 census schedule was applied to the development of the output program. In mid-1980, proposed classifications, small area outputs, and a first series of national cross-classified tabulations were documented and distributed to major users. This action was followed by a series of meetings held in each capital city at which interested users were invited to present their views on and make submissions to the ABS regarding any variations they considered necessary. After consideration of these views, the planned output from the 1981 census was detailed in the publication "Catalogue of the 1981 Census Tables: Edition 1" (Catalogue No. 2139.0), which was released in September 1981.

All final output from the 1981 census is to be produced using the ABS's new FACOM M200 computing facilities, which provide the rapid access and advanced processing needed to handle the very large census files.

The first data released from the 1981 census was the estimated resident population adjusted for census underenumeration (No. 3217.0), together with the preliminary census counts for each state and territory (No. 2209.0), published in March 1982. At the same time the Collection District Master Data Base (CDMDB) was provided for use by all ABS offices. The CDMDB contains population and dwelling counts for each collection district, as well as a series of codes that identify the geographic area in which each CD is located. The CDMDB is used to access data for Bulletin 1, a publication that shows the population and dwelling counts for each local government area and urban centre in Australia (Nos. 2401.0-2408.0). Bulletin 1 was released progressively in 1982 beginning with the smaller states in May. Also in May, the unit record census data for smaller states was made available to the state offices for accessing by the various output systems. Unit records for the other states were progressively made available thereafter.

Final results of the 1981 census began to be released on microfiche, on computer printout, as magnetic tape

summary files, and in a series of printed publications and information papers in the middle of 1982. There are five major streams of output:

1. **Publications.** In addition to Bulletin 1 (population and dwelling counts for local government areas and urban centers), two other bulletins are being produced for each state and for the country as a whole. Bulletin 2 (Nos. 2435.0–2443.0) contains summary tables of population and dwelling characteristics and comparisons with the results of earlier censuses, and Bulletin 3 (Nos. 2444.0–2452.0) contains cross-classified tables of population and dwelling characteristics.
2. **Collection District Summary Data Base (CDSDB).** This is the second data base to be produced, and contains 43 summary tables for each CD in Australia. The CDSDB includes data summarized from all person and dwelling questions in the census. Most person data is classified only by sex, although some more-detailed cross-tabulations are included. The following outputs are produced from the CDSDB:
LGA Summary File—a magnetic tape file that contains condensed CDSDB information for each local government area (LGA) in Australia. This tape is available to users.
CD Summary File—a magnetic tape file that contains condensed CDSDB information for each CD in Australia. This tape is also available to users and will be of particular benefit to those who wish to map census data, aggregate data for nonstandard areas, or perform other geographic analysis on the data.
Microfiche containing full CDSDB information (43 tables) for each LGA with a population greater than 5,000 and for larger standard statistical areas.
Microfiche containing condensed CDSDB information (34 tables) for smaller LGAs and for each CD with a population greater than 100. Only basic population data and a small number of tables are available for CDs containing less than 100 persons.
3. **National Cross-Classified Tables, Series 1.** This is a series of 95 detailed tables, designed to provide a broad spectrum of census data. All of these tables are produced for capital city and balance of state areas, and some for smaller geographic levels. These tables are available on microfiche only.
4. **State Specific Tables.** Each state office will be responsible for the production of a number of tables to satisfy user demands specific to that state. These will cover a variety of items and some will probably be produced for smaller geographic levels (e.g., local government areas).
5. **Matrices.** A number of very large cross-classified tables will be produced in the form of a matrix table on magnetic tape for users who require the flexibility of accessing cross-classified tables on their own computer systems. This allows users to conduct detailed analysis of the census results without waiting for the ABS to produce the required tabulations.

In addition, the following information will be published:

1. A catalogue of tables (No. 2139.0) containing a list of every table produced or planned to be produced (Edition 1 of this catalogue was released in September 1981).
2. **Information papers.** Seven information papers produced during 1982 examined specific questions on the census schedule in order to clarify those questions and their classifications. They were produced in advance of the first available data on the population characteristics. The topics of those papers are industry (No. 2147.0); occupation (No. 2148.0); educational qualifications (No. 2149.0); dwelling, household, and family (No. 2150.0); income (No. 2151.0); language (2152.0); aboriginals and Torres Strait Islanders (2153.0); journey to work (No. 2154.0); and usual residence and internal migration (No. 2155.0). Six other information papers giving details about release plans and other general information about the census have been published. They are *Data Release Plans* (No. 2142.0), *Magnetic Tape Summary Files* (No. 2143.0), *Statistical Publications* (No. 2144.0), *Microfiche* (No. 2145.0), and *Maps* (No. 2146.0).
3. **Technical information papers** providing documentation on the structure of the various magnetic tape summary files available to users.
4. **Maps** for collection districts in printed form and on microfiche. Maps of statistical areas are being published in Bulletin 1, and will also be available separately.

There will also be a number of ad hoc data releases produced according to requests from users. These requests can be for either specialized cross-classified tables or CDSDB data for nonstandard aggregations of CDs.

Protection of Confidentiality

In order to ensure that information about identifiable individuals would not be inadvertently released, the ABS implemented the following measures:

Any collection district (CD) with 1–3 males, 1–3 females, or 1–3 occupied private dwellings was declared confidential. Each of these CDs was combined with an adjoining CD for output purpose.

For CDs with fewer than 100 persons, only microfiche of basic population data and a small number of simple tables were released. Cross-classified tables of population and dwelling characteristics were not printed for these CDs.

Detailed tabulations of population and dwelling characteristics (full CDSDB information) were released only for local government areas and other standard statistical areas with a population of 5,000 or more. Similar information for smaller areas was released in a condensed format.

Slight random adjustments were made to the data in an unbiased manner. In outputs from the CDSDB, only small cells of three or less are adjusted. For detailed cross-classified tables, all cells will be subjected to random adjustment. (Further information about the random adjustments is contained in the information paper

Evaluation

POSTENUMERATION SURVEY

The effectiveness of the census in enumerating all persons and dwellings relies to a large extent on the diligence of the field staff and of the collectors in particular. But no matter how diligent the collectors may be, there will always be circumstances that create difficulties. Rural areas present particular problems in terms of locating dwellings, there are people who do not wish to be counted, and a variety of reasons cause people to be inadvertently omitted from the count. Thus, despite the efforts of the field staff, it is inevitable that census coverage will be incomplete.

In view of this situation, the ABS conducted a post-enumeration survey (PES) to measure the number of persons and dwellings missed by the census. Respondents at randomly selected dwellings were subject to intensive interviews designed to determine the accuracy of the census coverage at each selected dwelling and of the responses obtained in the census. In theory the PES should attain a higher level of coverage and quality of response because it is conducted by highly trained interviewers rather than relying on the respondents to enumerate themselves as in the census.

Coverage is evaluated by obtaining independent data for a sample of the Australian population through the PES, matching the PES results to the census questionnaires to determine which of the cases reported in the PES were also reported in the census, and using the proportion of persons in the PES who were reported in the census as an estimate of the proportion of the total population captured in the census.

The sample selected for the PES was a multistage area sample of approximately 35,000 private dwellings similar to that used for ABS Monthly Population Surveys. All usual residents of selected dwellings were included in the survey coverage unless they were absent for more than one month. Visitors were excluded unless they were absent from their usual residence for more than one month, there was no one at their usual residence during the survey period, or they usually lived in a nonprivate dwelling. Approximately 95,000 persons were included in the PES.

Nonprivate dwellings (e.g., hotels, motels, institutions) were not included in the PES because most persons in these dwellings had a chance of being selected at their usual residence. Sparsely settled areas (which contain only a very small proportion of the total population) were not included because they were subject to special enumeration procedures in the census. The PES would have used similar procedures in these areas, and

thus the data would not have been independent. Consequently, the scope of the PES was restricted to the areas where it would be an effective evaluation technique.

Interviewers for the PES were ABS officers who normally conduct interviews for the Bureau's Monthly Population Surveys. To ensure independence from the census, the PES interviewers were not permitted to work on the census field staff. Most of the interviews for the PES were conducted in the third week following census day, after all census fieldwork was complete. Respondents were asked their name, age, sex, marital status, and country of birth for matching with information on the census schedule. They were also asked place of usual residence, where they spent census night, their address before and after census night, and any other address where they may have been included on a census schedule.

At the Census Data Transcription Centre, the personal information from the PES was matched to census schedules for each address to establish whether each person was counted. The match was also used to determine whether a person was counted more than once. Census schedules received by mail after the commencement of the PES interviews were treated as missing for PES purposes, although the data from these schedules were included in the final statistics. This was done to avoid any bias that might be introduced into the measure of underenumeration by the survey operations prompting respondents to return previously incomplete schedules.

After the matching phase, the net underenumeration rate was calculated on the principle that the number of times a person was found on census schedules was the number of times that the person was enumerated. The PES results provide estimates of underenumeration rates by age and sex for Australia, and by sex for each state and territory. Rates for smaller areas were estimated by a mathematical procedure called iterative proportional fitting.

Results from the PES indicate that 1.9 percent of the population (approximately 270,000 people) were not counted in 1981, compared with 2.7 percent in 1976. This reverses the trend of increasing underenumeration that had been apparent since census coverage was first measured in 1966.

The improvement in census coverage has been attributed to the open approach to census planning, including consultation on census content, which may have contributed to better public acceptance of the census; the shorter census form, which did not arouse the kind of controversy experienced in 1971 and 1976; improved collection procedures; and the extensive public awareness campaign, which may have achieved a modest improvement in public understanding and acceptance of the census.

Population Estimates

Results of the postenumeration surveys held since 1966 have shown that significant, and until 1981, increasing numbers of the population were not counted in the census. Improvements in PES methodology over the period 1966–76 led to the realization that PES results were sufficiently accurate to allow population counts to be adjusted for underenumeration. Consequently, population estimates for 30 June 1976 were adjusted to allow for underenumeration. Intercensal estimates from 1976 to 1981 were based on this adjusted census count. Detailed census results were not adjusted.

Over the period 1966–81, a number of different concepts have been used to produce population estimates. Since 1976, estimates of intercensal changes in population have been made on a usual-residence basis, excluding short-term movements. The census count on which the estimates were based, however, was made on an actual-location basis (i.e., people were counted at the place where they spent census night). Beginning with 1981, future population estimates for Australia and for each state will be produced on a consistent, usual-residence basis adjusted for underenumeration. The estimation procedure consists of

- adjusting the census count (which is still on an actual-location basis) by allocating each person to his or her place of usual residence using the answers to the place of usual residence question,
- removing visitors from other countries from the count,
- using PES results to adjust the census count for underenumeration,
- adding Australian residents who are temporarily overseas (as determined from passenger cards completed on arrival to and departure from Australia).

The population estimate derived by the above procedure is termed the estimated resident population. Estimated resident populations as of 30 June 1981 (census day) for Australia and the states were published in March 1982. This publication showed that Australia's estimated resident population at that time was 14,926,000.

Preliminary estimates of the population in each local government area have also been published, and the estimated resident population for each state broken down by age and sex was published in August 1982. Quarterly population estimates calculated on the usual-residence basis will be published for the period 1971–82.

OTHER EVALUATION MEASURES

The tests conducted as part of the development of the 1981 census questionnaire were necessarily small, inten-

sive surveys. They were used not only to design the census schedule, but also to design editing and imputation rules and advice to users on the accuracy of census information. With the knowledge generated from the topic evaluation and questionnaire design program—admittedly from a small sample—available prior to the census, the need for large, postcensus surveys to evaluate content was open to question. The extensive pretest evaluation program left the Bureau confident in its knowledge about the quality of response from the 1981 census.

One question where additional evaluation was required was that on aboriginal or Torres Strait Islander origin. In 1976, about 1.2 percent of the population were recorded as aboriginals or Torres Strait Islanders, but the question had a nonresponse rate of 8.4 percent—seven times the number of recorded aboriginals and Torres Strait Islanders. Obviously, allocation of these people could have a big effect on the results. Therefore, a question asking the origin of all Australian born respondents was included in the 1981 PES. By matching the response on this question with the response to the census question on origin, it was possible to determine the proportion of nonrespondents who were aboriginal, thus providing an estimate of the total aboriginal population. Preliminary indications are that the nonresponse rate for aboriginals was the same as that for the remainder of the population. The best policy seems to be to prorate the nonresponses.

Budget

In June 1980, a budget of \$A30 million was approved for the 1981 census, including \$A1.2 million for the public awareness campaign. Data collection costs represent about 50 percent of the total, while processing costs (including building rental costs for clerical processing and the data entry phase) represent about 40 percent. Other costs include the developmental pretests, the postenumeration studies, and the dissemination activities.

Timetable of Census Operations

Planning for the 1981 census commenced in mid-1977. The planning was followed by the methodological pretests, the user submission scheme, and topic evaluation to determine the content of the census. Collection, processing, and evaluation procedures were tested in a dress rehearsal of the operation in June 1980. The enumeration was conducted on 30 June 1981 and the first results were released in March 1982.

BANGLADESH 1981

Bangladesh Bureau of Statistics
Bangladesh Secretariat
Dacca

Introduction

Bangladesh is the eighth largest country in the world in terms of population. Its population density, estimated at 1,650 persons per square mile, is only exceeded by city-states like Hong Kong and Singapore. Furthermore, Bangladesh's large population is increasing at an alarming rate. During the 1961-74 period alone, the population increase matched the total increase experienced over the previous four decades. From 1974 to 1981, population growth was 2.36 percent, and currently nearly 50 percent of the population is below the age of 15, signifying enormous growth potential.

This startling demographic setting is exacerbated by a backward socioeconomic environment characterized by mass illiteracy and overwhelming poverty. Only 20 percent of the population is literate. Female literacy is a mere 12 percent. The per capita income is estimated to be around US\$120, and the population below the poverty line is more than 75 percent. Fifty percent of all families get less than the critical minimum daily calorie intake. Forty percent of the adult male labor force is either unemployed or underemployed.

These abysmal socioeconomic and demographic problems are stark realities that demand pragmatic policies and an unswerving national commitment to economic development and population control. Any program designed to address the population problem is inextricably linked to our knowledge about the population's size, its characteristics, its growth potential, and the effects of population growth on socioeconomic conditions.

In the absence of a regular and viable vital registration system, the census becomes the basic source of information about a country's population size, characteristics, and spatial distribution. The size of the population of Bangladesh and its rapid growth pose a serious

challenge to conducting a quality census and the challenge is all the more formidable because of the socioeconomic conditions of the country.

HISTORY

Bangladesh emerged as a sovereign nation in 1971 and carried out its first population census in February 1974. The country's second census, integrating both full-count and sample enumeration phases, was taken in 1981. The full count was completed in March, the sample enumeration was executed from November to December.

But census taking in the region goes back more than a hundred years. Records show that the first attempt to count the people of the Bangladesh-India-Pakistan subcontinent was in 1872 when the region was still under British rule. Conducting censuses as an official systematic statistical operation began in the year 1881 and was conducted on a decennial basis until 1971. In the year 1971 the war for the liberation of Bangladesh interrupted the decennial tradition and the census was deferred until 1974.

In order to return to the established decennial period, the second census of Bangladesh was conducted in 1981. This ensured more meaningful analysis and interpretation of data on changes in population size and characteristics. Taking the second census before a full ten years had elapsed was also necessary because the 1974 census represented the postwar unsettled conditions and its data quality was not fully satisfactory. Moreover, data collected in the 1974 census were becoming obsolete and fresh census data were urgently needed to provide a basis for development plans and training policies and for use by various government agencies, universities, research institutions, and individual scholars.

LEGAL STATUS

Censuses in the region were conducted under ad hoc legislation through 1951. In 1959 a permanent census act was adopted under which the 1961 census was taken.

This chapter was written by A.K.M. Ghulam Rabbani, Director-General, Bangladesh Bureau of Statistics, and Secretary, Statistics Division, Ministry of Planning.

When Bangladesh became independent, a new census act was needed. The new act was promulgated in 1972 under the title President's Order No. 70 of 1972. The census order provided, inter alia, for the appointment of a census commissioner who was authorized to plan and supervise the censuses of Bangladesh.

Following the issuance of President's Order No. 70, the official statistics system was restructured. In 1975, all official statistical activities were integrated into a centralized national system under the Bangladesh Bureau of Statistics (BBS) in the Ministry of Planning. Later, in 1976, the Statistics Division was created in the Ministry of Planning to provide policy guidance to and exercise supervisory control on the BBS. After creation of the BBS, a director-general was appointed to head the bureau. The director-general was also appointed as the secretary of the Statistics Division. The BBS/Statistics Division was assigned under the Government Rules of Business to carry out all matters relating to statistics, and specifically the population census, agricultural census, and the collection of agricultural statistics.

Because the population census was brought under the functional purview of the BBS and the director-general was assigned to head the bureau, the post of census commissioner provided for in the census order of 1972 became redundant. Consequently, the order was modified to grant the director-general the authority to plan and supervise the country's census program. This modification was incorporated into the census order, which constituted the legal basis for conducting the 1981 population census.

ORGANIZATION

The Bangladesh Bureau of Statistics is organized into eight separate wings as outlined below:

1. Population Census and Demographic Survey
2. Agricultural Statistics
3. National Income and Trade Statistics
4. Industry and Labor Statistics
5. Sample Survey and Research
6. Training and Manpower Development
7. Computer and Data Processing
8. Reproduction, Documentation and Publication

In addition, the bureau has a field setup located at all district and *thana* headquarters (the *thana* being the administrative unit between subdivision and union).

At the apex of the BBS is the National Statistical Council (NSC) headed by the minister in charge of the Ministry of Planning. The NSC frames all national policies with respect to official statistics. It includes representatives from all ministries of the government, from universities and research institutions, and also includes individual scholars of various disciplines. The council is the national forum of users and producers of data who

together decide on all national programs in the area of statistics and the means to implement these programs. The council has under it technical committees on agricultural statistics, population and demography, trade, industry, and sample surveys for promoting coordinated development of official statistics.

The 1981 census was planned and implemented with the combined support of all wings and technical field personnel of the bureau. The population and demographic wing was not alone in conducting the census.

Design and Execution

The success of a census in a complex socioeconomic environment like that of Bangladesh depends largely on the census plan. A successful census plan first defines the basic objectives of the census and then organizes the management, technical, and operational details around those basic objectives. For the 1981 census of population the basic objectives were (1) to count the total population of the country and (2) to gather information about spatial distribution. All the details of coverage, questionnaire format, enumeration procedure, data analysis, and publication were planned to achieve those two objectives.

PREPARATION AND PLANNING

A census in a densely populated country like Bangladesh needs meticulous planning and a precise, pragmatic approach to enumeration. In September 1977, draft outlines of a census plan were prepared and submitted to the Secretaries Committee on Administrative Improvements, the policymaking body of the government. The committee examined the document and recommended that the census be taken in February or March of 1981 and that a complete census plan be developed, endorsed by the National Statistical Council (NSC), and resubmitted to the Secretaries Committee for approval.

The task of developing the comprehensive plan for the 1981 census was entrusted to the Technical Committee on Population and Demography, one of the six technical committees of the NSC. The Technical Committee began its work by outlining all the management details and technical aspects that would be needed to conduct a thorough census. The specifics were determined with the experience of the 1974 census in mind in order to avoid the weaknesses of the earlier census.

Some of the recommendations made by the Technical Committee on Population and Demography in the census plan were developing and using enumeration area maps; developing geocodes to identify data by administrative units; adopting a training manual that could be followed verbatim to ensure the systematic and uniform training of enumerators, supervisors, and members of supervisory teams at the different tiers of field manage-

ment; giving uniform orientation training to members of local administrations and governments with the help of a simple field manual; enlisting the full participation of local administrations from districts to thanas; enlisting the full cooperation of local governments (*Gram Sarkars* in villages, union councils in rural areas and municipalities, and *pourashavas* in urban areas); and adopting a simple, easily understood questionnaire, integrating basic household and individual questions. This last recommendation was prompted by the 1974 census experience, which showed that incorporating the housing census with the general census could reduce training and ease the burden on field logistics, resulting in a general improvement in the quality of enumeration.

In order to determine the operational forms of their recommendations, the Technical Committee conducted four pretests and a large pilot census. Based on these pretests, the committee prepared a comprehensive plan for the census that directed that the 1981 census be taken in two phases, that phase 1 be a 100 percent count conducted over three days (Friday, Saturday, and Sunday, 6–8 March 1981) using a short, optical mark readable questionnaire combining both household and individual questions, and that phase 2 be a sample survey conducted from 1 November to 31 December 1981 with a long questionnaire for collecting detailed information on housing, economic, social, and demographic characteristics.

Coverage

The full count included all persons living within the territorial limits of Bangladesh and citizens of the country living abroad. Every individual was counted in the place where he was at midnight Thursday, 5 March 1981, which was referred to as “census night.” Thus the procedure was *de facto*. A *de facto* census was chosen because it was believed that, in light of the high level of illiteracy and poor socioeconomic background of the population, the *de jure* concept would not be easily understood by respondents, enumerators, or supervisors.

The 100 percent enumeration counted all people found in households, hospitals, orphanages, hotels, hostels, messes, police barracks, cantonments, prisons, and in other places like railway stations, bus stations, and river and seaports. Bangladeshis living abroad were enumerated with the help of our foreign missions through the Ministry of Foreign Affairs. Enumeration of foreigners within the country either working in embassies, high commissions, and consulates or visiting as tourists, expatriate experts, etc., was done on a voluntary basis.

Sample Design and Coverage

The sample survey taken in December 1981 was conducted on a sample-household basis. The population

outside of households and expatriates residing in the country were not covered. All procedures relating to the design of the sample, field-enumeration discipline, requirements of temporary personnel for enumeration, questionnaire, and other fundamentals were worked out on the basis of a pilot study conducted in June 1980.

The Technical Committee agreed that the sample should be designed so as to enable the construction of 39 sets of tables with reasonable accuracy. The tabulation areas are indicated in table 2.1, and the topics of the 39 sets of tables are listed at the end of the chapter.

Besides the national level tabulations, tabulations for 36 lower-level administrative units were suggested, including tabulations for four divisions and four statistical metropolitan areas (SMAs). The SMA concept used for the 1981 census refers to the four metropolitan cities of the country—Dacca, Chittagong, Khulna, and Rajshahi. SMAs are not restricted to traditional metropolitan boundaries but stretch over surrounding areas that have urbanized.

After the tabulation objectives were determined, the sample was designed. Both cost and desired reliability of estimates were taken into account in fixing the sample size. Analysis of data of past censuses indicated that if the sample consisted of about 5,000 enumeration areas with an average of 20 households in each (total 100,000 households for the country) rates and totals could be estimated with a coefficient of variation of about 0.02 to 0.04 at the national level with urban and rural separate, and with a coefficient variation of 0.8 to 0.15 at the SMA/district level. This, of course, assumed that a suitable ratio-estimation procedure would be applied utilizing the age-sex counts from the 100 percent enumeration.

The decision to sample 20 households within each sample enumeration area (EA) was determined on the basis of expected size of EA, intraclass correlation coefficient (ICC), and efficient enumerator work load. It was found from 1974 population census data that ICC values of economic items such as nonagricultural occupations were very high. For a few demographic items, however, like crude birth rate and crude death rate, ICC

Table 2.1 Tabulations for the 1981 Census of Bangladesh

Tabulation Area	Number of Table Sets		
	Urban & Rural Combined	Urban Separately	Rural Separately
Nation	1	1	1
Division (4)	4	4	4
District (20)	20	-	-
SMA (4)	-	4	-
Total	25	9	5

values were smaller. The determination of an efficient enumerator work load was based on the practical consideration of balancing the time spent by an enumerator traveling to an EA with the time spent enumerating households within the EA. Both the ICC values and enumerator efficiency pointed to a sample of 20 households within selected EAs as an appropriate sample design. Furthermore, cost-variance studies of household economic surveys indicated that a maximum of about 20 households per EA was most effective. A sample of 20 households per EA, it should be mentioned, was also the recommendation of the U.S. Census Bureau's *POP-STAN: A Case Study for the 1980 Censuses of Population and Housing*.

When it came time to allocate EAs among subareas, the Technical Committee found that the aim of obtaining estimates of subareas at the desired level of reliability conflicted with the principle of selecting EAs. Obtaining maximum reliability for the national estimates simply required that the sample be allocated in proportion to the population of each subarea within the country. But this meant that the very small district or city (in terms of population) would have a very small number of sample units and a correspondingly low reliability of estimates. As a compromise, it was decided that a minimum of 125 EAs be selected for 24 subareas (20 districts and 4 SMAs) below four divisions.

The sample design was finally set at 4,875 EAs (3,375 rural and 1,500 urban). The EAs were selected according to the following steps: First, the 4,875 EAs were allocated among the 20 districts and 4 SMAs in proportion to the population size of these subareas. Second, subareas allocated less than 125 EAs were separated out. Third, the samples in subareas with less than 125 EAs were raised to 125 EAs. Finally, subareas that were allocated more than 125 EAs in the first step had their samples adjusted proportionately downward to get the final total back to 4,875 EAs.

The sample EAs were selected with the help of a computerized record of all EAs following the principle of systematic sampling. After selecting the sample EAs, the sample households (20 from each EA) were drawn from the 100 percent count documents. The procedure involved copying from the census questionnaire book the names of heads of households, census serial numbers, malaria control numbers, and addresses of all households enumerated in the 100 percent count in each selected EA. The sample households were systematically selected from these copied lists. The sample of 100,000 households resulted in a sampling fraction of 1 percent.

Mapping

The 1981 census field operation was organized around an elaborate, carefully developed mapping and geocoding system. The census cartographic and geocoding

operation was started well in advance of the census and continued over a period of about three years. The operation entailed the devoted and arduous efforts of more than 100 trained employees of the BBS who together formed a separate cartographic team in the bureau and who worked under the supervision of a senior officer at the level of joint director and under general guidance of the director-general of the bureau. The combined cartographic section updated maps, developed geocodes of administrative units, and provided correct enumeration area (EA) maps.

The cartographic team developed five types of maps:

1. Maps of thanas showing boundaries of unions, mouzas, villages, and important landmarks. Scale 1:50,000
2. Maps of unions showing boundaries of mouzas, villages, and landmarks. Scale 1:15,840
3. Maps of mouzas and villages showing housing units, roads, lakes, ponds, and other important landmarks. Scale 1:7,795
4. Maps of municipalities and urban areas showing boundaries of wards and mohallas along with housing units, roads, landmarks, streets, and other identification particulars. Scale 1:3,960
5. Maps of enumeration areas based on the mohallah, mouza, and village maps

The cartographic section was divided into two groups to prepare urban and rural maps separately. The urban mapping group consisted of 35 people and the rural group 65. Both groups worked under the control and guidance of the joint director.

In developing the census maps, the two groups were supported by fieldwork done mainly by the BBS field staff at the thana level. Thana staff of the bureau paid several visits to each part of the country to update available maps and to make uniform-scale sketch maps of localities for which maps were not available. Follow-up visits were made later to update the new sketch maps.

The fieldwork was supervised by senior BBS staff members and staff from the cartographic team. The supervisory personnel made extensive visits to the field to guide and inspect the progress of the thana staff. Teams of higher level officers of the BBS also toured the country to maintain overall control and to ensure the efficient and timely completion of the operation.

Initially, base maps of the 471 thanas, 4 SMAs, and 75 municipalities were collected from the Surveyor General Office, the Department of Land Records, municipality offices, and town committees. There were no maps available for the 45 other urban areas. Their base maps had to be prepared by field staff on field observation. The Malaria Eradication Programme (MEP) office had base maps of mouzas and villages, but duplicates of these maps were not available. Consequently, selected personnel of the MEP office were paid honora-

riums to trace the mouza and village maps as extra work. The MEP office took approximately 18 months to produce the copies.

Approximately 65,000 villages were located on the MEP office maps, and the BBS field staff sketched new maps of another 20,650 villages during its field observations. The 85,650 villages located by the BBS field staff included 20,163 villages with less than 50 households, most of which were actually hamlets (in Bangla terminology, *para*) that were recognized as villages by local people.

All base maps were checked against other available records, such as aerial photographs, and duplicated in large sizes in standardized scales for use in the updating program. Once the maps were checked, verified, and updated on the basis of field observations, they were sent back to the cartographic section and corrected. EAs were delineated on all mohalla and village maps, which contained updated locations of households or rows of households and showed landmarks, streets, roads, ponds, lakes, and other physical features. Tentative delimitation of EA boundaries was possible for small villages that constituted single EAs, but was difficult for villages of more than one EA because precise landmarks were hard to detect on the village maps and some villages contained as many as ten EAs. Consequently, the determination of the precise EA boundaries was left for the census supervisors and enumerators.

Geocoding

To develop the geocoding system, lists of all administrative units of the country were collected. These lists were arranged according to the hierarchy of administrative units illustrated in table 2.2. Geocodes were assigned to these administrative units in such a way as to permit subsequent updating without changing the codes of other administrative units in the series. Finally, codes were assigned to the EAs.

All administrative units—every district, subdivision, thana, union, village, urban ward, urban mohalla, and

EA—were assigned unique geocodes. The geocoding system was developed with the help of a computer and was used to control logistic arrangements and to enhance the analysis of the census data. All EA geocodes were shown on the EA maps that were used during enumeration, and computer printouts were made of the names and geocodes of the subdivisions within each administrative unit. These printouts included the number of EAs in each village and mohalla and the geocodes of those EAs.

Under the logistics control system, the computer printouts were used for the following: determining the number of supervisors and enumerators required for the census, assigning EAs to enumerators, grouping enumerators for census supervisors, ascertaining requirements for census materials and distributing these materials among supervisors and enumerators, working out the complete program for the sample census, planning the collection of field returns, and planning the data analysis and publications.

The geocoding system made it possible to control the entire 1981 census program by computer. The mechanism made it possible to systematically identify all areas, even small areas like villages, mohallas, and EAs; to plan the processing and publication of data at the desired level of the administrative hierarchy; to establish at the small-area level (village/mohalla) linkages among data collected through various censuses and surveys; and to set up microlevel data banks for providing the statistics required for small-area development planning and for framing further surveys for studies of specific characteristics.

Contents of Schedules

The questionnaires for the 1981 census program were devised around the predetermined objectives of collecting basic household and individual characteristics in the full (100 percent) count and detailed data in the sample census. Formats of questionnaires of both full count and sample census are outlined below.

Full-Count Questionnaire. The short, full-count questionnaire was a major innovation (a facsimile appears in appendix 1). It was designed to be readable by an optical mark reader (OMR). The decision to use an OMR questionnaire for the full count was made to cut down the time of data processing and to eliminate manual errors in the data conversion operation.

The questionnaire was designed to fit the requirements of the IBM 3881 Optical Mark Reader. The questionnaire had to be a particular size and had to be printed in nonreflecting ink. All questions were precoded except for names of individuals. Precoding questions ensured uniformity in recording responses and avoided discretion on the part of census enumerators. Precoding and using the IBM 3881 OMR made possible

Table 2.2 Administrative Units of Bangladesh

	<i>No. of Units in Country</i>
Divisions	4
Districts	20
Subdivisions	71
Thanas	471
Unions (rural area)	4,365
Mouzas (rural area)	60,315
Mohallas (urban area)	2,912
Villages (rural area):	
Less than 50 households	20,163
50 or more households	65,487

the direct transfer of data onto tapes for subsequent computer tabulations. The process eliminated the traditional, time-consuming keypunch operation and contributed to obtaining the final tabulations of census results much faster and without conversion errors.

The contents of the full-count questionnaire had the following 11 household and 9 individual questions:

Household

Household address
Malaria household number
Use of main structure
Wall materials
Roof materials
Source of drinking water
Ownership of household
Religion
Whether the household owns farm land, boat, or bullock cart
Type of industry the household operates for sale of products
Whether the household belongs to a tribal group

Individual

Name
Age
Relationship to head of household
Sex
Marital status
Literacy
Whether attending any educational institution
Highest grade passed
Main occupation

The questionnaire was bound in 100-page books and 25-page books. A total of 125,000 100-page books and 23,000 25-page books were produced. This ensured a sufficient supply for the 110,000 EAs, including the 20,163 EAs of less than 50 households, and an adequate reserve for replacement of questionnaires that might be damaged prior to OMR processing.

Each questionnaire book was bound with a cover page, a one-page tally sheet, and a hard cover at the back. The Bangladesh monogram appeared at the top of the cover page over the address of the BBS and the inscription, "Bangladesh Census 1981." Summary instructions for supervisors and enumerators were printed on the inside back cover. The tally sheet contained three parts: the first part provided space for recording the codes of the administrative units and EAs included in that book; the second part was for the names and signatures of enumerators and supervisors and for the dates the questionnaire books were received and returned; and the third part was for registering census counts of total households and total population with a breakdown for males and females.

Sample Census Questionnaire. For the sample survey, a long questionnaire was adopted. The questionnaire

was devised for keypunch data conversion before final computer processing. Contents of the questionnaire included both the essential housing characteristics and detailed socioeconomic and demographic questions. There were 12 housing questions and 33 socioeconomic and demographic questions. These are outlined below:

Housing Questions

Type of housing unit/structure
How many structures of different types are being used by the household members?
Is there separate storing facility for paddy?
How many rooms are there in the living quarters?
Lighting
Cooking fuel
Toilet facilities
Does any member of this household read newspapers, books, etc.?
Does this household possess the following articles?
Does the household possess means of transport such as boat, bullock cart, bicycle, pushcart, rickshaw, motorcycle, and vehicles?
Are there any persons in the household who are blind, crippled, deaf, dumb, etc.?
Number of persons in the household

Socioeconomic and Demographic Questions

Name
Relationship to head of household
Own mother (of children 15 years old and under)
Sex
Age
Marital status
Place of birth
Place of last residence
Religion
Literacy
School attendance
Educational attainment
Field of education for persons who passed SSC
Type of activity
Main occupation
Industry
Employment status
Age at first marriage
Total length of married life
How many male/female children:
 Living in household
 Living elsewhere
 Dead
 Born alive
Month or year last live birth occurred
Sex of last live-born child
If last live-born child living
Deaths during last 24 months:
 Name of the deceased
 Sex
 Age at death
 Date of death
 Cause of death
 Treatments provided to the deceased

The housing questions provided, besides identification particulars, information to classify households according to their access to different social services. The socioeconomic questions helped distinguish population by socioeconomic living conditions and by quality of life-styles. The demographic data from the sample questionnaire will make it possible to calculate fertility rates and other basic demographic parameters.

The sample survey questionnaires were printed and bound in 100-page books with summary instructions for enumerators and supervisors printed on the back of the cover page. The questionnaire books were bound with hard covers at the end.

Household Listing

For the complete enumeration, all households were located during the implementation of the geocoding and mapping program. The field staff of the BBS visited every part of the country, identified all villages and mohallas, located all households, and prepared updated maps and identification particulars of villages. The updated maps contained all current households in villages, landmarks, roads, streets, ponds, tanks, and other physical features.

For the sample survey, the household listing operation was done in connection with the sample selection. The listing operation was carried out by selected trained workers of the BBS who would also be involved in the sample enumeration. A separate listing form, containing entries for EA particulars and household specifics like name of household head, sex, and age, was filled out in the field. Supervisory officers selected the sample households—20 for each of the 4,875 sample EAs—from the completed forms.

Pretests and Pilot Census

Between March 1978 and April 1980, four pretests and a large-scale pilot census for the 100 percent enumeration and two pretests for the sample survey were carried out. The objectives of these field tests were to test the designs and contents of both the short and long questionnaires, to decide on the size of EAs, to examine how effective maps would be in the field, to verify the advisability of employing primary-school teachers and unemployed educated youths as enumerators and supervisors, to decide on census responsibilities to be assigned to members of local administrations, to evaluate house-numbering and house-listing operations, to understand the EA delimitation mechanism, and to study the effectiveness of training programs for enumerators, supervisors, and field workers.

First Pretest, March 1978. The main objectives of the first pretest were to study how well the short questionnaire would be understood by enumerators and respondents, to determine the size of EAs that could be canvassed in two days, to verify the necessity of carrying

out the household listing and numbering operation simultaneously with the enumeration, and to examine the strategy for training field personnel.

The short questionnaire used in the pretest sought only a few main characteristics of the population and was designed to be used in a traditional keypunch data processing operation. A separate form was prepared and adopted for the household listing. Both the short questionnaire and the household listing form were pretested in Harala, Kalihati, Bonogram, and Sharsha unions. These unions were *sawnirvar* unions—they had set up organizations to develop their self-reliance. They were selected for the pretest in order to find out if *sawnirvar* workers would volunteer to work as enumerators without honoraria. As it turned out, local *sawnirvar* workers were used in Harala, Kalihati, and Bonogram. *Sawnirvar* workers in Sharsha Union declined to work without payment, so local primary school teachers were used there. Union council chairmen and members helped select the enumerators, and officers of the BBS conducted a two-day training course for them. Enumerators in Harala, Kalihati, and Bonogram unions were trained on 6–7 March and those in Sharsha on 8–9 March 1978.

In this first pretest, EA size varied from 90 to 149 households, and the time taken by enumerators to list and number the houses and to enumerate the households differed substantially between EAs. In general, enumerators could not complete the fieldwork in the two days allowed. This was mainly because they had to list and number houses in addition to canvassing.

The performance record of primary school teachers was better than that of *sawnirvar* workers in terms of time and reporting quality. Nonreporting of age, marital status, education, and occupation was common by both, but after the completed returns were edited, nonreporting of these characteristics by primary school teachers was found to be much less (with a maximum of 0.11 percent for age characteristics) than it was for *sawnirvar* workers (with a maximum of 12.30 percent for education characteristics).

Second Pretest, September 1978. The second pretest was initiated with the particular aim of studying the use of the OMR questionnaire. It studied the form, content, and layout of the questionnaire, as well as the ease with which it could be understood, particularly by enumerators. The questionnaire contents were a mix of both housing and individual characteristics prepared in a pre-coded format. No separate house-listing schedule was devised. It was stressed that the necessary housing information would be collected on the same questionnaire as the individual characteristics. It was felt that much time would be saved by dropping the separate house-listing operation. Forty EAs were selected for pretesting the OMR questionnaire.

The canvassing period was again set at two days, but

this time each EA had around 60 households. Twenty-five urban and 15 rural EAs were selected. Of the urban EAs, 15 were in Dacca municipality and 10 in Mirpur. Each rural EA was a complete village selected from one of three districts—Dacca, Mymensingh, and Tangail.

Since the overriding objective of the pretest was to study the use of the OMR questionnaire, trained statistical workers of the BBS were employed as enumerators and supervisors for the field operation. The group of supervisors consisted of 9 statistical assistants and statistical investigators and the enumerator team consisted of 40 field assistants.

Master trainers selected from among the senior officers of the BBS conducted a two-day training program for the supervisors and enumerators. The field instruction manual prepared for the enumeration pretest was used as the basic training material. The manual was prepared in such a way that the trainers could simply read it verbatim. This helped establish a training lesson that was consistent with the instructions prepared for the field enumeration. It also ensured uniformity of training at all levels, including the training of trainers, and thereby avoided distortions and deviations between tiers of training.

The enumeration was held on 24–25 September 1978 and was then checked to see if any households remained uncovered. The check revealed that most households had been covered, but because the movements of enumerators were restricted by flooding and heavy rains, some were left out. A third day, 26 September, was therefore used to complete the enumeration, to check the returns of all EAs, and to make the arrangements to send all returns to the head office in Dacca.

The field maps developed by the BBS mapping and geocoding section were used for field control. The maps were useful in locating households for enumeration. In some cases, however, it was found that landmarks, roads, and households were somewhat different from what was observed in the field. These differences were corrected by fieldworkers during the enumeration.

The senior officers from the BBS who supervised and evaluated the second pretest found that the OMR questionnaire was easily understood by both field-workers and respondents.

Third Pretest, April 1979. The second pretest led to the decision to adopt the short, OMR questionnaire. The third pretest was taken up principally to perfect the wording of the questions and the precoding. It tested the overall format of the questionnaire and the system of marking answers for the optical mark readers and included a study of the feasibility of simultaneously using a non-OMR questionnaire suitable for traditional key-punching in case the OMR questionnaire could not be read by machine. The third pretest also examined the advisability of introducing a house-listing operation, the size of EAs and the length of the enumeration period,

the procedure for the postenumeration check, the training arrangements for field staff, and the use of geocodes and field maps.

Forty urban and 23 rural EAs were selected for the pretest. The 40 urban EAs were located in Dacca, Bairab Bazar, and Narshindi municipalities, and the 23 rural EAs were in Keraniganj and Savar thanas. The OMR questionnaire was used in 10 urban EAs from Dacca and Narsindi municipalities and 10 rural EAs from Savar and Keraniganj. In the remaining 43 EAs, non-OMR questionnaires were used. The simultaneous house-listing operation was conducted in 15 of the 43 EAs using non-OMR questionnaires. Thus there was no house-listing operation in the 20 EAs using OMR questionnaires and in 28 of the EAs using non-OMR questionnaires.

The pretest enumeration was scheduled for 21–22 April 1979. In Dacca, however, the enumeration was moved to 28–29 April 1979 because the high school teachers who were used as enumerators there were occupied with examinations.

Both one- and two-day training sessions were set up for supervisors and enumerators in order to evaluate the effectiveness of both arrangements. The supervisors and enumerators were trained by ten master trainers who were officers of the BBS. The master trainers initially underwent two days of training in the Dacca head office. They were then sent into the field where local supervisors and enumerators were assigned to them. Concerned authorities and officers of local administrations arranged for local training in schools or community centers, which were fixed up in advance. Training at all levels—from master trainer to enumerator—was a verbatim reading of the field training manual.

Field enumeration management and control systems were attended to with great care. Supervisors controlled a maximum of five enumerators and each enumerator was assigned one EA. All master trainers were kept stationed in the field to supervise the enumeration work. In addition, seven inspection teams with senior officers from the BBS paid field visits to all EAs outside the Dacca municipality area. This ensured effective management and control of the fieldwork. All EAs in Dacca municipality were paid frequent visits by individual officers and teams of officers from the BBS central office. In all areas the assistant commissioners and circle officers were associated with the supervision of the enumeration.

During the field enumeration, the average enumeration area was found to be 75 households. But out of 40 urban EAs, nine had more than 100 households and eight less than 60 households; and of the rural EAs, three had more than 100 households and eleven less than 60 households. Two urban EAs were unusually large—one had 143 and the other 162 households—and two rural EAs were very small—26 and 15 households.

The maps proved very useful in identifying EAs and their boundaries. All EAs were correctly located, and enumerators were able to begin enumeration in the morning on each of the two days fixed for Dacca municipality.

The enumeration of the average-sized EAs that were not participating in the house-listing operation took two days. The enumeration of similar sized EAs that did participate in the house listing took five days. In the case of the two largest EAs, additional support was arranged in order to complete the enumeration on time.

The supervisors and enumerators understood the questionnaires well and had no problems communicating with the respondents during enumeration. In addition, the respondents easily followed and answered the questions put to them.

The precoded, OMR-format questionnaires were printed on special paper by a foreign firm that specialized in OMR questionnaires. Enumerators were supplied with the soft, 2B pencils required for marking the questionnaires. After being instructed not to fold or wrinkle the questionnaires, the field personnel handled them well. Field observations vindicated the people of Bangladesh of the charge that they were unqualified or unable to administer OMR questionnaires. No flaws could be detected in following the instructions for using the OMR questionnaire.

The completed questionnaires were edited for consistency before further processing and analysis. Errors found in the OMR questionnaires were few and were not systematic for either household or individual characteristics. The fact that the errors were random suggested differences in levels of efficiency of supervisors and enumerators. Most of the primary school teachers were young and their performance records were relatively better than those of the high school teachers. Many high school teachers were aged and had poor eyesight, which prevented them from reading through the questionnaires and doing the enumeration satisfactorily.

After they were edited, the OMR questionnaires were sent to Kuala Lumpur and then to New York for mark sensing. This was done because optical mark readers were not available locally. Mark sensing of the pretest returns was found perfectly operational. In New York, the mark sensing was done a second time to double-check the suitability of the OMR questionnaire for the census. Satisfactory reading results confirmed the feasibility of the use of the OMR format.

The non-OMR questionnaires were also checked, edited, and processed. These questionnaires were also easily handled by field-workers, but the time taken to complete the questionnaires was not uniform. In some EAs doing house listing, enumeration took seven days.

Following the third pretest, a postenumeration check (PEC) was carried out in eight urban and six rural EAs. The purpose of the PEC was to develop a method for

evaluating coverage error. Experienced field-workers from among statistical investigators and statistical assistants of the BBS conducted the PEC on 5-6 May 1979.

Two reference nights were used for the PEC: the PEC night (midnight of 4 May 1979) and the reference night used for the pretest. The PEC reference night was adopted for six EAs and the pretest reference night for eight EAs. Each enumerator was made responsible for two EAs and was provided with the field maps for those EAs.

When the PEC returns were matched with pretest records, name, age, sex, and relationship to head of household were used for matching. If these characteristics were the same in the pretest and the PEC records, the records were considered matched. If one of these characteristics did not agree but the remaining three did, the records were considered a probable match. If all four characteristics were different, the case was marked unmatched. In those EAs using the PEC reference night, individuals who were not present on the pretest reference night but became members of the household afterward were not subjected to matching.

Unmatched persons found in pretest returns were all regarded as erroneously enumerated and those found in PEC returns were regarded as missed. For the estimation of coverage error, unmatched persons from the pretest were subtracted from unmatched persons from the PEC and the result was first divided by the total population counted in the pretest and then multiplied by 100 to obtain percent over- or underenumeration.

Without field reconciliation, both over- and underenumeration were observed. Overenumeration ranged from 3.0 percent to 19.8 percent and underenumeration from 1.7 to 26.4 percent. The combined coverage for all EAs in the PEC indicated an overenumeration of 1.3 percent. As a follow-up to further verify the coverage error estimates, a field reconciliation program was undertaken in selected EAs. The results of the reconciliation showed an overall underenumeration of 5.5 percent in EAs that previously showed an overenumeration of 3 percent.

Fourth Pretest, November 1979. Some 1,000 OMR questionnaires were used in the third pretest, and all were run through optical mark readers in order to monitor and evaluate the sensing technique. The results confirmed the success of the OMR questionnaire format.

Because the actual census would involve millions of questionnaires, a decision was made to conduct a fourth pretest specifically to test the OMR questionnaire under rigorous field conditions. This pretest was also used to provide details for the pilot census.

Approximately 10,000 households from 134 EAs were selected for the pretest. As far as possible, the EAs were selected equally from urban and rural areas and at the same time from places as dispersed as possible. Sixty-four urban EAs in six municipalities (Chittagong, Ran-

gamati, Sylhet, Dinajpur, Khulna, and Jessore) and 70 rural EAs in nine districts (Faridpur, Chittagong Hill Tracts, Noakhali, Comilla, Rajshahi, Bogra, Bakerganj, Jessore, and Kushtia) were included in the pretest.

The enumeration was completed in a three-day period, 25–27 November 1980. Each supervisor directed five enumerators, and each enumerator canvassed one EA. The officers and thana statisticians of the BBS who were included in the training and management teams also supervised enumeration work along with local circle officers, ward commissioners, and union council chairmen.

The completed OMR questionnaires were collected by thana statisticians through the supervisors. Officers of the training and management team brought the field returns back to the head office in Dacca. All returns were sent to New York for optical mark reading and the results of the test with 10,000 field documents were fully successful.

Pilot Census, April 1980. The four pretests provided the spadework for the census plan. But the designs of both the census and the sample survey questionnaires, the supervision and control plan, the enumeration procedures, logistics support and discipline, collection of field returns, data processing, tabulation and analysis, and the publication scheme all had to pass the rigorous examination of the pilot census before receiving final approval. The pilot census was conducted in mid-April 1980.

In order to include the socioeconomic and physical diversity of the country, areas were selected taking into account both geographic contiguity and spread. From the point of view of contiguity, a complete thana (Manikganj) with both urban and rural habitations was chosen. With regard to spread, four mohallas (one each in Dacca, Khulna, Mymensingh, and Rajshahi municipalities) and six rural unions (one each in Dacca, Khulna, Noakhali, Patuakhali, Rajshahi, and Sylhet districts) in seven dispersed districts were included.

Effective coordination and management were induced by employing selected officers and field personnel of the BBS and by seeking the help and cooperation of local officials. Circle officers were appointed thana census officers, and municipality chairmen were appointed municipal census officers. These officers were responsible for the coordination, management, and control of the pilot census; they were helped by other officers, municipality and union council chairmen, and ward commissioners and members.

In Manikgonj thana, census committees with control centers were set up at the thana, municipal, union, and ward levels. The thana census committee was headed by the circle officer, the municipal census committee by the municipality chairman, the union census committee by the union council chairman, and the ward committee by the senior ward commissioner. Local commissioners, council members, and headmasters of secondary and

primary schools served on the committees. These committees were required to coordinate all fieldwork and to establish strict discipline during the pilot census through mutual understanding and cooperation among members. The control centers established under each committee operated 24 hours a day during the period of the pilot census fieldwork.

The fieldwork plan was developed using basic information made available by the cartographic section of the BBS. The number of EAs shown in the computer control lists supplied by the cartographic section determined the number of supervisors and enumerators required. In all, 674 enumerators and 139 supervisors were employed for the pilot census field enumeration. Supervisors were engaged in Manikgonj thana alone.

A systematic training program and logistics support plan were drawn up to settle the pre-enumeration details. Senior officers at the level of deputy director and statistical officers formed the management and supervisory team, and assistant statistical officers and thana statisticians formed the field coordination and logistics support team. Personnel for these teams were from the BBS and were trained in the Dacca head office on 7–8 April 1980.

After the training period, thana statisticians were sent into the field to distribute census packets to supervisors and enumerators. A census packet was made for each enumerator to use during the field enumeration. These packets contained, in a manila paper envelope, one 100-page OMR questionnaire book, one pencil, one sharpener, one eraser, and three pieces of chalk. All census packets for enumerators of urban EAs also contained urban EA maps. Each census packet was identified on the envelope with the names of subdivision, thana, union or ward, mouza or mohalla, village, and EA number. Thana statisticians also received a reserve supply of questionnaire books, which were kept in the union council and ward offices for emergency use.

Thana statisticians worked as master trainers and made training arrangements for supervisors at thana and municipality headquarters. They trained the supervisors under the supervision of the BBS field officers.

Two supervisor-training schedules were used—one for two days (11–12 April) and another for three days (11–13 April)—in order to determine the optimum training period for the actual census. The three-day training was carried out in five areas: Mymensingh and Khulna municipalities, Kashkanapur and Tildanga unions in Khulna, and Bijbag Union in Noakhali. In all other areas, supervisors received two days of training.

The last stage of training consisted of the supervisors training their enumerators in local schools or union council offices. The training centers were selected with the help of union council chairmen and ward commissioners, and the sessions ran for two days, 15–16 April 1980. Enumerators were given their census packets on 17 April 1980. Thereafter supervisors took the enumera-

tors into the field in the morning, identified EAs with the help of maps, and explained to each enumerator the location of his EA and its boundaries.

In Manikganj municipality and Gandaria mohalla of Dacca municipality, pilot census announcements were made on a public address system 16–17 April. In addition, drum beatings announced the pilot census in *hats* (rural markets) in Manikganj thana.

The field enumeration was completed in three days (18–20 April 1980). The enumeration was closely supervised and controlled by census officers, the BBS field officers and staff, and union council chairmen and ward commissioners. Separate inspection teams from the Dacca head office paid visits to EAs wherever possible and studied field enumeration discipline; efficiency of supervisors and enumerators, cooperation of other local officers and heads of local bodies, and response of the people.

All field returns were collected by thana statisticians through field supervisors. Each enumerator was asked to compile summary results for total households and total population by sex for his EA before turning in the completed questionnaires to his supervisor. These questionnaires with summary results were sent to the Dacca head office for processing, tabulation, and analysis.

A pilot postenumeration check (PPEC) was conducted on 28 April 1980, about 10 days after the pilot census. It covered 22 EAs, which were selected from each rural union and urban mohalla. An independent group of enumerators taken from the regular staff of the BBS performed the fieldwork. All enumerators were given three days of training prior to the PPEC. The PPEC reference night was midnight, 27 April 1980. Field returns were collected by 9 May 1980.

The PPEC used a one-way matching procedure that only matched persons enumerated in the PEC with those enumerated in the pilot census. The analysis of the matching results revealed variations in completion rates between areas. In Manikgonj thana, coverage ranged from 94 percent in Nabogram Union to 75 percent in Hatipara Union. In almost all the remaining unions and wards coverage ranged from 87 to 96 percent. Overall, underenumeration in the pilot census was approximately 10 percent.

Sample Survey Pretest, May–June 1980. The first pretest of the sample survey was conducted from 12 May to 22 June 1980. The aims of the pretest were to evaluate the efficiency of two types of sampling and to evaluate the format of the long questionnaire. The pretest involved a mix of both complete enumeration of EAs (done in 8 EAs) and canvassing subsamples of households within EAs (done in 32 EAs). The sample EAs were selected from the 63 EAs of the third census pretest.

The enumerators were statistical investigators and statistical assistants from the BBS. They received three days of training with a field demonstration on the last

day. Each enumerator was assigned one EA. The supervisory function was performed by teams of two supervisors, which included senior and other experienced officers of the BBS.

The results of the pretest indicated that the long questionnaire provided fairly reliable data that could be used to supplement the data collected in the 100 percent count. The sampling design, however, required further refinement to ensure the generation of reliable estimates of population characteristics. Therefore, a second pretest was conducted.

The second sample survey pretest was conducted from 1 June to 30 July 1980. The pretest canvassed a subsample of households from 52 EAs using the long questionnaire. A systematic sampling principle was adopted for selecting households. The subsample included a total of 800 households, with 17–20 selected from each EA. Enumerators were statistical investigators and statistical assistants of the BBS, and two deputy directors of the BBS were appointed supervisors. The results of the pretest were used to determine the final technical and management procedures for the sample survey.

PUBLICITY

The census publicity campaign was both extensive and intensive. The publicity efforts were designed to educate and motivate the people, to make them understand the objective of the census and their responsibilities with respect to the census. The publicity campaign used all the communication media—radio, television, cinema, and the press. Local administrations and members of local governments extended their cooperation, particularly the local governments (union and ward councils). The Ministry of Information and Broadcasting also helped make the program effective.

The campaign focused on making people aware of the census date and enumeration period, the need for providing correct information, the confidentiality of census information, the importance of public cooperation and participation, and the responsibility of the people to cooperate with and assist enumerators and other census officials.

Schedules for the publicity programs were systematically planned well ahead of the actual enumeration. The scheduling consisted of three phases—production of communication materials (July to December 1980), distribution of these materials throughout the country (January to mid-February 1981), and intensive campaigning (mid-February until the completion of enumeration).

Three types of census spots were prepared—one published in major national dailies (both Bangla and English), another broadcast on the radio, and the other telecast. These spots contained messages about the importance of the census and the need for public cooperation, and counted down the days remaining before the

census. In addition, a census song was composed and broadcast over radio and television.

Newspaper supplements were published in all major national dailies one week before the enumeration. Also during that week, many publishers wrote editorials on the census.

Beginning in mid-February 1981, posters and pamphlets appeared in government buildings, industrial and educational complexes, railway stations, and local government offices. Postage stamps and postmarks commemorating the census also began to appear. A census calendar was distributed in national and local government offices. Handbills were distributed among the general public not only to educate them, but also to assess the effectiveness of the publicity campaign—at the end of the handbill was a question asking the receiver if he knew about the census, and if so, how he learned about it. The handbills that were returned cited most of the media that were being employed.

A simple brochure explained briefly the census objectives, enumeration procedures, and the need for the people's participation. The brochure was used in all educational institutions, particularly primary and secondary schools, to create awareness among pupils and through them their parents.

A 10-minute color film about the census was produced and 65 copies in 35 mm and 25 copies in 16 mm were to be distributed for exhibition in cinema houses, through mobile vans, and on television. On television, the film was shown after Bangla news broadcasts.

Cinema slides were also produced and distributed for showing in cinema halls. These slides were exhibited before the featured films and during intermissions.

Publicity efforts intensified in the three weeks prior to the census. They were brought to a peak by publishing the newspaper supplements, broadcasting short census features over the radio and television networks, and showing the census film in cinemas across the country. Daily newspapers printed a countdown to the census date, and a similar countdown was flashed on radio and television several times every day for the last ten days of the census. Television discussions were arranged, as well as loudspeaker announcements, drum beatings, and automobile displays in the last week before the census. The intensive campaigning in the last ten days helped draw the attention of the entire nation to the census.

The census publicity campaign culminated with the census message of the president of the country. The message was broadcast on both radio and television networks the day before the enumeration began.

ENUMERATION

Enumeration Districts

The established geographic divisions of the country—the tiers of administrative units shown in table 2.2—

were used to establish the administrative hierarchy for the census and the sample survey.

For the full-count program, an additional administrative division, the zone, was established at the thana level. The zone comprised about 300 EAs. Thus a thana with nearly 300 EAs was considered a complete zone, but thanas with more than 300 EAs were divided into more than one zone. This statistical division was initiated to permit efficient management of the field operation.

The country was divided into 801 zones. The four SMAs included a total of 40 zones—Dacca SMA comprised 25 zones, Chittagong 9 zones, Khulna 4 zones, and Rajshahi 2 zones. Outside the SMAs, the highest number of zones was in Dacca (85), followed by Rangpur (62), Mymensingh (57), and Patuakhali (16).

The EAs contained from 110 to less than 25 households with the average about 90. All villages with less than 25 households were one EA. Almost all urban EAs contained around 90 households. Information on the delineation of EAs can be found in the mapping section.

Recruitment and Training of Enumerators

The supervisory statisticians, zonal officers, and teams posted to the SMAs were selected from among experienced staff members of the BBS. (Over 800 workers from the thana staff were assigned to work as zonal officers.) The BBS field personnel were positioned in divisions, districts, subdivisions, zones, and SMAs by September 1980.

Zonal officers took field visits to all villages of the country and, under the guidance of supervisory statisticians and in cooperation with the census committees, appointed all supervisors and enumerators for the EAs. The total number of supervisors appointed was 4,661 and the number of enumerators was 110,000. These numbers included a 5 percent reserve of supervisors and enumerators for emergency replacements.

On their field visits, zonal officers first made contact with the local census committee and with prominent local individuals. With their assistance and the field maps provided by the cartographic section, the zonal officers identified the boundaries of the EAs and appointed one enumerator for each EA from among the educated youths and schoolteachers living within the area. If no such person could be found within the EA (such situations very rarely occurred), one from an adjacent village or mohalla was selected and appointed enumerator. At the time of the census, most teachers of primary schools were on strike; consequently, mostly educated youths and young teachers of secondary schools were appointed for the census fieldwork. The appointment of enumerators was made formal by issuing appointment cards.

In villages, the zonal officer marked the EA boundaries on the field map, wrote the name of the appointed

enumerator on the map, and assigned a geocode to the EA according to the particulars contained in the computer EA list. The mohalla maps already had the EA boundaries marked and geocodes assigned, so urban zonal officers merely added the names of the appointed enumerators. The zonal officers also showed the appointed enumerators the physical boundaries of their EAs (with the help of the field map) and filled out village and mohalla profile forms.

The zonal officers appointed the supervisors from among local educated individuals, issuing cards to make their appointments official. As each supervisor was appointed, he was acquainted with his group of five enumerators and shown the five EAs he had to supervise. All reserve supervisors and enumerators were asked to report to their union or ward control centers, where they could be called in an emergency. The supervisors and enumerators were appointed in January 1981.

Training sessions were arranged for all field-workers, including orientation training for members of the census committees. The entire training program was tested extensively in the pretests and pilot census.

Twenty-five master trainers received training at the Dacca head office from the senior officers of the BBS who were involved in the development of enumeration procedures and the control and management of the census. The master trainers first trained all supervisory statisticians in small groups and then trained the 810 zonal officers in groups in mid-November 1980. This training was conducted in the Dacca head office. Later, zonal officers were trained a second time in two administrative division groups. The Rajshahi and Khulna division group was trained in the beginning of the second week of February 1981, and the Dacca and Chittagong division group at the end of that week. These training dates were chosen so that the training would not be too early and be forgotten or be too late and delay subsequent preparations or fieldwork.

When the zonal officers had received their first phase of training, they went back to the zones personally carrying all census field materials and arranged for the training of supervisors at thana headquarters. The thana census committee coordinators helped arrange the training facilities. Each zonal officer trained 60–65 supervisors, including the 5 percent reserve for his zone. This training was completed by the end of February 1981.

In the final stage of training, each supervisor trained his group of enumerators either in a local classroom or in a convenient complex.

Training at every stage and for every group of trainees was conducted in two days. Class lessons were developed and designed to be read verbatim from the training manual, which was written in simple, spoken Bangla. This technique ensured uniform training at all levels and for all trainees. Following the class lessons, trainees

were sent into the field to conduct a mock enumeration. The data collected were brought back to the classes for evaluation. Fieldwork mistakes were ascertained, explained, and corrected.

Facilities such as blackboards, chalk, and sufficient light were arranged for the training classes. A large blowup of the OMR questionnaire was hung on the wall to use in explaining steps of filling out the questionnaire. In addition, a separate supply of questionnaires was printed for use in training—for use in class lessons and for counting households during the mock field enumeration assignment.

One-day orientation sessions were provided for all coordinators and members of census committees in order to explain to them the responsibilities of the census committee. In districts, deputy commissioners presided over the orientation training sessions; in subdivisions, subdivisional officers; and in thanas, circle officers. The orientation training was conducted by master trainers, supervisory statisticians, and zonal officers of the BBS. At the thana level, coordinators and members of union or ward committees participated along with the members of the thana committees. A field manual was used for the orientation sessions.

The sample survey called for 125 supervisors and 500 enumerators to be selected from experienced staff members of the BBS. These supervisors and enumerators were trained for about one week in the Dacca head office. A detailed training manual was prepared for the training course, which also made use of the survey field manual.

Enumeration Procedures

The distribution of census materials was meticulously planned and controlled. The census materials included questionnaire books, pencils, sharpeners, lumber crayon sticks for marking enumerated households, and checkbooks for honorarium payments to temporary census personnel.

The honorarium payment checks were special computer security checks procured from abroad. Each check had space for recording the particulars of the EA, including total households and total population broken down for males and females. All particulars were computer printed at the Dacca head office from the computer lists of EA particulars. The entire arrangement of check distribution and honorarium payment was computer controlled. The checks were of two colors but with a single, light-colored printed background of the monogram of the People's Republic of Bangladesh and the inscription "Population Census 1981" in Bangla.

A separate packet of census materials was made for each EA. The packet, a manila envelope, was given an adhesive label computer printed with the particulars of the EA, including geocodes. Separate census packets were prepared for supervisors and zonal officers.

The enumerator census packets for rural areas each contained one 100-page questionnaire book, one pencil, one sharpener, and one lumber crayon stick. Packets for urban enumerators contained the same materials plus a 25-page questionnaire book and an EA map.

The supervisor census packets for rural areas each contained one 100-page questionnaire book, a training manual, a printed sheet of supervisor instructions, field map, training questionnaires, and white chalk. Urban supervisor packets contained the same materials plus a 25-page questionnaire book.

Census packets for zonal officers and supervisors provided materials for training and for emergencies. They contained five 100-page questionnaire books, five 25-page questionnaire books, five pencils, five sharpeners, five lumber crayon sticks, copies of the blown-up questionnaire and the training questionnaire, training and field manuals, maps, white chalk, and honorarium payment checks. All census packets were prepared in the Dacca head office and delivered to zonal officers after their second training session in Dacca in the second week of February 1981. Special vehicles were arranged for transporting the baggage of zonal officers first to district headquarters and from there to thana headquarters.

After supervisors completed their training, they were given their census packets and the packets for their enumerators. The supervisors then returned to their EAs, contacted their enumerators, and asked them to attend the two-day training classes 3-4 March 1981. Supervisors distributed the enumerator census packets to their enumerators when their training was completed. On the morning of 5 March 1981, the supervisors visited their EAs with their enumerators and again showed them the boundaries of the EAs.

The census count was done with reference to "census night," 12:00 midnight, Thursday, 5 March 1981. The counting of transient people in urban localities actually began at that time. In all major cities where transient people were concentrated, particularly in Dacca, the supervisory field personnel, as well as special teams of senior officers of the BBS, began counting transient people at midnight, census night. Both reserve and regular enumerators and supervisors of other urban places also counted transient people.

The enumeration of households began on the morning of 6 March and was completed by 8 March 1981. During the count, the reserve supervisors visited places, supplied additional census materials where necessary, and helped with the enumeration as required. The supervisory field personnel were constantly on watch, and coordinators and members of the census committees assisted the enumeration. Senior officers from the Dacca head office and expatriate advisers of the UNFPA and the UNDP working with the BBS took up field tours to supervise and guide the enumeration.

People in all walks of life showed an unprecedented response to the enumeration. The control centers were open 24 hours to receive information about missed individuals. A few reports were received in Dacca and Chittagong SMAs, and these were promptly attended to by special groups of field officers.

Special measures were taken to count certain groups in the population. These measures are described below. In all cases officers of the BBS provided management support for the enumeration.

Defense Population. All defense personnel, and their family members living within restricted areas such as cantonments, were enumerated under the supervision and control of the officers-in-charge of the defense establishments. Both supervisors and enumerators were selected from among defense personnel.

Police/BDR. Police and BDR personnel living within restricted areas were counted by supervisors and enumerators selected from among police/BDR personnel.

Prison Inmates. Prison inmates were enumerated by their superintendents.

Chittagong Hill Tracts Population. A senior officer of the BBS was specifically deputed to the Chittagong Hill Tracts district because of its rugged terrain, its sparse, mainly tribal population, and the remoteness of the inhabited localities. The logistics and management programs for the Chittagong Hill Tracts were worked out ahead of the programs for the remainder of the district. Supervisors and enumerators were selected from local educated youths, most of whom were tribal youths. Most of the zonal officers recruited and posted by the BBS also belonged to the district.

Population of Households within Reserve Forests. For the enumeration of households within reserve forests, supervisors and enumerators were selected from local forest department personnel. This was done because these personnel knew the forest areas and the households within these areas. Forest rangers were appointed supervisors and forest guards enumerators.

Population of Small Coastal Islands. Along the Bay of Bengal there are about 45 small coastal islands that are inhabited during the winter season. During the rainy season, these islands are frequently submerged, so the inhabitants migrate to the mainland. For the census, which was taken in winter, these people were counted with the help of both the local civil administration and the forest department. Supervisors and enumerators were selected from among the inhabitants of these islands.

After the enumeration was over, supervisors collected the completed questionnaires and other materials from their respective enumerators and submitted them to their zonal officers. Each enumerator completed a tally sheet for each questionnaire book he used and submitted it to his supervisor in the original manila envelope of the census packet. The supervisor, after receiving the

questionnaire books from his group of enumerators, checked them and recorded on a separate form the total population count in each of his EAs and the number of questionnaire books he received from enumerators. Zonal officers then collected the completed questionnaires and other materials from the supervisors, checked them, and verified them. After checking and verifying the census materials, the zonal officer recorded on another form the number of questionnaire books he received from each supervisor and the total population, broken down for males and females, of the supervisors' EAs. After receiving and verifying all documents submitted by a supervisor, the zonal officer distributed the computer printed honorarium checks. Supervisors were paid Tk 150 and enumerators Tk 100.

Zonal officers were assisted in collecting field results and paying field personnel by the head clerks of the circle officers and by the reserve supervisors and enumerators. This work was supervised by BBS supervisory statisticians and touring officers. For Dacca SMA, additional senior officers supervised the collection of field returns and the payment of honoraria.

After collecting all field returns at thana headquarters, zonal officers finally examined the returns with the help of the head clerk of the circle officer, who was paid an honorarium of Tk 150.

The zonal officers brought all their census materials to the Dacca head office central control center where they were checked and immediately stored in the temperature-controlled central store on steel rack shelves. The field returns were arranged on the steel racks by district. Spaces on these racks were reserved for the zones and EAs of every district and were labeled with geocodes. This storing arrangement made it easy to locate the questionnaires of any EA for editing and data processing.

Data Processing

DATA PREPARATION AND CODING

The data processing work of the census was scheduled to begin in May 1981. This schedule could not be kept, however, because the two OMR machines procured under the UNFPA technical assistance program had not arrived. When these machines did arrive, one was damaged and the other was missing its tape drive. Arrangements were made to begin data processing with one OMR machine until the damaged machine was repaired and another tape drive received. The entire data processing program rested on coding principles established during the design of the questionnaire format.

Data conversion was to be done on the IBM 3881 OMR. The system was designed to transfer data directly onto computer tapes at the rate of 3,000 questionnaires per hour. Wrinkled and damaged questionnaire sheets,

as well as double entries on questionnaires, were rejected by the OMR system. The data of rejected questionnaires were manually input onto diskettes and then transferred onto tapes.

Because the questions on the census questionnaire were precoded, no separate codes needed to be entered during processing. The geocoding system provided area identification, and the questionnaire books were processed in the order established by the cartographic sections in the development of the geocodes. The geocodes of individual questionnaire books were checked manually.

EDITING AND IMPUTATION

Limited manual editing was carried out for a few basic items. Editors checked all geographic codes down to villages as recorded on the documents. In addition, they checked the intensity of the enumerators' marks, and if the marks in a document did not meet the OMR requirements, the entire document was re-marked. Finally, age and sex characteristics were checked. For each EA, the first ten and the last five households were checked for proper marking and completeness of age and sex records. If the number of errors found in these 15 households was more than two, 10 additional households were checked. If the number of errors found in the 10 additional households was less than two, then the remaining questionnaires were considered correct and no more manual editing was done. Detailed instructions were prepared for the manual edit program.

Extensive editing of all documents was done by computer using the CONCOR package developed by the U.S. Bureau of the Census. The edit program was designed to detect errors due to omissions and the recording of wrong or inconsistent data by enumerators. Mistakes were detected and simultaneously imputed for correction following the hot deck and cold deck principles. Imputation results by characteristics were printed for each processing batch for examination by subject-matter specialists. If the rate of imputation on questionnaires from a particular area exceeded the limits of acceptance, all questionnaires from that area were manually edited and then processed through the computer. All geographic area codes were checked for accuracy by computer.

EQUIPMENT

IBM 3881 Optical Mark Readers were used for conversion of data on questionnaires to computer tapes. An IBM System 34 minicomputer was used for manual data entry for questionnaires rejected by the OMR and for questionnaires requiring minor corrections. An IBM 4341 mainframe computer (core capacity, two megabytes) was used as the main hardware for editing, updating, and tabulations.

Definitions

De Jure/De Facto

Because of the high level of illiteracy in the country, the census organizers chose to avoid the difficulties of communicating the de jure concept to the people and conducted the census on a de facto basis instead. For the purpose of the census, de facto meant that individuals were counted in the place where they were found on the census night.

Urban/Rural

For the purpose of the census, the following localities were designated urban: the four metropolitan cities of Dacca, Chittagong, Khulna, and Rajshahi, including the surrounding urbanized areas (these were termed statistical metropolitan areas or SMAs); the 75 municipalities with surrounding urbanized areas; 471 thana headquarters; and 45 other urban areas representing urbanized pockets around industrial complexes or other major economic centers. These urban areas were distinct in that they shared characteristics such as access to electricity, sewerage, water supply, schools, colleges, and universities. All other areas were considered rural.

Economic Activity, Labor Force, and Unemployment

Only the agricultural economic activity of households was studied. Accordingly, households involved in farming (crop cultivation) and cottage industries were so classified. Labor force and unemployment were considered parts of occupation characteristics.

Occupation and Industry

Adult individuals were classified into seven occupation groups: (1) not working; (2) household work; (3) farming (crop cultivation); (4) forestry, fisheries, and live-stock raising; (5) employees of industries; (6) business; and (7) other profession, including government service.

Race and Ethnicity

These characteristics were studied on a household basis. Households were classified into five religion groups: (1) Islam, (2) Hindu, (3) Buddhist, (4) Christian, and (5) others. Households were also distinguished by local tribal groups.

Tabulation and Publication

Census tables will generally be prepared in three categories: (1) population characteristics showing urban and rural; (2) household characteristics showing urban and rural; and (3) population and household characteristics at the village and community level. The first two categories will be published in separate volumes for the nation,

divisions, districts, subdivisions, thanas, and unions. A list of the 39 sets of tables planned appears at the end of this chapter.

Special monographs will be published with tables on women, children, youth, and the aged population and with analytical reporting. A special analytical bulletin will also be prepared and published.

Evaluation

POSTENUMERATION CHECK

The postenumeration check (PEC) was carried out about two weeks after the field enumeration. The objective was to estimate error rates at the national level and separately for urban and rural areas. The PEC looked for four types of errors: (1) persons missed in enumerated households, (2) households missed, (3) persons erroneously counted in enumerated households, and (4) households erroneously counted.

Persons who were not living in the country, persons who died before census night, or fictitious individuals might have been counted as members of households. Also, some persons might have been counted twice. On the other hand, enumerators might have failed to record the names of persons who were in the country on census night. Thus both positive and negative errors were studied in the PEC. The resulting coverage rates will be used as a basis for adjusting the population counts.

Sample and Fieldwork

A total of 250 EAs—100 urban and 150 rural—were selected for the PEC study. This provided a total sample size of 115,500 persons located in 21,089 households.

The fieldwork was done in two phases: the initial PEC fieldwork and the field recheck after the office matching operation. The PEC fieldwork was completed over a period of five days from 24–28 March 1981. This period was chosen to obtain optimal recall from respondents while maintaining the independence of the field study. Independence was accomplished by not beginning the fieldwork until all returns were received in the Dacca central store. This prevented PEC enumerators from copying the work done by census enumerators. The fieldwork was carried out by 250 enumerators and 50 supervisors selected from experienced staff members of the BBS. These supervisors and enumerators were trained by a group of senior officers of the BBS who guided, inspected, and controlled the entire PEC operation. Field visits were also made by foreign advisers.

When the fieldwork was completed, the office matching operation began. The matching operation classified each person listed in the census and each person listed in the PEC according to whether he or she was correctly enumerated in the census.

A field recheck program was carried out immediately

after the matching operation. The field recheck was undertaken to verify two things: (1) that persons not listed in the PEC records were actually erroneously enumerated in the census (that is, were duplications, fictitious persons, etc.); and (2) that persons listed in the PEC records but not in the census were actually in the concerned households on the census night.

Net error rates were first calculated separately for urban and rural areas and then combined to yield national estimates. These rates were finally blown up to get the universe estimates. The net error rates were 3.0 percent for rural areas, 6 percent for urban, and 3.3 percent for the country as a whole.

OTHER EVALUATION MEASURES

During the field enumeration, several teams went into the field to independently interview individuals and households. The question these teams asked was simply, "Were you or the household enumerated?" In addition, a special team headed by the Honorable Minister for Planning, accompanied by the Director-General of the BBS, journalists, and demographers, visited several places to check the quality of enumeration.

Budget and Census Timetable

The total cost of the census was estimated Tk 157 million (approximately US\$8.6 million). Of this, the estimated amount of UNFPA technical assistance was Tk 60 million and the government contribution Tk 97 million. Table 2.3 shows a breakdown of costs over the census period.

Table 2.3 Census Budget (in million taka)

<i>Period</i>	<i>Government Contribution</i>	<i>UNFPA Contribution</i>
1980-81	42.7	29.2
1981-82	26.5	28.0
1982-83	2.8	2.8
Total	97.0	60.0

Census Timetable

<i>Activities</i>	<i>Dates</i>
1. Set up census committees and control centers	Jan 1980
2. Complete field maps, geocodes, and map reproductions	mid-Nov 1980
3. Complete posting and training of supervisory statisticians	Oct 1980
4. Appoint supervisors and enumerators	Jan 1981
5. Train 25 master trainers	1-2 Jan 1981
6. Train zonal officers of Rajshahi and Khulna divisions	9-10 Feb 1981
7. Deliver census materials to zonal officers	

of Rajshahi and Khulna divisions	11-12 Feb 1981
8. Train zonal officers of Dacca and Chittagong divisions	13-14 Feb 1981
9. Deliver census materials to zonal officers of Dacca and Chittagong divisions	15-16 Feb 1981
10. Zonal officers return to respective zones after training in Dacca	24 Feb 1981
11. Arrival of supervisors at zonal training centers	25 Feb 1981
12. Zonal officers train supervisors	26-27 Feb 1981
13. Distribute census materials among supervisors	28 Feb 1981
14. Supervisors return to EAs	1 Mar 1981
15. Supervisors contact their enumerators to show them their EAs and ask them to attend training class	2 Mar 1981
16. Training of enumerators	3-4 Mar 1981
17. Census night and beginning of count of transient population in urban localities	5 Mar 1981
18. Enumeration of households	6-8 Mar 1981
19. Enumerators prepare summary tables on tally sheets and submit their questionnaire books and other materials to their supervisors	9-10 Mar 1981
20. Supervisors submit returns to zonal officers. Supervisors, enumerators (including reserves), and head clerks of circle officers receive honorarium checks	Completed by 20 Mar 1981 in most places, by 31 Mar 1981 in others
21. Zonal officers submit returns to Dacca central office control center	mid-Apr 1981

Conclusion

Taking a census in a densely populated country like Bangladesh is a challenging task. This challenge was squarely met in 1981 with a degree of accomplishment never achieved before. The undercount, which is common in all national censuses, was kept to a record low of 3.3 percent. This record is truly noteworthy, particularly in the context of the prevailing socioeconomic conditions in the country. It was achieved through the dedicated efforts of all staff members of the BBS with the cooperation of local administrations, local governments, and the people of Bangladesh.

The fundamental elements contributing to the success of the census were the rigorous management and logistics strategies implemented by the BBS field personnel. The elaborate control strategies deployed 100 supervisory statisticians, teams of supervisory officers, and 801 zonal officers from BBS staff members. Together they succeeded in carrying out all the basic, essential work of field management and logistics around which the full-count program was conducted.

All local administrations and local governments actively cooperated with the BBS field personnel in deve-

loping and implementing the most efficient logistics and management plans. Members of district, subdivision, and thana administrations, as well as of union and ward councils, through the census committees, helped work out all the details of the field procedures for the census. In particular, union council chairmen and ward council chairmen extended all help necessary to recruit supervisors and enumerators from local educated youths and secondary-schoolteachers. They also helped motivate people and encourage them to cooperate with the field personnel during the enumeration. Guidance from members of the Parliament made it possible to get the field enumeration program effectively coordinated at all levels.

Distinct features contributing to the success of the census were the innovations in the format of the questionnaire, the swift counting, the training procedures, and the publicity campaign. The short, precoded OMR questionnaire was easily understandable to both census field personnel and respondents. The questionnaire format, limited to basic household and individual questions, made it possible to complete the field enumeration in three days, and this made it possible to hold the attention of the people for the duration of the census. Combining household questions with questions on individual characteristics curtailed enumeration time and reduced the burden on both enumerators and respondents. The short questionnaire also simplified the training procedure for field workers. The training program, which consisted of the verbatim reading of the training manual, ensured uniform training for field workers at all levels. The intensive publicity campaign educated people in all walks of life to their responsibility in the census and motivated them to actively participate in the enumeration.

The logistics and management strategies followed for the census and the innovations introduced for carrying out the field enumeration guaranteed the success of the 1981 census.

1981 Bangladesh Census Tabulation Plans

Population Characteristics, Urban and Rural

1. Population by sex, percentage distribution, and density
2. Population for 1981 and 1974 by sex and percent increase
3. Population by single years of age and age groups by sex
4. Population by relationship to head of household, sex, and age
5. Population 10 years and over by marital status, sex, and relationship to head of household
6. Population 5 years and over by literacy, sex, and age
7. Tribal population 5 years and over by literacy, sex, and age
8. Population 5 years and over by school attendance, sex, and age

9. Population 5 years and over by highest class passed, sex, and age
10. Population 5 to 24 years attending schools by highest class passed, sex, and age
11. Population 10 years and over by highest class passed, sex, and main activity
12. Children 5 to 14 years by highest class passed, sex, and religion of the head of household
13. Population by religion of head of household, sex, and age
14. Population 5 years and over by literacy, sex, broad age groups, and religion of head of household
15. Population 5 to 24 years by school attendance, sex, age, and religion of head of household
16. Population 10 years and over by main activity, sex, and age
17. Population 10 years and over by main activity, sex, and highest class passed
18. Population 10 years and over by main activity, sex, and religion
19. Population 10 years and over by main activity, sex, and religion of head of household
20. Population 20 years and over by main activity, marital status, and sex
21. Population 10 years and over by main activity, literacy, and age groups
22. Population 15 to 29 years not working by highest class passed, sex, and age

Household Characteristics, Urban and Rural

23. Households and population by use of structure/dwelling units and by tenure
24. Material of wall and roof for reported dwelling units
25. Roof material of reported dwelling units by wall materials
26. Households by source of drinking water and cottage industry activities
27. Households by ownership of cultivated land/boat/bullock cart
28. Households by size and by religion of head of household

Population and Household Characteristics, Village and Community Level

29. Population by broad age groups and sex
30. Population by marital status and sex
31. Population 5 years and over by literacy and sex
32. Population 5 to 29 years by school attendance and sex
33. Population 10 years and over by main activity
34. Students and youths not working by age group, sex, and literacy
35. Households and population by religion of head of household
36. Households by use of structure and nature of reported dwelling units
37. Households by source of drinking water and cottage industry activity
38. Tenure of reported dwelling units, ownership of cultivable landboat/bullock cart
39. Number of households by size

CHINA 1982

Population Census Office
State Statistical Bureau
Beijing

Introduction

The Chinese government, with the cooperation of the Chinese people, conducted its third national population census using reference time 0000 hours of 1 July 1982. The entire population was canvassed with a questionnaire containing 19 topics, and there was no simultaneous sample survey.

On 27 October 1982, the State Statistical Bureau released the Communiqué on Major Figures in the 1982 Population Census based on the manual tabulation. The communiqué reported that the total population was 1,031,882,511. This figure includes the island populations of Fujian and Taiwan provinces as reported by the Taiwan authorities, as well as compatriots in Hong Kong and Macao estimated from figures released by the Hong Kong and Macao authorities. The population of the 29 provinces, municipalities, and autonomous regions on the mainland was 1,008,175,288.

HISTORY

Since liberation in 1949, two other population censuses had been taken in China. These censuses provided important data for the construction of the people's democracy and the development of the national economic plan. The census taken in 1953 reported a total population of 601,938,035, and the census of 1964 reported 723,070,269.

Compared with the two previous population censuses, the 1982 census was much larger in scale. Besides canvassing a larger population, it sought more information by asking more questions (19 compared with 9 in 1964 and 6 in 1953).

China's 1982 population census was up to modern standards. It had many features in common with censuses of other countries, for example, standardized enumeration procedures for the whole country, a standar-

dized questionnaire, unified tabulations, enumeration of all households and all persons with the same reference time, and data processing by means of computers. At the same time, conditions in China are different, and China's 1982 census had its own special features.

China is a developing socialist country with an immense population and a vast expanse of territory. Some 800 million of China's 1,000 million inhabitants live in the countryside, and development is uneven from one region to another. To complicate matters further, China has not conducted censuses at regular intervals, and the 1982 census was the first to use computers for data processing. These conditions increased the difficulty of the census operations.

But China is an organized society with strong, unified leadership exercised by the people's government. In addition, the mobility of the Chinese population is relatively low and there exist a household registration system and a regular system for collecting population statistics. Furthermore, China is in the process of the four modernizations, seriously reviewing her past experience and learning from the experiences of other countries. These are favorable conditions that enabled China to organize the 1982 census scientifically and meticulously.

The 1982 census seized the favorable conditions and made use of the experiences of the previous two censuses. It relied on the unified leadership of the Party and government, mobilized the masses, took advantage of the household registration system, carefully organized verification and manual tabulation at all levels, and eliminated errors at the grass-roots level. Useful experiences of other countries were taken into account and absorbed wherever possible—for example, in the adoption of modern computer techniques, elaborate work procedures, and a comprehensive set of census items. Because of these measures, all difficulties were swept aside and success was achieved.

LEGAL STATUS OF THE CENSUS

In June 1980 the Chinese Communist Party and the State Council resolved that the third national popula-

This chapter is a revised version of a paper presented at the Ninth Population Census Conference (Tokyo, 1983) by Ma An, Deputy Director of the Population Statistics Department, Population Census Office.

tion census be held in July 1983. Shortly after, a preliminary draft of the Statute of the Third Population Census was prepared by the Population Census Office under the State Council. In part the statute read, "The census is to be taken under the leadership of the State Council and the local people's governments at all levels." Furthermore, it stated that "Various specific guides for implementing the Statute are [to be] laid down by the Population Census Office Leading Group under the State Council." Thus the Population Census Office Leading Group under the State Council was placed at the top of the census organization. The census statute continued, "The population census leading groups under the people's governments of the provinces, municipalities and autonomous regions may work out supplementary stipulations." The statute provided for the adoption of special procedures in the Tibet Autonomous Region and other areas "where minority nationalities live in compact community." The specific plans were to be worked out by the people's governments of the regions and recorded with the State Council.

CENSUS ORGANIZATION

China has no standing organization for census taking. Therefore, for the 1982 census, leading groups were set up at all levels of government. At the national level, the Population Census Office Leading Group was established under the State Council. Then census leading groups were set up under the people's governments at three administrative levels:

1. Provinces, municipalities, and autonomous regions
2. Prefectures and, for autonomous regions, leagues
3. Counties, cities, and municipal districts

The task of enumeration was undertaken by census enumerators guided by census supervisors, while grass-roots cadres and activists among the people gave support.

All census leading groups operated under the strong, unified guidance of the Party committees and people's governments. They were directed by the census statute to "earnestly abide by the system of asking for instructions and submitting reports." The census leading groups at the level of county and city and above were directed to critically summarize their experiences and submit reports to the next higher level.

The statistical department and other departments concerned (including the departments of administration of household registration, planning, publicity, labor and personnel, family planning, health, and commerce and food supply, as well as trade unions, the youth league, and the women's federation) were mobilized to ensure the success of the census. Offices at all levels of government took the census as an important task that logically

followed from the official shift of emphasis to economic construction. Very soon, the census offices were set up from the central government down to every province, county, commune, and neighborhood committee. Census takers were chosen and trained, funds and supplies were provided, and extensive publicity, mobilization, and printing and distribution of census forms were undertaken.

During the census, large numbers of leading cadres of the Party and the government went in person to supervise census operations at the grass-roots level, thereby upholding and developing the traditional style of good work—going deep among the masses, face-to-face with the real situation, and giving practical guidance. This guaranteed the smooth operation and high quality of the census. For almost a fortnight at the end of June 1982, the people took the census as their central task, at the same time ensuring the continuance of industrial and agricultural production. At the National Population Census Conference convened by the State Council in December 1982 to sum up the results of the census, all participants were in agreement that the decisive factor for the success of the census was the strong guidance given by the Central Committee of the Chinese Communist Party and the State Council and the Party committees and people's governments of all levels.

Design and Execution

PREPARATION AND PLANNING

Preparation took two and a half years—from the end of 1979 through June of 1982. In accordance with the decision of the State Council, the main tasks during this stage were setting up census leading groups and offices at different levels, drawing up the census design, carrying out pilot censuses in selected places, updating the existing household registrations, installing electronic computers and training technical personnel, convening meetings on the census at national and all other levels, selecting and training census takers in grass-roots units, printing census forms and documents, and organizing publicity and mobilization.

Coverage

According to the Statute of the Third Population Census, the census was to enumerate "everyone who holds the citizenship of the People's Republic of China and resides in the country." This included members of the People's Liberation Army, armed policemen, frontier policemen, fire policemen, and people under arrest or in reformatories, reform schools, or labor-reform institutions.

Personnel of embassies, consulates, and other missions stationed in foreign countries, as well as staff,

experts, and trainees abroad, were also enumerated. In addition, the census included students and postgraduates studying abroad.

Enumeration was based on the principle of permanent residence; that is, everyone was enumerated at the place of his or her permanent residence. A person was determined to be a permanent resident of a household if he or she

1. both resided and held household registration there;
2. had resided there for more than one year but held household registration elsewhere;
3. had resided there for less than one year but had been away from place of household registration for more than one year;
4. resided there but had household registration pending;
5. formerly resided in the household but did not hold household registration there at the reference time because he or she was working or studying in a foreign country.

Mapping

The census districts were divided up basically according to existing residents' groups and production teams. Thus new maps for the census were not necessary.

Schedule Content

In 1953, only six topics were included on the census schedule: name, relationship to head of household, sex, age, nationality, and home address. For the 1964 census schedule, class status, occupation, and educational level were added to the six topics from 1953. The 1982 census schedule covered 19 census topics. It aimed at determining accurate population figures and statistics on the distribution and structure of the population so as to carry out the socialist modernization program, to improve the material and cultural life of the people, and to draft population policy and plans in the light of the country's actual conditions. The topics covered were as follows:

Household topics:

1. Type of household (domestic or collective)
2. Serial number of the household
3. Number of persons in the household
4. Births in the household in 1981
5. Deaths in the household in 1981
6. Number of persons registered in the household but away for more than one year

Individual topics:

1. Name
2. Relationship to head of household
3. Sex
4. Age
5. Nationality
6. Household registration status
7. Educational level
8. Industry

9. Occupation
10. Status if not working
11. Marital status
12. Number of children ever born and number of children still alive
13. Fertility status (birth order of child born) in 1981

As specified by the census statute, the questionnaires and tabulation forms were designed by the Population Census Office Leading Group under the State Council. They were printed and distributed under arrangements with the provinces, municipalities, and autonomous regions.

In areas with concentrations of minority nationalities, the census schedules and instructions on how to fill them in were printed in the language commonly used by the minority nationalities. The questionnaire was printed in five languages: Han, Korean, Mandarin, Mongolian, and Tibetan. The Tibetan questionnaire included the questions in Han as well.

Household Listing

Household registration has a long history in China, and the Chinese people have a tradition of reporting residents' movements to household registration offices. After the national census in 1953, a new household registration system was established to meet the needs of economic development. A government decree stipulates that every citizen is required to register at his or her regular place of abode and give such information as sex, age, nationality, education, and occupation. Changes due to birth, death, moving in, or moving out must be reported to the registration office.

Regular work on population statistics has been carried out based on the household registration system. The population figures released by the State Statistical Bureau in its Annual Statistical Communiques on National Economic and Social Development have been obtained in this way. The year-end total population reported by the State Statistical Bureau was 970.92 million in 1979, 982.55 million in 1980, and 996.22 million in 1981 (these are the figures for the 29 provinces, municipalities, and autonomous regions on the mainland, excluding the armed forces). The corresponding figure obtained from the 1982 census was 1,003.94 million. The 7.72 million increase over the 1981 population was approximately equal to the expected natural increase for the first half of 1982. This showed that the annual population statistics based on the household registration system were quite accurate.

But the annual birth and death registration figures were not accurate enough. In an article in *China Reconstructs* (July 1982, p. 37), Li Chengrui, head of the State Statistical Bureau, said that the 1964 census revealed that some people were trying to produce figures in ex-

cess of the real population in order to get more grain or cloth from the government's rationing system. Li also mentioned that, more recently, it was discovered that some cadres had not been reporting all the births in their areas in order to show that the family planning program was succeeding. Some births had been included in the figure for new residents moving in from other places, which brought down the birth rates for 1980 and 1981. The 1982 population census corrected this mistake. The birth rate of 20.91 per thousand and natural population growth rate of 1.46 percent for 1981 reflect the actual rate of increase in China's population.

In order to prepare for the 1982 census, the State Council conducted a rectification of household registration. In a sense this was a preliminary count before the census. Work began in early 1981 and ended in March 1982. During this period, a total of 5.7 million registration and statistical workers, as well as cadres in grass-roots units, were mobilized to review the country's household registration. Every household was investigated, and mistakes of dual registration (6.1 per thousand) and nonregistration (5.4 per thousand) were duly corrected. This rectification program laid a sound basis for the census.

As previously mentioned, the population was to be counted according to the principle of permanent residence. But the rectification of household registration showed that discrepancies between place of constant abode and place of registration existed in some of the records. In order to use household registration as the basis for the census and still guarantee the quality of the census, a question on household registration status was included on the census schedule. Residents were classified into five categories. The numbers in these categories based on manual tabulations are shown in table 3.1.

As can be seen in the table, 98.86 percent of the population were registered permanent residents. The total

number of residents whose household registration did not conform with their regular place of abode (the other four categories) was 11,386,372, only 1.14 percent of the total. Although these people did not occupy a significant proportion of the total population in China, they still numbered over 10 million. Furthermore, they were the most likely to be duplicated or missed in the census.

In order to avoid dual enumeration of people who had been away from their place of household registration for over a year, official letters were sent to the census offices of the neighborhood committees or communes where these people were registered, explaining that they would be enumerated where they currently lived. Precautions were also taken to enumerate the people whose household registrations remained to be settled, regardless of whether they were in the course of moving or had never been registered.

Thus the census was not a simple repetition of household registration: it used the household registration as a basis, but was not restricted by it.

Pretests

Before the official census, "snowballing" pilot censuses were conducted in order to test methods and work procedures and to revise them wherever necessary. The pilot censuses were also used to train large numbers of census personnel.

Eighteen years had elapsed since the last census in China. Both previous national censuses gathered information on fewer items, and did not use computers for data processing. Consequently, many new preparations had to be made for the 1982 census. It was deemed particularly important for the methods of the pilot census to be scientific, reasonable, and compatible with the actual conditions in China; for the leading personnel to acquire experience in the organization of the census; and for the staff to obtain the necessary expertise.

The complete pilot census program included the establishment of census offices, the selection and training of enumerators, publicity, rectifying household registrations, dividing up the districts into census areas, setting up census enumeration stations, sending census takers to areas under their responsibility to make preliminary investigations, preparing household lists on the basis of such investigations, enumeration, verification, postenumeration check, manual tabulation, coding, data processing, editing of the results of the pilot census, carrying out the initial analysis, and summing up the experience.

When the first draft of the Statute of the Third National Population Census was ready, the Population Census Office Leading Group organized a pilot census on 1 July 1980 in the city and county of Wuxi. Staff from census offices of provinces, municipalities, and autonomous regions all over the country participated in the pilot census. The area covered had a population of

Table 3.1 Population by Residence Status

Residing in household and holding household registration there	990,658,313
Residing in household for over 1 year but registered elsewhere	6,364,518
Residing in household for less than 1 year but absent from place of registration for over 1 year	210,322
Residing in household but with registration pending	4,754,602
Former residents not registered and not present because working or studying abroad	56,930
Total population in 28 provinces, municipalities, and autonomous regions	1,002,044,685

NOTE: Figures do not include Tibet Autonomous Region, which has no household registration.

946,000, including the city of Wuxi (with 760,000 people) and a part of Wuxi county (186,000 people) comprising six communes and one town. The backbone force in the 1982 census was brought up in this "Wuxi University."

On the basis of the experience of the Wuxi pilot census, the methods, specific working rules, and standard classifications for industry and occupation were revised.

In 1981, the 29 provinces, municipalities, and autonomous regions organized the staffs of census offices at the district and county levels to carry out more pilot censuses according to the guidelines of the drafted census statute. Representative areas in urban and rural districts were chosen for these experiments, which were to be conducted at certain fixed times over a wide area encompassing a population of 2.71 million. The pilot census program at this level was very important. Firstly, it verified the draft statute, various specific working rules for the census, and the standard classification of industry and occupation in representative urban and rural areas. As a result, important revisions and amendments were made to the statute, rules, and classifications. Secondly, it tested the ability of the census offices at this level to organize and guide the entire census operation. Thirdly, it trained the core personnel in the census offices at the district and county levels in the basic methods and detailed provisions of organizing the census.

In February 1982, the State Council formally promulgated the Statute of the Third Population Census. During the three months from the issuance of the specific working rules and the standard classification for industry and occupation by the Population Census Office Leading Group up to the formal launching of the census, 342 district-level census offices conducted pilot censuses on a population of 2.92 million. At the county level, 4,490 pilot censuses covering a population of 18.67 million were carried out in communes and urban centers. The purpose of these experiments was mainly to equip the county census offices with the ability to organize and render leadership, to train a backbone force in the commune and urban centers, and to prepare the teachers of census enumerators and supervisors. In this way, 700,000 census personnel were brought up at the commune level and above.

PUBLICITY

Before the enumeration actually started, the census was given wide publicity so that the people everywhere would have a clear understanding of what they were expected to do. All newspapers, periodicals, radio and television stations, cinemas, and other performing arts gave prominent coverage to the census. Every school gave two lessons on the census, and residents' groups and production teams called meetings of their members. Through these activities, the ordinary people came to

realize that the census was being taken for their own benefit, and that since the "population census is everybody's concern," they must give real facts.

As a result of the publicity, many people made preparations beforehand. They made certain they had their birth dates, those of their relatives, their places of work, and their occupations. In many places, residents prepared in advance all the items they were supposed to fill in on the questionnaire. Many of them actively helped the census work, some vacating their courtyards or living quarters so that census stations could be set up there, some taking the initiative to inform others to go for enumeration, and some looking for those who were away temporarily during the census. The instances of people lending umbrellas to census takers, or serving them tea or drinking water are too numerous to be mentioned. In some areas, young children came at midday to clean the census stations. It is truly difficult to imagine the enthusiasm the masses showed in rendering assistance to the census.

ENUMERATION

The enumeration started on 1 July and lasted until 10 July 1982. This phase of the census operation was completed and verified in all places by 15 July, with the exception of areas where floods delayed the work.

Enumeration Districts

The Chinese people are well organized. The accompanying chart roughly illustrates the organization of Chinese society. In urban areas, every person belongs to a group in a neighborhood committee according to his or her place of residence. In the rural areas, people are organized into production brigades within the people's communes. The people take part in work assigned by the government through these grass-roots organizations. The 1982 census was conducted through these units, relying on the warm support and active participation of the people.

As defined by the Statute of the Third Population Census, a rural enumeration district was the "area covered by a production brigade," and an urban one was the "area managed by a residents' committee." This concept of the enumeration district was further explained as follows:

Figure 3.1. China's Administrative and Social Divisions

Before the initiation of the census, census organs at various levels should help the household registration agency to rectify conscientiously household registration according to the "Stipulations of Household Registration of the People's Republic of China." On the basis of this rectification, the boundary of each enumeration area is to be clarified in accordance with the administrative divisions of the state, a master copy of all the names of heads of households that should be enumerated in the area . . . [is] to be compiled.

Recruitment and Training of Enumerators

The 1982 census of China involved a population of one billion. Its scale was unprecedented in the world. As a result, the task of selecting and training census personnel took on new dimensions.

Training was conducted in a four-stage program. In the first stage, ten statisticians from each province came to Beijing. There, over a period of ten days, they received an explanation of the questionnaire and the purpose of the census, and instruction on enumeration procedures.

The second stage of training was conducted at the provincial capitals. The statisticians trained in Beijing trained four or five census leaders from each prefecture in ten-day sessions. The number trained per province depended on the number of counties (and thus the number of prefectures) in the province.

In the third stage, the census leaders from the prefectures trained the census leaders at the county level. At this level, the training session was sometimes combined with a pilot census. In those cases, the ten-day training was extended to periods as long as one month.

The fourth stage took place at the commune level, where approximately 5 million enumerators were trained.

Enumerators were selected on the basis of their work records, background, and education. Those whose written applications were selected were interviewed, and if the interview was satisfactory, they entered the training program. Upon completion of the training, all enumerators were tested and those who passed were issued certificates of appointment by the county governments.

In most cases, enumerators were not paid by census agencies, but there had not been a census for 18 years and the publicity made people feel that the census was important. As a result, there was no shortage of applicants. At the end of the census, enumerators received an award, a certificate they could display with pride.

According to statistics received after the census, some 700,000 persons worked in the census offices at levels above neighborhood committees and village communes. In addition, there were 1,090,000 census supervisors and 5,180,000 enumerators. Because of the training program, these census personnel understood the great significance of the census, mastered all relevant rules and regulations, and had a clear idea of the quality requirements of the census and the rigorous system of work.

They took up their jobs as a contribution to the four modernizations, and did not want to let mistakes or delays in their work affect the overall result. Their slogans were "Contribute to the four modernizations," and "Let us not impede the progress of the census." They worked conscientiously, defied all difficulties, and emersed themselves in the minute details of the census.

Enumeration Procedures

The census statute specified two methods of enumeration:

Several enumeration stations may be set up in one area for the convenience of the people, and grass root cadres arrange for heads of households or persons appointed by heads of households and who are familiar with the details of the households to go to the station to have the members of the family enumerated; or enumerators [may] visit residents in their homes to get the answers to the questionnaire.

Whichever method was used, enumerators were instructed to ask for the details for each person in each household in the order that the topics appeared on the questionnaire. When the questionnaire was completed, the enumerator was to read the responses back to the respondent to make certain the answers were correct.

Government agencies, organizations, and educational institutions were made responsible for enumerating the households in their units, "under the unified arrangements of the local census organs."

Active members of the People's Liberation Army (PLA) were enumerated by the leading organs of the army. Nonactive personnel and workers serving in military institutions, as well as dependents and housekeepers, were enumerated by the military institutions in which they lived (with the questionnaires handed over to the designated local census organs), or by the local census organ if they did not live in a military institution.

Armed policemen, frontier policemen, and fire policemen were enumerated by the county and city public security organs, and the tabulations of their data were handed over to the county and city census offices. People under arrest, in reformatories, reform schools, and labor-reform institutions were also enumerated by local public security agencies.

State employees in foreign countries were enumerated by the units they originally belonged to. Commune members employed or in training in foreign countries were to be declared by their families in China and enumerated by the local census organs. Students and post-graduates studying abroad were to be declared by and enumerated with their families.

Following the enumeration, the questionnaires were bound into booklets, one for each production team or residents' group. The booklets were then coded in the offices of the census leading groups of the counties, cities, and municipal districts and sent to census data

storehouses of the province, municipality, or autonomous region. As the census statute stated, "Questionnaires should be well-packed and delivered under ad hoc escorts to ensure that they reach the destination intact."

In the course of the 20 to 30 days from the end of their training to the completion of the enumeration and manual tabulation, many census workers did not rest on Sundays, but worked overtime instead, studying the requirements of the census or working on the publicity, mobilization, or preliminary investigations among the people. Some of them scaled difficult terrain, waded across streams to reach remote mountainous areas, and were warmly received by the local people. Others were caught in floods and suffered the loss of their personal effects in order to ensure the safety of the census data. One census worker died suddenly on the second of July, but after his burial, his wife finished the task assigned to him. Their devotion to their work and their care for every detail won widespread praise among the people. Minorities gave their cooperation to the census operation. They were eager to know their numbers, and many went to the regional census offices to get the early counts. The census workers were the backbone of this census, and they had the active support and assistance of the people.

Data Processing

Data processing began on 16 July 1982, immediately after the enumeration, and will continue until the end of 1984. The main tasks of this stage are to complete the postenumeration check by the end of August 1982; to wind up the manual tabulation of the principal figures by the end of September and to release them in a communiqué by the State Statistical Bureau on 27 October; to complete the coding of the census questionnaires by the end of October; to start computer entry of the 10 percent sample for advanced tabulation for all provinces, municipalities, and autonomous regions in November; and to complete the advanced tabulation of the 10 percent sample by the end of October 1983.

The Statute of the Third Population Census provided the following guidelines for coding:

After verifications and manual tabulation, coders, guided by coding supervisors, should start coding, by household, individual, and item, all the information in the questionnaires based on the prescribed coding standards.

Coding work should be centralized, be done at the level no lower than county, city, and municipal district, and completed before the end of October 1982. Coding must be fully edited and then postenumeration check should be done.

By March 1983, more than 20 provinces, municipalities, and autonomous regions had finished their entries and had started data processing.

The quantity of data coming from a census of a population of one billion is so great that it is impractical to

process it in one or two computer centers. Prior to the 1982 census, computer stations had been set up in eight provinces in China, using VS/80 computers purchased from Wang Laboratories in the United States. For the census, 20 more computers (model IBM-4341) were purchased with the assistance of the United Nations Fund for Population Activities. In this way, 28 out of 29 provinces, municipalities, and autonomous regions in mainland China set up computer stations (the exception was Tibet Autonomous Region). Counting the IBM-4341 computer at the computer center of the State Statistical Bureau, a total of 29 computers were available for processing the 1982 census.

At this stage, some 40 billion characters were processed by the computers. This required 130,000 people to code the data, 4,000 keyboard operators for data entry, and over 1,000 technicians to man the computers. To meet the needs of the census, programs were drawn up for editing, tabulating, and controlling the data. A trial run was carried out on census data collected from three million people. It demonstrated that the data processing would run smoothly.

First, the computer stations in each province, municipality, and autonomous region processed their own census data, then the computer center of the State Statistical Bureau combined the data. (The data processing for the Tibet Autonomous Region was taken up directly by the State Statistical Bureau.) This method is quite rare, and because the census personnel lacked experience in computer processing census data, they expected to face many difficulties and were prepared to work conscientiously.

Tabulation and Publication Plans

Final tables for the main figures for the nation and for provinces, municipalities, and autonomous regions were produced by manual tabulation. These included such tables as population growth and density by province, and population by sex, household registration status, nationality (see table 3.2), and education level.

As prescribed by the census statute, the manual tabulations were compiled level by level in six stages. In each stage, the census offices collected the census materials from the offices at the next lower level, made tabulations from the tables provided to them, and passed the materials to the next higher level. The six stages and the dates by which they were to be completed were as follows:

Tabulations of the questionnaires from the enumeration districts by the census groups of the production brigades and residents' committees, 31 July 1982

Tabulations by the census offices of the people's communes and of the neighborhood administrative offices, 10 August

Table 3.2 China's Nationalities with Populations of 1 Million or More

<i>Nationalities</i>	<i>Population in 1982 Census</i>	<i>Proportion of Total (%)</i>	<i>Average Annual Increase since 1964 (%)</i>
Total of 29 provinces, municipalities, and autonomous regions	1,003,937,078	100	2.1
Han	936,703,824	93.30	2.0
Zhuang	13,378,162	1.33	2.6
Hui	7,219,352	0.72	2.7
Uygur	5,957,112	0.59	2.3
Yi	5,453,448	0.54	2.7
Miao	5,030,897	0.50	3.3
Manchu	4,299,159	0.43	2.6
Tibetan	3,870,068	0.39	2.5
Mongolia	3,411,657	0.34	3.1
Tujia	2,832,743	0.28	9.8
Bouyei	2,120,469	0.21	2.6
Korean	1,763,870	0.18	1.5
Dong	1,425,100	0.14	3.0
Yao	1,402,676	0.14	2.8
Bai	1,131,124	0.11	2.7
Hani	1,058,836	0.11	2.9

SOURCE: China, State Statistical Bureau, Department of Population Statistics. 1982. *The 1982 Population Census of China (Major Figures)*. Hong Kong: Economic Information & Agency. Page 23.

Tabulations by census leading groups of counties, cities, and municipal districts, 20 August

Tabulations by census leading groups of prefectures and leagues, 31 August

Tabulations by census leading groups of provinces, municipalities, and autonomous regions, 10 September

Tabulations by the Population Census Office Leading Group under the State Council

The Population Census Office Leading Group made the final tabulations, which were submitted to the State Council by the end of September. After approval by the State Council, the figures were released on 27 October 1982 in the Communique of the State Statistical Bureau on Major Figures in the 1982 Population Census.

The computer tabulations include an advance sample tabulation and the final tabulations, which are scheduled to be completed by the end of June 1984. The computer tabulations will be done in the census offices at the province level. These offices will submit the results to the national Population Census Office Leading Group, which in turn is to submit the nationwide tabulations to the State Council by the end of 1984.

As stated in the census statute, publication of the tabulation results "should be arranged respectively by the

Population Census Office Leading Group under the State Council and census offices at the provincial level."

The census statute also provided for the compilation of population census reports. It stated that the Population Census Office Leading Group and the provincial census offices should analyze and study the tabulated results and compile population census reports for the whole country and the provinces, municipalities, and autonomous regions. These reports were to be submitted to the State Council and the people's government of each province, municipality, and autonomous region.

Evaluation

Throughout the census, strict quality control and responsibility systems were maintained. In fact, the whole process of the 1982 census was centered around the demand for high accuracy of census data. At the time of the formal adoption of the Statute for the Third Population Census, the Central Committee of the Chinese Communist Party and the State Council issued a directive that asked Party committees and people's governments at all levels to ensure the high quality of the census work, and stated that any part of the work that was not up to the quality standard must be done over.

In the light of the Central Committee and State Council's directive, a responsibility system was instituted. The leaders of census leading groups at each level bore overall responsibility for the census at their respective levels. Thus deputy provincial governors, deputy mayors, deputy county magistrates, and the heads of the offices of census leading groups were made responsible for assuring the quality of census taking in their areas. Heads of computer centers were responsible for the quality of data entry and data processing. Responsibility systems were also set up for census enumerators, supervisors, coders, data entry personnel, and computer staff, laying down quality standards and standards for acceptance at every level throughout the census.

In order to guarantee that the required quality standards would be maintained in every stage of the operation, specific working rules were drawn up to cover census enumeration and verification, postenumeration check, advanced tabulation of the 10 percent sample, manual tabulation, data entry and data processing, computer operations, and coding, filing, packing, and transportation of the questionnaires. Census workers in every field were trained according to the requirements of their activities and were given opportunities to practice what they learned in pilot censuses so that their work would be up to the standard.

Work procedures were strictly observed in every detail. The following is a description of the verification procedure. When census taking came to a close on the morning of 1 July, all work stopped in order to check the quality of the enumeration. First, the census takers

checked the questionnaires they had filled in and corrected any mistakes or omissions. Then, they cross-checked with other enumerators, and finally the supervisors made spot checks to eliminate any errors left over. Following this, meetings were called to summarize what had been done, and census taking was not resumed until the next day. In many areas, this checking-up continued every evening, although in most areas it was repeated only after the enumeration was complete.

After checking the questionnaires themselves, the enumerators and supervisors invited local residents' groups, cadres of production brigades, and activists to come and verify the results to see if they could detect any omissions, particularly of newborn babies or deaths. In this way, mistakes were eliminated on the spot.

It was precisely due to the quality-control and responsibility systems, to the clear division of work, supervision at every stage, and early elimination of errors, that the quality of the census data was assured.

POSTENUMERATION SURVEY

The method of random cluster sampling was employed to check the quality of enumeration after the census was taken. For provinces with a population exceeding 20 million, 40 production teams and residents' groups were chosen, and for those with a population below 20 million, 20 production teams and residents' groups were selected for reenumeration. The county census offices organized census takers to enumerate the sample groups over again and compare the results with the original results. The original census takers were excluded from both the second enumeration and the checking up. In other words, the census personnel working on the postenumeration check were not allowed to make verifications in the units where they had done the original enumeration. All discrepancies were rechecked.

Overall, 972 production teams and residents' groups, with a total population of 187,362, were checked. As shown in table 3.3, the quality of the 1982 census of China was quite high.

Table 3.3 Error Rates for China's 1982 Population Census (per thousand)

<i>Error</i>	<i>Rate</i>
Duplication	0.71
Omission	0.56
Net overcount	0.15
Sex misreporting	0.03
Age misreporting	6.15
Omissions of births in 1981	1.83 ^a
Omissions of deaths in 1981	4.40 ^b

^a Calculated using the number of newborns in 1981 as the denominator.

^b Calculated using the number of deaths in 1981 as the denominator.

Budget

An indication of the method of financing the census can be seen in the following guidelines from the Statute of the Third Population Census:

The principle of guaranteeing the accomplishment of the census and practising strict economy should be followed and expenses needed in the population census should be shared by both the central financial organ and local ones. The planning, material supply and other related organs at various levels should include the provision of paper and packing materials needed in the census as well as construction of data storehouses in the plans for material production and distribution and capital construction as special items to ensure the special needs of the census.

Uses of the Census

The Chinese government saw the census as an opportunity to improve other data gathering activities. Consequently, the following instructions were incorporated into the census statute:

After the completion of the census, statistics, public security and other related departments should further perfect the work of regular household registration and demographic statistics. Rural people's communes with no police sub-stations and production brigades should assign personnel to be specially or concurrently in charge of household registration and demographic statistics at such levels. On the basis of this census, household registration organs, civil affairs, public health, family planning and other related departments in urban and rural areas should: establish and perfect household registration and other files in accordance with the Stipulations of Household Registration and other concerned regulations, keep timely records of births, deaths, migrations, and marriages, etc., to provide accurate demographic data to the state at regular intervals.

The achievements of the 1982 population census have already begun to have an effect on the political and economic development of the country. For example, the "Decision on the Number and Election of Deputies to the Sixth National People's Congress" adopted by the Fifth Session of the Fifth National People's Congress in December 1982 laid down that in rural areas every electorate of 1,040,000 residents might elect one deputy, while in urban areas every electorate with 130,000 residents might also elect one deputy. These proportions were determined according to the total number of deputies and the population figures in the rural and urban areas obtained through the census. The number of deputies to be elected in each district was also based on the latest population figures given by the census.

It was at this session of the People's Congress that Premier Zhao Ziyang, in his Report on the Sixth Five-Year Plan, pointed out, "According to the census taken on July first of this year, our population has topped one

billion. In the [five] years to come, it is essential that the natural population growth be kept below 13 percent. In 1985, the total population for the 29 provinces, municipalities, and autonomous regions must be controlled to around 1,060 million." The census provided reliable data to the State, enabling it to map out these plans for building the power of the State and for economic and social development.

It should be underlined that China has been assisted

in its census work by the United Nations Fund for Population Activities, the UN Department of Technical Cooperation for Development, the UN Statistical Office, and the UN Population Division. In drawing up the census plan, studies were made on work done in Japan, the Philippines, Canada, and the United States. All of these countries and international agencies contributed to the successful execution of this census.

FIJI 1976

Bureau of Statistics
Suva

Introduction

HISTORY

Fiji was proclaimed a British Crown Colony in 1874. Prior to this, European and American traders frequently passed through Fiji, and the lucrative business in sandalwood and bêche-de-mer led the British to establish a council in 1857. The British also established cotton, rubber, and sugar plantations. To overcome the shortage of labor to work the plantations, the planters requested laborers from the Solomon Islands. These laborers, however, proved unsatisfactory. Subsequently, the British government recruited indentured laborers from India. The first Indian laborers began to flow in by 1879. By this time, Fiji had already absorbed foreign nationals of European, American, Indian, Australian, New Zealand, and other Pacific island descent.

Fiji's first population census was taken in 1881. Censuses were then taken every ten years until 1921. Perhaps because of the great depression of the 1920s, an interval of 15 years passed before the next census was taken. Following the 1936 census, the decennial pattern was resumed and censuses were taken in 1946, 1956, 1966, and 1976. The next census will be conducted in 1986.

LEGAL STATUS

Population censuses in Fiji are conducted under the authority of the Census Act. Part of the act reads as follows:

It shall be lawful for the Minister, whenever he may deem it expedient, by order, to direct that a Census be taken of the inhabitants of Fiji and to prescribe the time in relation to which the particulars required by the Census shall be stated and the date upon which the Census is to be taken, and for that purpose the Public Service Commission shall appoint a Census Commissioner.

The act also specifies the powers and duties of the census commissioner, which include making regulations for the division of the country into enumeration areas,

engaging enumerators, and prescribing particulars to be stated on the census returns. The act makes it mandatory for persons to supply all information requested except religion, and penalties for noncompliance are specified. All information about individuals supplied under the act is required to be kept confidential.

ORGANIZATION OF THE CENSUS OFFICE

In 1976 the Public Service Commission appointed the government statistician as the census commissioner. The census commissioner was assisted by a census advisor, whose position was funded by the United Nations Fund for Population Activities (UNFPA), and a senior census officer, whose position was funded by the Ministry of Overseas Development (MOD), UK.

Because of a shortage of space in the Bureau of Statistics, separate accommodations were sought for the Census Office, and because this office was a temporary one, it was disbanded as soon as the field operations were finished. The analysis and report writing were handled at the headquarters of the Bureau of Statistics.

On a day-to-day basis, the Census Office was manned by the senior census officer and four Bureau of Statistics senior staff members who were seconded to the census project.

At the field level, the organization made use of the existing administrative setup. The country is divided into four administrative divisions administered by divisional commissioners assisted by district officers. All divisional commissioners and district officers were appointed census superintendants for the purpose of organizing and controlling enumeration in their areas.

Design and Execution

PREPARATION AND PLANNING

Coverage

Fiji's census was conducted on a de facto basis: the census counted all persons who were present at midnight,

13 September 1976. This included persons in hospitals, colleges, barracks, and prisons, as well as vessels that were in port at midnight, 13 September, or that arrived in port the following morning.

Sample Design and Coverage

Because of the wide variety of information desired by census users, the possibility of using a built-in sample or of a postenumeration survey (PES) was considered. The idea of a PES was discarded as being impracticable in Fiji's circumstances since it could not be mounted without diverting resources to the prejudice of the main exercise.

The feasibility of using a built-in sample depends upon the level at which results are required. Fiji has a small heterogeneous population and data is usually tabulated by ethnic groups, as well as by rural and urban characteristics. To distinguish such heterogeneity with reliable precision, a large sample size would be needed and any saving of work would be more than outweighed by the loss of reliability and by complications introduced into field procedures and data processing. It was therefore decided that the census should consist of an enumeration in which a uniform schedule would be used for the entire population.

Mapping

Using base maps made available by the Department of Land & Surveys, new census maps were drawn for all urban and rural areas for the 1976 census. Census maps had been prepared for the 1956 and 1966 censuses, but they were out of date, some large-scale urban maps were missing, and many boundaries were poorly defined, making it impossible to identify them on the ground. Moreover, many rural localities were neither shown on the maps nor listed in the 1966 census report.

While extensive revisions were clearly necessary, there were other matters to be considered. Traditionally, Fiji census data are tabulated by province, *Tikina* (a subdivision of the province), and the larger localities. For the 1976 census, these localities were kept the same as in 1956 and 1966 in order to maintain comparability at the lowest practicable level of disaggregation. In addition, it was decided to use the *Tikina* as the smallest common political unit and to retain the 1966 definitions of urban areas.

Since 1966 the urban boundaries had changed considerably. The new settlements, which comprised squatters and multistage flats of the Housing Authority, made it necessary to plot new enumeration areas (EAs) on a bigger map. Chain maps on scales of 1:8 and 1:10 were used, and approximately 100 households were accommodated in each EA.

Rural areas presented different problems. Much of Fiji is mapped at the scale of 1:50,000 from aerial photography taken around 1959. The remainder is mapped

at 1:250,000. These maps provided a sound base but did not show recent developments such as roads, and not more than half of all inhabited localities were shown by name. With the objective of bringing the maps as far up-to-date as possible, census office staff contacted all District Headquarters and Rural Health Centers. District nurses were particularly helpful and supplied locality lists with estimates of population from their records. Draft EA boundaries were drawn with the help of the field maps, estimates of population, the 1966 census maps, and the experience of the pilot census. The boundaries were reviewed with the district officers who were to be responsible for the enumeration. Master maps were then compiled and the EAs were numbered.

Future mapping efforts would most profitably concentrate on securing good base maps of the urban areas, together with a dwelling count made on the ground, before EAs are delimited. In addition, the work should be in hand at least 18 months before the enumeration, and the mapping operation should be under the control of the Census Office to ensure that it meets the census specifications and schedule.

Questionnaire Contents

All ministries and departments were asked what information they wished to obtain from the census and requests from a number of other social organizations outside government were also considered. The number of requests received could not be accommodated and priorities had to be established ruthlessly. The number of questions was limited by the need to keep the interview reasonably short and simple in the interest of accuracy.

The circular inviting ministries and departments to indicate what information they required from the census resulted in the followings topics being suggested:

- Specific information on skill, occupation, and industry
- Educational attainment; primary-school-age children enrolled in school
- Housing by type of dwelling; availability of water supply and sanitary amenities; whether dwelling rented, owned, or provided; tenure of land occupied
- Income of family or household units

Because all requests could not be accommodated and priorities had to be determined, it was ultimately agreed that the objectives of the census would be

- to determine the numbers and distribution of the population;
- to determine the rates of fertility, mortality, and population growth;
- to determine the nature and rates of internal migration; and
- to obtain baseline information on education, occupation, industry, and employment status.

The schedule (shown in appendix 1) was made up of three main blocks: Block A for information identifying

the household, Block B for particulars of all persons in the household, and Block C for the summary of persons in the household. Block B was subsequently divided into sections as follows: questions 1-11 to be asked of all persons, questions 12-16 to be asked of persons aged 15 and over, and questions 17-19 to be asked of women aged 15 and over.

The schedules were bound into books of 50, and enumerators were instructed not to remove or destroy any questionnaires. The front cover of each book was used for a summary of the information recorded in that book. Names of the heads of households were recorded in the summary. The line number on which the head was recorded became the schedule number for that household and the house number that was fixed to the house after the enumerator's first visit.

Household Listing

No household listing was conducted for the 1976 census. It was felt that a preliminary dwelling count was not possible in the time available, but this decision was later regretted. The field operation revealed that preliminary information on the distribution of the population must be obtained before EAs are delimited. As explained below in the section on enumeration areas, many EAs turned out to be too large to be covered by a single enumerator. The 1976 census established the importance of the household listing.

Pilot Census

A pilot census was designed to test all aspects of the census operation. It tested not only the schedule and field procedures but also the data processing operation, including the computer programs.

The pilot census was planned and the fieldwork carried out within six weeks. As a consequence of this haste, only six district officers could be involved and the test was confined to areas of Viti Levu. These areas, however, were purposely selected to provide experience with diverse field conditions. Active preparations began on 20 October 1975 and the fieldwork was completed between 18 and 28 November. The Census Office staff visited all EAs, attended interviews, talked to enumerators and respondents, and obtained written reports with comments and suggestions from all who had been engaged. Temporary coding staff were recruited and coding was finished by 24 December. The data were key-punched and edited, and the tables were produced by mid January. The assessment of the pilot census was completed by the end of that month.

The pilot census covered 10 EAs selected from the 1966 frame, and enumerated 2,200 households with 13,250 persons. Of these, 10,550 persons were enumerated in rural areas of the Central and Western Divisions and 2,700 in urban Suva.

The provisional questionnaire tested in the pilot cen-

sus was more ambitious than schedules used in previous censuses; 29 written entries were required for an individual compared with 14 in 1966. Most interviews lasted between 15 minutes and half an hour, although many were prolonged to 50 minutes. It was noticed that if an interview was much longer than 30 minutes there was a loss of concentration. Evidence that marriage and child-bearing questions were less well asked of women under the age of 20 emerged from observations of the interviews.

The performance of the schedule itself was also critically examined. This evaluation led to improvements in the layout and in the approach to the economic and marriage questions. Since the questionnaire was used in conjunction with oral interviews, it was found useful, based on the pilot tests, to put the questions first with definitions and elaboration afterward. Translating the enumerators' instructions into Fijian and Hindustani was considered, but the pilot census demonstrated that the concepts and the English used were within the grasp of enumerators with secondary education.

The pilot test provided invaluable experience that afforded a sound base for planning the enumeration. As a result of the pilot test, the schedule and field instructions were much improved, rates of work were established, the relative difficulties of working urban and rural areas were noted, and the effectiveness of the instructions to enumerators was examined. In addition, the satchels and the binding of the schedule pads were tested and other administrative minutiae worked out. Public response was gauged during the operation, and note was made of points that caused concern. These points were taken up and dealt with during the publicity campaign.

PUBLICITY

A census can succeed only with the willing help of the people. Fortunately, censuses and statistical enquiries are long established in Fiji, and the Bureau of Statistics enjoys a large measure of cooperation from the public. The pilot census confirmed this and there was no need for extravagant publicity measures.

The main objective of the publicity program was to put a simple leaflet into every household before the enumeration. The leaflet explained what the census was, why it was being held, what questions would be asked, what would happen at the enumeration, and how the householder might help. Shorter versions of the information were included in Fijian and Hindustani. On the back of the leaflet was a facsimile schedule, which might be completed beforehand to save time and trouble.

The leaflets were widely distributed, mainly through the schools, during the month before the enumeration. The Suva City Council and the Fiji Electricity Authority helped by enclosing a copy of the leaflet with bills sent to their customers in the Central and Western Divisions.

In other areas, schools were the main source of distribution. Copies were given to children to take home to their parents or guardians. The leaflets were well received and were particularly useful in urban areas where the adult members of the household are often away from home at the same time. Enumerators carried a stock of leaflets that could be left with a note asking that the schedule be completed in readiness for a call back.

In addition to the leaflet, a poster was distributed for display in shops and public places. 100,000 leaflets were produced and 3,000 posters. In retrospect, an extra 25,000 leaflets could have been distributed with advantage while 1,000 posters would have sufficed.

Extensive use was made of the wireless in cooperation with the Fiji Broadcasting Commission. The Census Office put together a paper describing the census, dealing with questions that were likely to be asked about it, and illustrating the ways in which particular items of information would be used. The paper was made available to anyone connected with broadcasting or the press who expressed an interest in it. Thus the media had an authoritative source of information and the risk of damage by inadvertent misstatements was reduced.

Publicity material was recorded in minority languages, as well as in Fijian, Hindustani, and English. It was used in special-interest programs for teachers and women in addition to the general features and discussions. A series of commercial spots was recorded and used during the three weeks before census night. In short dialogues, people were invited to consult birth certificates and work out ages, to count newborn babies, to include only those in the household on census night, to take complaints to the district officer or to the census commissioner, and so on.

It is difficult to assess the effect of a program such as this, but there was ample evidence that the census received the public support it needed. The census enjoyed good and sympathetic coverage in the newspapers. Virtually everyone in Fiji knew that a census was being taken and the vast majority cooperated excellently. Census officials throughout the country reported that they had been courteously received and that many people went out of their way to help them. Exceptions were few, isolated, and insignificant, as were complaints against census officials. No prosecutions were brought under census legislation.

ENUMERATION

Enumeration Areas

Enumeration areas (EAs) were used to allocate the work load to enumerators. Apart from distributing the work, the EAs served as building blocks to provide information relating to political boundaries such as villages, settlements, and urban and rural areas. The EAs were the smallest geographical units for which information was

published and the foregoing points were kept in mind when demarcating their perimeters.

In general, the delimitation of rural EAs posed fewer problems than the delimitation of urban EAs. Map revision and EA delimitation in the urban areas was undertaken by a team consisting of Messrs. Bakker and Walsh from the University of the South Pacific, who wrote up their work in a report entitled "Urban Fiji: Boundaries Used in the 1976 Census of Population." Bakker and Walsh examined the urban areas defined by G. T. Bloomfield for the 1966 census, made changes necessitated by recent developments, and subdivided the areas into EAs.

The Census Office set the target size for EAs at 100 households, but because there was no household listing and no preliminary dwelling count, a tolerance of plus or minus 50 had to be accepted. Pilot census experience suggested that 160 households was the absolute upper limit, and to exceed it meant unmanageable enumerator work loads with consequent risk of poor coverage.

Ultimately, there were 924 EAs of which 625 were in rural areas and 299 in urban areas. As determined after the enumeration, EA sizes broke down as follows:

- 54 percent of EAs had between 75 and 125 households
- 83 percent of EAs had between 50 and 150 households
- 10 percent of EAs had more than 160 households
- 7 percent of EAs had fewer than 50 households

Approximately 4 percent of rural EAs and more than 23 percent of urban EAs were outside the 160-household limit. The worst cases were found in urbanized areas like Suva and Nausori. Some 9.4 percent of the EAs in Suva had more than the proposed maximum of 160 households, and the biggest had 618.

Recruitment

District officers were appointed superintendents of census responsible to the census commissioner. Their responsibilities included recruiting temporary staff and conducting the enumeration in their districts. Divisional planning officers were also appointed superintendents to coordinate work in the divisions and to act as reserves in case of illness or accident to a district officer.

The ratio of supervisors to enumerators was 1:5. In difficult areas the allowance was more generous, while in urban areas a supervisor was expected to look after six enumerators.

Because reserves would have to be deployed quickly, they were kept as close to the field as possible, even though it was impossible to predict beforehand where they would be needed. Each superintendent was allowed one reserve supervisor and each supervisor was allowed a spare enumerator. The reserves were on the payroll, received the same allowances as others, and were to be used at the supervisor's discretion to replace sick or

injured personnel, to maintain communication, to deliver spare materials, to handle special jobs such as enumerating people in institutions, and to help in areas where work was going more slowly than expected.

As master maps were drawn, manpower needs were calculated from the EA upwards by Tikina and administrative district. Superintendents were instructed to make short lists of potential field staff. Candidates had to be mature persons with a secondary education, know the areas they would be working, be available full time for the enumeration, and be physically fit. Persons engaged in essential services or any aspect of law enforcement were barred. Advertisements were published so that anyone interested might have an opportunity to apply. Recruitment of persons in the public service was authorized by the Public Service Commission.

A briefing conference for superintendents was held in Suva 13–15 July. Superintendents were asked to complete their lists before the briefing conference. This precaution made it possible to check progress, and gave warning that timely recruitment was being neglected in the greater Suva area. The briefing conference was also used to make final arrangements for field procedures, to review administrative arrangements, and to issue funds.

A force of 20 superintendents, 206 supervisors, and 1,128 enumerators was appointed to cover the 924 EAs. Two and sometimes three enumerators were appointed to some of the large Suva EAs. The names of persons selected were sent to the Census Office in case of later query or complaint.

Training

Sound and thorough training is a prerequisite for a successful census. Furthermore, it is desirable that fieldwork follow immediately upon completion of the training. Because Fiji's 1976 census coincided with short school holidays, training had to be compressed into intensive courses, which could be done safely only by keeping procedures simple, by recruiting persons used to learning, and by training in small groups of five or six persons.

It was essential that the training be supervised by competent instructors and that it be decentralized in order to save time, travel costs, and the costs of accommodating people away from home. The final arrangements called for superintendents to attend a briefing conference in Suva, and for supervisors to be trained at divisional headquarters by one of two teams from the Census Office. The training teams were headed by a professional officer and staffed by recently retired teachers who were recruited and trained for the job. Thus the Census Office trained supervisors directly, at once relieving superintendents of the need to attend the courses full time and ensuring uniform standards across the country.

Superintendents were responsible for training enu-

merators with the help of their supervisors, and they made arrangements best suited to their districts. The general pattern was to train as many enumerators as could be gathered in one or two centers while supervisors trained groups independently in areas where communication was difficult.

Training was done in seminar fashion, with most of the work done in groups of five or six in sessions lasting an hour. The officer in charge of the course made introductory remarks, dealt with administrative matters, circulated from group to group, answered questions at the end of each session, and summed up each day's work. A member of the team was assigned to each group where, besides acting as leader, he ensured that everyone took part, that the material was covered in the prescribed manner, and that the instructions were properly understood.

It was emphasized that the easiest way to do the job—and the quickest way to earn the money—was to follow the instructions. It was also made plain that everyone's work would be checked, that mistakes would sooner or later be discovered and would have to be put right, and that payment depended upon there being no mistakes.

In learning a new task, the mind tends to dwell on difficulties, exceptions, and problems rather than on ordinary cases. In order to overcome this preoccupation, blank schedules were issued at the end of the first day of training with instructions to enumerate one household overnight and to return the completed schedules for checking in the morning. This had the desired effect. Interest was aroused, confidence was established, and trainees learned by experience that if the rules are mastered and the questions are asked in the right way the exceptions take care of themselves.

The definitions and mechanics of recording information were covered in lectures and practiced in role playing and mock interviews. The real art of interviewing, however, lies in asking the right questions in the right sequence with the correct wording. Although this comes only with field practice, attention was concentrated on ensuring that everyone knew the exact wording of the questions, as well as the Fijian and Hindi equivalents. It proved useful to make groups debate the equivalents in the three languages; in this way misconceptions were aired and cleared up before any damage was done.

Supervisor training was held 2–20 August, allowing five days for each course. All participants studied the instructions and conducted practice interviews outside official hours. Discussion was always lively and practical work was carefully checked. In this way the formal syllabus was covered in three and a half days. The rest of the time was used to allocate enumerators and organize enumerator training, to set up reporting procedures and meetings with the superintendents, to check EA boundaries both on the map and on the ground, and for travel and so forth. The supervisor training courses,

during which the Census Office staff had final meetings with superintendents and met every supervisor in Fiji, set the scene for the enumeration.

Only in Suva did the situation cause concern. The third superintendent was not appointed until the last minute, recruitment had been uneven, and maps of the peri-urban area, which were relatively poor, were delivered to the Census Office too late to be checked in the field or revised. The superintendents for Suva made strenuous and ultimately successful efforts to recover the situation. The importance of keeping ten days or so in hand for emergencies was well illustrated by the situation. Central Division supervisors were trained last because communication with them was easiest, but it might have been better to train them first in order to have a few more days to deal with the problems of the urban area.

Enumerator training ran from 23 to 27 August and was well handled by superintendents and supervisors. Large numbers of teachers and civil servants worked on the census, and departments were generous in allowing them to attend the training.

The school term ended on 3 September, by which time the superintendents had reported that all was in train. The first round of visits started on 4 September.

Enumeration Procedures

The Census Office produced a booklet of instructions for enumerators, which gave a detailed description of the enumeration procedures. Those procedures are summarized below.

The basic unit of enumeration was the household. A household was defined as "those persons who usually eat together food prepared for them in the same kitchen and who together share the work and cost of providing the food." Each household was visited individually; calling heads of households to a central location was not allowed. Hospitals, colleges, barracks, and prisons were considered households for census purposes, as were vessels in port.

The enumeration lasted from 4 to 16 September 1976 and was broken into two phases. During the ten days prior to census night (4-13 September), enumerators visited every household and enumerated all persons who were expected to be there at midnight, 13 September. During the three days following census night (14-16 September), enumerators revisited each household, adding information for newborns and new arrivals and deleting persons who had died or left the household.

On the first visit, enumerators collected the particulars for every person expected to be present in the household on census night. If there was any doubt as to whether a person would be present, that person was enumerated with the household. The first round of visits was to be completed before census night. If enumerators thought this deadline could not be met, they were to

inform their supervisors in good time so that assistance could be arranged.

On the second visit, enumerators checked that the persons listed on each household schedule were in fact present on census night, and that the details recorded were correct. They were instructed to add information for newborn babies and for any new arrivals who spent census night with the household. Any person recorded on a schedule who did not spend census night with the household was deleted, and the reason for the deletion—e.g., "died," "admitted to hospital"—was entered at the top of the column for that person.

Hotels were supplied with a stock of schedules and envelopes. On the evening of 13 September, the hotel managers gave each guest a schedule and an envelope. All guests in the hotel on census night were required to complete a schedule, seal it in an envelope, and hand it to the receptionist the next morning. Enumerators collected the completed schedules from the managers.

Persons in hospitals, colleges, barracks, and prisons were enumerated only once, immediately after census night. In some cases, special arrangements were made for the enumeration of persons in these institutions.

Because the census maps were made some time before the census, it was expected that there would be inhabited places that were not listed or marked. Therefore enumerators were instructed to ask at each household for information about isolated farms and huts and squatter settlements. The names of such places were listed and marked on the maps. In the same way, enumerators noted any localities that had been abandoned since the maps were made.

Enumerators were instructed to start the interview by identifying themselves, exchanging the proper greetings, explaining what the interview was about, and answering any questions. They were told to let people take their time, to make sure that the answers were clear before writing anything down, and to tactfully ask further questions if they believed a statement was incorrect.

Enumerators tried to interview the head of each household, with his or her spouse present. If neither was available, however, it was enough to interview one responsible adult from the household who could give the information for all the other members.

In the event that enumerators could not speak the language of the household, they were instructed to try other languages, to find someone intelligent to interpret (provided the respondent did not object), or to make sure another enumerator who did speak the language visited the household. As a last resort, the enumerator was to ask the supervisor to arrange for someone to do the job.

If someone refused to answer the questions, enumerators were to remain courteous and to stress the importance of the census. The enumerators explained that the census had nothing to do with taxation, that results

would only be published as statistical tables, and that the information was confidential. The enumerators made every effort to persuade people to cooperate before turning the matter over to a supervisor.

In cases where nobody was at home or the adult occupants were away, enumerators asked those at home or the neighbors for the best time to call back. Enumerators were also instructed to try to send word ahead to say when they would be visiting households. If enumerators could not make contact with the occupants after three visits, they made a note of the address and informed their supervisors.

A useful innovation for checking coverage was the posting of self-adhesive labels on enumerated households. Each enumerator was given a supply of labels and was required to stick them on a conspicuous place, such as the door or entrance, so that the household would not be duplicated or omitted. If there was more than one household living in a building, the label was fixed at the entrance to each household's living quarters, that is, on the front door of a flat in a block of flats or on the door of the room or rooms used by a household. The people were asked to leave the labels up until the end of September so that they would be spared the inconvenience of unnecessary visits by census staff.

These labels gave each household a temporary address for census purposes and helped the supervisor see at a glance that his enumerator had done the household.

Before leaving the household, enumerators checked their work. In particular, they checked that no one else should have been included, that the information recorded agreed item-by-item, and that nothing was written that could not be correct.

First the information in Box A was checked for completeness. Next the enumerators checked the members' relationships to the head of the household and their ages, looking for such errors as a child older than its parents. Then they took the economic questions, making sure there was information for all persons aged 15 years and older. Answers were checked for consistency—for example, a person whose occupation was "stevedore" could not have industry listed as "village agriculture." Occupation was also checked against education—for example, a medical doctor or an architect had to have some education. Fertility questions had to be complete for all women 15 years and older. This information was also checked for consistency—for example, a woman could not have more children still alive than children born. Mistakes or omissions were corrected on the spot, before leaving the household.

At the end of the second visit, when the enumerator was satisfied that the record was complete and correct, Block C was completed with the number of males, females, and persons in the household on census night. These numbers were then entered in the summary on the front cover of the book of schedules on the same line as

the name of the head of the household. The date of the second visit was also recorded there.

When enumerators completed the second round of visits, they entered all the details relating to province, Tikina, and EA on the front cover of each book of schedules used or partly used. Finally, the number of males, females, and persons was totaled. This summary was used to calculate the preliminary totals of population.

As soon as enumerators had checked their work, they reported to their supervisors with their equipment. Only when their work and equipment were checked were the enumerators paid.

The enumeration was taken during a school holiday when there was considerable short-term population movement. This increased the risk of error. In addition, enumerators did not always return for the second visit, particularly in urban areas where they had experienced difficulty during the first round. In cases where people had gone away for part of the holiday, or where the enumerator failed to return for the second visit, there was evidence that people were confused about where they should have been enumerated (many enquiries were received). Still, it is unlikely that any more than 0.5 percent of the population was involved, and it is probable that the errors were to some extent self-compensating.

The enumeration stirred public interest; the Census Office received much information about gaps in coverage. The people had been requested, through the news media, to contact the census commissioner if they found that their house was omitted from the count. Most of the reports were constructive and errors were found and corrected upon investigation. There was a tendency, though, for observers to think subjectively and to extrapolate from their own experience with resulting exaggeration—reports of a whole street missed often turned out to be one household.

Four district officers changed post in the eight weeks preceding the enumeration, two transfers took place during supervisor training, and some enumerators reported sick and left in the middle of the census operation. The work of the sick enumerators was taken over by the reserves, and the somewhat relaxed approach aggravated the problems of coverage, leaving some households unenumerated. These were interviewed later by head office staff.

The district officers had a free hand in selecting enumerators for their areas. With such decentralized control, it was inevitable that some unsuitable enumerators were hired to the detriment of the quality of the work.

One defect in the census operation was the uneven spread of work between EAs in the urban areas, particularly in greater Suva. The problem had serious effects. In EAs that were too large, the time table was disrupted, enumerator morale suffered, and the attention of both supervisor and superintendent had to be devoted to

those areas at the expense of others. Fortunately, there was sufficient flexibility to correct this without serious loss because work loads and reserves had been calculated to allow for such contingencies.

Data Processing

DATA PREPARATION AND CODING

The tabulation program was specified by the adviser in September 1975 and was discussed and modified at intervals until Electronic Data Processing (EDP) Services accepted it in September 1976. The goal was to complete input in May and to produce the tables in June 1977. The Census Office was responsible for coding, manual editing, and correction. EDP Services undertook systems work, programming, and keypunching.

As schedules were returned from the field they were accounted for, were batched by enumeration area, and summary totals were extracted. Codes were entered on the schedules and were keyed to tape by EDP Services, which also edited the data and tabulated them.

Coders were required to check the schedules and to enter appropriate codes. Work was subjected to a 100 percent check by supervisors. Each coder's work was also scrutinized daily by Census Office staff who inspected every batch to ensure that work was in order and that there were no systematic errors. In addition, the Census Office staff checked three schedules per batch to ensure that individual codes were being employed correctly.

Coders were paid a basic salary conditional upon achieving and maintaining an accurate weekly output of 1,250 person-records per week. A bonus was paid for each record in excess of the weekly output up to a limit that was imposed to discourage coders from working so fast as to become sloppy. The bonus was just under the cost of producing a coded record at standard rates of work as established in the pilot census. This was a flexible arrangement and had much to do with the high morale of coding staff. As long as the basic output was achieved, a coder could elect to work for extra money or to be absent without being penalized.

Payment of the bonus cut costs and saved time while affording a material incentive to fast and accurate work. It was an important stimulus to production. Some 30 percent of records were coded at bonus rates and standards were high. Staff turnover was low, no one had to be dismissed, and only once was it necessary to deny bonus privileges because of a coder's inaccuracy.

EDITING AND IMPUTATION

After manual editing and correction, the schedules were batched and sent to EDP for keypunching. Data were sorted on computer and breaks in the sequence of sched-

ule numbers within batches and of person numbers within households were reported. Each break in sequence was checked against the coded schedules, missing records were identified, and the data were added. As a further precaution against gross mistakes, the totals of households and persons processed were compared batch by batch with the field summary totals.

Validation and correction were done automatically in accordance with predetermined edit specifications. The specifications were designed around accepting reported values for sex and age and were intended to eliminate manifest absurdities by attributing "not stated" values to inconsistent subordinate characteristics. An error list was printed showing what had been read, what corrections had been made, and the reasons for the corrections. If further corrections were required, they were made by deleting faulty records and adding correct ones.

Imputations were reported and summarized by batch. Most were routine, ran at consistent levels, and required no further action. A correction team scrutinized the error list in detail and checked all imputations concerning sex, age, and child bearing, taking remedial action when possible.

EQUIPMENT

The census data were processed at the government's central Electronic Data Processing (EDP) Centre. The hardware configuration consisted of

- 1 ICL 1902A processor (32K core)
- 2 ICL 2802 disc drives (8m char)
- 4 ICL 1971 tape drives (556 bpi, 7 tracks)
- 1 ICL 1933 printer (1350 ipm)
- 1 ICL 2102 card reader (300 cpm)

In addition, the well-known COCENTS software package developed by the U.S. Census Bureau was utilized.

Definitions

De Jure/De Facto

Like its predecessors, the 1976 census of population was conducted on a de facto basis. The population was enumerated according to where each person spent census day or night irrespective of his or her usual place of residence.

Urban/Rural

In the 1976 census, two criteria were used in the delimitation of the urbanized areas surrounding the towns. The first criterion was the complex of built-up areas contiguous or closely associated with the town. The second was the type and extent of economic activity in the

area. Areas were included in the urban category if a significant proportion of the economically active population was engaged in nonagricultural employment.

Economic Activity, Labor Force, and Unemployment

The economic activity questions included in the 1976 census were designed to obtain as accurate a count as possible of the total economically active population by seeking to determine how many persons aged 15 years and over had worked at all in the week prior to enumeration.

Classed as "economically active" were those who worked at all in the previous week or were only temporarily absent from work because of illness, vacation, industrial action, et cetera. The category included those who were unemployed.

Classed as "not economically active" were full-time students; those doing unpaid home duties such as housewives; those who were retired, too old to work, or disabled; inmates or patients in institutions; members of the armed forces; and others who were not working.

The labor force consisted of all persons 15 years and above who were economically active.

Those who had not worked at all in the week prior to enumeration and were actively looking for work were classified as unemployed. This category did not include those who were "resting" or "idling" and not actively looking for work.

Occupation and Industry

Occupation was defined as the kind of work the person had done and industry was the kind of business or activity carried on at this person's place of work. The 1976 census collected the most detailed information about occupation and industry of any Fiji census.

Race and Ethnicity

Eight ethnic groups were identified in the 1976 census—Chinese, Europeans, Fijians, Indians, part Europeans, other Pacific Islanders (Polynesians, Melanesians, and Micronesians), Rotumans, and the residual "others." Where parents were of different races, the offspring were identified with the ethnicity of the father (or mother if the respondent so desired). In difficult cases, it was left to the respondent to identify his or her ethnicity.

Tabulation and Publication

TABLE SERIES PLANNED

Great care was taken to ensure that the tables from the 1976 census were comparable to those of previous censuses, especially the census of 1966. At the same time, the planned tabulations made full use of the greater range of information available for 1976. In particular,

there was a series of tables on fertility and mortality based on the "own children" questions. Because of sheer volume, not all tabulations produced were published. The full set of published tabulations is indexed in Volumes I and II of the census reports.

PUBLICATIONS

The three main reports on the 1976 census were produced as Parliamentary Papers. Volume I was published in 1977, and Volumes II and III were published in 1979. Preliminary information, based on a manual count, was mimeographed and released within weeks of the enumeration. Given below is the full list of substantive publications.

1. Urban Fiji: Boundaries Used in the 1976 Census of Population
2. Report on the Census of Population 1976, Volume No. 1, Parliamentary Paper No. 13 of 1977.
3. Occasional Paper No. 1, An Analysis of Data Collected in the 1976 Census: Economic Activity in Fiji.
4. Occasional Paper No. 2, An Analysis of Data Collected in the 1976 Census:
 - a. Religion
 - b. School Attendance and Adult Educational Attainment
 - c. Household and Family Size
5. Report on the Census of Population 1976, Volume No. II, Demographic Characteristics, Parliamentary Paper No. 43 of 1979
6. Report on the Census of Population 1976, Volume No. III, Economic and Social Characteristics, Parliamentary Paper No. 44 of 1979
7. Report on the Census of Population 1976, Volume IV, Part 2 of Volume I, Maps and Enumeration Boundary

Evaluation

POSTENUMERATION SURVEY

The idea of a postenumeration survey (PES) was discarded as being impracticable in Fiji's circumstances. It was felt that a PES could not be mounted without diverting resources to the prejudice of the main exercise. Certainly, it would have been very difficult to trace temporary movers in Fiji.

OTHER EVALUATION MEASURES

In the absence of a PES, other checks on the quality of the enumeration were applied. It was important administratively to have an indication of the completeness of coverage as soon as the fieldwork was finished so that any disastrous mistakes could be put right. Such checks were necessarily rough because internal evidence from the analysis was not available.

In Fiji, district nurses submit quarterly returns on the basis of their rounds to localities under their jurisdiction. These returns had been based on the 1966 census

and were consolidated at the subdivision level. The correlation between them and the census totals seemed reasonable and was, as might be expected, particularly close in some rural areas where everyone is known. For example, the census counted 2,426 persons on Rabi Island against the nurse's return of 2,425 for 30 September 1976.

The first phase of a household income and expenditure survey was mounted in December 1976. Households were listed independently in the sampled EAs so that the survey would provide a useful postenumeration check. Some interesting features were noted from this listing. For instance, it was found that occasionally the enumerators had crossed their boundaries. But the results were generally reassuring. In Suva, where 59 EAs had been sampled, in 28 the census included more households than the survey; in 27 the survey included more households than the census; and in 4 the numbers were the same. Overall, after adjusting for obvious errors in EA boundaries, the totals differed by less than 1 percent.

Similar comparisons were made as the opportunity arose. The Housing Authority, for example, had estimated the population for certain areas in Suva, and its estimates agreed very closely with census totals. Based on the evidence available, it seemed reasonable to conclude that the coverage was good.

Budget

In 1973, a meeting of the Development Sub-Committee considered the government statistician's proposal for the 1976 census. The subcommittee recommended (1) that the census of population be conducted in 1976, (2) that adequate funds be provided over the years 1974-78, and (3) that a senior census expert be recruited for a period of three years beginning with 1974.

The government statistician, under whose direction the census was conducted, looked to foreign agencies for funding part of the cost. The UNFPA agreed to assist with experts and equipment, with an approved budget of US\$177,936. This included equipment and

personnel as follows: one census advisor, three land rovers, one typewriter, and two calculators.

The Fiji government provided the cost of local officers engaged for the census together with other costs such as stationery, data processing, traveling and subsistence, printing of census reports, and other incidentals. All told, the entire census exercise was estimated to have cost in the vicinity of US\$500,000, including the UNFPA assistance. It was difficult to assess the exact cost because the census operations were spread over a period of three years and "hidden" expenditures were not specifically accounted for.

Timetable of Census Operations

The initial preparations for the 1976 census had started as far back as January 1973 when the government statistician submitted a written proposal for discussion by the Development Sub-Committee. The Development Sub-Committee endorsed the proposal and the census thereafter began to take shape. The various census activities took place as follows:

Feb 1973	Development Sub-Committee endorsed census proposal
Aug 1975-Aug 1976	Delineation of urban boundaries
Sep-Dec 1975	Two staff members trained in census methods at U.S. Bureau of Census
Oct 1975-Jan 1976	Pilot test
Sep 1975-Jul 1976	Documents and equipment assembled for dispatch
Jul 1976	Briefing for superintendents
Aug 1976	Supervisor training
Aug 1976	Enumerator training
13 Sep 1976	Census day
Oct 1976	Documents received from the field, checked, and batched
Oct 1976	Preliminary results published
Jan 1977	Data entry commenced
Jun 1977	Tabulations produced
Dec 1977	Census Report, Volume I, published
Sep 1979	Census Report, Volumes II and III, published

HONG KONG 1981

Census and Statistics Department
Hong Kong Government

Introduction

HISTORY OF CENSUS TAKING

The history of census taking in Hong Kong can be traced back to the very early colonial days. Headcounts of population have been conducted regularly since 1841. From 1844 to 1867, a "Census of Hong Kong on December 31" was published annually in the gazette. After 1871, periodic censuses were taken at five- and ten-year intervals. Since World War II, it has become the practice to conduct full-scale population censuses every ten years and sample by-censuses on the fifth year after the full census. The 1981 census was the latest in a series of decennial censuses broken only in 1951.

Earlier censuses were simple in nature, but over the years the demands for more detailed statistics about the population have increased. The 1961 census opened a new series of modern censuses. Both the 1961 and 1971 censuses consisted of 100 percent enumeration and asked detailed questions covering a broad spectrum of social, demographic, and economic characteristics of the population. With the introduction of computer data processing in the 1971 census, extensive automatic editing and cross-tabulations of census data became possible.

LEGAL STATUS

All the postwar censuses were conducted with the backing of the law of Hong Kong. Under the Census and Statistics Ordinance, it is a legal obligation for members of the public to answer the census questions accurately to the best of their knowledge. Any person who refuses to cooperate is liable to a fine of HK\$500 if convicted.

ORGANIZATION OF THE CENSUS OFFICE

Authority to conduct the census is vested in the commissioner for census and statistics, who is himself the head of the Census and Statistics Department. For the 1981 census, a population census team was set up in the

department to prepare for the operation. The team was headed by an assistant commissioner, and comprised three different sections. The Census Planning Section, headed by a statistician and under the guidance of a senior statistician, was responsible for the overall planning and all statistical and professional work related to the operation. The Census Fieldwork Section was responsible for the actual fieldwork of the census, including the updating of address listings, the cutting of enumerator blocks, training and organizing temporary staff, and supervising the enumeration. The Census Administration Section was responsible for such work as arrangement of accommodations, recruitment of temporary staff, administration of accounts, stores, and stationery, printing, publicity, and so on.

Design and Execution

PREPARATION AND PLANNING

Coverage

The 1981 Census enumerated all persons present in Hong Kong, including transients, armed forces, the marine population, and the institutional population. Age and sex information were also obtained for those persons who were temporarily away from Hong Kong on the census reference date.

Not all persons were asked the same questions, however. The 1981 census adopted a two-phase design comprising a simple 100 percent headcount by age and sex and a 20 percent sample survey covering a broad range of social, economic, and demographic characteristics of the population. Therefore, two kinds of questionnaires were used: a short form, including only such basic questions as age, sex, relationship to head of household, household size, and type of living quarters; and a long form, including all the questions on the short form plus questions on other detailed socioeconomic characteristics. For transients and persons temporarily away from

Figure 5.1. Organizational Chart of the Population Census Team

*The assistant commissioner and the senior statistician were also responsible for other statistical work, such as demographic statistics, household surveys, and social statistics in general.

Hong Kong, only simple questions on their age and sex were asked. Transients were persons present at the time of the census who were staying for less than 20 days.

An exception to the general scheme was made for the marine population. In this case, a 100 percent enumeration was taken in order to provide adequate information about the boat people in each harbor district and to facilitate the enumeration process.

Sample Design

To facilitate the selection of the 20 percent sample for detailed enumeration, an up-to-date sampling frame was prepared. The sampling frame consisted of two parts:

1. For urban areas and new towns, samples were selected from a list of permanent living quarters each identified by a unique address (almost 90 percent of quarters were of this type);
2. For rural and temporary-structure areas, samples were

selected from a list of segments, each segment being a cluster of some 10-15 structures delineated by permanent landmarks such as roads, ditches, and footpaths. Addresses of individual quarters within each segment were also listed on the frame.

Although, for precision, individual quarters were preferred to area segments as sampling units, the absence of unique and identifiable addresses among the rural and temporary structures made it difficult to keep the listing of these structures up-to-date. Sampling in units of area segments therefore facilitated the identification of quarters by using relatively permanent segment boundaries.

The choice of a 20 percent sampling fraction was based on cost and precision considerations. Analysis of the standard error tabulations from the 1976 by-census, which was a 10 percent sample survey, showed that the relative error for most characteristics of the population at an all-area level was less than 5 percent. Correspond-

ing estimates by geographical divisions and detailed cross classification were subject to larger errors. In order to improve the precision of the measurement of population characteristics, it was decided that a larger sample than that used for the by-census would be used for the 1981 census. A cost-precision study was undertaken from which it was established that, for a given cost, a 20 percent sample would give better precision than other sampling fractions.

A one-stage, replicated, stratified sampling method was adopted for the census. Stratification was by geographical district and the sample was selected by a systematic method. The census being a general-purpose survey, and in the absence of an overriding survey objective and corresponding supplementary information, no other explicit stratification was introduced, although the kind of structures in the frame would enable implicit stratification by geographical location and type of housing. The use of replication in the design was to simplify the computation of the sampling error of the estimates, and to produce 40 subsamples of 0.5 percent each (i.e., one in 200 samples of the population). The subsamples can be used as random samples for subsequent household surveys such as the General Household Survey conducted by the department.

Mapping

To maintain a complete and up-to-date sampling frame, systematic rounds of field visits were conducted by permanent field staff to update existing geographical records. The updating program extended for well over two years, and comprised two stages.

Stage 1 involved visiting all living quarters within the territory to list their addresses, identify their type and usage, and update the maps created and used for the 1976 by-census. For temporary structures, updating was specifically geared to the demarcation of area segments. Efforts were made to ensure that segment boundaries were relatively permanent and easily identifiable. The regular field visits were supplemented by ad hoc updating prompted by information from the Building Ordinance Office and the Housing Department on demolished old buildings and newly constructed buildings. There was, therefore, a continuous updating of the list of living quarters, thus reducing the likelihood of omissions in the census.

Stage 2 began some nine months prior to the census. It involved checking the completeness of the listings and maps, searching for obscure buildings, reviewing the segment boundaries, and relisting quarters within those temporary-structure areas that had undergone substantial changes. In summary, it was a consolidation of the list of living quarters obtained from the Stage 1 updating.

As a result of these efforts, the following up-to-date geographical records were available prior to the census:

1. A complete listing of all permanent living quarters
2. A complete listing of all area segments
3. Maps (scale 1:500) showing detailed location of permanent buildings
4. Map (scale 1:1,000) showing detailed location of segment boundaries and position of temporary structures;
5. Map (scale 1:20,000) showing the approach to area segments

These listings and maps were organized by enumerator blocks and distributed to the district supervisor, chief enumerators, checkers, and enumerators prior to the census operation.

Schedule Content

The list of questions to be asked in the 1981 census was drawn up following detailed consultations between various government departments and policy branches, universities and research institutions, and trade and social services organizations. As a result of these discussions, the following items were included on the list:

Personal Data

For the 100 percent count:

1. Name (for identification)
2. Sex
3. Year and month of birth
4. Relationship to head

For the 20 percent sample:

5. Place of birth
6. Place of origin
7. Permanent address five years ago
8. Year of arrival in Hong Kong
9. Number of children ever born
10. Marital status
11. Educational attainment
12. Field of education
13. Activity status
14. Hours of work
15. Occupation
16. Industry
17. Secondary occupation
18. Whether seeking more work
19. Earnings from main employment
20. Earnings from other employment
21. Other cash income
22. Type of disablement

Household and Living-Quarters Data

For the 100 percent count:

1. Type of living quarters
2. Type of household
3. Usual household size
4. Household size on reference night

For the 20 percent sample:

5. Type of accommodation
6. Tenure

7. Rent
8. Household composition

Marine Households

For the 100 percent count:

1. Type of craft
2. Number of engines
3. Engine horsepower
4. Length of vessel
5. Age of vessel
6. Availability of land accommodations

The census schedules for transients and persons temporarily away from Hong Kong included only simple questions on the name, year and month of birth, and sex.

Samples of the schedules for the full count (Form A) and the 20 percent sample (Form B) appear in appendix 1.

Pretest and Pilot Census

A census is a complex, costly, once-off operation. It is essential to thoroughly test the various aspects of the exercise well in advance, so that any defects in the system can be identified and rectified. For the 1981 census, two census tests, the pretest and the pilot census, were undertaken. The tests provided an opportunity to assess the aspects of the operation that were new, such as the two-phase design, and more revolutionary procedures that could have led to important cost-savings or improvements in quality.

The pretest was held in July 1979 and covered 3,600 living quarters. Apart from testing the general organizational aspects of the census, one of its major objectives was to assess the feasibility of using the self-enumeration approach for collecting data for the simple headcount. Results of the pretest showed that Hong Kong was not ready for such an approach. The self-enumeration method was attempted with 1,210 households; the method was successful for just over a quarter of these households. Many householders were unable, or unwilling, to complete the forms properly themselves. Based on the rather low rate of success in the pretest, the introduction of self-enumeration in the 1981 census could not be justified.

In addition to testing the method of enumeration, the pretest provided valuable experience in the implementation of a two-phase operation. Important decisions on the organization of fieldwork, the questionnaire design, the checking procedures, and the estimation procedures had been made based on plans to conduct a two-phase operation.

The pilot census was conducted one year prior to the main operation. It represented a dress rehearsal of the full census, including all procedures related to the field operation and data processing. Covering some 25,000 households, the test sample was scattered in 14 districts

specially selected to include a cross section of the population. All the permanent field staff (a total of 60) and some 250 temporary enumerators took part in the exercise. Subsequent to the test, all aspects of the operation were evaluated. The experience led to many improvements of the census procedure.

One area of concern identified in the pilot census was the need to improve the quality of the coding operation. It was found that many enumerators were prone to coding errors, and to tackle this problem, the checking system was reinforced in the main operation. Another test included in the pilot census was an assessment of the quality of information collected on disablement. Some known cases of disabled persons were specially selected for the pilot sample, and the extent to which they could be identified as such in the inquiry was assessed. It was found that while the census procedures were reasonably successful in obtaining information on the totally blind, the severely deaf, and the mentally retarded, data on the mentally ill only reflected a small proportion of the known, preselected number. The pilot census also produced significant information on the workload of enumerators, which was used to determine the allotment of work in the main census.

PUBLICITY

The purpose of the publicity program was to inform the public of the territory-wide operation with a view to winning their support and cooperation. To ensure that the message got across to all sections of the population, the publicity program involved a wide range of media, including pamphlets, display boards, posters, newspapers, mobile van broadcasts, radio interviews and announcements, short films on television, and lectures. The publicity covered general as well as specific issues, such as the gazettement of the census order (to emphasize the legal support), the destruction of questionnaires for the pilot census (to illustrate the confidentiality of information), and the identification of enumerators (to dissipate any anxiety over the enumerator's identity). Starting seven months before the main operation, the campaign gradually intensified and reached a climax at the main operational period. Special publicity measures were also mounted to win the cooperation of specific target groups. These measures included talking to district board members, sending a circular to civil servants, broadcasting a radio announcement to the marine population, and making a special appeal to the consulates and religious bodies.

ENUMERATION

Enumeration Districts

To ensure that there would be no omission of living quarters in the census, the whole territory of Hong Kong was delineated by enumerator blocks. Each block

consisted of a cluster of living quarters that was assigned to a pair of enumerators, one of whom was responsible for the 20 percent sample enumeration by the detailed questionnaire and the other for the simple headcount. The blocks were nonoverlapping and together made up the whole terrain of Hong Kong such that no living quarters were omitted in between blocks. Each block could be identified by traceable and relatively permanent boundaries such as streets, building blocks, floors of a permanent building, or, in the case of temporary-structure areas, the segment boundaries made up of footpaths, lanes, ditches, et cetera. In forming the enumerator blocks, an effort was made to ensure that the workload of enumerators was as even as possible, taking into account housing type, degree of sharing of living quarters by more than one household, distance and accessibility from field centers. Each enumerator block contained 250 to 300 living quarters out of which a fifth were selected for the detailed enumeration.

Recruitment and Training of Enumerators

For the 1981 census some 17,500 enumerators, 3,300 field editors, and 1,100 chief enumerators were recruited and trained. The sheer number of staff could only be met by recruiting students and teachers, and to enable a sufficient number of them to participate in the census, a special school holiday was declared by the Education Department during the ten-day operation period. An honorarium was paid to each person on satisfactory completion of the assignment. Enumerators received HK\$600, field editors and checkers HK\$700, and chief enumerators HK\$1,100 (including instruction fees). While the posts of chief enumerators were filled by teachers, enumerators were mainly recruited from senior students of secondary schools, and field editors and checkers from postsecondary students.

Recruitment began smoothly; 16,000 students were trained two months prior to the census. With the approach of the census, however, it became evident that the number of appointed staff resigning was higher than expected, and that there would not be sufficient manpower unless supplementary training classes were held. As soon as the problem was realized, a remedial recruitment exercise was held and a total of 45 supplementary classes were conducted. As a result of these efforts the enumerator requirement was finally met. But had the training not been simplified by the introduction of the full-count-plus-sample-detailed-enumeration approach, there would have been much more cause for anxiety.

The number of enumerators that had to be trained inevitably created problems of organization. Consequently, a relay approach was adopted whereby permanent field staff would first train the chief enumerators, who would in turn train the enumerators. It was feared that without standardized training, individual teachers might not understand the census concepts well enough

to give adequate instruction to their classes. But because television was being used as a medium of instruction in the schools, it was possible for the 1981 census to use television facilities for training purposes. With the assistance of Radio Television Hong Kong (a government department), a set of nine training films was produced covering the full set of instructions to be issued to enumerators. The viewing of these films formed a major part of the training. It took a complex staggering scheme, however, to schedule all the classes to view the limited number of films. The succinct presentation of the films and the standardization of instructions made for a very effective training program.

The training course for enumerators consisted of 10 hours of instruction spread over five evenings, while courses for field editors, checkers, and chief enumerators were 10 hours, 12 hours, and 16½ hours, respectively. Apart from the viewing of training films, the instruction emphasized working with and discussing practical examples. Each course ended with a selection test; successful candidates were chosen on the basis of the results.

One day before the operation period, a final briefing session was held to remind temporary staff of the method of enumeration, to emphasize the important census concepts, and to show a training film on the census procedures. Familiarization visits to the enumerator blocks were also conducted to ensure no omission of households between enumerators.

Enumeration Procedures

As in previous censuses, the 1981 census consisted of two separate operations, the marine census and the land census. Both censuses adopted the traditional enumerator method for obtaining information. The enumeration of the boat people lasted only four days, 1-4 February 1981. This was the period just before the Chinese New Year, when all boats returned to the harbor to celebrate the festival. For enumeration purposes, the harbors and anchorages were divided into small sections using fairways and fire lanes as boundaries. The chief enumerator, with a boat to tour his section, dropped off the members of his small team of enumerators at different vessels to carry out the enumeration. Each boat that had been enumerated was identified by a red census label. The chief enumerator was to ensure that all vessels mooring in his section were enumerated within four-day period.

For the land census, since a complete and up-to-date list of living quarters and segments was available, no separate operation of household listing was required. Enumerators visited the households within their blocks and ensured that no living quarters were omitted. Whereas the long-form enumerator was instructed to follow the list of addresses on his assignment strictly, the short-form enumerator had to sweep the whole block

and enumerate any nonlisted quarters. Thus there was a last-minute house-list update built into the system. Enumerators repeated visits in order to interview all members of the households. At the end of each day, the enumerators had to return to the field center to code the information recorded on the schedules and to report their progress.

Both the land census and the marine census were taken on a de facto basis. A "shifting census moment" approach was adopted; that is to say, information was gathered on persons in the household the night prior to the enumerator's first visit to the household. Only a single visit was therefore required.

Considerable emphasis was placed on the control of quality during the census operation. The census supervision and control staff included the chief enumerators, who assumed overall responsibility for a division of 12 enumerators; the field editors, whose main job was to scrutinize the completed forms and check the accuracy of coding; and the checkers, who were mainly responsible for verifying the information by revisiting households. Each chief enumerator was assisted by one checker and two field editors. A district supervisor, who was on the permanent staff of the department, oversaw the work of some 20 divisions in the district. Altogether 40 district supervisors, 780 chief enumerators, 2,340 field editors checkers, and 9,140 enumerators took part in the land operation.

A system of field checks was introduced in the 1981 census to control the quality of operation. The system comprised a series of formal checks and involved the following major components:

1. The chief enumerator accompanied enumerators in their work during the first stage of the operation to make on-the-job observations and give remedial training where necessary.
2. The checker revisited the enumerated households on a sample basis to verify the information recorded by enumerators; all nonenumerated cases (e.g., vacant quarters, absent households) would also be verified.
3. The field editor scrutinized all the submitted forms to ensure the completeness of information and the accuracy of codes.
4. The enumerators reviewed their own work at the end of the census to ensure completion of the assignment and to check that no coding errors were committed.

Data Processing

DATA PREPARATION AND CODING

The information obtained during the census was recorded on questionnaires in longhand by the enumerators, who were also responsible for coding all but a few difficult items—occupation, industry, address five years ago, and household composition. At the field centers,

the field editors were responsible for coding occupation and industry; special training on the classification of these items was given to them prior to the operation. To facilitate their coding work, the field editors were provided with an occupation index and an industry index, which contained information on the correct codes for common occupations and industries. Where an enumerator was found to have provided insufficient details, the forms would be referred back to him for clarification. Information on household composition and address five years ago was more complex and had to be coded by specialist coders at the census headquarters. Detailed references had to be made to large scale maps and manuals in deriving the codes for these items.

For the 1981 census, it was necessary to input and edit all data within a period of 15 weeks. The key-to-disc method was used to input the data. It had been established that the key-to-disc method was more cost-effective than the Universal Document Transfer mark-sensing system used in the 1971 census. More importantly, it meant the census schedules would not require special handling during fieldwork, thus relieving the field supervision of that burden and resulting in better control of data quality. Also, the questionnaires permitted information to be entered in longhand so that coding errors could be easily identified.

All input data were verified on a 100 percent basis to minimize keypunching errors. To prevent omission of records during input, independent information on the number of forms and number of persons in each batch of questionnaires was entered into the system for checking purposes. No editing was, however, performed at the data preparation stage, although the installation had the capacity for such checking.

EDITING AND IMPUTATION

The editing system of the 1981 census consisted of three parts: field editing, validation, and imputation.

Field editing comprised manual checks of the completed questionnaires submitted by enumerators at the field center. Editing at this level was limited to basic checks. The field editors were responsible for ensuring that all submitted forms were properly sorted and referenced, recorded answers were complete and correctly coded, and continuation forms were properly marked and organized. Thus the main emphasis of field editing was on referencing and organizing the forms and reducing coding errors. It was felt that more complicated checks would be beyond the capacity of the editors in view of the volume of forms that had to be processed. Nevertheless, any basic errors identified at this stage could be referred to the enumerators for clarification, so field editing also served a control purpose.

The second phase of the editing system, validation, involved identification of basic errors by computer, and manual amendment of these errors. Validation elimi-

nated the need to scrutinize the 100 percent forms before data processing. It consisted of iterative runs of checks and amendments until all basic and structural errors were cleared. Specifically, its objectives were to ensure

1. that the structure of the data record was correct (e.g., each household record was followed by the correct number of person records);
2. that no records had been duplicated or omitted during data input;
3. that all codes were within the specified ranges;
4. that the household records within the living quarters or person records within a household were consistent in relation to the selected variables; and
5. that the key variables (age and type of household), which would be used as the basis for imputation, were correct.

Within-record consistency checks had been kept to a minimum, and almost all such checks were related to the validation of age and type of household. These two variables were selected because other variables were checked against them later in the imputation stage. The validation system also included a number of essential inter-record consistency checks so that subsequent imputation could be simply performed at the within-record level.

Errors identified by the computer were displayed in validation reports, which supplied all necessary information about the erroneous records and, where necessary, supplementary information not directly related to the invalid fields to facilitate amendment decisions. The validation report served two purposes: it presented a diagnosis of errors, and it gave (on the right side of the page) an amendment skeleton to be used for input of amendment instructions. The amendment skeleton contained the references of all the fields or records to be amended so that, to specify an amendment, one only needed to fill in the desired values. The validation facility was introduced to reduce manual involvement as well as to increase the accuracy of amendment.

The last phase of editing, imputation, was completely automatic. Its purpose was to identify all inconsistencies between characteristics in a record and to remove them by imputing new values to the variables involved. The entire imputation logic comprised a sequence of tests in which various items were successively checked against previously accepted (or amended) items. Any inconsistency would be rectified by amending the lower item in the hierarchy. The first link in this chain was the key variable, which was established to be correct in the validation stage.

Both the cold deck and the hot deck approaches were used for imputation. The former approach used predetermined values for imputing erroneous fields, while the later routinely updated the imputed values by drawing values from the consistent records that passed through the system. In the hot deck approach the "look-up

table" mechanism was implemented by referring to one or more determining characteristics of the deficient record. These determining characteristics would include those items that had been involved in the inconsistency (save the one which has to be imputed), but could also include other characteristics especially introduced to improve the accuracy of imputation.

Some 30 percent of the sample questionnaires and 10 percent of the full-count schedules had to be scrutinized at the validation stage. The former percentage was larger than the latter because there were more fields on each questionnaire. The imputation rates were less than 5 percent for all variables.

ESTIMATIONS

To estimate the population parameters on the basis of information obtained from the 20 percent sample, the 1981 census adopted a ratio-estimation method. The results of the 100 percent headcount by age and sex were used as control figures to blow up the sample statistics. Persons in the 20 percent sample were stratified into categories similar to those of the full-count population. Then each age-sex-specific sample category was compared to the corresponding control total to obtain the ratio for blowing up the sample figures for characteristics of persons in that category.

The weights for ratio adjustment were usually not integers, and if directly applied would lead to nonintegral counts in the result. In practice, a technique of approximating fractional weights with integral weights was used for blowing up. Weights were chosen in such a way that would give adjusted totals consistent with the control figures. For example, if for a certain category the population and the sample counts were 1,250 and 277, then the adjustment weight obtained by dividing 1,250 by 277 was nonintegral (4.51). The actual adjustment was made by determining the portion of the sample multiplied by 4 and the portion multiplied by 5 that would total 1,250 (in algebraic notation, $4x + 5(277 - x) = 1,250$). Thus 135 persons out of the 277 members of the category were given a weight of 4, and the remaining 142 were given a weight of 5 for an adjusted total of $(4 \times 135) + (5 \times 142) = 1,250$, as required.

After the imputation phase had been completed, the computer system calculated and assigned weights at random to individual data records. During tabulation, the actual adjustment was facilitated by the summing of weights attached to all records to give the set of adjusted totals.

EQUIPMENT AND ORGANIZATION

For the input of census data, two key-to-disc XL40 installations, each with 16 stations, were used to prepare the data on magnetic tapes. The mainframe was an International Computer ICL 2950 Central Processor with 256K words of core storage, four magnetic tape

units, six exchangeable disc drives, and one line printer with maximum printing speed of 1,200 lines per minute. For extensive cross-tabulations of census data, the File Analysis System (FILAN) software developed by International Computer, Ltd., was used.

The computer project team, established under the central Data Processing Division of the government, consisted of a project manager, two system analysts/senior programmers, and two programmers. Together with professional staff from the Census and Statistics Department, a working group was formed to discuss all data processing requirements and to monitor the progress of system development.

Definitions

The definitions used in the 1981 census largely followed those used in the 1971 census and those recommended by the United Nations for the 1980 round of population censuses.

De Facto

The 1981 census was taken on a de facto basis, whereby the population count referred to a census moment. A "shifting census moment" was adopted, which is to say, the count referred to the number of persons in the household "last night" (the night prior to the enumerator's first visit). This method had the advantages that it would require only a single visit and that it could minimize any bias in the results due to memory lapse, a problem which could be serious if the census moment was fixed at the beginning of the enumeration period.

Urban and Rural

Since Hong Kong as a whole is essentially an urbanized area, no clear distinction between its urban and rural parts was adopted for the 1981 census.

Economic Activity, Labor Force and Unemployment

The labor-force approach for measuring economic activity has been used in Hong Kong since the first post-war census in 1961. Thus, the economically active population (i.e., the labor force) comprised both persons who were working during the specific reference period and persons who were unemployed. The unemployed included those with and those without a previous job. Working was defined as being engaged in productive work for pay or profit (or without pay on family business or voluntary work).

Only persons aged 15 and over were classified as economically active or economically inactive, and the reference period for classification was the week before the census night. Employed persons—other than employers, self-employed, farmers and fisherfolk, and those on leave or on industrial dispute—had to have worked a

minimum of 15 hours before they were considered economically active.

The unemployed comprised persons between the ages of 15 and 64 inclusive who, during the seven days before enumeration, worked less than 15 hours but were seeking work. The hour criterion, however, did not apply to employers, the self-employed, farmers, and fisherfolk. This definition excluded those on leave, on holiday, or out of work because of an industrial dispute during the reference period. It did, however, include those who were waiting to take up a job or just commencing work, those who were temporarily or indefinitely laid off work without pay, and persons who were not seeking work because they believed work was not available or because of temporary sickness or injury.

Special rules applied to farmers and fisherfolk. Farmers were classified as unemployed only if they had no land to farm and were not employed in farming operations by someone else during the reference period. Similarly, fisherfolk were classified as unemployed only if they had no fishing tackle to fish with and were not otherwise employed in fishing operations during the reference period.

Occupation and Industry

Occupation was defined as the kind of work done by a person employed during the seven days before enumeration. For unemployed persons who were previously employed, occupation was defined as the kind of work done on their last job. Occupations were classified according to the major groups of the 1968 version of the International Standard Classification of Occupation. There were in total 149 categories, each classified by a three-digit code.

Industry referred to the main kind of business or the establishment in which a person worked during the seven days before enumeration. Again, unemployed persons with previous employment were classified with reference to their last job. Classification of industry followed the major divisions of the International Standard Industrial Classification. Altogether there were 110 categories each represented by a three-digit code.

Ethnicity

Ethnic characteristics of the population were studied from two aspects, place of origin and place of birth. For Chinese, place of origin referred to their *Heung Ha*, that is, the part of China from which the family originally came. For non-Chinese, place of origin referred to nationality or country of origin.

Tabulation and Publication

The tabulations prepared for the 1981 census were completed in stages according to the priorities set for the release of census information. Broadly, they are divided

into the following series: Prompt Tabulations, Summary Tabulations, Basic Tabulations, Main Tabulations (Summarized Version), Main Tabulations (Detailed Version), Tabulation of Rates and Averages, Standard Error Tabulations, and Enumerator Block Statistics. A detailed list of the tabulation series and a list of 1981 census publications appear at the end of this chapter.

Evaluation

POSTENUMERATION SURVEY

The postenumeration survey (PES) for the 1981 census consisted of two parts, a coverage check and a content check.

The coverage check was a sample survey covering 10 percent of all enumerator blocks. The check was carried out by permanent field staff who canvassed the selected blocks to determine whether any living quarters had been missed by the census and if so to enumerate the persons living within those quarters with the short form. Results from the coverage check were appropriately blown up and used to adjust the census headcount. The coverage check was carried out ten days after the completion of the census operation.

The content check attempted to detect any undercount of population within the enumerated households and whether information on age and sex had been correctly recorded. Covering 0.5 percent of the enumerated households, the content check sample was a 5 percent subsample of quarters within the enumerator blocks selected for the 10 percent coverage check. The design made it possible for both checks to be conducted concurrently, thereby reducing staff travel time. Throughout the check, no references were made to the information obtained by enumerators in their first visits. This information was subsequently transcribed onto the PES questionnaire for matching on a person-to-person basis. The analysis determined the number of persons that had been omitted or erroneously counted in the census, as well as the extent to which information on age and sex obtained from the census coincided with that from the PES. No adjustments of the census tabulations were made on the basis of the content check findings.

OTHER EVALUATION MEASURES

In addition to the PES, the following measures were taken to assess the quality of the census data:

1. Comparing the census headcount with the independent population estimate based on the demographic balancing equation; a similar comparison was made for persons aged 0-4.
2. Analyzing the causes of errors identified during the validation stage with a view to studying the nature of common errors committed by enumerators.

3. Matching the census data on disabled persons with administrative records to assess the quality of data on disablement.

Timetable and Budget

CENSUS CALENDAR

Preliminary planning for the 1981 census started as early as 1977. The census plan was drawn up in November 1978, following detailed consultations with users of census data and detailed considerations of the census methodology. The plan summarized the proposals for the questionnaire content, the field operation procedures, the data processing method, and staff and financial requirements. As a result, the following timetable was established:

Updating of sample frame	
Stage 1	Jan 1979-Jun 1980
Stage 2	Jul 1980-Feb 1981
Sample selection and preparation of work assignment listing	Mar 1980-Jan 1981
Census pretest	Jul 1979
Design of Questionnaires	
Final draft	Jun 1980
Coding and classification	
Preliminary draft	May 1979
Instruction manuals	
Preliminary draft	Dec 1979
Final draft	Jun 1980
Tabulation program	
Preliminary draft	Aug 1979
Final draft	Aug 1980
Pilot census	Mar 1980
System design and development	Jan 1979-Feb 1981
Design of editing system and estimation procedures	
Preliminary draft	Aug 1979
Final draft	Aug 1980
Printing of census documents	Jun 1980-Jan 1981
Recruitment and training of field staff	Sep 1980-Feb 1981
Publicity	Sep 1980-Mar 1981
Marine census	Feb 1981
Land Census	Mar 1981
Coding and batching of forms	End of Mar 1981
Data input and editing	Apr 1981-Jul 1981
Tabulation	May 1981-Jan 1982
Publication	May 1981-Dec 1982

BUDGET

The cost per person enumerated for the 1981 census was about HK\$4.20. Table 5.1 shows the estimated overall financial requirements of the census.

**Table 5.1 1981 Hong Kong Census Budget
(in million HK\$)**

Honoraria for temporary field staff	7.5
Data processing (consumables, computer rental, data input, etc.; excluding computer staff costs)	5.1
Personal emoluments for permanent staff	4.9
Related operational expenses (transport, printing, storage, publicity, etc.)	1.5
Rental for additional accommodations	1.2
Training fees	0.5
Total	20.7

Tabulation Series of the 1981 Hong Kong Census

Prompt Tabulations

Content: 22 two- or three-way tables showing the basic demographic, social and economic characteristics of the population. The tables, which aimed at providing advance information on the census findings, were based on estimates derived from a 5 percent sample of the population.

Date of delivery: May 1981 (two months after the census)

Summary Tabulations

Content: simple one-way tabulations showing the household and personal characteristics by small geographical division. Altogether, there were 17 tables produced at the street-block level and 48 tables produced at the level of tertiary planning units (which are small geographical divisions delineated for town planning purposes; there were 270 such units in total). The full range of census items were included in these summary breakdowns. A second version of the tables, which comprised abridged groupings and comprehensive headings, had been produced on magnetic tapes that could be directly input to a computer typesetter for publication purposes.

Date of delivery: August 1981 (five months after the census)

Basic Tabulations

Content: 26 simple cross-tabulations comprehending the whole range of census information.

1. Population by age by sex by census area
2. Persons aged 15 and over by age by sex by marital status
3. Population by place of birth by place of origin
4. Married women aged 15 and over by age by number of children ever born
5. Population by age by sex by educational attainment
6. Persons studying full-time by age by sex by educational attainment
7. Young persons not at school by age by sex by whether working
8. Population by sex by educational attainment by field of education
9. Economically active population by age by sex by activity status
10. Economically inactive population by age by sex by activity status
11. Unemployed population by educational attainment by whether previously employed

12. Economically active population by occupation by educational attainment
13. Economically active population by occupation by field of education
14. Economically active population by occupation by industry
15. Working persons by sex by industry by hours of work per week
16. Employees by age by sex by secondary occupation
17. Working persons by occupation by income from main employment
18. Working persons by educational attainment by income from main employment
19. Population who had moved internally by area of origin by area of destination
20. Domestic households by household composition by household size
21. Domestic households by household income by household size
22. Domestic households by type of living quarters by household size
23. Domestic households by type of living quarters and accommodation by tenure
24. Domestic households by type of living quarters and accommodation by rent
25. Domestic households by type of housing by household income by rent
26. Living quarters by type of living quarters by number of occupants

Date of delivery: September 1981 (six months after the census)

Main Tabulations (Summarized Version)

Content: three- or four-way cross-tabulations showing detailed characteristics of the population. Altogether there were 194 tables, classified by the following topics:

1. Housing characteristics
2. Household characteristics
3. Basic demographic characteristics
4. Marriage and fertility
5. Educational characteristics
6. Economic characteristics
7. Labor utilization
8. Disablement
9. Internal movement
10. Characteristics of the elderly
11. Marine population

Date of delivery: October 1981 (seven months after the census)

Main Tabulations (Detailed Version)

Content: 400 four- to six-way detailed cross-tabulations showing the full range of demographic, social, and economic characteristics. In particular, it included

1. detailed cross-tabulations showing the characteristics of district population;
2. characteristics of population by special administrative boundaries, e.g., traffic zone, police division, electoral district;
3. special tabulations requested by other government departments for their planning or administrative purposes.

The tables were classified by topics similar to those in the summarized version of the main tabulations.

Date of delivery: November 1981 (eight months after the census)

Tabulation of Rates and Averages

Content: 50 two- or three-way tables showing statistical rates and averages (e.g., unemployment rate and average household income) summarizing the interrelationship between different socioeconomic characteristics.

Date of delivery: December 1981 (nine months after the census)

Standard Error Tabulations

Content: 40 two- to three-way tables showing the standard

errors of various census estimates derived from the 20 percent sample enumeration.

Date of delivery: January 1982 (ten months after the census)

Enumerator Block Statistics

Content: 22 statistics showing the size of each enumerator block (in terms of population, households, or living quarters), and summary parameters describing the income, education, age and sex structure, and housing characteristics of the population. The information would be useful for stratification in multistage sampling design where the enumerator blocks are the primary selection units.

Date of delivery: February 1982 (eleven months after the census)

Publications of the 1981 Hong Kong Census

<i>Title</i>	<i>Release Date (Months after Census)</i>	<i>Contents</i>
Provisional headcount	May 1981 (2)	Provisional (manual) count of the population by district by sex, with summary analysis of the growth and geographical distribution of population, sex composition, etc.
Provisional tables	Jun 1981 (3)	22 basic cross-tabulations based on estimates derived from a 5 percent sample
Tertiary planning unit population by age and sex	Aug 1981 (5)	Population of small area units by age and sex
Census district population by age	Aug 1981 (5)	Population of census districts by sex by age (single years)
Living quarters, households, and persons by type of living quarters by tertiary planning unit	Aug 1981 (5)	Basic count of persons, households, and living quarters by various types of living quarters for each tertiary planning unit and district
Summary results	Nov 1981 (8)	Summary results of the census with broad analyses and comparisons with previous censuses
Basic tables	Mar 1982 (12)	26 basic cross-tabulations showing the broad range of census characteristics
Street block tabulations	Apr 1982 (13)	One-way tables showing basic demographic characteristics of street block (the smallest geographical unit) population, with accompanying maps to identify the boundaries.
Tertiary planning unit tabulations	Apr 1982 (13)	Simple one-way tables showing the breakdown of population by various demographic, social and economic characteristics for each tertiary planning unit, with accompanying maps on the census boundaries
Graphic guide	May 1982 (14)	Graphs and charts summarizing the census findings, including comparisons with past data
Main report	Dec 1982 (21)	Detailed analyses and interpretation of census results and description of the census methodology, accompanied by detailed cross-tabulations under various topics.

INDIA 1981

Ministry of Home Affairs
Office of the Registrar General and
Census Commissioner
New Delhi

Introduction

The 1981 census of population in India was taken between 9 February and 5 March 1981, with 1 March as the reference date. The final population total recorded was 685.2 million—354.4 million males and 330.8 million females (this includes the projected population total for Assam, which could not be enumerated owing to disturbed conditions in the state at the time of the census).

The Indian census today is universally acknowledged as the most authentic and comprehensive source of information about India's land and people. India's independence and the adoption of a democratic system of government enhanced the importance of authentic population data. The size of the legislatures and the demarcation of electoral constituencies depend on statistical

information about the population and its geographical distribution. In addition, these data are invaluable for the implementation of certain constitutional provisions like providing for the welfare of the socially and economically backward classes. The advent of the five-year plans added a new dimension to the census operation; it was expected to yield information regarding a variety of aspects of the nation's economy like population growth, its distribution, urbanization, manpower, employment, literacy, migration, and housing. Planners, as well as research scholars, look for detailed and sophisticated data on the trends in occupational and industrial affiliations of the working population, fertility patterns, age, and education levels. The census has to meet this increasing hunger for data. Consequently, a greater degree of sophistication has come into the methods of collecting, tabulating, and analyzing statistical data. The 1981 census is the twelfth decennial count of India's population, reckoned from 1872, and the fourth since independence.

HISTORY

The history of the Indian census is indeed a fascinating one. It has a tradition dating back to the third century B.C. The *Artha shastra* of Kautilya prescribed the collection of population figures as a measure of state policy for purposes of taxation. Though the importance of census taking was recognized in India as an essential requisite of good government in ancient times, it fell upon bad days during the medieval period when the history of the country was also checkered.

With the advent of the British to India, the need for reliable estimates of population in the Indian states was again recognized. In 1801 England began her census series and the British were anxious to ascertain the population of the dependencies and territories of their vast empire. Consequently, statistical studies on population were conducted in the Indian subcontinent between 1816 and 1830. As desired in the Statistical Despatch No. 2 of 23rd July 1856 of the Home Government, the government of India considered the means of conduct-

Table 6.1 Population Trends in India 1901-1981

Year	Population (in millions)	Change during Decade (percent)	Cumulative Growth Rate since 1901 (percent)
1901	238	—	—
1911	252	5.75	5.75
1921	251	-0.31	5.42
1931	279	11.00	17.02
1941	319	14.22	33.67
1951	361	13.31	51.47
1961	439	21.51	84.25
1971	548	24.80	129.94
1981	685*	25.00	187.81

* Includes the figures for Assam as determined by the Expert Committee on Population Projections set up by the Planning Commission. The census was not conducted in Assam because of disturbed conditions there. The census in Jammu and Kashmir was conducted in late April 1981 because of bad weather in March.

This chapter was written by P. Padmanabha, Registrar General and Census Commissioner, India, and K. K. Chakravorty, Deputy Registrar General.

ing a general census of the population of India in 1861. But the upheaval of 1857, which is regarded as the first war of Indian independence, resulted in the postponement of this census. Censuses were taken in the north-western provinces in January 1865, in the central provinces in November 1866, in Bihar in 1867, and in Punjab in January 1868. Censuses of the cities of Madras, Bombay, and Calcutta were taken in 1863, 1864, and 1866, respectively.

In 1865, the government of India and the Home Government agreed on the principle that a census should be conducted in 1871. As a result, between 1867 and 1872 censuses were conducted in as much of the country as was practicable. Though these were based on a uniform set of schedules, they were not centrally supervised or compiled. This series of censuses is commonly known as the census of 1872; however, it was not a synchronous census nor did it cover all the areas of India. The census committee set up in 1877—which consisted of W. C. Plowden (president), H. Beverly, and W. R. Cornish—submitted a detailed report on 29 February 1878 on the conduct of a general census in India in 1881. This report paved the way for the first synchronous census in India. Since 1881, censuses have been taken with unerring regularity once every ten years in the first year of each decade (i.e., years ending in one). Even the Second World War did not prevent the census from being taken in 1941. Thus, the census of India has been providing an uninterrupted chain of demographic data since 1881.

LEGAL STATUS

Legal authority for the census is required for fixing primary administrative responsibility, for obtaining necessary funds, for determining the general scope and timing of the census, for placing a legal obligation upon the public to cooperate and to give truthful answers, and for placing a legal obligation upon the enumerator to record the responses faithfully. The Census Act 1948 clothes the government with the necessary legal authority to take a population census in India. While the act makes it obligatory for the public to answer all the questions faithfully, it guarantees confidentiality of information in respect of individuals.

The 1981 census experience clearly indicated the urgent need for a hard look at the Census Act. Unlike the palmy days when the count was on one day and collectors could order all dogs to be chained and lamps to be lit and placed in windows to help enumerators, in today's world it was found that constant vigilance was necessary at every stage merely to ensure that enumerators were available and were carrying out the operations as required. It is true that under the statute functionaries can be punished, but the stipulations in the law are not firm enough with regard to this matter. If the next census is to be carried out successfully, it is clear that the law will have to be stiffened considerably.

ORGANIZATION

Office of the Registrar General and Census Commissioner, India

The population census is a Union subject and the Ministry of Home Affairs is in charge of this subject. The Office of the Registrar General and Ex Officio Census Commissioner for India is attached to the Home Ministry. A senior officer of over 18 years standing who has previously conducted a census in one of the major states is generally chosen from the Indian Administrative Service to be registrar general and census commissioner. Since all statistics pertaining to registration of births and deaths and compilation of vital statistics are also looked after by this office under the Registration of Births and Deaths Act of 1969, the aforesaid officer is appointed registrar general, India, and functions concurrently as the census commissioner. He is assisted by one or more senior deputies who head different branches of work within the office.

State Level Organization

For each of the states and union territories, an officer is appointed director of census operations under the Census Act. For the major states, directors are generally appointed from senior Indian Administrative Service officers of at least 9 or 10 years standing from the state cadres concerned. For the union territories and other areas, a fairly senior officer of the Indian Administrative Service or state civil service is appointed. This officer is directly responsible to the registrar general and census commissioner of India for organizing and supervising the census operations within his area.

The directors of census operations are assisted by a number of deputy or assistant directors. This force is augmented by inducting officers of the state civil service on deputation for the peak-load period.

Though the census is a Union subject, the achievements of the Indian census have always been the outcome of the joint endeavors of the central and state governments. The entire field operation, both the houselisting and enumeration, was organized through the general administrative machinery of the state governments. The district officer was in overall charge of census operations in the district. He was assisted by a deputy collector. In a number of districts, the district officers placed an officer of the rank of additional district magistrate in charge of the operation. The subdivisional officers organized and supervised the operations in their jurisdiction, each assisted by a deputy collector. The block development officers and project executive officers functioned as charge officers in the rural areas, while the chairmen, special officers, administrators, and executive officers were in charge of the urban areas, which comprised municipal corporations, municipali-

ties, and notified areas. In addition, the various extension officers posted in the Community Development Blocks were appointed as census supervisors. Thus the census was almost totally carried out through the machinery of the state and union territory governments and through local bodies under the state governments.

The census enumerators were mostly drawn from school teachers, but they were also drawn from central and state government employees and employees of local bodies. Experience had taught that school teachers were probably the best agency, but as mentioned earlier, the system had to be strengthened to ensure that directions and writs ran through without question.

The amount of organization and effort that went into the operation can be envisaged when one realizes that the data collected by the several thousand enumerators were compiled with such efficiency that the provisional population figures were ready for each state and union territory by 18 April 1981. This is a highly creditable performance of the field agency.

It is a matter of pride for the census organization in India that the preliminary results were announced within a few days of the census count itself. This was possible because of a system that called for compiling the basic data right from the enumerators' block through the charge, district, and state. The credit for getting the results out so quickly goes entirely to the enumerators, supervisors, charge officers, and others who handled the fieldwork.

The 1981 census was India's largest single administrative exercise, and its completion was possible only with the total help and cooperation received in carrying out this task. The largest part of the credit for the success should go to the people of India themselves and next to the vast army of devoted, hard-working, and loyal enumerators, supervisors, charge officers, and district and city census officers who bore the brunt of the task very well indeed. The Office of the Registrar General and Census Commissioner received constant and unfailing advice from the Planning Commission, the Central Statistical Organization, and a large number of individual experts, and also received full cooperation from the Directorate of Printing and Stationery and the Directorate General of Supplies and Disposal.

Design and Execution

PREPARATION

The preparation for the 1981 census could be said to have begun as early as 1974, which was the World Population Year sponsored by the United Nations, when the subject was discussed in a data-base seminar of the Indian Association for the Study of Population (IASP) in collaboration with the Indian Econometric Society and the Indian Statistical Institute. The IASP organized

another seminar at Bangalore in December 1976 followed by a symposium at Delhi in November 1977 in collaboration with the Central Statistical Organization and the Indian Statistical Institute, where the 1981 census was discussed in detail. The census organization was associated with all these and benefited from the discussions they generated. The registrar general and census commissioner for the 1981 census was appointed in October 1977. In February 1978, the registrar general and census commissioner convened the First Data Users' Conference to discuss the concepts to be adopted and the questions to be asked in the 1981 census. Representatives of the central and state governments, Planning Commission, Central Statistical Organization, universities, and research organizations attended this conference.

Pretests and Pilot Studies

Based on the suggestions made in the First Data Users' Conference, draft questionnaires were prepared and put to a pilot study in nine states (Andhra Pradesh, Gujarat, Haryana, Jammu and Kashmir, Karnataka, Kerala, Rajasthan, Uttar Pradesh, and West Bengal) during the period 12–21 June 1978. During this study, two schedules—the individual slip and the population record—were tested in 20 rural and 10 urban units in each state.

Based on the experience gained from the pilot study, the first pretest, conducted by the census staff, was held in September and October 1978 in all states and union territories except Lakshadweep, Mizoram, Dadra and Nagar Haveli, and Pondicherry. In the first pretest, in addition to the data collected by the pilot study, data were collected on migration and fertility. Both household sampling and area sampling were used.

In December 1978, after the pilot study and the first pretest, the Second Data Users' Conference was convened. Conference discussions were held on the schedules and instructions. Subsequently, the second pretest was conducted in the second half of June 1979. Unlike the pilot study and the first pretest, the enumeration personnel of the second pretest were teachers, and their work was closely supervised by the staff deputed from the census directorate. During the pilot study and first pretest, the schedules and instructions were in English, while for the second pretest, all the schedules and instructions were translated into regional languages. Ten units (5 rural and 5 urban) were selected for the second pretest.

Coverage

The reference date for the census was sunrise of 1 March 1981. The enumeration period was 9–28 February and a revisional round was conducted 1–5 March. The houseless population was enumerated on the night of 28 February.

The following categories of persons were eligible for

enumeration: (1) those who normally stayed in the household being enumerated and were present in that household during the entire period of enumeration (9–28 February, inclusive); (2) those who were known to normally reside in the household and had actually stayed there during a part of the enumeration period but were not present at the time of enumeration; (3) those who were known to normally reside in the household and were not present at the time of enumeration but were expected to return before 28 February; and (4) visitors who were present in the household at the time of enumeration and who would be away from their usual place of residence during the entire enumeration period. For the purpose of enumeration, such visitors were treated as normal residents of the household where they were found during the enumeration period, provided they had not been enumerated elsewhere.

Thus, persons who were away from their normal or usual place of residence throughout the enumeration period were not enumerated there. Instead, they were enumerated wherever they were actually found during the enumeration period. Such persons were cautioned that, should they move, they should not permit themselves to be enumerated again.

Sample Selection

It was felt that certain general characteristics that need not be presented at small area levels should be canvassed on a sample basis to save on costs. Consequently, sampling at the enumeration stage to collect migration and fertility characteristics was attempted for the first time in an Indian census. These data were to be presented at district or state levels since they would not be of utility at lower levels. The system of sampling was considered in collaboration with the Central Statistical Organization and other expert bodies. A sample of households would have been desirable, but a realistic appraisal of field conditions clearly indicated that household sampling was not feasible. An area sample was therefore adopted.

A 20 percent sample of enumeration blocks was selected on the basis of systematic sampling. In these blocks, called sample blocks, the questions relating to migration and fertility were asked. In other blocks, the nonsample blocks, these questions were not asked. In order to be able to distinguish the records of the sample and nonsample blocks, the individual slips containing the questions relating to migration and fertility were printed in blue ink. The individual slips without the questions relating to migration and fertility were printed in black. In certain areas, however, the blue slip was used in the entire state or union territory.

States where 20 Percent of Enumeration Blocks Canvassed with Blue Slip

Andhra Pradesh	Gujarat
Bihar	Haryana

Karnataka
Kerala
Madhya Pradesh
Orissa

Punjab
Rajasthan
Tamil Nadu
Uttar Pradesh

States and Union Territories Canvassed Entirely with Blue Slip

Assam
Himachal Pradesh
Jammu and Kashmir
Maharashtra
Manipur
Meghalaya
Nagaland
Sikkim
Tripura
West Bengal

Andaman and Nicobar Islands
Arunachal Pradesh
Chandigarh
Dadra and Nagar Haveli
Delhi
Goa, Daman, and Diu
Lakshadweep
Mizoram
Pondicherry

Mapping

A census must ensure that every person in the country is enumerated and that each person is enumerated only once. In order to achieve this, it was necessary to have complete and up-to-date maps of all administrative areas—states and union territories, divisions, districts, *tehsils* (the administrative division below district; a group of villages), and villages. Maps of proper scale were obtained and the boundaries of each administrative area were identified. In order to simplify the map-making tasks and to make it possible to update all maps before the census was conducted, administrative boundaries were frozen a year before the census.

After identifying every village and town on each *tehsil* map, code numbers were allotted to the units that were to be accounted for at the census. Notional maps were prepared of every village and of every ward and block of towns. These notional maps showed the location of every house to be visited and proved extremely helpful at the time of enumeration. They served as the frame for the clear demarcation of each enumerator's jurisdiction and enabled him to cover every household in his block and to take notice of additions that might have taken place after the preparation of the notional map. Complete coverage of areas was thus ensured.

Schedule Content

The schedules finally adopted for the 1981 census were Houselist, Enterprise List, Household Schedule, Individual Slip (Universal), and Individual Slip (Sample). (Facsimiles appear in appendix 1.)

Houselist. A housing census as such is not taken in India, but population censuses are preceded by an operation called "houselisting." The houselisting constituted the first phase of the census and was completed in stages throughout 1980.

Before a census of population is taken, it is essential to locate and identify all places that are occupied or are likely to be occupied or used by people. The houselisting

operations served this purpose and, in addition, provided data on the purpose for which each house was used and the number of persons normally residing in each household. Detailed maps for all charges were prepared before the houselisting was carried out, and the boundaries of enumeration blocks were demarcated. The actual houselisting operations involved the preparation of notional maps and layout sketches of enumeration blocks, numbering buildings and households therein, filling up houselists, and preparing a houselist abstract.

The staff deputed for houselisting was given intensive training in repeated rounds. The census commissioner himself trained the state directors of census operations. The census officers and the charge officers were trained by the directors assisted by the deputy directors and investigators. The enumerators were trained by the charge officers assisted by senior officials from both the state Directorates of Census Operations and the state Bureaus of Economics and Statistics.

A persistent request was made for a determination of the number of disabled in the country. In an attempt to at least partly meet the demand for such data, certain questions were included in the houselist to elicit the numbers of totally blind, totally crippled, and totally dumb. The purpose of including these questions was to produce a frame on which further surveys could be carried out.

On the basis of the information collected during the houselisting operations, the enumerators' blocks were delineated again, and the maps for the different charges were corrected. For each enumeration block, a detailed national map plotting each and every house was prepared. The underlying idea of these maps was to ensure full coverage.

Enterprise List. An enterprise list was compiled along with the houselist. It collected details of entrepreneurial activities conducted in houses and in the open. The data collected through the enterprise list were part of the economic census devised by the Central Statistical Organization.

Household Schedule. The household schedule was revived for the 1981 census, but with a different focus. The purpose in reintroducing the household schedule was to collect data regarding housing conditions and elementary information relating to the households, such as water supply and electricity.

The household schedule consisted of two parts: the first part covered the household particulars and the second comprised the population record. The first part of the household schedule obtained information on religion of the head of the household, whether he belonged to a scheduled caste or scheduled tribe, and if so, the name of the caste or tribe. It elicited information about the language mainly spoken in the household and ownership of the house. It gathered information about the predominant construction material of walls, roofs,

floors, and the facilities available to the household, such as drinking water, supply of electricity, and toilet facilities (urban areas only). It asked the number of living rooms occupied by the household and the number of married couples usually living there. It also enquired whether the household cultivated any land and if so, whether it was owned, rented, or owned and rented. In the case of rented land, the type of tenancy was ascertained.

The second part of the household schedule provided for the listing of the members of the household and the indication of sex, age, marital status, and relationship to the head. Other columns in the schedule were filled in on the basis of the information collected on the individual slip.

Individual Slip. The individual slip had two parts: the universal slip and the sample slip. The universal slip was used to canvass all areas, while the sample slip was limited to a selected sample of 20 percent of the enumeration blocks in the state. The questions on the universal slip can be grouped under the following heads (these questions are in addition to the identification details—location code, serial number of the household, and name of the individual).

Demographic Questions

Relationship to head of household
Sex
Age
Marital status

Social and Cultural Questions

Mother tongue
Two other languages known
Religion
Scheduled caste/scheduled tribe
Literacy
Educational attainment
Attending school/college

Economic Questions

Main activity
Secondary work
Marginal work
Seeking work/available for work

The sample slip contained questions on migration and fertility as stated below.

Migration

Birth place
Last residence
Reasons for migration
Duration of residence at the village or town of enumeration

Fertility

(For all ever-married women)
Age at marriage
Number of children surviving at present by sex

Number of children ever born alive by sex
(For currently married women)
Any child born alive during last one year?

In the sample blocks, a special form called the degree holders and technical personnel card was also distributed. This was on behalf of the Council of Scientific and Industrial Research to meet their needs for manpower data relating to technical and professional personnel. The form had been devised in the shape of an inland letter. In most cases the enumerator collected it back, but the respondent was sometimes requested to post it. This form was distributed only in those blocks where the sample slip was canvassed.

Development of Questionnaires

It is trite but nevertheless true to say that the major considerations that weigh in designing a census questionnaire are that it be easy to understand, that it have simple instructions, and that it be feasible for the conditions under which it will be used. Therefore, however desirable certain items of interest are, questionnaires have to be kept as simple as possible. Even so, in developing the questionnaires for the 1981 census, the focus was on information that would permit comparability with data from the previous censuses and, at the same time, fulfill current requirements. In particular, the questions relating to the working characteristics of the population were a matter of considerable discussion and consideration.

The development of questionnaires was necessarily the first step in the organization of the 1981 census. In this census, the universal individual slip followed the same pattern as that of the 1971 census with respect to demographic, social, and cultural items (including fertility and migration), except that a new item on school attendance was added.

The economic questions, however, were different in the 1981 census. The "work" concept of the 1961 and 1971 censuses, as opposed to the "income" or "economic independence" concept of the earlier censuses, was adopted for 1981. But the criterion for classification of persons as workers was changed. In the earlier censuses, the usual status and current status approach was adopted, with reference periods of one year for seasonal work and one week for regular work; for the 1981 census, the usual status approach was adopted uniformly for all work.

In 1961, a person qualified as a worker if he had worked regularly during the last season or if he had worked at least for a day in regular (nonseasonal) work during the preceding fortnight. In the 1971 census, a person was treated as a worker only if he spent his time mainly in work or if he worked at least for a day in regular (nonseasonal) work during the preceding week. The dichotomy of worker/nonworker of the 1961 and 1971

censuses was discarded, and a trichotomy consisting of main workers, marginal workers, and nonworkers was adopted for the 1981 census. For the main worker, a time criterion of engagement in work for the major part of the year (i.e., at least 183 days) was adopted. Those who worked some time during the last year, but not for the major part, were treated as marginal workers. Those who had not worked at all during the last year were nonworkers. This trichotomy was designed to permit comparability between economic data from the 1981 census and those from 1971 and 1961: the main workers of the 1981 census were expected to correspond to the workers of 1971; the main workers plus marginal workers of 1981, to the workers of 1961.

A new item, "seeking/available for work," was added to the economic questions for the 1981 census.

The sample individual slip contained information on migration, age at marriage, and fertility. While some of this information was also collected in the 1971 individual slip on a universal basis, further details of migration and fertility were included in the later slip. These details were "reasons for migration," and "number of children ever born" and "number of children surviving" for ever-married women. Thus, the fertility questions covered current as well as cumulative fertility.

The various schedules for the 1981 census and the instructions for them were translated into regional languages and printed in adequate numbers. The printing of schedules and their supply to the field staff was a stupendous operation and strained manpower resources almost to the breaking point. It may be of interest to note that about 6,000 metric tons of paper were consumed in printing the schedules, instruction booklets, and other census materials.

PUBLICITY

In an operation like the census, where public cooperation is a *sine qua non* for success, effective publicity measures must be taken to educate the people and enlist their willing cooperation. Accordingly, a massive, multi-faceted publicity campaign was launched with the help of All India Radio, the Directorate of Field Publicity, the Ministry of Information and Broadcasting, and the Public Relations departments of the state governments. Publicity units of public and private enterprises were also actively engaged in this campaign. The tempo was gradually increased so as to culminate in February, the month of enumeration. The press carried the census message effectively to the remote corners of the states. A documentary film on the census, dubbed in different languages, was screened throughout the country. In addition, posters, folders, and handbills were distributed in large numbers in the regional languages. All these measures proved quite effective and brought willing public cooperation in ample measure.

ENUMERATION

Enumeration Districts

The general enumeration scheme followed the practice used since the censuses of 1871-72. The main object of the system was to catch every person and to catch him only once. This is the basic principle of census taking, and it is easier to achieve if the system fits into the ordinary district administration. Furthermore, the size of the enumeration block must be governed by the ability of the enumerator, given the physical circumstances of his block, to complete the enumeration within the fixed period.

The unit of enumeration was an enumeration block. This was a village or part of a village in rural areas and an urban block in urban areas that could be covered by a single enumerator in the 20 days established as the enumeration period. The average size of an enumeration block in rural areas was 750 persons or approximately 150 households and in urban areas, about 600 persons or approximately 125 households. Large villages were divided into more than one block, but in no case did an enumeration block cut across the boundary of a town or village. All together, there were more than a million enumeration blocks in the country.

Recruitment and Training of Enumerators

About 1.25 million enumerators and supervisors, including a reserve of both, were recruited for the 1981 census. This army of personnel was given intensive theoretical and practical training. Census enumerators were primarily recruited from school teachers, and one supervisor was appointed for every five enumerators. Charge officers administered the census work of enumerators and supervisors at the *tehsil*, *taluka* (country), or town level and were themselves under the supervision of the district census officer.

Since their appointments were honorary, enumerators and supervisors were provided with only a small, token honorarium to cover their out-of-pocket expenses. The honoraria were Rs 20 for houselisting operations, Rs 15 for enterprise listing operations, and Rs 70 for the enumeration itself. These amounts were paid per block. In addition, those enumerators of areas canvassed with sample slips were paid an additional Rs 20, and those who distributed degree holders and technical personnel forms received an additional Rs 10.

Nothing was more important to the census than the intensive training of the enumeration personnel. The training program, which was spread over the length and breadth of the country, was a challenging task; the various concepts of the census questionnaires had to be correctly understood by every single enumerator.

First of all, the individual directors and their deputies in each state and union territory had to be thorough-

ly acquainted with the instructions. For this purpose, training seminars were organized by the Office of the Registrar General and Census Commissioner during the preparatory stages of the 1981 census. The census directors and their deputies, in turn, took up the training of the district officers and the urban and rural census charge officers. The charge officers trained the enumerators and supervisors. Thus, it was ensured that the instructions for filling the census questionnaires permeated down to the grass-roots levels.

Each enumerator was expected to attend about a half dozen training classes, which included a couple of practice enumeration classes. A detailed program of training was developed by each state director of census operations. The census enumeration agency was brought up to a stage of perfect readiness before launching on the actual census enumeration.

Although the director of census operations trained the subdivisional officers, the district census officers, additional district census officers, and charge officers, the deputy and other officials of the Census Directorate conducted another round of training for these officials at the subdivisional level. The charge officers organized training classes for enumerators and supervisors, who were trained at least three, and in many charges even four, times. Theoretical training was followed by practical tests; thus the functionaries were fully equipped to conduct enumeration successfully.

Enumeration Procedures

India uses the canvasser method of enumeration. The self-enumeration method, in which the questionnaire is mailed or otherwise supplied to the household and filled out by the household itself, is hardly feasible owing to the low level of literacy in the country. Under the canvasser method, the enumerators visit every household and fill in the questionnaires based on the answers given by the respondents.

In certain inaccessible areas, the enumeration was carried out nonsynchronously. These areas included the snowbound regions of Jammu and Kashmir (enumerated in late April 1981), Sikkim, Himachal Pradesh, Uttar Pradesh, and certain parts of Andaman and Nicobar Islands (where the enumeration was carried out in September and October 1980).

Data Processing

For the 1981 census, the entire data processing, except for some minimal manual compilation, is expected to be carried out on the computer. In the 1971 census, though the tabulations of individual slip data for urban areas (on 20 percent sample) were made on the computer, the rural data (10 percent sample) were processed manually. In the 1981 census, except for the primary census abstract (PCA) and Table H.2 (Number of physically

handicapped persons), all processing is to be done on the computer. Direct data entry systems are to be used to speed up the data input. Even so, because of the magnitude of the Indian population, the tabulations of individual data will have to be limited to a sample in order to produce them within a reasonable time. The main tables of the 1981 census individual data will be produced on the computer on the basis of the 20 percent area sample. The PCA, based on 100 percent data, will be produced manually.

Yet another major departure from the usual census practice will be in the method of manual processing. In the past few censuses, all manual tabulations were produced by sorting the individual slips. In the 1981 census, the individual slip pads, as well as the household schedule books, will not be broken and will remain intact. The PCA will be compiled from the enumerators' abstracts prepared from the population record (part two of the household schedule). For migration and fertility, tabulations will be based on the data collected on the sample slips. The sample slips were used to canvass the 20 percent sample of blocks in certain states and 100 percent of the blocks in smaller states and union territories. For this sample, the universal as well as the sample slip data will be processed.

For the tabulation of houselist data, a 20 percent systematic sample of census houses will be selected and processed on computer. The data on physically handicapped will, however, be processed manually, as stated above, on a full-count basis.

The household schedule data will be processed on a full-count basis. For this, the data in part one and the column totals in part two of the household schedule will be computerized. In addition, a 20 percent sample of part of the individual data (relationship to head, age, sex, and marital status) in part two of the household schedule will be computerized for certain tabulations.

Because the primary data processing operations (like editing, coding, and data entry) will take considerable time, the main tabulations of the individual-slip data are not expected to flow from the computer for quite some time. Therefore, a set of advance tabulations of important individual data at the national level will be brought out based on a 5 percent sample, which will be a subsample of the 20 percent area sample in certain states and a 5 percent area sample of the whole territory of other states and of the union territories.

As a preliminary step in data processing, it was proposed that the data from the individual slip be matched with the data from the population record of the household schedule person by person before the compilation of the primary census abstract.

EDITING AND CODING

Editing has been planned in three stages. In the first stage, editing of individual slips is being done before the preparation of basic data for tabulation by village and

urban block (for the PCA). In the second stage, detailed editing is being done manually before coding of the sample schedules (both the 5 percent advance sample and the remaining 15 percent of the sample blocks). In the third stage, editing will be done at the input preparation stage on direct data entry systems and on the computer by editing the tape. Where necessary, reference is to be made to the original schedules to make corrections. Edit instructions have been developed by an expert group, which included the subject-matter specialists.

For mechanical processing, all questions on the schedules are being coded. A coding manual has been prepared and circulated for this purpose. National Industrial Classification, 1970, is being used for the coding of industry, and the National Classification of Occupation, 1968, for the coding of occupation.

Quality control of the coding of economic questions is being attempted for the first time. The details of the scheme, which only involves selected areas, are discussed separately in the section on Statistical Quality Control.

EQUIPMENT AND ORGANIZATION

For the processing of basic data at the village and urban-block level, about 124 regional tabulation offices have been established throughout the country. Each of these offices is headed by a deputy director of census operations. In the larger states, the regional tabulation offices will have staffs of about 250 people. For the mechanical processing, 32 direct data entry systems with 16 terminals each are being installed and will work in two shifts at 14 centers. These systems will produce 9 track tapes which, later on, will be processed on Cyber 720 computers installed in the National Informatic Centre in New Delhi and on an HP-1000 at the registrar general's office.

STATISTICAL QUALITY CONTROL

It was not possible to adopt a statistically designed control plan at the data collection stage for the 1981 Indian census because of such inhibiting factors as prohibitive costs, the enormity of the census operation, lack of adequate personnel to man the control system, and time-bound nature of the operation. Instead, statistical quality control was adopted with a view to achieving an adequate level of accuracy of coding. This project is somewhat exploratory in nature: it is aimed at providing useful information as a guide to full-scale implementation of the technique in subsequent censuses. The application of statistical quality control will be restricted to the coding of responses to the economic questions on the individual slips. Furthermore, only the following areas have been selected for the exercise:

Metropolitan areas (core cities only in the case of urban agglomerations)—Calcutta, Bombay, Ahmedabad, Ban-

galore, Hyderabad, Kanpur, Madras, and Delhi (rural plus urban)

Rural and urban areas of the districts of Patna, Ambala, Patiala, Trivandrum, and Bhopal in the states of Bihar, Haryana, Punjab, Kerala, and Madhya Pradesh, respectively

Union Territory of Goa, Daman, and Diu, excluding Daman and Diu (rural plus urban).

The statistical quality control scheme is designed to achieve several objectives. In general, it is designed to ensure that data of a satisfactory quality for EDP processing and tabulating are obtained effectively and economically. Specifically, its primary purpose is to screen out errors made in the course of coding so that only a tolerable proportion remain in the data passed for further processing. It is designed to achieve this with the minimum amount of checking.

By using sampling techniques, much of the checking that was necessary with a 100 percent check can be avoided. The use of sampling implies, however, a risk that some proportion of the unchecked coding will be in error. Keeping this proportion at a tolerable level is the object of the quality control procedures. Even with a 100 percent check, not all errors can be detected.

The quality control scheme allows substantial precision in assessing the accuracy of the census results. It increases the depth of understanding of the causes of errors arising in coding census data, which may suggest measures to reduce those errors in future censuses.

Evaluation

The 1981 census was followed by both a postenumeration survey and a census evaluation study. These are evaluatory surveys that seek to determine the accuracy of the census and the validity of the returns regarding certain characteristics of the population. They will help in estimating content and coverage errors.

POSTENUMERATION CHECK

No census, however carefully conducted, can claim an error-free count. Therefore, it was necessary to organize a postenumeration evaluation. The alternative approaches that were considered were (1) to compare the census results with data from other sources and (2) to conduct a postenumeration sample survey. The latter approach was taken soon after the census was completed.

The objective of the postenumeration check (PEC) is to quantify the likely omissions or duplications in the enumeration. It will also provide a check on the quality of information on items collected in the census, such as age, literacy, whether worked any time during the last year, and main activity. In simpler terms, the survey will provide answers to the following questions: How accurately did the census count individuals? How precisely were the particulars of individuals recorded? Thus the

survey tried to evaluate the coverage error and the content error.

The coverage error consisted of two components: omission or duplication of persons due to omission or duplication of households, and omission or duplication of individuals in enumerated households. These errors were called Type I and Type II errors, respectively.

Content errors arose from the way the enumerator put the question or from the way the respondent understood the question or both. They also arose because the person answering the question did not know all the particulars about the person being referred to. Thus, for example, the head of the household might not know the correct age of his daughter-in-law or some other person who stayed with him at the time of the census. Other errors occurred because the concepts were misunderstood. For example, a man might not know his age according to the Christian calendar and give his age according to some other calendar instead.

The field operation of the PEC consisted of reenumerating households in the sample, matching and reconciling the records of the reenumerated households with the census records, and reconciling unmatchable records by revisiting the field.

The total sample size of the PEC was 4,000 blocks spread over 15 states and the Union Territory of Delhi. The sample size varied from state to state depending on the size of the population. Each state was divided into three substrata based on the number of houses in each subarea of the state (i.e., rural, noncity urban, and city). An urban area with a population over 100,000 is called a city. In order to measure coverage error, all the houses in the sample blocks were listed. For measuring content error, only 10 percent (about 15 houses in each block) were selected.

CENSUS EVALUATION STUDY

The objective of the census evaluation study (CES) was to quantify the extent of omission of children at the younger ages and to ascertain the accuracy of age reporting of children in the census with the help of births recorded in the sample registration system (SRS).

The CES attempted to measure the coverage error and the content error with respect to children born to normal resident mothers in a subsample of SRS blocks. In such SRS blocks, the records of the births occurring to usual residents had been maintained over a period of time. From this record, it was possible to prepare a list of children who had survived to the date of the census by eliminating those who had died and those who had outmigrated. This list was compared with the population record to obtain estimates of the extent of omission or duplication and age misreporting in the census at younger ages.

Fifty SRS units in rural areas and 25 SRS units in urban areas in each state were canvassed with the CES schedule. The CES was, therefore, conducted in about

1,200 units all over the country. The SRS units in which this study was conducted were selected by the Registrar General's Office.

Census Calendar

An indispensable aid in the planning of a census is a calendar or timetable indicating the sequence and estimated duration of each of the component operations of the census. In the early stages of census planning, it is important to prepare a provisional calendar, which should be reviewed and made final as early as practicable. A census calendar was developed for the central office, but each State Census Directorate was asked to prepare its own calendar, keeping in view the dates fixed by the central office.

The census calendars were essential. They indicated the dates on which each of the operations that make up the census were to be started and completed and served as tools for measuring the progress of each stage of the census operation. Serious delays in work or errors in time estimates were detected by comparing the calendar target dates with the actual dates of each operation. Sometimes the census calendars were in the form of a chart or graph in addition to the usual detailed checklist of operations.

The census calendar usually showed the various operations grouped into three broad sectors: pre-enumeration, enumeration, and postenumeration. For purposes of control, many operations which in fact overlapped were shown separately in the calendar. Operations on which subsequent operations depended were prominently shown in the calendar so that they could be watched closely. For example, the census calendar prescribed a strict timetable for the distribution and collection of the census schedules. The census calendar was also used to monitor the preparation of the houselist because delays in that operation would hold up delineation work and the recruitment and training of enumeration staff.

Tabulation

An expert group set about designing the tabulation plan, first holding meetings in consultation with the officials of the Data Processing Division. The draft tabulation plan was subsequently discussed in a meeting of main data users and, after detailed consultations, the final plan was established.

The tabulation plan is designed to bring out the housing stock, the quality of housing, the extent of physically handicapped, the socioeconomic, cultural, and demographic profile of the population in general and of the scheduled castes and scheduled tribes in particular, and the household economic situation. The plan has been drawn up to meet the requirements of the government and other data users, subject to the limitations of time and data input facilities.

The tabulations planned for the 1981 census are listed at the end of this chapter.

Publications

The 1981 census tables will be published in 32 series of volumes, one series for the nation and one for each state and union territory (see list of series at the end of this chapter).

In each of the 32 publication series, tables series (e.g., A-Series, General Population Tables; B-Series, General Economic Tables) will be brought out separately. Apart from the tables series, district census handbooks will be published for each district in the country. These will contain the census tables for the district, the village and town primary census abstracts, and the village and town directories. The directories are compilations of statistics external to the census but relating to the villages and towns, and, in conjunction with census data, will be very useful to data users.

The following special papers are also planned. They will be published as "1981 Census Papers" as they become ready.

- Special studies taken up by the directors of census operations
- Special area surveys
- Special tables for standard urban areas
- Language survey reports.
- Postenumeration check report
- Age tables
- Life tables
- Reports on estimates of intercensal birth and death rates using 1971-1981 life tables and age data
- Development of vital statistics in India

Besides these special papers, monographs on subjects of topical interest, prepared by scholars and based on 1981 census data, will be brought out as "1981 Census Monographs."

Special studies of 1981 census data, to be carried out in collaboration with other organizations, have been proposed. The results of such studies will be published as occasional papers.

The complete publication plan appears at the end of this chapter.

Definitions

De Facto

The census was conducted on an extended de facto basis, as described above in the section on coverage.

Urban/Rural

All places with municipality, corporation, cantonment board, or notified town area committees were treated as urban, irrespective of their population size or other

characteristics. In addition, places that satisfied fully the following criteria were treated as urban:

1. Minimum population of 5,000;
2. At least 75 percent of the male working population engaged in nonagricultural pursuits;
3. Population density of at least 400 persons per square kilometer (1,000 persons per square mile).

All other places were considered rural.

Towns were classified by their population size as follows:

Class I towns (cities)	100,000 and above
Class II towns	50,000 to 99,999
Class III towns	20,000 to 49,999
Class IV towns	10,000 to 19,999
Class V towns	5,000 to 9,999
Class VI towns	less than 5,000

Apart from these town and city classifications, the 1981 census adopted the urban agglomeration concept from the 1971 census. Very often, large railway colonies, university campuses, port areas, military camps, or other such communities come up outside the statutory limits of the city or town, but adjoining it. Such areas may not by themselves qualify to be treated as towns, but they deserve to be treated as urban if they form a continuous outgrowth of a town. Such towns together with their outgrowths have been treated as one urban unit and called urban agglomerations. An urban agglomeration may constitute (1) a city with continuous outgrowth (the outgrowth being outside the city's statutory limits but falling within the boundaries of the adjoining village or villages); (2) a town with similar outgrowth or two or more adjoining towns with their outgrowths; or (3) a city and one or more adjoining towns with their outgrowths all of which form a continuous spread.

The concept of standard urban area introduced in 1971 is also being used for the 1981 census. The essential requirements of a standard urban area are (1) that it have a core town with a minimum population of 50,000; (2) that the contiguous area be made up of administrative units, either urban or rural, that have mutual socioeconomic links with the core town; and (3) that in all probability the entire area will be fully urbanized in a period of two or three decades.

Enterprise

An enterprise is defined as an undertaking engaged in the production or distribution of goods or services for purposes other than own consumption. Workers in an enterprise may be the members of a household or hired workers or both. The activities of an enterprise may be carried out at one or more than one distinct location. The activity of the enterprise may be carried out only part of the year, but must be done on a fairly regular

basis. An enterprise may be owned or operated by a single household or by several households jointly (on a partnership basis) or by an institutional body.

Work

Work was defined as participation in any economically productive activity. Such participation may be physical or mental in nature. Work involves not only actual work, but also effective supervision and direction of work.

The categories of worker, marginal worker, and non-worker are discussed above in the section on the development of the questionnaire.

Unemployment

Information on unemployment was obtained by asking if a person was "seeking/available for work." The person was deemed to be seeking work if he or she had registered with an employment exchange, had been checking newspaper advertisements, or was making other efforts to find a job. Seeking work, of course, is more applicable in urban areas where there are facilities like employment exchanges and where the public has a greater awareness about the availability of jobs. In rural areas, a person may be available for work, but not actually seeking work either because he does not know of any work available or because there is no employment exchange to refer him to jobs.

Household Industry

Household industry is defined as an industry conducted by the head of the household, by the members of the household, or both. The household industry must be conducted at home, within the village in rural areas, or within the precincts of the house where the household lives in urban areas. A household industry should be engaged in the production, processing, servicing, repairing, or making and selling (but not merely selling) of goods, and the majority of workers should be members of the household.

The industry should not be run on the scale of a factory as would be registered under the Indian Factories Act. An industry being run by a large, joint family of more than 10 persons where power is used, or more than 20 persons where power is not used, would not be considered a household industry. Thus, the caveat that the industry not be "run on the scale of a registered factory" refers to such cases even if they are not actually registered.

Ethnicity

No question on race or ethnicity as such was included in the census schedules of the 1981 census, but both the household schedule and the individual slip collected information about scheduled castes and scheduled tribes. Scheduled castes are communities that are notified by the President under Article 341 of the Constitution of

India, and scheduled tribes are those that are notified under Article 342.

Tabulations Planned for India's 1981 Census

<i>Series/ Table no. *</i>	<i>Title</i>
A-SERIES: GENERAL POPULATION TABLES	
Priority I	
A-1	Area, Houses, and Population
Appendix-1	Statement showing 1981 territorial units and changes during 1971-81
Appendix-2	Population of villages of 5,000 and over and of towns with population under 5,000
Appendix-3	Houseless and institutional population
A-2	Variation in decennial population counts since 1901
Appendix	State and districts at the 1981 census showing 1971 area and population according to territorial jurisdiction in 1971; change in population of 1971 adjusted to jurisdiction of 1981
A-3	Villages classified by population size
A-4	Towns and urban agglomerations classified by population in 1981 with variation since 1901
Appendix-1	New towns added in 1981 and towns in 1971 declassified in 1981
Appendix-2	Places with a population of under 5,000 classified as towns for the first time in 1981
Appendix-3	Places with a population of under 5,000 in 1971 which were towns in 1971 but have been declassified in 1981
Appendix-4	Changes between 1971 and 1981 in area and population of towns and reasons for change in area
A-5	Standard Urban Areas
	Union/State Primary Census Abstract
	Urban/Village Primary Census Abstract
Appendix	Total scheduled caste and scheduled tribe population by urban block

B-SERIES: GENERAL ECONOMIC TABLES

Priority I

*B-1	Main workers, marginal workers, and nonworkers classified by age and sex
B-1 Part A	Main workers, marginal workers, and nonworkers in cities and noncity urban areas classified by age and sex
*B-2	Main workers, marginal workers, and nonworkers by age, sex, and literacy—Urban
*B-3	Main workers classified by industrial category, age, and sex

*B-4 Part A	Main workers classified by industrial category, educational level, and sex—Urban
*B-4 Part B	Main workers classified by industrial category, educational level, and sex—Rural
*B-5 Part A	Main workers by age, sex, and educational level—Urban
*B-5 Part B	Main workers by age, sex, and educational level—Rural
B-6	Other work of main workers and work of marginal workers by broad category cross classified by main activity
*B-7	Marginal workers by industrial category, age, and sex
*B-8 Part A	Marginal workers by industrial category and nonworkers by educational level and sex—Urban
*B-8 Part B	Marginal workers by industrial category and nonworkers by educational level and sex—Rural
*B-9	Persons seeking/available for work by marginal workers, nonworkers, age, and sex
*B-10 Part A	Persons seeking/available for work by age, sex, and educational level—Urban
*B-10 Part B	Persons seeking/available for work by age, sex, and educational level—Rural
B-11	Female main workers classified by industrial category, age, and marital status
*B-12	Industrial classification of main workers other than cultivators and agricultural laborers by sex and by divisions, major groups, and minor groups
*B-13	Main workers in manufacturing, processing, servicing, and repairs by household industry and nonhousehold industry
B-14	Industrial classification of main workers in manufacturing, processing, servicing, and repairs on household industry basis by sex and class of worker
B-15	Classification of main workers in non-household industry, trade, business, profession, or service by class of worker, age, and sex
B-16	Industrial classification of main workers in nonhousehold industry trade, business, profession, or service by class of worker and sex
B-17	Industrial classification of marginal workers engaged in work other than cultivation and agricultural labor by sex
*B-18	Occupational classification of main workers other than cultivators, and agricultural laborers by sex
B-19	Occupational classification of main workers in nonhousehold industry, trade, business, profession, or service by class of worker and sex
B-20 Part A	Occupational classification of main workers other than cultivators and agricultural laborers by sex and age—Urban
B-20 Part B	Occupational classification of main work-

An asterisk () before the series/table no. indicates table will also be presented as an advance tabulation at the national level.

B-21 Part A	ers other than cultivators and agricultural laborers by sex and age—Rural Occupational classification of main workers other than cultivators and agricultural laborers by sex and educational level—Urban
B-21 Part B	Occupational classification of main workers other than cultivators and agricultural laborers by sex and educational level—Rural
B-22	Marginal workers and nonworkers by main activity, age, sex, and whether seeking/available for work

C-SERIES: SOCIAL AND CULTURAL TABLES

Priority I

*C-1	Age, sex, and marital status
*C-2	Age, sex, and level of education—All areas
*C-2 SC	Age, sex, and level of education for scheduled castes—All areas
*C-2 ST	Age, sex, and level of education for scheduled tribes—All areas
*C-2 Part A	Age, sex, and level of education—Urban
*C-2 SC Part A	Age, sex, and level of education for scheduled castes—Urban
*C-2 ST Part A	Age, sex, and level of education for scheduled tribes—Urban
*C-3 Part A	Attending school/college by completed level of education, age, and sex—Urban
*C-3 Part B	Attending school/college by completed level of education, age, and sex—Rural
*C-4	Children (ages 5-14) by single year of age, school attendance, and economic activity
*C-4 SC	Children of scheduled castes (ages 5-14) by single year of age, school attendance, and economic activity
*C-4 ST	Children of scheduled tribes (ages 5-14) by single year of age, school attendance, and economic activity
*C-5	Single year age returns
*C-6	Population by five-year age groups and sex

Priority II

C-7	Mother tongue (alphabetical order)
C-8	Bilingualism
*C-9	Religion
C-10	Households by composition and size

D-SERIES: MIGRATION TABLES

Priority I

*D-1	Population classified by place of birth
*D-2	Migrants classified by place of last residence and duration
*D-3	Migrants by sex, place of last residence, duration of residence, and reason for migration
*D-4	Main workers, marginal workers, nonworkers, those seeking/available for

work, and literacy among migrants reporting employment as reason for migration by age, sex, and duration of residence.

Priority II

D-5	Migrants from rural areas within state of enumeration who reported employment as reason for migration by age, sex, educational level, and duration of residence—Urban
D-6	Migrants from urban areas within state of enumeration who reported employment as reason for migration by age, sex, educational level, and duration of residence—Urban
D-7	Migrants from rural areas outside the state of enumeration who reported employment as reason for migration by age, sex, educational level, and duration of residence—Urban
D-8	Migrants from urban areas outside the state of enumeration who reported employment as reason for migration by age, sex, educational level, and duration of residence—Urban
*D-9	Migrants reporting employment as reason for migration who are now seeking/available for work by age, sex, educational level, and duration of residence—Urban
D-10	Migrants reporting education as reason for migration who are now seeking/available for work by age, sex, educational level, and duration of residence—Urban
D-11	Migrants to cities by place of last residence by age, sex, marital status, and educational level
D-12	Migrant workers of cities reporting employment as reason for migration by duration or residence, educational level, occupational division, and sex
D-13	Persons born in other districts of the state and enumerated in this district

F-SERIES: FERTILITY TABLES

Priority I

*F-1 Part A	Ever-married and currently married women by present age, age at marriage, and religion, scheduled castes and scheduled tribes—Urban
*F-1 Part B	Ever-married and currently married women by present age, age at marriage, and religion, scheduled castes and scheduled tribes—Rural
*F-2 Part A	Ever-married and currently married women by present age, age at marriage, and educational level—Urban
*F-2 Part B	Ever-married and currently married women by present age, age at marriage, and educational level—Rural
F-3 Part A	Ever-married and currently married wom-

	en by present age, age at marriage, and occupation—Urban		
F-3 Part B	Ever-married and currently married women by present age, age at marriage, and occupation—Rural	*F-12 Part A	duration of marriage, and occupation and births to them during the last year—Rural
*F-4 Part A	Currently married women by present age and religion and births to them during the last year by birth order—Urban	*F-12 Part B	Ever-married women by present age, parity, and religion and total children ever born to them by sex—Urban
*F-4 Part B	Currently married women by present age and religion and births to them during the last year by birth order—Rural	*F-13 Part A	Ever-married women by present age, parity, and religion and total children ever born to them by sex—Rural
*F-5 Part A	Currently married women by present age and educational level and births to them during the last year by birth order—Urban	*F-13 Part B	Ever-married women by present age, parity, and educational level and total children ever born to them by sex—Urban
*F-5 Part B	Currently married women by present age and educational level and births to them during the last year by birth order—Rural	*F-14 Part A	Ever-married women by present age, parity, and educational level and total children ever born to them by sex—Rural
*F-6 Part A	Currently married women of scheduled castes and scheduled tribes by present age and births to them during the last year by birth order—Urban	*F-14 Part B	Ever-married women of scheduled castes and scheduled tribes by present age and parity and total children ever born to them by sex—Urban
*F-6 Part B	Currently married women of scheduled castes and scheduled tribes by present age and births to them during the last year by birth order—Rural	F-15 Part A	Ever-married women of scheduled castes and scheduled tribes by present age and parity and total children ever born to them by sex—Rural
F-7 Part A	Currently married women by present age and occupation and births to them during the last year by birth order—Urban	F-15 Part B	Ever-married women by present age, parity, and occupation and total children ever born to them by sex—Urban
F-7 Part B	Currently married women by present age and occupation and births to them during the last year by birth order—Rural	F-16 Part A	Ever-married women by present age, parity, and occupation and total children ever born to them by sex—Rural
*F-8 Part A	Currently married women by present age, duration of marriage, and religion and births to them during the last year—Urban	F-16 Part B	Currently married women by present age, duration of marriage, parity, and religion and total children ever born to them by sex—Urban
*F-8 Part B	Currently married women by present age, duration of marriage, and religion and births to them during the last year—Rural	F-17 Part A	Currently married women by present age, duration of marriage, parity, and religion and total children ever born to them by sex—Rural
*F-9 Part A	Currently married women by present age, duration of marriage, and educational level and births to them during the last year—Urban	F-17 Part B	Currently married women by present age, duration of marriage, parity, and educational level and total children ever born to them by sex—Urban
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Part III-A B-series tables of first priority covering population by economic activity; industrial category of main workers and marginal workers and their cross classification by age, literacy, educational level, and sex; and nonworkers and marginal workers by type of activity and seeking/available for work and their cross classification by age, literacy, educational level, and sex.

Part III-B B-series tables of second priority covering industrial classification of main workers and marginal workers; occupational classification and class of worker of main workers; and main activity and seeking/available for work of marginal workers and nonworkers and their cross classification by age, sex, and educational level.

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Part V-B D-series tables of second priority covering persons migrating for employment to urban areas from rural, urban, within state, and outside state origins; their composition by age, sex, and educational level and by seeking/available for work and duration of last residence.

Part VI Fertility Tables

Part VI-A F-series tables of first priority. This part will cover the age at marriage pattern, current fertility, and cumulated fertility for ever-married and currently married women by present age and duration of marriage at state and district levels. At the state level, further cross classification by the socioeconomic factors, religion, scheduled castes/scheduled tribes, educational level, and occupation will be covered.

Part VI-B F-series tables of second priority covering the surviving children of currently married women by mother's present age, duration of marriage, religion, etc., and also current fertility by duration of marriage at district level.

Part VII Tables on Houses and Disabled Population

H-series tables covering census houses and their uses, and the disabled population by type of disability, with analytical notes.

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Part VIII-A HH-series tables covering material of construction of occupied houses by households, housing facilities, household size, and number of couples living in households; households by number of main workers, seeking/available for work, and literate members; cultivating and noncultivating households by tenure of land for general and scheduled caste and scheduled tribe households; literacy among scheduled castes and scheduled tribes; and economic activity of members of scheduled caste and scheduled tribe households. These tables will also cover the household population by religion of head of household and language mainly spoken in the household.

Part VIII-B This part will contain tables HH-17, HH-17SC, and HH-17ST on tenancy.

Part VIII-C Report on households. This will be an analytical report of the data presented in Parts VIII-A and VIII-B.

Part IX Special Tables on Scheduled Castes and Scheduled Tribes

SC and ST series of tables for scheduled castes and scheduled

tribes covering industrial categories of main workers and marginal workers, type of activity of marginal workers and non-workers, seeking/available for work among marginal workers and nonworkers, age, sex, marital status composition of the scheduled caste and scheduled tribe populations and educational level for each caste and tribe separately. For scheduled tribes, these tables also cover composition by religion, mother tongue, and bilingualism.

Part X Town Directory, Survey Reports on Towns and Villages

Part X-A Town directory.

Part X-B Survey reports on selected towns.

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Part XI

Ethnographic notes and special studies on scheduled castes and scheduled tribes.

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1981 Census Papers

Special studies by the directors of census operations

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1981 Census Monographs

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INDONESIA 1980

Central Bureau of Statistics
Jakarta

Introduction

Indonesia's 1980 population census, whose census moment was midnight, 31 October 1980, was the third census undertaken by the Indonesian government since independence in 1945. The main objective of the census was to gather the statistical data needed to provide services for the people, to evaluate past development programs, and to support present and future development plans. Knowledge of the size and characteristics of the population better equips the government for the implementation of its plans, especially those related to the equal distribution of development programs.

Planning for the 1980 population census began in 1977, and many of the experiences of the 1971 census were instrumental in making the 1980 census more efficient. In addition, the 1980 census was taken in the midst of extensive development in Indonesia, which contributed to the success of the census in many ways.

During the 1970s transportation throughout the country, in particular land and air transportation, improved a great deal. In addition, the launching of the domestic communication satellite Palapa in 1976 resulted in considerably enhanced radio, telephone, television, telegraph, and telex services. All of these proved very effective media during the census publicity campaign.

After the initiation of the First Five Year Development Plan in 1969-70, more and more recognition was given to statistical data as a basis for development planning. Because of this, the census organizer received enthusiastic cooperation from various government institutions. The Ministry of Home Affairs and its local offices at all administrative levels gave active support to the entire census operation.

Various technical departments and research institutes participated in practically all stages of the census, which resulted in greater understanding of the census opera-

tion, procedures, and strategies from these agencies. Frequent and open discussions between the census takers and data users created a positive environment for maximizing the utilization of the census data. Data needs frequently went beyond the limitations of the census in terms of classification and geographical breakdown of results and topics to be included in the census schedules. Only questions that insured reliable and relevant information could be included in the questionnaires. The Census Technical Committee had to reach a compromise in which the requirements of data users and the limitations of the census were thoroughly considered.

The census organizer was expected to announce the results less than ten weeks after the census date. The announcement was to be made by the president as part of his annual speech before Parliament. This increased the demand for rigorous planning and effective census organization.

The 1980 census was also marked by the installation of a large computer system, which tremendously increased the data processing capacity of the Central Bureau of Statistics. The transition to the new computer did not seem to impede the data processing operations (a detailed discussion is given below in the Data Processing section).

The large amount of data to be collected during the census prompted the Central Bureau of Statistics to design a strategy for disseminating the results. Various media were considered, including printed publications, computer printouts, and magnetic tapes, and it was decided that data would be released as they became available.

The census results will be used as the primary input in the construction of a village data bank and a master sample frame.

HISTORY OF CENSUS TAKING

Indonesia does not have a long history of census taking. Three censuses have been carried out by the Indonesian government since independence in 1945, and two cen-

This chapter was prepared by Azwar Rasjid, Director-General, CBS; S. Sugito, Deputy Director-General; Sam Suharto, former director of Population and Social Statistics; and Sri Poedjastoeti, Chief, Population Division.

suses were taken by the Dutch colonial administration prior to 1945.

The 1920 census was the first simultaneous enumeration taken under the direction of a national census organization, although the geographic coverage was limited to the island of Java. Enumerators were recruited and consisted mostly of village administrators. The enumeration started on 1 November 1920 and lasted for about one month. The processing of this census was carried out locally, first by the enumerators themselves and subsequently at the subdistrict level, at the district or regency level, and finally at the residency level. This census recorded persons on a *de jure* basis and collected the following individual information: name, sex, marital status, age category (child or adult), ethnicity, language, literacy, ability to read or write Dutch, physical disability, and some information on housing conditions. Results of this census were published in the Colonial Report of 1922.

The census in 1930 was the first to cover the entire country and was much superior to the 1920 census in terms of organization, methodology, and the information gathered. Improved census legislation was issued, which stipulated, among other things, that the population census be conducted on a *de facto* basis every ten years. The 1930 enumeration was carried out in two weeks. The census reference date was the evening of 7 October 1930, and adjustments to the population due to birth, death, and mobility were made to reflect the situation on that date. Because of operational difficulties, a variety of enumeration methods was used in areas outside Java. The information collected in this census was much more complete and comprehensive than that of the 1920 census; it included data on principal means of livelihood, level of education, place of birth, and religion. The age classification used in this census was very broad; it classified persons into children who could not yet walk, other nonadults, and adults. Processing of the 1930 census was carried out centrally, and for the first time mechanical processing equipment (punch machines, sorters, and tabulators) was used.

Owing to the advent of the Second World War and the war for independence (1945–49), no census was taken in 1940 or 1950.

In 1960 a new census act was promulgated, which provided the legal basis for the postindependence censuses. The census act stated that population censuses should be taken every 10 years in the years divisible by 10, except for the first census, which was taken in 1961. The 1961 census was the first executed by the independent Indonesian government and covered the whole area of the Republic of Indonesia except for the province of Irian Jaya, which was then still occupied by the Dutch. This census is considered the first census in Indonesia to satisfy the modern criteria for a census (Nitisastro 1970:169).

The 1961 census employed two methods of enumeration: the first was a household listing conducted in March 1961, and the second was the actual complete enumeration carried out during the month of October. Midnight of 31 October 1961 was the census reference date. Two schedules were used, one for recording individual characteristics and the other for household information. The following information was collected of all persons: name, sex, marital status, nationality, religion, language, place of birth, education, and school attendance. For persons ten years and older the following additional information was collected: literacy, type of economic activity, primary occupation, industry, employment status, secondary occupation, and, for ever-married women, number of births.

Data processing of this census was interrupted by political unrest occurring in the mid-1960s. Preliminary totals by sex were published, but more detailed population characteristics were only published from a 1 percent sample. The plan for machine processing of all urban documents and 10 percent of rural documents was abandoned, and only some tables for Jakarta, Yogyakarta, and East Java were produced.

The census scheduled for 1970 was not taken until 1971 because the budget was approved late and additional time was needed for preparation. This census was much superior to that of 1961 in terms of the planning, the field operations, and the processing of the data. A PERT (program evaluation and review technique) network was developed for management and a new medium-sized computer was installed. The sample questionnaires were specially printed for use with optical mark reading (OMR) devices. The field operation consisted of a household listing carried out in June–July 1970, which was combined with the electoral registration for the 1971 general election, and the census, which was taken in September–October 1971 (census moment midnight, 23 September). For the complete enumeration a single short form was used containing limited questions on individuals: name, sex, age group (0–4, 5–14, 15–24, 25+), and citizenship. The sample enumeration used two forms, one for housing information and the other for individual characteristics. (For further details on the 1971 census see Cho 1976 and Suharto and Abdulmajid 1973.)

Processing of the complete enumeration was done manually in the provinces while the processing of the 3.8 percent sample enumeration was done on the computer in Jakarta. An advance tabulation based on a 10 percent subsample was published in 1972. The 1971 census was the first Indonesia census for which the data were stored on magnetic tapes and were available for further processing and analysis. The census results were published in several series beginning with the data gathered in the complete enumeration. The sample-census publications included an advance tabulation based on a 10 percent

subsample, as well as an individual publication for each province based on the 100 percent processing of the data.

In 1976 an intercensal population survey (popularly called SUPAS) was carried out with the primary aim of estimating the components of demographic change midway between censuses. SUPAS was not intended to take the place of a quinquennial census and it was not supported by legislation. It is possible, however, that since the data were very useful in bridging the gap between the 1971 and the 1980 censuses, a similar survey will be carried out every decade. The 1976 survey was conducted using a sampling frame based on the listing done for the 1971 census. It was a large-scale multiphase household survey. Phase I consisted of the listing of 257,100 households and the collection of general information on every individual. Phase II covered a subsample of 60,000 households and collected demographic, social, and economic characteristics of all individuals in the sample. Phase III was taken as part of the World Fertility Survey and was only carried out in Java and Bali. (For further discussion on this survey refer to Central Bureau of Statistics 1976.)

Indonesia's third census was taken in 1980 in accordance with the Census Act. The following sections discuss in detail the 1980 population census.

LEGAL STATUS

Census activities after the 1945 independence have been regulated by Act Number 6 promulgated in 1960 and known as the Census Act. The act gives responsibility for carrying out the provisions of the law to the national statistical organization, the Central Bureau of Statistics (CBS). The act stipulated that the first population census was to be conducted in 1961, but that subsequent censuses were to be conducted in years divisible by 10. Other censuses are to be taken once every decade, the timing to be determined by the government. The Census Act states the right of census enumerators to enter all buildings, properties, estates, establishments, and ships or other vehicles for the purpose of enumeration. It also stipulates the duty of every person to answer all enquiries and to assist the census operation to run smoothly. Anyone who purposely disrupts or prevents the census is subject to punishment with imprisonment or fines. In addition, those who purposely refuse to cooperate with or give assistance to the census enumerators, as well as those who purposely give false information, are subject to imprisonment and fines.

The confidentiality of the individual information collected in the census is guaranteed by the Census Act. Any census personnel who purposely disclose individual information from the census are also liable to punishment with imprisonment or fines. All of the acts punishable under the Census Act are considered criminal.

To facilitate the execution of the 1980 population cen-

sus the government issued two other legal documents. One is Government Ordinance Number 21/1979, which specifies that this decade's census be carried out in 1980. This ordinance also states that

1. The director general of the CBS is responsible for the technical and administrative aspects of the execution of the census, and instructions and guidance on the execution of the census are issued by him. These instructions are directed to all officials at all administrative levels including enumerators and supervisors. The director general has the authority to
 - a. Determine the number of census officers to be recruited in each region
 - b. Form an advisory committee on population census
 - c. Form technical teams for the preparatory work on the census
2. Governors, mayors, and regents are responsible for coordinating census activities in their jurisdictions. Chiefs of subdistricts and villages must assist the mayors and regents in the smooth running of the census, which among other things includes the recruitment of census field-workers and the publicizing of the census in their region.

The second document issued to facilitate the 1980 census was Presidential Instruction Number 16/1979, which is directed to the minister of home affairs and the director general of the CBS. The minister of home affairs in turn issued instructions to the governors, mayors, and regents to assist the chiefs of the statistics offices in the implementation of the census.

In order to ensure that the census run smoothly, the CBS built close working relationships with all government agencies and promoted cooperation from the entire population through an intensive publicity campaign. Various ministries issued instructions to their lower echelons to assist the census operations; these instructions were issued by the minister of home affairs, the minister of education and culture, the minister of defense and security, the minister of communication, and the minister of information.

ORGANIZATION OF THE CENSUS BUREAU

The responsibility for conducting the census rests with the CBS. In addition to providing the government and the public with primary and secondary data, the CBS is in charge of improving the level of knowledge and enhancing the cooperation of the people in order to increase the usefulness of the data collected.

The CBS is a nondepartmental agency whose director general is directly responsible to the president. The CBS receives technical guidance from the National Development Planning Board, while financially and administratively it is organized by the State Secretariate. This arrangement guarantees the CBS's independence from other government bodies in producing data.

Based on Government Decree Number 6/1980 on the

organizational structure of the CBS, the bureau is directed by a director general assisted by a vice director general and two deputy director generals. The vice director general is responsible for the internal management of the CBS. One deputy is in charge of planning and analysis, and the other is responsible for statistical development. The first deputy directs three bureaus: Planning and Control, Data Processing and Presentation, and Standardization and Analysis. The second deputy supervises four bureaus: Agriculture and Industry, Trade and Transport, Population and Social, and National Accounts. Under each bureau there are divisions, and each division is divided into subdivisions.

In addition to these units, there are two service-rendering units, namely, the Secretariate and the Statistical Education and Training Center, which are directly responsible to the director general but under the supervision of the vice director general.

In support of the central office, the CBS has branch offices in all of the 27 provinces and 287 regencies and municipalities throughout the country. At least one permanent employee whose main duty is to collect data

from the field is stationed at each *kecamatan* (subdistrict). In total there are about 3,200 *kecamatan*s.

The implementation of the 1980 population census project was technically the responsibility of the Bureau for Social and Population Statistics; however, since the population census is a very large project and involves other bureaus and divisions within the CBS, the director general issued a separate decree concerning the organization of the census. In addition to the appointment of the national director and deputy director of the census project, two committees were formed—the National Advisory Committee and the Technical Committee. The first committee was composed of prominent experts in various fields as well as representatives from government departments. The second committee was formed from the technical staff within the CBS and was responsible for the planning, executing, and monitoring of the overall census project. The CBS field offices were in charge of the field operations in close cooperation with the heads of each administrative level. The census organization chart is shown in figure 7.2.

Design and Execution

PREPARATION AND PLANNING

Coverage

Government Ordinance Number 21/1979 directs the population census to enumerate all persons residing in the territory of the Republic of Indonesia except members of the diplomatic corps and their families. The census covered the entire territory including the province of East Timor.

In the 1980 population census, as in the 1971, persons were generally recorded on a *de jure* basis, that is, according to their usual residence. A place was considered a person's usual residence if the person had been living there more than six months, if the person had been living there less than six months but intended to stay there permanently, or if the person had been away for less than six months and intended to return. People who did not have a permanent residence (e.g., nomadic groups, homeless persons, crews of ships with no other place of residence, and persons who were traveling for more than six months) were enumerated on a *de facto* basis, that is, where they were found by the census enumerators.

Sample Design

Enumeration areas (EAs) were formed with the main purpose of constructing a sampling frame to be used for future censuses and surveys. It was therefore decided that the most important condition for EAs would be permanent natural boundaries rather than uniformity of size. This decision was based on past experience: it was

Figure 7.1. Organization Structure of the CBS

Figure 7.2. Census Organization Chart

often impossible to locate the boundaries of 1971 census blocks in the field. But the variations in area and population size meant EAs would not be practical for use as the lowest sampling unit. To use households as the sampling unit would increase the sampling efficiency, but would also increase the cost and complicate the organization and execution of fieldwork. Therefore a unit between the EA and the household had to be formed, and its size had to be less varied than that of the EA in order to keep sampling variation to a minimum. Based on the enumeration period and procedures, the maximum number of households for this sampling unit was determined to be 100. As much as possible, clear and permanent boundaries were sought for these units, which were called census blocks (CBs).

Dormitories and housing complexes (such as military

compounds, monasteries, hospitals, and prisons) that require special permits for entrance were treated separately. Where residents numbered less than 50 persons, the complexes were treated as special households and could be included in an ordinary EA or CB. If residents numbered between 50 and 100 they were treated as special CBs, and if they numbered more than 100 they were considered special EAs.

For selecting the sample the following general rules were applied:

1. Each regency and municipality was considered an estimation area.
2. In every regency and municipality two strata were formed, one for urban areas and one for rural areas.
3. All of the villages in each stratum were ordered accord-

ing to their location, starting with the village in the southwest corner.

4. From each stratum, 5 percent of the ordinary CBs were selected. (Special CBs were not included in the sample because they formed a separate stratum.) The ordinary CBs were selected systematically with a random start, and all households in the selected CBs were enumerated.

Four different sampling schemes were employed depending on the size of the sample required:

1. Rural sampling scheme for ordinary CBs in regencies or municipalities. Subdistricts were ordered according to their geographical location starting from the southwest corner. Within each subdistrict, villages were ordered according to location. From this frame, 5 percent of the CBs were selected systematically.
2. Urban sampling scheme for ordinary CBs in regencies. Towns were ordered by population size. Within each town the urban villages were ordered on the basis of location. In each selected village 5 percent of the CBs were selected systematically.
3. Urban sampling scheme for ordinary CBs in municipalities. The CBs in urban villages were ordered in a circular fashion starting from the center of the city. Using systematic sampling with a random start, 5 percent of the CBs were selected.
4. Sampling scheme for special CBs. All special CBs were included in the sample as a separate category. From each block, 5 percent of the households were selected. This method was used on the assumption that special CBs were not too numerous, and the characteristics of the individuals residing in them were homogeneous.

Mapping

Mapping was preceded by the updating of the list of all villages in the country and the reclassification of villages as urban or rural. (For a discussion of urban-rural classification, see the Definitions section.) The updating of the village lists was carried out by the subdistrict statistics officers from December 1978 to February 1979. The list was instrumental for subsequent activities, including village mapping, formation of EAs and CBs, development of sampling frames, and stratification of CBs.

Village mapping was done by census field-workers from 10 to 31 October 1979. Boundaries of EAs and CBs were drawn on the maps, and the map scale was identified. One copy of each map was sent to the central office.

The village maps were used as a basis for sample selection, for estimation of the number of documents needed, for household listing, and for enumeration. The maps were heavily used to support both operational and financial plans. In addition to village maps, subdistrict, regency, and municipality maps were drawn, which facilitated the sample selection.

Census maps were used as the basis for the formation of CBs. These maps were prepared just before the com-

plete enumeration. Enumerators and supervisors, using the available maps, divided the enumeration areas into blocks and assigned each block to a sample-census enumerator.

In conjunction with the overall operation of the 1980 population census, the CBS for the first time established a modern cartography unit. This unit's main tasks included the preparation of base maps at various geographic levels and the presentation of data in graphs and on maps. Using aerial photos, cartographers plotted village census maps with EA and CB boundaries on scaled base maps, resulting in more precise and reliable maps. These maps will be valuable for planning future censuses and surveys, particularly for sample selection.

Assistance for the development of this division was obtained from the United Nations Development Program and the United Nations Fund for Population Activities (UNFPA), which provided cartographic, photographic, reprographic, and office equipment; fellowships for training in cartography and photogrammetry; and advisory services.

Schedule Content

Censuses provide a mass of useful statistical data at various administrative levels and provide the most important frame for sample selection. To obtain data with greater accuracy, smaller sampling error, and at a minimum cost, the 1980 census was carried out in two stages: a complete enumeration in which basic demographic characteristics were collected, and a sample enumeration in which detailed information was gathered from selected households. (See appendix 1 for facsimiles of the questionnaires.)

The complete enumeration collected the following information:

Buildings

Type of physical structure:

- Independent structure with single living quarters
- Independent structure with two living quarters (duplex)
- Independent structure with more than two living quarters
- Single-storied or multistoried structure

Individuals

Relationship to head of household

Sex

Marital status

Age

Citizenship

Religion

School attendance (for children age 7-12)

Households

Agricultural activities in farming, brackish water and marine fishery, and livestock or poultry raising by land area

Handicapped persons by type of handicap

The sample enumeration gathered the following information:

Household information

Living quarters:

- Type of physical structure
- Number of census units in the physical structure
- Number of households in this census unit
- Status of ownership
- Primary construction material of walls
- Primary construction material of floor
- Floor area
- Type of lighting
- Type of cooking fuel
- Source of drinking water
- Source of water for bathing/washing
- Bathing facility
- Toilet facility
- Ownership of some durable goods

Agricultural land tenure

Livestock/poultry raised by the household

Individual characteristics

All persons:

- Relationship to head of household
- Sex
- Own mother living in the same household
- Age and month and year of birth
- Knowledge of date of birth
- Marital status
- Religion
- Citizenship
- Place of birth
- Duration of residence in present province
- Place of previous residence
- Place of residence 5 years ago
- Morbidity during the previous week
- Medical facility used
- Type of handicap (if any)
- School attendance
- Type of school attended or currently attending
- Highest grade attended/attending
- Highest level of education completed
- Field of study
- Language used at home
- Ability to speak Indonesian
- Literacy

Persons 10 years and above:

- Primary activity during the previous week
- Number of days worked during the previous week
- Number of hours worked during the previous week
- Number of hours worked in primary activity during the previous week
- Primary occupation
- Type of industry in primary activity
- Employment status
- If the respondent had an additional job during the previous week, type of industry
- Looking for work during the previous week
- Primary reason for not looking for work
- Worked during the previous year, type of industry

Ever-married women:

- Month and year of first marriage
- Age at first marriage
- Number of marriages
- Number of living children
- Number of dead children
- Month and year of birth of last child
- Whether the last child is still alive

Currently married women under 50 years of age:

- Contraceptive methods ever used
- Contraceptive methods currently used

Household Listing

Unlike the 1971 census where a complete household listing was carried out about one year prior to the enumeration and was combined with the mapping operation, the household listing for the 1980 census was conducted simultaneously with the enumeration. The original plan was for enumerators to list and assign numbers to the households in one operation and then to return later to complete the enumeration. The advantage of carrying out the two activities separately was that enumerators would then visit all households at least twice, and households missed during the listing could be detected during the enumeration. But this advantage was not strong enough to carry the plan. In the pilot censuses the majority of the enumerators preferred to do the enumeration at the same time as the household listing and house numbering—it was found to be more practical.

Pilot Census

The census documents and procedures had undergone several tests before being applied in the actual census. The first pilot census was carried out in July–August 1978 in two villages, one in Malang regency and one in Malang municipality, both in the province of East Java. This pilot was designed to do the following:

- Test the feasibility of the questionnaires to be used in the complete as well as the sample enumeration
- Train staff of the regency and municipality statistics offices in the recruitment and selection of field-workers
- Develop a method of determining the most appropriate size of EA and CB to be completed within two weeks
- Develop an effective field supervision procedure that would be applicable not only to this census but also to future data collection activities

The questionnaires were substantially revised based on the results of this pilot census.

In January 1979 two other pilot censuses were conducted. A major one was done simultaneously in Yogyakarta, Wonosobo (Central Java), and Karo (North Sumatra). In addition to testing the revised questionnaires, this pilot evaluated the training procedure, the organization of field-workers, and the census operation. Further revisions of the questionnaires were recommended afterward. In May–June 1979 a smaller pilot census was

carried out in four villages in Bekasi (West Java) and Jakarta.

A general rehearsal for the census was implemented from February to April 1980. The rehearsal was not aimed at testing the content of the census schedules and instruction manuals, but was designed to test the overall census operation, including the publicity. The census rehearsal was also used as a pilot test for the data preparation and for the computer editing programs. The rehearsal covered almost one million people residing in three *kecamatan*s in Central Lampung in the southern part of Sumatera. The rehearsal generated various ideas for the improvement of the coordination of work at the district level, supervision, field checking of the census returns, publicity, recruitment of personnel, payment of the field-workers, and other administrative procedures.

PUBLICITY

The census organizer believed that the success of the entire census operation largely depended on the cooperation of other government agencies and of the people of the country. In the attempt to recruit the people's voluntary assistance, the communication materials were geared toward presenting the uses of census results in development planning, the importance of accurate data as a basis for future planning programs, and the fact that census information would not be used for taxation purposes.

In the tradition of previous census publicity programs, the CBS announced the government's intention to conduct the census months before the actual fieldwork. The publicity began with the issuance of the government decree on the execution of the census, and the president's instruction to the minister of home affairs and the director general of the CBS to carry out the task.

A technical committee on census communication was established in the central office. This committee designed the entire communication program, identifying audiences and the media most appropriate to approach them, specifying schedules for each activity, and designing the materials to be used in the campaign. Similar committees were set up in all CBS branch offices at the province and regency/municipality levels. These committees enlisted the cooperation of other government agencies, as well as the private sector, to give full support to the campaign.

The strategy designed by the committee was based on interpersonal communication. This method was considered the most effective, particularly after taking into account the sociocultural and educational background of the people—only a limited number have access to mass media, many are illiterate, and among those who are literate many do not have higher than a primary school education.

Two channels were chosen for communicating the census message. The first channel was through the administrative system. The campaign began from the CBS central office in Jakarta and was disseminated to all villages through the CBS branch offices. In the villages the headmen were responsible for informing and motivating the people during their regular meetings.

The second channel was the school system. There was nearly one primary school in each village, and the enrollment rate was quite high. In cooperation with the Ministry of Education, the CBS distributed census materials to the schools and asked the teachers to discuss their content in class. In addition, both teachers and students were expected to share the census information with their relatives and friends.

Although preparation started earlier, in order to keep the census news in focus until the enumeration, the intensive campaign did not begin until July 1980. During the four-month period from July to September (when the enumeration began), the census activities intensified—all publicity materials were distributed, census slides were shown in cinemas, radio spots and special census announcements were broadcast, and television films and dramas were shown.

The publicity campaign plan was designed with the assistance of a consultant provided through the UNFPA grant for the 1980 population census and its related activities. The publicity program included the following:

- A sound and slide set on the census shown in cinemas in the province capitals.
- Special postage stamps commemorating the 1980 census.
- Rubber stamps denoting census activities distributed to all main post offices.
- Posters for display in public places in the villages, leaflets for village headmen to help them do their census campaign, and wallcharts (with detailed instructions on how to use them) for classroom discussions in schools throughout the country.
- Radio spots, interviews with the census organizer both from the central office and from the provincial offices, and news on the progress of census preparations.
- Census films, interviews, and drama for television.
- Broadcasting the census song that was composed for the 1960 population census (its simple lyrics could be changed in accordance with the theme of the current census—population, agriculture, manufacturing, etc.).
- A census logo and census slogans.
- The CBS newsletter, which was distributed to all CBS branch offices and served as a link between the central office and the local offices.

The campaign proved to be instrumental in communicating the census information to the population. By the time of the enumeration, people were aware that a census was being undertaken, and when field investigators visited them, they were ready to answer the census ques-

tions. It was observed that people in general did not object to being interviewed; on the contrary, they were eager to be counted.

ENUMERATION

Enumeration Areas

The whole of Indonesia was subdivided into enumeration areas (EAs) and census blocks (CBs). EA boundaries were set following the principle that each EA should have clear and nearly permanent boundaries and should contain only as many households as an enumerator could canvass within two weeks. The average number of households in an EA turned out to be 200, but in dense areas the number was close to 300, while in sparsely populated areas it was much less than 200.

Recruitment of Field-Workers

The number of questionnaires to be completed and the accuracy of the information to be recorded impelled the census organizer to recruit close to one-quarter of a million persons as census takers. To ensure the smooth conduct of the enumeration, all of the field-workers were selected from the residents of the areas they were to enumerate.

The complete-census enumerators were required to have at least finished primary school, to be mature and responsible, and to live in the assigned enumeration area. Each enumerator was in charge of one enumeration area in the outer islands, one or two enumeration areas in Java.

To be a sample-census field-worker, a person had to have a high school education. Each enumerator was assigned one census block, and had to finish the enumeration in 25 days. In addition to checking the completeness and consistency of the information contained in the schedules, the sample-census enumerators were responsible for completing the code boxes printed on the right-hand side of the forms.

The CBS's permanent staff who were stationed in the subagency offices—commonly called *mantri statistik*—were appointed census coordinators of their respective areas. Their responsibilities included the management and payment of personnel and the management of the document transfers to and from their offices. Every *mantri* was seconded by one assistant whose main duties included scrutinizing the content of the completed forms and the codes assigned to the data, summarizing the sample-census questionnaires for the census block, and making the subagency summary based on the village summary forms of the complete census.

Training of Enumerators

In the attempt to conduct the training simultaneously throughout the country, the training of the census field-

workers was done in stages, and each stage was composed of batches.

In the first stage, 333 instructors were trained by 14 master instructors. This stage of the training was organized by the central office as two sessions, each for the duration of nine days. The participants of this training were called national instructors.

In the next stage, the national instructors trained local instructors, most of whom were *mantri statistik*. A total of 5,279 persons were trained as local instructors. Other participants included sample-census enumerators, enumerators of special census blocks, and assistants to the subagency census coordinators. This stage of the training program was conducted for nine days for the local instructors and for six days for other participants. The number of persons trained was close to 20,500.

The next stage of the training was for complete-census enumerators and the village clerks who were assigned to complete the village potential forms. About 226,000 persons were trained for three days.

In all stages of the training, instruction manuals were used in class discussions. These manuals contained background information on census taking in Indonesia, instructions on the method of completing the forms, definitions and concepts adopted in the census, and an overall view of the census organization. The manuals served as useful references during the fieldwork.

Enumeration Procedures

The complete census was conducted from 20 September through 31 October 1980. Although the original plan was for enumerators to list and assign numbers to the households in one operation and then to return later to complete the enumeration, the household listing for the 1980 census was conducted simultaneously with the enumeration.

When enumerators came to their assigned enumeration areas, they first identified the boundaries of the EA, including those of each census block, and drew sketches of each census block. For census blocks selected for the sample census, two copies of census block sketches were made, one copy to be used by the sample-census enumerator. In preparing these documents, the enumerator had to make sure that all buildings were mapped and all households residing in the census block were listed. He then had to attach stickers identifying the census building number at the entrance of each building. Form SP80-LI (see appendix 1) was used to list all buildings and households in the selected census block and to record type of physical structure and usage of buildings. Once the enumerators had completed these tasks they canvassed the households and household members using form SP80-LII.

Sample-census enumerators obtained the sketch of the census block assigned to them from the complete-

census enumerator prior to canvassing. On form SP80-S, they collected detailed information on the condition of the house and on each household member. Parts of the schedule were addressed to specific groups of persons, e.g., to persons 10 years and over for their economic activity, to ever-married women for fertility information, and to currently married women for family planning questions. The sample census covered 5 percent of the population, and was conducted from 6 October to 31 October 1980.

At each administrative level a person (in most instances the chief of the statistics office) was designated census coordinator. The coordinator's main function was to oversee the overall census operation from the planning to the dissemination of the results, including the recruitment and training of the field-workers and the fieldwork itself.

Supervisors were recruited for both the complete and sample enumerations. They supervised the distribution of documents to their enumerators and checked the completed forms for completeness, accuracy, and consistency. Two or three enumerators worked under each supervisor. Manuals for supervision were prepared and discussed in class during the field-worker training.

The questionnaires were designed to facilitate checking the work of the enumerators. Each item on the complete-census form was added to obtain summary data at each administrative level—i.e., household, census block, enumeration area, village—up to the province level. It was the responsibility of the supervisor at each level to make sure that the totals in each column were correct. The code boxes on the right-hand side of the sample-census schedule were also used to check the entries.

Recording of Village Potentials

To supplement the information on individuals and households, the 1980 population census operation recorded the geographic, social, and economic potentials of all villages in the country. The information collected was to be used as the basis for a master sample frame, an instrument that would be useful for future censuses and surveys.

The village potentials survey was carried out simultaneously with the complete enumeration, although it lasted somewhat longer—20 September through 15 November 1980. Data on village potentials were collected on form SP80-PODES (a facsimile appears in appendix 1) by village clerks who were also supervisors for the complete enumeration.

The village-level data will provide an opportunity to study changes in the conditions of the villages over time and the interrelationships between these changes and the behavior of the population.

Data Processing

COMPLETE-CENSUS FORMS

Processing of the complete enumeration was done manually in the respective regions. The enumerators first totaled each column in the household questionnaire (Form LI and LII) to obtain the household summary and then prepared the CB and EA summaries. The supervisor prepared the village summary based on the enumeration area summaries. Next the summaries for the subdistricts were prepared; these constituted the basis for the regency/municipality, the province, and the national summaries.

The summary of each administrative unit was checked and corrected before further summaries were made. The checking system was provided in the manual as well as on the household questionnaires. It was decided that all of the complete-census processing should be finished by the end of January 1981.

Although this system had a number of advantages, particularly the speedy production of the complete-census results due to the involvement of a large number of field-workers in the preparation of the summaries, the system was not problem free. The hierarchical summaries from households to national level passed through the hands of many people. An error made at one level would be carried through the higher levels, and it would be almost impossible to correct this error except by going back to the level where the error occurred. This disadvantage was not unanticipated. One measure taken to reduce this type of error was to provide checks at every level. In addition, one copy of the village summary was sent directly to the central office to be input to the computer; this report could then be used as a check of totals at every level higher than the village. In the event, the regional census officers caught the errors before the summaries were passed to the next administrative level (which, however, caused delays in the processing time). It was also found that some of the village summaries sent to the central office contained errors.

SAMPLE-CENSUS FORMS

In total there were 22,151 census blocks in the sample enumeration, yielding approximately 9 million forms. For document control and monitoring purposes two other forms were used. Each enumerator completed a census block summary form after enumerating the assigned census block. The summary form contained the total number of persons, households, and buildings in each census block. A batch control form was used at the central office after the questionnaires were batched. It contained an identification code, batch number, and the number of census blocks in the batch. This form was

used to check the completeness of the census block during the processing stage.

There were four main sections involved in the processing of the sample questionnaires, each section responsible for a different stage of the work. They were the Storage Section, the Editing/Coding Section, the Data Entry Section, and the Computer Section.

After being completed by the enumerators, the sample-census schedules were collected at the regional census offices and then sent to the central office in cardboard boxes. Each box contained forms from one census block. When these boxes arrived in the CBS, they were unpacked by the Reception Unit in the Storage Section, and checked for their completeness against the attached packing list. The questionnaires were then stored by the Storage Unit. This unit also checked whether the forms from all census blocks had been sent by the regional office. When the forms of all selected census blocks in a given region had been received, they were stored in batches, each batch consisting of approximately 20 census blocks. They were later sent to the Editing/Coding Section for processing.

The Editing/Coding Section comprised two units, one dealing with the editing and coding of the data prior to entry into the computer, and the other with the checking of the data using the error messages put out by the computer.

In the Precomputer Editing/Coding Unit there were two manual checks employed: one to check the completeness of the forms and one to check the codes of all items on the questionnaires. The completeness check was carried out as follows:

1. Check the identification codes written on the questionnaire against the precoded geographic list
2. Check the number of individual records against the number of members within the household
3. Check the number of household questionnaires against the number of households stated on the summary form
4. Check the number of census blocks in each batch against the number stated on the Batch Control Form

The check on the coding of the questionnaires was carried out by checking whether every entry on the questionnaire was transferred correctly into the square boxes provided at the right-hand side of the form. In addition, the editors checked the consistency of the entries in the questionnaires; for example, if sex was male, the fertility block must not be filled. Coding was done simultaneously by the same clerk. There were four items to be coded at the central office: field of study, local dialect, occupation, and type of industry.

In the Precomputer Editing/Coding Unit, 200 clerks worked one shift a day for 11 months. After each batch was edited and coded, it was sent to the Storage Section from which it was sent to the Data Entry Section.

The Postcomputer Editing Unit received the computer error list from the Computer Section. The error records were corrected by referring to the original questionnaires. A special worksheet was used to reenter corrected records onto a magnetic tape file. Twenty-three clerks worked one shift per day in this unit.

In the Data Entry Section 70 NEC Model N6300 key-to-diskette systems were used to transfer the original data into a computer medium. No verification was employed at this stage. The decision not to verify was based on experiences of the Data Processing Center that showed that the contribution of verification to the quality of the result was very small—less than 2 percent. The CBS sacrificed quality for speed at this stage and used other methods to detect the punching errors.

Magnetic diskettes containing data from the sample-enumeration schedules were sent to the Computer Section for further processing. The error list produced by the computer was sent to the Postcomputer Edit Unit. The tape containing the clean data file was kept and maintained in this section. A dual system of NEC ACOS-500 machines each having 1.5 megabytes was used. This system was installed in the CBS in October 1980.

The Computer Section's processing system was divided into a subsystem to produce the clean data file and a subsystem to produce tables. Four main programs were written to produce the clean data file for tabulation. The function of each program is described below.

Program SP80-VC01

The SP80-VC01 program read the input tape file containing the data of a given batch. It checked the completeness of the questionnaires, matched the number of individual records within a household with the number of household members stated in the household record, and matched the number of households within a census block with the respective number in the summary form. This program also checked the sequence of the household member number in each individual record within a household, as well as the sequence of the household number within the census block.

The only structural check made in this program was to check that there was only one head in each household. The census block codes, unique in each region, were also checked against the census block code master file kept on the disk.

When the household data were found to be complete, a consistency check of six basic variables—relationship to head of household, sex, marital status, age, labor-force section, and fertility section—was carried out for each individual record in that household. Whether a record having inconsistent items was printed or whether variables were imputed depended on the interrelationship among the six variables checked. Incomplete

household and error records were printed with messages indicating the types of errors. An output file containing both the clean data file and the error or incomplete records was produced by this program.

Program SP80-UPO2

The SP80-UP02 program read two input files. The first was a file containing clean records and error records as an output of program SP80-VC01, and the other was a file containing corrected records. The program had the following functions:

- To replace incorrect entries in a particular record with correct entries
- To replace erroneous records with the correct ones kept in the correction file
- To insert records into an incomplete household
- To delete unwanted records from the error file

The output of this program was a file containing updated records. This file was then used as input to program SP80-VCO1, which checked the completeness and consistency of the data again. The cycle ended when a clean data file had been produced, which was indicated by a message on the printout.

Program SP80-IMO3

The SP80-IM03 program read the clean data file produced by program SP80-VCO1, deleted inconsistencies within records, and imputed values to make the records consistent. After the six basic variables had been checked and corrected by program SP80-VCO1, the rest of the variables within the record were made consistent with the six basic variables through imputation according to a given set of rules.

There were three methods available to impute a variable that failed to pass the edit test: cold deck, hot deck, and random digit. The cold deck method used a constant value to replace the variable that failed the edit test. The hot deck method replaced the invalid variable with a valid variable from the last record with similar characteristics kept in the hot deck file. The data in the hot deck file were continuously updated with valid data from the last record to fall within the distribution of related characteristics. When the first record contained invalid variables, the initial values for the hot deck file were created by the subject-matter specialists using data from previous censuses and surveys. The random digit imputation method used a value that was generated by random digits with either a uniform or a specified distribution. Every time a variable was imputed, a counter corresponding to that variable was incremented. At the end of the SP80-IM03 run the following information was printed:

Number of imputations made for each variable within a regency

Number of household records classified into rural and urban

Number of individual records classified by rural/urban status, by sex, and by age groups

When the rate of imputation for a variable exceeded a certain limit, automatic imputation was not halted, but a determination of whether to accept the corrected values or to reprocess the record was made by the subject-matter specialists.

Program SP80-IFO4

The imputed file output by program SP80-IMO3 was used as input to program SP80-IF04, which assigned an inflation factor to every record. Inflation factors were obtained from both the sample count and the complete count. This program also added individual records to newly derived variables obtained from the original variables. The purpose of adding the derived variables was to facilitate the tabulation by recording all of the necessary variables in this program.

In the subsystem to produce tables, the output file of program SP80-IFO4 was used as the input. Most of the tables were produced using the COCENTS packaged program developed by the International Statistical Program Center (ISPC), United States Bureau of the Census. Some tables that could not be produced by COCENTS were constructed with specially written tabulation programs.

All the above-mentioned programs were written in COBOL. The preparation of program SP80-IMO3, the biggest program, took three man-months to complete. In addition to program SP80-IMO3, a CONCOR edit program was also written. CONCOR was installed in CBS's computer in March 1981. Since the development of the data processing system for the 1980 population census was initiated long before the installation of CONCOR, this program was used as a backup in case the development of the COBOL program was not finished on time.

In processing data for the advance tabulation, the error rate produced by program SP80-UCO1 was relatively small. On the first run only about 4 percent of the records in each census block contained errors. On the average the corrected file for a particular batch was produced in three rounds.

The report on the results of program SP80-IMO3 (imputation phase) showed that on the average 40 percent of the individual records have at least one variable imputed. This figure is not surprisingly high if the probability of each item having an error response is assumed to be 0.01. With this assumption, the probability of an individual record being error free will be 0.6, or on the average 400 out of 1,000 records will have one item imputed.

EQUIPMENT

To absorb the workload in the 1980 decade, the CBS has acquired a new set of NEC ACOS-500 computers through a loan from the Japanese government. The NEC ACOS-500 has a dual system CPU with a memory capacity of 1.5 megabytes in each system. This machine is equipped with 70 NEC-6500 key-to-diskette data entry machines, and two sets of CMC XL-40 key-to-tape machines with a total of 27 terminals.

This computer was inaugurated in 1980 and has been used to process statistics generated by the CBS and by other government agencies. The NEC computer is also being used in the development of a data base that uses information on the geographic, topographic, social, and economic conditions of all villages in the country collected on the Village Potentials form during the census.

In complement to the NEC computer, the CBS has replaced its ICL-1903 computer with an ICL-2904/50. This machine is equipped with a central processing unit with a capacity of 128K words.

Definitions

De Jure/De Facto

The Indonesian census was generally taken on the de jure basis. Persons who, on the enumeration date, were found at their residence or were away from their usual place of residence for less than six months were recorded at that residence. Persons who were away for more than six months were recorded at the place where they were found by the census takers. Homeless persons and isolated groups were also recorded where they were found, in other words, they were recorded on a de facto basis.

The six-month reference period was selected based on the following considerations:

1. To avoid, or at least to minimize, omission or double counting.
2. The six-month reference period had been the convention since the 1961 census.
3. In six months people are considered to have settled in their new residence.

Race and Ethnicity

The 1980 census did not directly ask for race or ethnicity because the census was not considered the best means for collecting this information. The questions on citizenship and language, however, were expected to partly serve the same purpose as race and ethnicity questions.

The question on citizenship classifies the population into Indonesians; citizens of the People's Republic of China, Taiwan, and stateless Chinese; and other foreigners.

The question on language used at home classifies the population into three major groups: persons who speak Indonesian, the national language; persons who speak any local language or dialect; and persons who speak any foreign language. In addition, persons in the latter two classes were asked if they speak Indonesian.

Economic Activity, Labor Force, and Unemployment

Questions on economic activity were only asked of persons 10 years of age and over. The main concepts covered by these questions are discussed below.

Primary activity referred to the activity that occupied most of the respondent's time during the previous week, i.e., during the seven days before the day of the interview.

Labor force included persons 10 years and over who during the previous week had a job regardless of whether they actually worked or were temporarily not working because they were waiting for harvest time, were on leave, etc. Also classified in this group were persons who did not have a job but were looking for work. Persons 10 years and over were not included in the labor force if during the previous week they attended school, engaged in housekeeping, or did not do any work that qualified them as working, temporarily not working, or looking for work.

Persons 10 years and over were classified as working if they worked for pay or helped to get pay or profit or to meet basic needs at least one continuous hour during the previous week. Persons who worked producing items for self-use were not classified as working; e.g., persons who made clothes for themselves, or who did painting, gardening, or fishing as a pastime, were not considered working.

Unemployment was measured as the proportion of persons 10 years of age and over who did not work at least one hour during the previous week and who looked for work during the same reference period.

Occupation and Industry

Occupation was the type of work that was actually performed during the previous week. The occupations were classified using the International Standard Classification of Occupation, which was modified to suit the Indonesian situation.

Industry referred to the area of activity of the establishment, company, institution, or agency where the respondent worked. The industries were classified using the International Standard Classification of Industry, which was adopted with some adjustments.

Urban/Rural Areas

Three factors determined whether a village was classified urban or rural by statistical definition. They were population density, percentage of households engaged

Table 7.1 Urban/Rural Classification Scale

<i>Population Density</i>	<i>Percentage of Agricultural Households</i>	<i>Urban Facilities</i>	<i>Score</i>
Less than 500	96 or more	—	1
500-999	91-95	0	2
1,000-1,499	86-90	1	3
1,500-1,999	76-85	2	4
2,000-2,499	66-75	3	5
2,500-2,999	56-65	4	6
3,000-3,499	46-55	5	7
3,500-3,999	36-45	6	8
4,000-4,999	26-35	7	9
5,000 or more	25 or less	8 or less	10

in agriculture, and availability of urban facilities. To obtain an objective classification, each factor was divided into a numbered scale as shown in table 7.1, and villages were scored according to where they fell on the scales.

A village was classified as urban when its combined score was 20 or more; rural when the combined score was less than 20. The Research Team for Village Classification reevaluated villages whose scores were near-urban (17-19) or near-rural (20-23) by examining the condition of the village, e.g., its distance to the nearest town or urban agglomeration and its prospects for development.

Tabulation and Publication

COMPLETE CENSUS

The CBS began to publish results of the complete enumeration in April 1981 with Series L Number 1 through Number 7. All of the tables contained in these series represent the adding of summaries at each administrative level to obtain the figures for the next higher level. The complete-census publications are listed below.

Series L Number 1. Population of Indonesia (Second Preliminary Figures)

Series L Number 2. Population of Indonesia 1980 by Province and Regency/Municipality

Series L Number 3. Population of Indonesia by Province

Series L Number 4. Population of Sumatera by Province and Regency/Municipality

Series L Number 5. Population of Java by Province and Regency/Municipality

Series L Number 6. Population of Kalimantan and Sulawesi by Province and Regency/Municipality

Series L Number 7. Population of Nusa Tenggara, Maluku, and Irian Jaya by Province and Regency/Municipality

These series contain the following tables:

1. Population, land area, and population density per square kilometer
2. Population by sex
3. Population without permanent housing by sex
4. Population by marital status and citizenship
5. Population by age group and sex
6. Population by religion
7. Population aged 7-12 by schooling status
8. Handicapped persons by type of handicap (tables presented for adults and children separately)
9. Households operating agricultural land by land area and tenure
10. Households operating land by tenure and land area
11. Households operating brackish water fishery by pond area
12. Households by employees working in brackish water and marine fishery, in agriculture, and in livestock/poultry raising
13. Households operating agricultural land, brackish water and marine fishery, and livestock/poultry raising
14. Number of buildings by type
15. Census buildings by usage, and households by type

In addition to the above-mentioned publications, all province and regency/municipality statistics offices produced reports for their respective areas. The tables contained in these reports were similar to the national tables published by the CBS. The reports presented the results of the summaries from the census block to the province level.

The publication of reports on small geographic units enabled the CBS to present population data at the village level for the first time in its history. The reports serve as useful benchmark documents, which are more and more in demand for planning and monitoring programs in various fields.

SAMPLE CENSUS

As in the 1971 population census, the 1980 census tabulations were done in two stages: the advance and the final tabulations.

Advance tabulations were generated from a 10 percent subsample of the selected census blocks and were released in May 1982. The advance tabulation publication (Series S No. 1) presented an overall view of the Indonesian population in 58 tables. All tables were produced at the national level; for Java tables were produced at the province level, and for the rest of the country tables were produced at the island level.

Soon after the publication of the advance tables, a descriptive analysis of the level and trend of the population characteristics was presented in a small book called *A Brief Note on 1980 Population Census*. This volume discussed trends from 1930 and differentials by urban and rural residence and by sex.

The final tables were produced by processing all of the selected sample blocks. These tables were published

in 32 volumes: 1 national volume, 5 island volumes, and 26 province volumes. They are called Series S Number 2 through Number 33.

In addition, several volumes are planned on specific topics, such as fertility, mortality, family planning, labor force, migration, and housing and social welfare conditions. They will include tables at the national as well as the provincial level.

Because census taking is funded by the people, its results should be utilized for the maximum benefit of the people. An extremely limited amount of analysis came out of the 1971 census, however. To prevent this from happening again the CBS allocated a large fund to support census analysis and to advocate the participation of researchers throughout the country in using census data in their studies.

The Technical Team for 1980 Population Census Analysis was formed in early 1981. This team comprised six groups: fertility, mortality, family planning, migration, labor force, and housing and socioeconomic aspects of the population. Each group developed tables in its area of interest. In total more than 300 tables were generated for analysis. These tables were presented at a workshop organized by the Indonesian Demographers Association in Jakarta on 7-9 April 1981. The workshop was attended by representatives from the association, the CBS, the National Family Planning Coordinating Board, other government agencies, and demographic institutes all over the country. The workshop discussed the conceptual and operational aspects of the census tables and decided which were going to be made available to researchers. Subsequently, researchers were invited to submit proposals for analyzing the census data in which they were to identify the types of tables required in their studies. These tables were to be drawn from the previously constructed tables. The Technical Team reviewed the substance and future use of the proposed studies in relation to development planning in the country. By the end of 1982, 33 proposals had been accepted by the team.

Evaluation

Errors in a population census, in both content and coverage, are common and unavoidable. In developing countries, where a high percentage of the population is illiterate and most do not have records of their date of birth, misstatement of age is a major problem. In this situation, ages have to be estimated by the enumerators, and getting qualified enumerators is a major factor affecting the quality of the census.

In Indonesia's 1980 population census, more than 250,000 enumerators of varying backgrounds and educations were employed. To qualify as an enumerator, a person had to have at least a secondary school education

or some experience as a census or survey enumerator. It was not easy to find people with these qualifications in many parts of Indonesia, especially the rural areas.

Population mobility presented another problem in the enumeration. As mentioned earlier, the 1980 census used a combination of *de jure* and *de facto* concepts with a reference time of six months: if a person had been away from his residence for more than six months, he was not enumerated in his own residence but in the place where he was found during the enumeration period. If the duration of absence was less than six months and the person planned to return home, he was to be enumerated in his usual residence. Many enumerators, especially new ones, found this concept confusing and found it difficult to fix the exact date of six months preceding the enumeration date. If the enumerator failed to do this properly, a person could be enumerated more than once or he could be completely omitted from the enumeration.

Another problem Indonesia faced was the difficult terrain of the country. Indonesia consists of thousands of islands spread over a wide area of forest, swamp, and sea. In many regions transportation facilities were inadequate to carry out the population census. Remote islands in the eastern part of Indonesia could not be reached by the enumerators since these islands were visited by ship once a month or less, depending on the weather conditions. If no ship came during the enumeration period, these islands were left out of the enumeration. Fortunately, on these remote islands the population is very small and was easily estimated.

All of the problems mentioned above were considered carefully during the preparation stage of the census. Attempts to reduce errors were made by providing more intensive training for supervisors and enumerators and by implementing field checks by CBS staff as well as by the field supervisors. Finally, the CBS conducted a postenumeration survey to measure the census coverage.

POSTENUMERATION SURVEY

The postenumeration survey (PES) was conducted approximately two months after the census and covered 2,100 EAs throughout Indonesia. The PES was not designed to evaluate the quality of the responses given during the census but was aimed at measuring the coverage error. The findings of the PES were not used to adjust the population totals obtained in the census.

Two types of forms were used in the PES: PES-1 for the listing of households in the selected EAs and PES-2 for the enumeration of the household members. The latter form included the following items: name, relationship to head of household, sex, marital status, age, births, deaths, and movements in and out of the census block during the period between the census date and the PES enumeration.

To estimate the extent of undercount in the 1980 census two methods were used: the balancing equation approach and the case-by-case matching of persons recorded in the census and in the PES.

The Balancing Equation Method

Because the number of enumerators was smaller and the forms were simpler, the field-worker training was conducted more intensively. Consequently the results of the PES were expected to be better than those of the census, and the population recorded in the PES was assumed to be the true population. The population at the time of the census was then estimated by taking into account the natural increase and population movement occurring during the intervening period.

The underenumeration in the census was calculated using the following formula:

$$U_c = (P_p - P_c) - (NI + SI) + U_p$$

where U_c = underenumeration in the census

P_p = population enumerated in the PES

P_c = population enumerated in the census

NI = natural increase

SI = social increase (population movement)

U_p = underenumeration in the PES

The PES counted a total of 126,335 persons, while the census recorded 125,844 persons residing in the same EAs. Assuming that the PES total was correct, and after taking into account the changes brought about by births, deaths, and migration, the population at the time of the census was estimated to be 125,424. This indicated overenumeration in the census on the order of 0.33 percent. The same pattern was found in all regions except DKI Jakarta and Sulawesi. These findings led the census organizer to believe that the PES enumeration also contained errors, that the basic assumption of the correctness of the PES total did not hold.

The method of payment of the field-workers may have contributed to the errors in the PES. In the census, the enumerators were paid based on the number of households they enumerated; therefore, they tended to canvass all the households in the assigned areas. On the other hand, the PES enumerators were paid on the basis of the number of census blocks completed, regardless of the number of households contained in those blocks. Consequently, it was suspected that some households were intentionally missed. Manual checking of the PES returns showed that some of the questionnaires, particularly from the urban areas, were not completed accurately. Many schedules that recorded only a few household members did not state whether other members had moved out or died.

The Case-by-Case Method

This method was, in essence, an effort to establish which records from the census corresponded to the

records from the PES. Two sets of documents were used in the matching operation, form SP80-LII from the complete census and form PES-2 from the PES.

Three factors affected the matching of records: common attributes, reporting errors, and value changes. Because some persons in a large population have the same characteristics (common attributes), even two records with identical values for all variables may not necessarily represent the same person. To avoid false matches of individuals with similar characteristics, records to be matched were taken from matched households.

Reporting errors presented two problems for matching. First, it is possible that the responses on two records are erroneous but consistent with each other. As far as the matching procedure was concerned, consistent false responses were as good as consistent true responses. Usually, however, reporting errors are associated with inconsistent responses between the census and the PES. It was therefore allowed that as long as the extent of disagreement between two records could be attributed to reporting errors, the records were considered matched.

The third factor affecting matching was the possibility of a real change in values. An example of this would be a woman who was single at the time of the census but who married before the PES. Or, again, a married woman who got divorced between the census and the PES. Such possibilities made it necessary to allow the matching of some records with discrepancies in the values of certain variables.

For the purpose of matching, a subsample of 827 census blocks with a population of 5,887 households was drawn. The first step in the matching operation was to list all persons recorded on forms SP80-LII and PES-2 in a specially designed worksheet that enabled the matching of names—one of the items less difficult to match. Births, deaths, and persons moved in or out were also recorded on the worksheet.

The next step was to classify the population into three groups: those who were recorded in both the census and the PES (27,762 persons), those who were recorded only in the census (949 persons), and those who were recorded only in the PES (1,042 persons).

The actual population was estimated using the Chandra-Deming formula (it was assumed that the census and the PES were independent activities), which yielded a total of 29,789 persons. The underenumeration of the census for the country as a whole was estimated to be 3.31 percent.

Other Evaluation Measures

One of the measures of the quality of the census returns is the age reporting, and some tentative observations can be made about this with respect to Indonesia's censuses.

The age pyramid based on the 1961 census shows an

obvious trough among people in their teens. The trough appears between ages 20 and 24 in 1971 and has somewhat diminished. In 1980 it is apparent among those between 30 and 34 years old. There are two hypotheses that attempt to explain the trough. The first is that the trough is the result of low fertility during the 1940s, and the second assigns the hollow to errors in age reporting. That the trough continues to appear in the 1971 and 1980 age pyramids indicates that indeed a small cohort was born in the 1940s, but because the trough gradually diminishes, one must conclude that it was partly caused by age misreporting in 1961.

Another indication of age misreporting may be evident in the sex composition of the population. In general the number of males for every female is less than one, but the ratio is considerably lower among teenagers. This pattern may be brought about by women in their 20s reporting themselves younger than they are and men in their teens reporting themselves older. This would explain why the number of men in their teens appears much smaller than the number of women.

Funding

GOVERNMENT OF INDONESIA

The 1980 population census consisted of five stages of activities, each of which was carried out in one fiscal year (April through March). The budget for and activities performed in each stage are listed below.

Planning Stage (Fiscal Year 1978-79)

Budget: Rp. 103,200,000 (US\$165,120 at Rp. 625/US\$1)

Activities:

- Construction of the sampling frame starting with updating the village list.
- Study census design (determination of sample size, planning of the construction of village maps and census block sketches, try out mapping procedures, and study methods of determining whether villages are urban or rural).
- Planning of questionnaires, instruction manuals, tabulation, and legal aspects of the census.
- Formation of interdepartmental committee.
- Conduct pilot censuses to test the questionnaires, manuals, and field organization.
- Plan data processing and publication of census results.
- National conference with the chiefs of province statistics offices.
- List all villages in East Timor and classify them urban or rural.
- Planning of infrastructure and budget for the whole census operation.

Preparation Stage (Fiscal Year 1979-80)

Budget: Rp. 3,537,100,000 (US\$5,641,308 at Rp. 627/US\$1)

Activities:

- Print documents (complete-census documents were printed in the regions; sample-census schedules were printed by CBS).
- Distribution of documents to the regions.
- National conference to brief province statistics officers on the preparations for the field operation. A similar meeting was held in each province for regency and municipality statistics officers.
- Training the national mapping instructors and sending them to the training centers; training of persons in charge of drawing the village maps.
- Visits of CBS staff and province statistics officers to check on the census preparations.
- Planning of data processing system.

Fieldwork Stage (Fiscal Year 1980-81)

Budget: Rp. 11,250,000,000 (US\$17,857,143 at Rp. 630/US\$1)

Activities:

- Purchase of equipment and supplies.
- Census publicity campaign.
- National conference with province statistics officers.
- Training of national instructors, local instructors, PES instructors, and census field-workers.
- Distribution of documents.
- Fieldwork and field operation.
- Begin data processing of village maps, complete enumeration (manually), and sample census (by computer).
- Publication of census results by CBS and branch statistics offices.

Processing Stage (Fiscal Year 1981-82)

Budget: Rp. 1,565,200,000 (US\$2,480,507 at Rp. 631/US\$1)

Activities:

- Complete-census processing (manual summation of totals at each administrative level to obtain total at the next higher level).
- Processing of PODES forms.
- Sample-census processing—precomputer processing (editing and coding) and keypunching, computer processing (development of system and computer programs; operation and administration), postcomputer processing (validation, imputation, and checking of the results).
- Printing and publication of census results.

Evaluation and Analysis (Fiscal Year 1982-83)

Budget (last budget for 1980 census activities): Rp. 856,000,000 (US\$1,310,873 at Rp. 653/US\$1).

Activities:

- Analysis of complete-census results.
- Analysis of sample-census results.
- Analysis of PES results.
- Seminar and workshops on the 1980 population census results.

TECHNICAL ASSISTANCE

The UNFPA second country program for Indonesia assisted the CBS with the 1980 population census and related activities. The long-range objective of the UNFPA assistance is to strengthen the CBS's capabilities in collecting, processing, and analyzing population data. This objective has been pursued through the preparation and implementation of activities in the following areas:

1. The establishment of a cartography unit in the CBS and the development of the work program through staff training, provision of equipment and supplies, and preparation of sites for equipment.
2. The strengthening of the printing unit by providing additional equipment, including printer, folding machine, composer, and sewing machine.
3. The design and implementation of a nationwide census campaign.
4. The purchase of vehicles and audio-visual equipment to facilitate the training of census field personnel.
5. The provision of supplementary data processing equipment. (The ICL computer's capacity was greatly increased by installing video terminals in Bandung, Semarang, and Surabaya and connecting them to the CBS computer.)
6. Increasing the CBS's capacity to analyze the population census and survey data through training, provision of equipment, and promotion and support of research projects. Fellowships included long-term programs leading to masters degrees and short-term training in demography and statistics.

7. The development of a master sample frame to facilitate the design, sample selection, and conduct of future household surveys and censuses.
8. In the development of a population registration system in Indonesia, UNFPA provided funds for the training of CBS field-workers stationed in *kecamatans* in the provinces of Java and Bali. The training materials include the history of population registration since the Dutch period, the legal basis presently in effect for population administration in Indonesia, and the procedures for completing and reporting the records. The CBS staff in turn trained registrars or village officials in their areas of jurisdiction. The training of the village personnel was organized and funded by the local authorities following instructions issued by the minister of home affairs.

The total amount of UNFPA assistance to CBS for the five-year period 1980-85 is estimated to be US\$2,000,000.

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JAPAN 1980

Statistics Bureau
Prime Minister's Office
Tokyo

Introduction

HISTORY

Population censuses have been taken in Japan almost every five years since 1920. The 1980 population census was the thirteenth in this series. In addition to the regular censuses, special nationwide population surveys were conducted in 1944, 1945, 1946, and 1948 due to the particular administrative needs of that time.

The regular quinquennial censuses are of two types: large-scale censuses taken in years ending in zero, and simplified censuses taken in the fifth year after the large-scale decennial censuses. The main difference between a large-scale census and a simplified census during the prewar period was the number of questions asked. In a simplified census, questions were limited to the basic characteristics of population (e.g., name, sex, age, marital status), while a large-scale census covered questions on economic characteristics such as occupation and industry in addition to the basic population characteristics.

After World War II, the scale of census taking was amplified to satisfy the increasing demands of users of census results. The 1955, 1965, and 1975 censuses, which were simplified censuses, covered almost an equal number of items as the prewar large-scale census. The 1980 census was taken as a large-scale census and was planned to produce more abundant tabulations than before, including detailed cross-tabulations and small-area tabulations.

LEGAL BASIS OF THE CENSUS

The 1980 population census was taken in conformity with the provisions of the Statistics Law (Law No. 18 of 1947) as were all censuses taken since 1947. The law includes a provision (Article 4) that specifically addresses the population census. It defines the population census as "a population survey which is taken by the Government to cover all people," and states that "the census shall be taken every ten years, provided that in

the fifth year after the census year a census in a simplified form shall be taken."

Although it is taken in conformity with Article 4 of the Statistics Law, the population census is also "Designated Statistics No. 1" according to the Designation of the Population Census (Cabinet Notification No. 21 of 2 May 1947). Thus the population census is subject to the designated statistics provisions of the Statistics Law and the Cabinet Order for the Enforcement of the Statistics Law, specifically those related to obligation to report, field investigation, confidentiality, and publication of results.

In order to carry out the 1980 census, several orders and regulations were issued. Two dealt with the establishment of enumeration districts: Cabinet Order for the Establishment of Enumeration Districts for the 1980 Population Census (Cabinet Order No. 120 of 1979), and Prime Minister's Office Order for Instruction for the Establishment of Enumeration Districts for the 1980 Population Census (Prime Minister's Office Order No. 26 of 1979). Two others concerned the execution of the census: Cabinet Order for the Population Census (Cabinet Order No. 98 of 1980), and Regulation for the Execution of the Population Census (Prime Minister's Office Order No. 21 of 1980).

CENSUS ORGANIZATION

The work of the population census was carried out through the following channel: Statistics Bureau of the Prime Minister's Office, prefectures, municipalities, supervisors, enumerators, households.

The Statistics Bureau, Prime Minister's Office, was responsible for the planning of the census, designing and preparing the census questionnaires and related documents, overall management of the census work, data processing, analysis of the census data, and the publication of the census reports.

The Preparatory Committee of the 1980 Population Census was set up in the Statistics Bureau in April 1977 to plan the census. The Preparatory Committee was succeeded by the Planning Committee of the 1980 Popula-

Figure 8.1. Organization Chart for 1980 Population Census of Japan

tion Census in December 1978, and in January 1980 the Central Headquarters for the Execution of the 1980 Population Census was set up in the Statistics Bureau to carry out the census work more effectively. The Liaison Committee for Governmental Agencies was set up in March 1979 under the chairmanship of the director-general of the Statistics Bureau to confer with the representatives of other government agencies about the census plans, including topics to be investigated in the census and tabulation plans.

The field operation was vested in the local governments. Under the supervision of the Statistics Bureau, the statistics sections of the prefectural governments took responsibility for the census operation in each prefecture. The statistics sections of the prefectural governments performed such work as the distribution of census documents to municipal offices, supervision of the fieldwork, and collection of census documents within the prefecture. Each prefectural government set up a Prefectural Headquarters for the Execution of the 1980 Population Census.

Under the supervision of the prefectural governments, *shi* (city), *ku* (ward), *machi* (town), and *mura* (village) offices performed such work as establishment of the enumeration districts, selection and training of supervisors and enumerators, distribution of census documents to the supervisors and enumerators, collection of census documents, and examination of the completed questionnaires.

The fieldwork was carried out by about 700,000 enumerators who were temporarily appointed for this cen-

sus. About 60,000 supervisors were also appointed. The supervisors were responsible for training and supervising enumerators and examining the completed census questionnaires. These enumerators and supervisors were appointed by the prime minister.

In principle, enumerators and supervisors were to be appointed from among private persons, but a fairly large portion of supervisors was appointed from among employees of municipal offices. The minimum qualifications for enumerators were as follows:

1. Must be between the ages of 20 and 64 (some exceptions allowed)
2. Must be enthusiastic in conducting fieldwork
3. Must have no direct connection with taxation work
4. Must have no connection with election campaign
5. Must be reliable as an enumerator

and the qualifications for supervisors:

1. Must be between the ages of 25 and 64 (some exceptions allowed)
2. Must be competent as a leader and have good judgment
3. Must have experience in taking statistical surveys and be able to examine the entries in the census questionnaire and other census forms
4. Must have no direct connection with taxation work
5. Must have no connection with election campaign

Because the success of the census depends largely on the quality of work performed by the enumerators and supervisors, instructions were given to the municipal

offices to recruit the best candidates according to the circumstances of each area and assign them to enumeration areas with a view to achieving the correct and smooth conduct of the census with due consideration to safeguarding the privacy of individuals.

Design and Execution

PREPARATION AND PLANNING

Coverage

The 1980 population census was taken as of 0000 hours of 1 October. This is the same reference date as has been used for regular censuses since 1920. The census covered the whole territory of Japan excluding the following islands: Habomai-gunto, Shikotan-to, Kunashiri-to, Etorofu-to, and Take-shima.

The enumeration used the *de jure* population concept; that is, people were enumerated where they usually lived and were counted in the population of that area. The wording "persons usually living" was defined as those persons who, on the census date, had lived (or were going to live) for three months or more at a given household. There were, however, exceptions to this rule.

Students and pupils of regular and vocational schools were enumerated where they lived while attending school (e.g., at home, in a boarding house, in a school dormitory).

Inpatients in hospitals were enumerated in the hospitals only when they had been hospitalized for three months or more at the date of the census. Otherwise, they were enumerated at their homes even if they were expected to be in the hospital for more than three months.

Crews aboard ships, except ships of the self-defense forces, were enumerated at their residences on land. If they had no residence on land, they were enumerated on the ship provided the ship entered a port of Japan within five days after the census date.

Residents in the camps of the self-defense forces were enumerated in the camps. Crews aboard ships of the self-defense forces were enumerated at the place where their ship's local general headquarters was situated.

Prisoners in prisons and inmates of reformatories and women's guidance homes were enumerated at their institutions.

Persons who had no usual place of living or whose usual place of living was unknown were enumerated where they were found at the time of the census.

In accordance with the rules mentioned above, all persons in Japan were enumerated, including foreigners. Only the following persons were excluded from the enumeration: foreign diplomatic corps, their suite, and their dependents, and foreign military personnel,

including both military corps and civilians, and their dependents.

Schedule Content

The 1980 population census used a 36.4 cm × 25.7 cm mark-sheet questionnaire printed on both sides. This was completed by the head of each household. An English translation of the questionnaire is given in appendix 1. The questionnaire contained the following 22 items:

1. Name
2. Sex
3. Year and month of birth
4. Relationship to the head of the household
5. Marital status
6. Nationality
7. Time moved into the present house
8. Previous address
9. Education
10. Type of activity
11. Name and kind of business of employer or a self-employed person's business (Industry)
12. Kind of work (Occupation)
13. Employment status
14. Place of work or location of school
15. Journey to work or to attend school
16. Type of household
17. Number of household members
18. Source of household income
19. Type of tenure of dwelling
20. Number of dwelling rooms
21. Area of floor space of dwelling rooms
22. Type of building and the number of stories

In the 1970 population census, "Duration of marriage" and "Number of children ever born" were included in the questionnaire. These topics were dropped in 1980 because of the public concern for privacy. It was felt that such sensitive questions could be more adequately handled in a sample survey than in a full census. To meet the demand for regional statistics on recent housing conditions, however, the item "Type of building and number of stories" was added.

Delineation of Enumeration Districts

Before the census was taken, the whole area to be covered was divided into enumeration districts (EDs) with accurate maps. The EDs for the 1980 census were first delineated as of 1 October 1979, a year before the census date. Thereafter and until the census date, the EDs were amended to accommodate changes in the boundaries of *shi*, *ku*, *machi*, and *mura*. Thus, the EDs were demarcated as of the census date. The total number of EDs was 740,000, which was 70,000 more than the 1975 census.

There were three types of enumeration districts in the 1980 census: ordinary enumeration districts, special

enumeration districts, and water enumeration districts. Ordinary EDs were set up in the areas where residents were comparatively concentrated; they were delineated to contain 30–70 households, or about 50 households on the average, utilizing geographically apparent features for their boundaries. Special EDs were established in the areas that contained few inhabitants or in areas where special groups of people lived. These areas included mountains, forests, and prairies; dormitories or boarding houses having 50 or more single persons; public establishments and social institutions; areas with large factories and schools; camps of the self-defence forces; reformatories; and areas exclusively used by foreign military forces. Water EDs were delineated in the areas around harbors and mouths of rivers and canals where people were living in boats or ships. There were 700,000 ordinary EDs, 40,000 special EDs, and 400 water EDs.

The work of delineating enumeration districts for the census was carried out by the municipal offices in accordance with criteria set forth by the Statistics Bureau. The municipal offices prepared enumeration district maps and the list of enumeration districts giving code numbers, location, approximate number of households and population, and characteristics of the enumeration districts.

ED maps were produced from base maps selected by each municipal office. The base maps were selected from maps of the cities, towns, and villages produced by each municipal office; road and street maps produced by municipal offices; topographical maps produced by the Geographical Survey Institute, Ministry of Construction; national, large-scale maps produced by the Geographical Survey Institute; zip-code maps produced by the Ministry of Posts and Telecommunications; and aerial photograph maps produced by the Geographical Survey Institute. After selecting the appropriate base maps, boundaries of EDs were added along with lines and codes of standard areal grid squares, the central point of population for each ED, ED numbers, and scales and direction symbols. Urban areas were drawn to scales of 1/2,000, 1/2,500, and 1/3,000; the outskirts of urban areas and rural areas were drawn to scales of 1/2,500, 1/5,000, 1/10,000, and 1/15,000; and mountain areas were drawn to scales of 1/20,000, 1/25,000, 1/30,000, and 1/50,000.

Three photocopies were made of each original ED map: one for the municipal office, one for the prefectural government, and one for the Statistics Bureau. In total, 37,945 original ED maps were produced for the 1980 population census.

The enumeration districts provided the basis for the enumeration and were of vital importance in avoiding undercounting and duplication in the field operation. As a rule, one enumerator was assigned to each enumeration district. The EDs are also used as basic areal

units for compiling census data and as sampling frames for sample household surveys.

Pilot Surveys

Four pilot surveys were conducted prior to the 1980 population census. The dates, areas covered, and the aspects of study of these pilot surveys are shown in table 8.1.

Improvements made as a result of the pilot surveys included modification of schedules and instructions, utilization of the special envelope for households whose members did not wish to have their responses seen by the enumerator, utilization of the leaflet delivered to all households, and improvement of enumeration documents and related materials.

Training of Personnel

The first training activity was the Conference of the Chiefs of Statistics Divisions of Prefectures held in April 1980 at the Statistics Bureau. In this conference, the Statistics Bureau explained the overall plans for the 1980 population census and the responsibilities and duties of the prefectural governments, municipal offices, supervisors, and enumerators. Regional training and instruction meetings were subsequently held for the prefectural officials in charge of statistics.

The First Regional Training and Instruction Meetings (May 1980) featured detailed explanations of the census procedures, the enumerators' duties, the responsibilities of the municipal offices and prefectural governments, and recruitment of the field staff. The meetings lasted two days and were held in eight regions.

The Regional Training and Instruction Meetings of the Officials in Charge of the General Affairs (mid-May 1980) were held to facilitate the comprehension of the general affairs, including the management of accounting, transport of documents and materials related to the census, and the procedures to be followed in the event of accidents to the field staff. The meetings lasted one day and were held in eight regions.

The Second Regional Training and Instruction Meetings (mid-June 1980) were two-day meetings held in 16 regions. The Statistics Bureau gave instructions concerning the work of supervisors, the methods for the training of enumerators, and the methods for scrutinizing the census documents at the local level.

Corresponding to the conferences and regional meetings convened by the Statistics Bureau, each prefectural government held meetings to give guidance and instructions to the census personnel in the municipal offices. Conferences for the chiefs of the statistics sections of *shi*, *machi*, and *mura* were held following the Conference of the Chiefs of Statistics Divisions of Prefectures. These conferences presented information about the plans for the population census and the responsibilities

Table 8.1 Pilot Surveys

<i>Date</i>	<i>Area</i>	<i>Aspects of Study</i>
13 Dec 1978	50 EDs in two cities covering about 2,500 households	<ol style="list-style-type: none"> 1. Adequacy of enumeration items 2. Feasibility of introducing sampling method in the field operation stage for some items 3. Enumeration of households whose members are apt to be away from home 4. Method of protection of the respondents' privacy 5. Adequacy of form and design of questionnaires and other enumeration documents 6. Feasibility of respondents coding industrial and occupational classifications (major groups)
20 Feb 1979	50 EDs in two cities covering about 2,500 households	Same as first pilot survey
20 Jun 1979 or 1 Jul 1979	110 EDs in six cities of five prefectures covering about 5,500 households	<ol style="list-style-type: none"> 1. Adequacy of enumeration items 2. Enumeration of households whose members are apt to be away from home 3. Method of protection of the respondents' privacy 4. Adequacy of form and design of questionnaires and other enumeration documents 5. Condition of questionnaires for reading by optical mark reader 6. Feasibility of listing the temporarily present population to avoid omissions and duplications
20 Oct 1979 or 1 Nov 1979	430 EDs in 22 cities of 21 prefectures covering about 21,500 households	<ol style="list-style-type: none"> 1-5. Same as for third pilot survey 6. Method of tabulation 7. Method of transmission of questionnaires

of each municipality. The prefectural governments also convened training and instruction meetings for officials of municipalities to give them detailed explanations and instructions about the contents of the census, procedures of census taking, recruitment and posting of supervisors and enumerators, training of supervisors and enumerators, and scrutinizing of census forms and documents at various stages. These meetings were held in accordance with the instructions given by the Statistics Bureau at the regional training and instruction meetings and were held two or three times, dividing each prefecture into several blocks.

In addition to the above-mentioned meetings, prefectural officials went on missions from time to time to the municipal offices to supervise the work of the census staff.

The municipal offices organized training sessions for supervisors at the end of July and the beginning of August 1980 to give the supervisors detailed instructions on their jobs, the contents of the census, the fieldwork, and the examination of completed census forms and documents. About 15 supervisors attended each session and the total number of sessions reached 4,300.

After the appointment of enumerators, the municipal offices organized training sessions for enumerators. Approximately 19,000 meetings were held, each attend-

ed by 30-40 enumerators. Training and instructions for the census were given by the officials of municipal offices or supervisors. The instructions included an overview of the census, the duties of enumerators, explanations of how to fill in the questionnaire and related documents, procedures for checking entries on the questionnaires, and information on confidentiality. The training session usually lasted half a day and was held in a classroom. Instructions followed the enumerator's manual and were supplemented by other training materials such as enlarged copies of questionnaires, charts, and slides. Strict instructions were given to enumerators about the confidentiality of personal information gathered in the census.

Publicity

Because of a deterioration in public cooperation with statistical surveys in recent years, publicity was considered very important. A great amount of resources was appropriated for publicity activities in order to get the full cooperation of the people. To the utmost extent, newspapers, television and radio broadcasting, magazines, and other media were utilized for publicity, both at national and local levels, with the cooperation of the Government Publicity Office. Several kinds of posters, pamphlets, and leaflets were prepared by the Statistics

Bureau. The *Population Census News* was issued monthly beginning in October 1979 and was sent to users of census data, researchers, and the press. For the first time, a leaflet explaining the importance of the census, uses of the census data, confidentiality, and so forth, was prepared and distributed to all households when the enumerators delivered the census forms.

Field Operation

Each enumerator was assigned to one enumeration district (ED), which contained 30–70 households, or 50 households on the average. The enumerator visited all households within the enumeration district assigned to him during the week 24–30 September 1980, delivered the questionnaires, the instruction for completing the census form, and a leaflet, and requested the household head to fill out the form. At this stage, the enumerator prepared the List of Households giving the name of household head, the number of household members, and other necessary items and drew the Summary Map of Enumeration District showing the location of each household and landmarks.

During the period 1–5 October, the enumerator visited every household in his enumeration district again, collected completed questionnaires, and examined all the entries. He also updated the entries in the List of Households.

For the item "Month and year of birth," the households were asked to give answers in numerals, which were later transcribed by the enumerators into marks. Similarly, the name of country of nationality for aliens, previous address, and place of work or location of school were entered by the households in characters, and the enumerator converted these into codes using marks.

Postenumeration Survey and Evaluation of Census Data

A postenumeration survey (PES) has been conducted following every census since 1950. The PES for the 1980 census was conducted on 15 December 1980, 2½ months after the census. The sampling ratio for EDs selected for the PES was 1:200. This was a major increase over the sampling ratio for the 1975 census, which was 1:500 in the urban areas and 1:750 in the rural areas.

The PES for the 1980 census covered 13 items: (1) name, (2) sex, (3) relation to head of household, (4) month and year of birth, (5) marital status, (6) occupation, (7) date moved to the present dwelling, (8) place person stayed on 1 October 1980, (9) whether the person was counted in the 1980 census and at what place, (10) characteristics (name, sex, relationship, etc.) of family members not living in the household, (11) persons who were surveyed in the household in the 1980 census but

who moved away since then, (12) type of household, and (13) reasons persons were or might have been omitted from the census, counted twice, or counted at a place other than the person's residence on 1 October 1980.

The PES questionnaires were collated with the census questionnaires, excluding those for persons who did not have to be counted in the census. Persons who could not be confirmed were treated as "those who may have been omitted from the census," and people whose names overlapped in the census questionnaires were treated as "those under double count." These conditions were then tabulated. For matched records, differences in answers between the census and the PES were checked on such items as sex, relation to head of household, month and year of birth, marital status, and the date settled in the present residence. The results were tabulated for the urban and rural areas, DIDs (densely inhabited districts), and non-DIDs. The tabulations were to be completed in 1983.

In addition to the PES, the Statistics Bureau planned such evaluatory studies as cohort analysis and the matching of census records with Monthly Labor Force Survey records.

Data Processing

MANUAL WORK

The tabulation of census returns was carried out centrally at the Statistics Bureau. Tabulation started after receipt of the completed census questionnaires and related documents from the prefectural governments. Manual work was carried out by the Tabulation Division of the Statistics Bureau. This work consisted of receiving questionnaires and other census documents, coding industry and occupation in the designated columns according to the entries made by the households, manual tabulation of the population and households from the prefectural and municipal summary sheets, editing and correcting original data, and examining tabulation results. Table 8.2 shows the tabulation work schedule.

Table 8.2 Tabulation Work Schedule

<i>Fiscal Year</i>	<i>Available Person-days</i>	<i>Required Person-days</i>	<i>Shortfall^a</i>
1980	81,662	103,882	22,220
1981	127,937	138,843	10,906
1982	114,733	125,639	10,906
1983	105,687	105,687	0
1984	109	109	0
Total	430,128	474,160	44,032

^a The expected shortfall of person-days was to be filled by temporary employees.

ELECTRONIC DATA PROCESSING

At the Statistics Bureau, 12 systems analysts, 12 senior programmers, and 43 general programmers share in the production of tabulation programs for more than 50 kinds of censuses and surveys per year. In preparing programs for tabulating population census returns, working groups are organized for each stage of tabulation according to the order of tabulation procedures, and project teams of each working group prepare tabulation programs of their own, which are combined and arranged by senior programmers into a completed census tabulation program.

Equipment

At the Statistics Bureau, both IBM 3031 and NEAC computers are installed, but for tabulating the population census returns only NEAC computers have been used since 1965. Advanced ACOS 800 Model 3 computers were installed in August 1980 for the 1980 census. Tabulation efficiency is estimated to be up by 30 percent over the 1975 census, which used NEAC 2200 computers. The ACOS 800-3 does have some disadvantages when compared with the NEAC 2200, however. Programs in Assembler language, such as those developed by the Statistics Bureau, cannot be used any more—ACOS 800-3 computers usually employ PL/1 language. On the other hand, it is expected that HPL (High Level Program Language), which is developed by arranging PL/1 for the use of statistical tabulation and has a higher processing efficiency, will be supplied by the NEAC firm. In addition, core size will be expanded to 5 megabytes, and 4 sets of display terminals will be supplied for program debugging and other uses.

There were two basic considerations in designing the

tabulation schedules for the population census: meeting statistical needs in a prompt manner so that the data would not lose their usefulness before being released, and computerizing as much of the tabulation work as possible through proper editing and imputation.

Editing and imputation were to be scrutinized by the Tabulation Division, which is in charge of manual work like editing with error lists and examination of output results, and the Electronic Data Processing Division, which is responsible for computer processing, in compliance with the tabulation programs authorized by the bureau. The Statistics Bureau has used NEAC computers to tabulate the last three population censuses. Based on these experiences, programming was expected to be even more effective for the 1980 census.

Basic Tabulation System

The tabulation of the 1980 population census consists of six basic systems: ED master system, OMR input system, data editing system, summary tabulation system, Chinese character printing system, and automatic system for checking consistency of tables. These systems are used in common at each tabulation phase. An outline of the tabulation flow for the 1980 census is shown in figure 8.2.

The ED master system is used for the general control of information on the enumeration districts. This system includes four processes:

1. Producing the basic master tapes for EDs on the basis of information provided in the list of enumeration districts
2. Updating the information on the enumeration districts if any changes in the enumeration districts have occurred before the census date
3. Inputting the constants required for data editing

Table 8.3 Statistics Bureau Computer Equipment

	<i>1970 Census</i>	<i>1975 Census</i>	<i>1980 Census</i>
Type of computer	NEAC 2200	NEAC 2200	ACOS 800-3
Memory	256K bytes	512K bytes	5M bytes
Programming language	Assembler	Assembler	PL/1, others
Input equipment	OMR × 4 sets	OMR × 4 sets	OMR × 5 sets
Entry	Mark-sheets onto which information obtained on the census schedules is transcribed by enumerators	Mark-sheet questionnaires	Mark-sheet questionnaires printed on both sides
Program debugging	Manual	Manual	Terminal
Output equipment	Photo printer to output sheet & microfilm for Chinese characters	Photo printer to photo copy for Chinese characters	Super-speed Chinese character printer
Printing speed	2 sheets/min.	2 sheets/min.	7,000 lines/min.
Number of characters	4,000	4,000	4,000-8,000

Figure 8.2. Basic Tabulation System

4. Storing the information on the control data, such as the number of households and population of each ED obtained in the 1 percent sample tabulation

The individual data on the mark-sheet questionnaires was input by optical mark reader (N7237 OMR system). For the 1980 population census, five sets of OMRs were used. In the 1975 census, the questionnaires were printed on one side only. In order to accommodate the larger number of topics in the 1980 census, mark-sheet questionnaires printed on both sides were used. The data recorded on both sides of the questionnaire were read in one operation at a reading speed of about 200 sheets per minute. This operation had been tested successfully in the pilot surveys. The OMR input system consists of the input of individual records from the questionnaires, the formatting arrangement of input data, and the correction of rejected data. Original input data are loaded onto disks and magnetic tapes in the hierarchical order of prefectures, municipalities, enumeration districts, and households.

The data editing system is one of the most important tabulation systems. It comprises editing the original data, compiling editing lists, correcting error data, checking the corrected data, and compiling individual data files for tabulation. Figure 8.3 shows the basic flow of data from OMR input through editing.

The editing system uses the Tree Logic Language Programming System, which has been developed in the Statistics Bureau. To avoid misunderstanding, editing rules are described in tree logic charts, and editing routines in the programs are coded in TL language. The first corrections of errors found in the computer editing are done manually referring to error lists, and necessary corrections are made on the questionnaires. The corrected questionnaires are input once again via OMR. Second corrections are also done manually referring to error lists, but this time the erroneous original data are replaced on the disk from display terminals.

The basic processing done by the summary tabulation system is shown in figure 8.4.

In the 1965 population census, the block copies for offset printing were prepared by pasting computer printouts on the tabular forms printed with table heads, stubs, et cetera. In the 1970 census, a JEM Printer was introduced by which predetermined table forms were combined with tabulated data to produce output on printing papers (block copies for offset printing). The JEM Printer is a homemade piece of equipment that can handle about 4,000 Chinese characters, *kana* letters, alphabets, and special codes. In the 1975 population census, this type of equipment was employed again, but its rental cost was too high for permanent use. For the 1980 census a less expensive Chinese character printer was selected. This printer can handle a maximum of 8,000 letters. When additional letters are necessary, the desired letters are designed with a light pen at the display terminal. Basically, the printer has two sizes of letters that can be enlarged as necessary. It has a very high printing speed, 7,000 lines per minute.

The automatic system for checking consistency of tables was developed in the course of processing the data from the 1976 and 1979 Employment Status Surveys and the 1978 Housing Survey. By using control cards, consistency of data among different tables is checked automatically.

Tabulation and Publication Plans

The tabulation of census returns was to be performed in several phases as explained below.

Preliminary Counts Based on the Summary Sheets

The preliminary counts of population by sex and of households for Japan, prefectures, and municipalities (i.e., *shi*, *ku*, *machi*, and *mura*) were released in December 1980 as the first report of the census results. These counts were made at the Statistics Bureau using the pre-

Figure 8.3. Data Editing

Step 1

Step 2

Figure 8.4. Summary Tabulation System

fectural and municipal summary sheets, which were compiled by the local governments from the List of Households.

Prompt Report of the Basic Findings

A 1 percent sample of households was tabulated to offer a prompt report of the basic characteristics of population and households for Japan, prefectures, and cities

with 500,000 inhabitants or more. The results were released in March 1981 as the *Prompt Report of the Basic Findings of the 1980 Population Census*.

First Basic Complete Tabulation

The complete tabulation of the 1980 population census was performed in two stages. The first basic complete tabulation included data on characteristics other than

occupation for population and households at the level of municipalities. Industry data tabulated at this stage were classified at the major group level. The results of this tabulation were released successively prefecture by prefecture beginning in September 1981, and the report for the whole country was to be issued by the end of April 1982. Also by the end of April 1982, final counts of the population and households for the whole country, prefectures, and municipalities were to be published in a few batches in the official government gazette.

Second Basic Complete Tabulation

The second basic complete tabulation was to be performed after coding the major occupation groups. The tabulations at this stage included basic data on occupations at the level of municipalities and data on specific households such as aged persons living alone and mother-and-children households, which were not included in the first complete tabulation. The results of the second complete tabulation for each prefecture and municipality were released prefecture by prefecture with the results for the whole country to be released by the end of April 1983.

Tabulation by Enumeration Districts

The basic tables contained in the first and second complete tabulations were later tabulated by enumeration districts. These data are available to users on request in the form of computer printouts.

Tabulations on Commuting Population

The tabulations on commuting population were to be carried out in three stages on the basis of information on place of residence and place of work or location of school. The first stage was performed immediately after the completion of the first basic complete tabulation. This stage included tabulations of basic population characteristics (except occupation) by the location of workplace or school and the movements of workers and commuting students at the level of municipalities. The results of the first stage of tabulation for the whole country and all the prefectures were to be released by the end of May 1982.

In a similar manner, the second stage of the tabulations on commuting population was carried out after the completion of the second basic complete tabulation. Tabulations in this stage included data on occupation by place of work. The results for the whole country and all the prefectures were to be released by the end of May 1983.

The third stage of the tabulation on commuting population was conducted on a large sample basis at the level of prefectures and municipalities to obtain data concerning detailed economic characteristics of the commuters. The results for the whole country and all the prefectures were to be released by the end of April 1984.

Tabulations on Internal Migration

The tabulation of data on internal migration was divided into three stages. The first tabulation, based on the complete count, was carried out after the completion of the first complete tabulation and provided data on the characteristics (except occupation) of migrants as well as the magnitude and direction of internal migration at the level of municipalities. The results for the whole country and all the prefectures were to be released by the end of July 1982.

The second stage of tabulation was carried out after the completion of the second complete tabulation and provided data on occupation and other characteristics of migrants for prefectures or cities with population of 300,000 or more. The results of the second stage of tabulation for the whole country and all the prefectures were to be released by the end of June 1983.

The third tabulation was to be conducted on a large sample basis to produce data on the detailed characteristics of the migrants at the level of prefectures. The results for the whole country and all the prefectures were to be released by the end of May 1984.

Detailed Tabulations

The detailed cross-classified tabulations and tables based on detailed classifications of industry and occupation were based on a 20 percent sample of households. The results were to be released by the end of March 1984.

In addition to the above tabulations, tabulations by census tract were carried out for the cities and wards that requested them. Results were released in the form of computer printouts. Statistical tables on the population groups of the major metropolitan areas and municipalities were compiled on the basis of the results by *shi, ku, machi, and mura*.

Besides the reports mentioned above containing basic statistical tables, the Statistics Bureau prepared abridged reports for Japan and for each prefecture, analytical reports on specific subjects, reports on data for DIDs (densely inhabited districts), and population maps.

Some Problems of the 1980 Population Census of Japan

PRIVACY OF INDIVIDUALS

The confidentiality of census information provided by households is assured by the Statistics Law, which prohibits the disclosure of personal information obtained in the survey, prescribes legal penalties for unlawful disclosure of the information, and prohibits the use of census information for nonstatistical purposes. In recent years,

however, the public attitude toward statistical surveys has been deteriorating with the increasing public consciousness of issues of privacy. In order to minimize the people's fear and get their full cooperation in the 1980 census, the following measures were taken.

Due consideration was given to the safeguard of the privacy of individuals when recruiting and posting the enumerators. Whenever possible, the enumerator was assigned to an enumeration district where he was not acquainted with the residents.

Publicity for the census was intensified to increase public understanding of the necessity for and importance of the census and to assure the public that all the information they gave would be treated in strict confidence by the census personnel. To provide this assurance, a leaflet was distributed to each household along with the census questionnaire.

Large envelopes were provided for householders who did not want their completed questionnaires seen by the enumerator. The householder asked for an envelope, sealed the completed questionnaire inside, and handed it to the enumerator, who passed it unopened to the municipal office, where the entries were checked.

Special supervisors were appointed in municipal offices, particularly in large cities. If people refused or were reluctant to cooperate in the census, these supervisors, in lieu of enumerators, persuaded them to cooperate and enumerated them.

ABSENT HOUSEHOLDS

In major metropolitan areas there live a large number of one-person households and households of working couples who are usually absent during the daytime. Enumerators often have to visit these households many times before making contact. In order to avoid omission of such households, special census questionnaires and envelopes were developed and employed. When, after repeated attempts, enumerators were not able to make contact with a household, they left the special questionnaire and envelope with a neighbor or put them in the absent household's mailbox.

Definitions

Urban/Rural

Japan is administratively divided into 47 prefectures of which 43 carry the suffix *ken* and the remaining four are known as *to*, *do*, or *fu*. Each prefecture is further divided into *shi* (cities) and *gun* or *shicho* (rural counties). The *gun* and *shicho* are subdivided into *machi* or *cho* (towns) and *mura* or *son* (villages). A *ku* is an administrative subdivision of a city.

For the statistical distinction of rural and urban, *gun* (i.e., *machi* and *mura*) and *shi* have generally been employed in Japan. After the town and village merger

acceleration law was established in 1953, however, there was considerable enlargement of *shi* areas through absorption of neighboring *machi* and *mura*. There was also an increase in the number of *shi* due to the incorporation of former *machi* or *mura* into new *shi*. As a consequence, many *shi* came to encompass the sparsely inhabited agricultural areas in their jurisdictions. Thus *shi* no longer represent purely urban areas. In response to these circumstances, the concept of the densely inhabited district (DID), which was developed by the Statistics Bureau, has been applied in the censuses of 1960 and after.

In the 1980 population census DIDs were delineated within the boundaries of a *shi*, *ku*, *machi*, or *mura*. A DID consisted of contiguous enumeration districts with high population densities (about 4,000 inhabitants or more per square kilometer) and contained a population of 5,000 or more as of 1 October 1980. Certain EDs that were contiguous to an ED with a high population density could constitute DIDs in spite of their population density. These included special enumeration districts, that is, areas containing a large factory, a school with a large campus, traffic facilities, a pier, an airport, a social and welfare institution, a prison, a camp of the self-defense forces, or a dormitory. An ordinary enumeration district containing establishments, institutions, or facilities such as schools, shrines, sporting grounds, offices, plants, factories, warehouses, hospitals, or public establishments whose area occupied about one-third of the ED could also qualify as a DID.

Enumeration districts with low population densities (less than 4,000 inhabitants per square kilometer) that were enclosed by an area of contiguous enumeration districts with high population densities and that occupied an area of about one square kilometer or less could constitute a densely inhabited district.

The quasi-densely inhabited district (Q-DID) was established for the first time in the 1970 census. The criteria used to define Q-DIDs were the same as those used to define DIDs except that the total population requirement was 3,000–5,000 persons.

Economic Activity, Labor Force, and Employment

The labor-force status of all persons 15 years of age and over was determined according to the type of activities engaged in during the week of 24–30 September 1980. Labor-force status was broken down as shown below.

- In labor force
 - Employed
 - Worked mostly
 - Worked besides doing housework
 - Worked besides attending school
 - Absent from work
- Unemployed

Not in labor force
 Did housework
 Attended school
 Others not working (such as infants and aged persons)

Employed persons included all persons who did any work during the week before the census date for pay or profit such as wages, salary, allowance, or business profit. This classification also applied to persons who had a job or business but did not work at all during the week before the census date because of vacation, illness, bad weather, labor dispute, or personal reasons. The latter category of persons was classified as employed only when one of the following conditions was satisfied: (1) the employee's absence from work had not extended beyond 30 days before the census date, or he had received or expected to receive wages or salary during the week before the census date; or (2) the self-employed worker's absence from work had not extended beyond 30 days before the census date.

Employed persons included not only persons working as employees of a company, factory, store, or government office and proprietors of their own farms, stores, or factories, but also persons working in a family business such as a farm, a store, or a private hospital, even though they were not paid any wages. It did not matter whether a person worked mainly during the week or worked subsidiarily while keeping house or attending school.

Unemployed persons were those who had no job but were able to work and were actually seeking work during the week before the census date.

The term labor force is a general term covering employed and unemployed. Persons not in the labor force comprised all persons who had no job and did not make any effort to find a job during the week before the census date or who were unable to work. Among the latter group were those who were unable to work because of illness or old age, those who made their living on revenues from assets or old-age pensions, and those mainly keeping house or attending school.

Occupation

Occupation referred to the kind of work a person actually did during the week before the census date. In the case of persons who were absent from work, occupation referred to the kind of work they usually did in the establishment from which they were absent. If a person was engaged in two or more jobs, occupation was determined with reference to the work in which the person was mainly engaged.

The occupational classification was particularly arranged for the 1980 population census on the basis of the Standard Occupational Classification for Japan and the International Standard Occupational Classification compiled by the Administrative Management Agency. It

consisted of 285 minor groups, 57 intermediate groups, and 11 major groups.

Industry

Industry of an employed person referred to the kind of business done in the establishment where that person worked during the week before the census date. In the case of persons who were absent from work, industry referred to the kind of business of the establishment from which they were absent. If a person worked in two or more establishments, industry was determined with reference to the establishment where that person worked most.

The industrial classification used for the 1980 population census was based on the Standard Industrial Classification for Japan (Notification of Administrative Management Agency No. 32 in May 1976) and readjusted for the 1980 population census. This classification consisted of 199 minor groups, 70 intermediate groups, and 14 major groups.

Budget for the 1980 Population Census

The fiscal 1980 budget for the 1980 population census amounted to 30,110 million yen (see table 8.4). By contrast, the total budget for the 1975 population census (covering fiscal years 1974-79) was 16,252 million yen. The fiscal 1979 budget for the 1980 census was spent on preparatory work such as establishment of enumeration districts, test of optical mark readers, and execution of pilot surveys.

Table 8.4 Budget for the 1980 Population Census (in million yen)

Item of Expenditure	Fiscal Year		
	1979	1980	1981
Central government*			
Traveling expenses	6	25	10
Office expenses	584	2,433	571
Computer rental	19	321	430
Total, central government	609	2,780	1,011
Appropriated to local governments			
Pay to supervisors and enumerators	29	25,914	—
Other	612	1,416	—
Total, local government	641	27,330	—
Total	1,250	30,110	1,011
	(257 yen/person)		

NOTE: Columns may not add because of rounding.

* Excludes personnel expenses for the staff of the Statistics Bureau.

CHAPTER 9

REPUBLIC OF KOREA 1980

National Bureau of Statistics
Economic Planning Board
Seoul

Introduction

HISTORY OF CENSUS TAKING

The most recent census in the Republic of Korea, the 1980 Population and Housing Census, was conducted on 1 November 1980 and recorded a population of approximately 37,419,000. The 1980 census comprised the twelfth census of population and the fourth census of housing.

Evidence of census taking on a nationwide basis dates back to 400 B.C. This evidence consists of records showing the number of households, the population, the number of adult males, the number of cows and horses, and information on land ownership. Census taking in the modern sense, however, was introduced in 1925. Since then, 12 rounds of censuses have been conducted almost quinquennially. Table 9.1 presents a summary of Korean censuses since 1925.

LEGAL STATUS OF THE CENSUS

The population and housing censuses are Designated Statistics Nos. 1 and 2 based on the provisions of the Statistics Law. The provision of the Census Decree of Korea stipulates that a full-scale census is to be taken in years ending in zero and a simplified census in years ending in five. The 1980 census was implemented in accordance with the Population and Housing Census Regulation of Economic Planning Board Order No. 52. The distinction between the simplified census and the full-scale census has virtually disappeared in recent years as the scope of the simplified census has expanded to meet the ever-increasing demand for census information.

THE CENSUS ORGANIZATION

The National Bureau of Statistics (NBOS) is a semi-autonomous organization under the Economic Planning Board of the Korean government. The major functions of the bureau include the collection and analysis of major statistics like the census, the development of a

national statistical plan, the establishment of statistical standards including concepts and classifications, and the overall coordination of the country's statistical activities. The NBOS is headed by a director-general assisted by two deputy director-generals and includes 10 divisions.

The Population Statistics Division, with a regular staff of about 20, is the principal division responsible for population statistics. Since the division is responsible for other activities besides the population census—activities such as vital registration and the Continuous Demographic Survey—several members of the permanent staffs of other divisions were reassigned to Population Statistics in order to strengthen the division for the 1980 census. The Population Statistics Division was responsible for the content and execution of the census, including questionnaire design, table formats, analysis of the results, and recruitment and training of enumerators. It was also responsible for coordinating the activities of other divisions concerned with the population census.

Two other divisions closely associated with the census were Data Processing and Survey Management. The Survey Management Division was in charge of the preparation of census base maps, the sample design for the census enumeration, and the management of interviewers. The Data Processing Division was responsible for editing, coding, data preparation, and tabulation.

In addition to the permanent organizational structure, a working group for the 1980 census was established under the director of the Population Statistics Division. The group was composed of those members of the division staff with previous experience in census taking, along with subject-matter specialists in various fields. The main functions of the group were to review the census plan and to provide technical and operational assistance to the Population Statistics Division.

Advisory functions for the 1980 census, were provided by the Statistical Council. In addition, the Technical Advisory Committee and 1980 Census Users' Meeting were organized to supplement the function of the

Table 9.1 Censuses of Korea (All Korea, 1925–1944; Republic of Korea, 1949–1980)

<i>Date of Census</i>	<i>Classification of Residence</i>	<i>Population</i>	<i>Schedule Content</i>
1 Oct 1925	De facto	19,020,000	Primary items ^a
1 Oct 1930	De facto	20,438,000	Primary items, place of birth, gainful worker, industry, occupation, place of work, literacy
1 Oct 1935	De facto & de jure	22,208,000	Primary items, population in transit at time of census
1 Oct 1940	De facto	23,547,000	Primary items, place of birth, industry, occupation, class of worker, others
1 May 1944	De facto	25,120,000	Primary items
1 May 1949 ^b	De facto	20,167,000	Primary items, occupation, residence before 15 Aug 1945
1 Sep 1955	De jure	21,502,000	Primary items, occupation, educational attainment, literacy, physical disability, type of dwelling unit
1 Dec 1960 ^c	De jure	24,989,000	Primary items, completed years of education, school attendance, occupation, industry, class of worker, place of birth, children ever born, housing-related topics
1 Oct 1966	De jure	29,160,000	Primary items, school attendance, educational attainment, literacy, children ever born, births during previous year, occupation, industry, class of worker. Labor force and fertility items were asked of a 10 percent sample.
1 Oct 1970	De jure	31,435,000	Primary items, date of birth, school attendance, educational attainment, literacy, children ever born, children surviving, place of birth, residence 5 years ago, working status, employment, industry, occupation, class of worker, duration of work, housing-related topics. Economic activity, fertility, internal migration, and housing were asked of a 10 percent sample.
1 Oct 1975	De jure	34,679,000	Primary items, date of birth, school attendance, educational attainment, children ever born, children died, residence 5 years ago, age at marriage, working status, employment, industry, occupation, class of worker, duration of work, housing-related topics. Economic activity, fertility, internal migration, and housing were asked of a 5 percent sample.
1 Nov 1980	De jure	37,419,000	Primary items, date of birth, school attendance, educational attainment, children ever born, children died, residence 1 and 5 years ago, age at first marriage, working status, employment, industry, occupation, class of worker, place of work or school, means of commuting, physical disability, housing-related topics. Economic activity, fertility, and internal migration were asked of a 15 percent sample.

NOTES: The censuses of 1925, 1935, 1944, and 1955 were simplified population censuses, meaning the questionnaires contained fewer items and fewer tables were produced than for full-scale censuses.

^a Primary items included name, age, sex, relationship to head of household, and marital status.

^b All resulting schedules were burned during the Korean War before tabulation. Some preliminary tabulation results on age-sex structure by province, population size by municipality, and some occupation data survived.

^c The labor force concept was introduced for the first time. The items on labor force and fertility were tabulated on a 20 percent sample basis, though they were enumerated completely. The determination of age was based on the traditional Korean system. Converted age distribution in complete years of age is available in the National Bureau of Statistics.

Statistical Council. The Statistical Council is a regular advisory body that makes recommendations on all aspects of government statistical activities. The Technical Advisory Committee for the 1980 census was mainly composed of demographers, economists, and statisticians from universities and research institutes. The main function of the committee was to review the census plan and make recommendations on subjects to be covered in the census. The 1980 Census Data Users' Meeting included representatives of government agencies, research institutes, and business associations.

In addition to the organizations related to the central government, the local government hierarchy played an important role in the 1980 census. The Republic of

Korea is divided into nine provinces (*do*) and two metropolitan areas (Seoul and Pusan). Each province contains cities (*shi*) and counties (*gun*). *Gun* are subdivided into collections of villages (*myeon*); many *gun* contain an *eup*, an administrative area of over 20,000 inhabitants, which is usually the capital of the *gun*. The metropolitan areas are subdivided into *gu*, which are subdivided into *dong*, as are *shi*.

The local government hierarchy was particularly important in the designation of enumeration districts, recruiting and training of enumerators, and the supervision of the enumeration. The minister of the Economic Planning Board directed the governors of the provinces to supervise the execution of the census operation, and

Figure 9.1. Census Organization

the governors appointed census officials down the administrative hierarchy within their jurisdiction. The main function of the census officials at the local level was to train enumerators in cooperation with the census supervisors from the central office.

The primary responsibilities of the central and local offices were as follows:

National Bureau of Statistics

1. Arrangement of the budget for the census
2. Overall planning
3. Preparation of general guide manual for local governments
4. Preparation of guide manual for setting up enumeration districts
5. Printing and distribution of census materials
6. Pretest and questionnaire design
7. Postenumeration operation
8. Convening the working and liaison committees

Local Government Offices

1. Directing and instructing lower-level local government officials

2. Recruiting census enumerators and appointing census officials
3. Training the lower-level government officials and enumerators
4. Setting up enumeration districts
5. Enumeration

Design and Execution

PREPARATION AND PLANNING

Coverage

The census covered the whole area under the administrative jurisdiction of the Republic of Korea. It thus excluded the northern part of the territory of Korea.

The population was primarily counted on a *de jure* basis; that is, both nationals and foreigners were enumerated at their usual residence at the time of the census. Exceptions to this principle were the following:

Persons who had no usual place of residence were enumerated where they were found at the time of census.

Students who were away from home and living in dormitories, boarding houses, or with relatives were enumerated where they were living at the time of the census regardless of the duration of their residence there.

Crew members and passengers in vessels (except the naval forces) who had no usual place of residence were enumerated on board.

Military personnel and prisoners were enumerated through the channel of command.

Foreign nationals who usually resided within the territory were enumerated where they were found at the time of the census regardless of the duration of their stay there. Foreign military personnel, foreign diplomats, and their dependents, however, were excluded from the enumeration.

Civilians living abroad at the time of the census were excluded; civilians who were simply traveling abroad, were enumerated in the same way as persons who were within the territory.

All housing units—detached dwellings, tenement housing, apartments, dwelling units in permanent buildings not intended for human habitation, and living quarters other than housing units—were canvassed in the census.

Sample Design

Detailed information was collected from a single-stage stratified sample of enumeration districts (EDs) in the 1980 population census. EDs were divided into two strata as follows:

Stratum 1: The EDs of collective or institutional units (i.e., dormitory EDs, social welfare institution EDs, and special EDs)

Stratum 2: The EDs of areal units (i.e., ordinary EDs and island EDs)

The EDs in stratum 1 were included in the sample; they were canvassed with the long form. The EDs in stratum 2 were subdivided into 49 substrata using the administrative districts *shi* and *gun*. The sample EDs were independently selected from each substratum. They were systematically selected in the sequence of administrative code and ED number, using a varying sampling fraction. A total of 12,893 sample EDs were selected out of the 102,913 EDs in stratum 2. The long form was used in the sample EDs and the short form was used in the nonsample EDs.

Mapping

Two types of maps were used in the Korean census: census base maps and enumeration district maps. The census base maps were prepared by the NBOS in collaboration with municipal offices to accommodate each administrative unit on a single sheet. The census base maps showed roads and other possible landmarks by which the boundary of EDs were prepared.

Three types of maps were utilized to prepare the census base maps:

1. Aerial-photo maps, mainly for large cities
2. Municipal planning maps, mainly for small cities
3. Topographic maps and maps of land registers for rural areas

Since some of these maps were out of date, all of the census base maps prepared by the NBOS were sent to the local government offices for editing and updating. On these revised base maps, noteworthy ground objects, if omitted, were indicated, and then the boundaries of EDs were drawn in accordance with criteria given by the NBOS for setting up EDs.

After preparing the census base maps, the local government offices delineated maps of each ED. These sketch maps were provided to the enumerators four days prior to the census date for the numbering of dwelling units.

Schedule Contents

Two types of questionnaire were used in the general districts: a short form containing "complete items" asked of the entire population and a long form containing "sample items" in addition to the complete items. Both questionnaires included the household and housing items. The contents of the questionnaire are listed below; facsimiles of the questionnaires appear in appendix 1.

Population Census Items

Complete Items

1. Name
2. Relationship to head of household
3. Sex
4. Age
5. Marital status
6. School attendance and educational attainment

Sample Items

7. Major field of study
8. Place of work or schooling
9. Means of transportation
10. Place of birth
11. Place of residence one year ago
12. Place of residence five years ago
13. Type of activity
14. Working status
15. Occupation
16. Industry
17. Age at first marriage
18. Number of children ever born:
Children born and living together
Children born and living away
Children born but died

Household and Housing Items

1. Type of living quarters

2. Tenure or ownership
3. Number of rooms occupied
4. Source of drinking water
5. Cooking fuel
6. Heating fuel
7. Kind of household appliances (such as newspaper subscription, TV set, telephone, refrigerator, washing machine, piano or organ, room air conditioner)
8. Disability or handicap
9. Construction material of outer walls
10. Construction material of roof
11. Total area of floor space
12. Number of households in housing unit
13. Year of construction
14. Housing facilities installed (such as type of kitchen, type of toilet, bath facilities, piped water system)
15. Type of heating system

Household Listing

Enumerators made the household lists on the basis of the serial numbers of living quarters using the enumeration district maps.

A serial number was given to each household, without regard to the serial number of the living quarters, after confirmation of the number of households within the living quarters.

Pretests and Pilot Test

A series of pretests was carried out during June, September, and November 1979. In these pretests, studies were done on the adequacy of enumeration items proposed, the applicability of the questionnaire, the amount of work required of the enumerator, and the feasibility of introducing new concepts such as means of transportation. Special attention was given to the respondents' reluctance to answer questions on household facilities and disability, the respondents' memory bias on residence one and five years ago, and the feasibility of a new schedule to determine economic activities (the gainful-worker concept was used along with the labor-force concept).

PUBLICITY

Publicity was executed for a month before the main survey. The publicity materials were completed in July 1980. The publicity activities were as follows: preparing materials for publicity, drafting an announcement for broadcasting, drawing up leaflets, offering prizes for a census slogan and poster, publicizing the census on the street, and enlisting the cooperation of other organizations.

ENUMERATION

Enumeration Districts

The census design defined two types of enumeration districts (EDs), general EDs and special EDs. The general

EDs were all areas where free access was permitted, while the special EDs were composed of collective institutions—such as military camps and fleets, prisons, police stations, and diplomats abroad—where free access was prohibited.

Each general ED covered 60–90 households, or 75 households on the average. General EDs were divided into ordinary EDs and quasi EDs. Quasi EDs were formed in districts that were not appropriate for ordinary EDs, such as boarding houses and social welfare institutions (e.g., orphanages). Ordinary EDs were defined in accordance with the boundaries of administrative areas or natural features such as rocks, rivers, roads, or buildings. The total number of general EDs was 107,763; this included 102,913 ordinary EDs (90,020 complete count and 12,893 sample) and 4,850 quasi EDs (all sample).

Recruitment and Training of Enumerators

About 65,000 enumerators were employed on a temporary basis for the census. Men and women between the ages of 20 and 50 with at least a high school education were qualified to be enumerators. Approximately 8,000 census officials from the *dong*, *eup*, and *myeon* levels of the administrative hierarchy worked as supervisors.

The training of census officials and enumerators was transmitted by each group in the administrative hierarchy to the group immediately below: controllers in the census headquarters trained the provincial census officials, who trained the *gu*, *shi*, and *gun* census officials, who trained the *dong*, *eup*, and *myeon* census officials (supervisors), who trained the enumerators.

One official in each *dong*, *eup*, or *myeon* was selected as a lecturer who was responsible for training the enumerators of the district. After each class of the training session, there were brief quizzes to test the enumerators' understanding of the definitions and census operations.

Enumeration Procedures

For two days prior to the 1–8 November enumeration period, each enumerator prepared a map of his ED showing the location of each household and prepared a list of all households in the ED. The enumerator was also instructed to paste slips of paper showing the household serial numbers on the entrance of the building and on each of the living quarters for each of the households in the living quarters. In sample EDs the long-form questionnaire was distributed and explained to heads of households. In the main enumeration, the enumerator returned to each household and completed the questionnaire, interviewing the head of household or his or her spouse. The enumerators were instructed that in the absence of the household head and his or her spouse, the respondent should be an adult member of the household.

Data Processing

DATA PREPARATION AND CODING

Once the census forms were returned to the National Bureau of Statistics, the coding of a few items together with some manual checking and editing was carried out. The NBOS employed and trained about 180 coders for the census.

The keypunching was performed by private companies on a contract basis. This was the first time keypunching had been subcontracted to private companies and the arrangement proved somewhat troublesome. While the work was carried out efficiently by the subcontractors, elaborate arrangements had to be made to ensure the security of the forms. Moreover, it was time-consuming to send back to the companies records containing punching errors. An optical mark recognition system is being considered for the next census.

EDITING AND IMPUTATION

In the 1980 census, the manual editing to detect missing entries and to check inconsistencies was skipped in order to speed up data processing and reduce manpower requirements. As for computer editing, the COBOL version of the CONCOR editing package was carefully examined, but because the time available for testing was not sufficient, NBOS editing programs written in IBM Assembler language and developed for the 1975 census were used. Furthermore, it was felt that fully automatic imputation such as that employed in the hot-deck method was not desirable because the completely automatic correction of errors may also alter some true values.

EQUIPMENT

To meet the growing burden of data processing, the IBM 370/138 was replaced with an IBM 3031 in October 1980.

Definitions

De Jure/De Facto

The population was principally counted on the basis of the de jure concept. De jure population referred to those persons usually residing in an area at the date of the census. Persons who had no usual residence, however, were enumerated at the place where they were found at the time of the census. All housing units within an area defined by the census were counted, excluding housing units where foreign diplomats were living.

Urban/Rural

The urban-rural breakdown is based on the classification of geographic units by administrative definitions.

Census data are tabulated according to this classification. *Shi* and *gu* are normally considered urban, and *eup* and *myeon* are considered rural. Generally a *shi* contains at least 50,000 inhabitants, an *eup* at least 20,000, and a *myeon* fewer than 20,000. The size of the population of the administrative unit is the primary, though not the only, criterion for classifying *shi*, *eup*, and *myeon*. *Eup* and *myeon* are often grouped together and called *gun*, an upper-level administrative unit. *Shi/gun* is often used as a synonym for urban/rural by Koreans, although a statistical definition for urban/rural is sometimes used.

Economic Activity, Labor Force, and Unemployment

All persons 14 years of age and over were classified as economically active according to the type of activity engaged in during the week prior to the census. Specifically, the economically active population are those who were engaged in farming, commercial business or industry, national organization, etc.; those who were gainfully employed during the week prior to the census even though they had no fixed working place or post; those who worked more than 18 hours during the week as unpaid family workers; those who have a regular working place or post but could not work last week for certain specified reasons.

Labor force is the inventory of the nation's supply of labor engaged in or available for income-producing activities. Labor force can thus be derived from population aged 14 and above, excluding the economically inactive population.

Unemployed population refers to those who have both the ability and the willingness to work, but who could not work last week for reasons such as bad weather, lay-off, or sickness.

Occupation and Industry

Occupation is the economic and social activity in which a person is continuously engaged. It must be periodic, that is, daily, weekly, monthly, seasonally, and so on. The criteria for classification of occupation were adopted from the Korean Standard Classification of Occupation 1974.

Industry is the characteristic of economic activity to which the employed are attached. In other words, it is the classification of economic activity. The criteria for classification of industry were set up in accordance with the Korean Standard Industrial Classification 1975.

Tabulation and Publication

The planned 1980 census tabulations are listed at the end of this chapter. The census publications consist of the preliminary report, the advance report, and the final reports.

Preliminary Report

The preliminary report, released in March 1981, was based on the summary sheets prepared by enumerators and contained preliminary counts of population, households, and housing units by administrative unit.

Advance Report

The advance report, released in December 1981, was based on a 2 percent sample tabulation and was meant to meet urgent demands for census data.

Final Reports

There were two types of final reports. The final report on primary characteristics of the population based on the complete enumeration items began to be released in September 1982. This report consists of twelve volumes: a report for the whole country, and separate reports for the two special cities and nine provinces.

The other final report, scheduled for publication in December 1982, is based on the sample enumeration items.

Evaluation

POSTENUMERATION SURVEY

Each Korean census since 1960 has been followed by a postenumeration survey (PES) designed to check the completeness and quality of the census data. PES designs in 1970 and 1975 were essentially the response-variance type (dual system estimate), matching the records of an independent reenumeration with the census listings. In other words, PES interviewers equipped only with the information necessary to identify the location and boundaries of EDs reenumerated a sample of EDs. The records from the reenumeration were matched with the census listings, and estimates of completeness of the census were prepared using the Chandrasekaran-Deming method.

Matching records was found to be a very difficult task in the Korean context and the number of omissions in the 1970 and 1975 postenumeration surveys appeared to be overstated. It also appeared that the Korean address system led to duplications in the PES because the information given to interviewers under the response-variance design was insufficient.

These considerations led to the adoption of a response-bias design for the 1980 PES using dependent reenumeration as in 1960 and 1966. The survey in 1980 involved a recanvass of the PES sample of EDs to detect missed and erroneously enumerated households and household members. The PES interviewers were given a copy of the original household listing for the area. The idea was to obtain PES estimates that would replace the census figures rather than to make an estimate based on

both the census and the PES. The census results were used in the PES primarily for purposes of detecting and correcting errors in the PES through reconciliation of discrepancies.

The PES attempted to attain complete coverage and very high quality by using better qualified, more intensively trained, and better supervised enumerators. The accuracy of the PES information was basically dependent on how well the interviewers did their jobs. It was understood that the PES would contain errors and would tend to miss the same kinds of persons or households as the census.

The 1980 PES was taken during the period 1-8 December 1980. It employed a stratified random sample of 309 EDs; the total number of households enumerated was approximately 23,180, or 0.3 percent of the total households. The emphasis was on obtaining complete coverage and accurate responses and on eliminating the source of errors in the census. In order to ensure as complete coverage as possible, the PES enumerators were selected from experienced and qualified enumerators within the NBOS and were trained by the NBOS staff.

The procedure followed by the PES enumerators is outlined below:

1. Confirm the boundaries of the ED selected for the PES sample
2. Confirm the dwelling units and households
3. Confirm the household members
4. Revisit the household to complete the interview

The PES attempted to confirm the items on both the household and the household members. The enumerators confirmed residential status at the time of the census and at the time of the PES and households omitted, moved away, and moved in. As for the household members, the enumerators confirmed name, sex, relationship to the head of the household, age, marital status, and residential status at the time of the census.

Timetable of Census Operations

Preparatory work	
Census topic selection and classification of concepts	Jan-Dec 1979
Pilot surveys	Jun, Sept, Nov 1979
Questionnaire and tabulation design	Jan-Apr 1980
Establishment of EDs	Feb-Aug 1980
Appointment and training of enumerators	Mar-Sep 1980
Publicity	Aug-Oct 1980
Census moment	1 Nov 1980
Main enumeration	1-8 Nov 1980
PES	1-8 Dec 1980
Data processing and tabulation	Nov 1980-Oct 1982
Publication	
Preliminary report	Mar 1981
Advance report	Dec 1981
Final reports	Sep-Dec 1982

Table Series Planned

Complete Items

1. Population and households by administrative district
2. Population by age and sex
3. Population by marital status, age, and sex
4. Population by school attendance and educational attainment, age, and sex
5. Population by sex, marital status, and relationship to head of household
6. Population by sex and number of administrative districts by size of population
7. Foreigners by administrative district, age, and sex
8. Foreigners by nationality, age, and sex
9. Number of disabled persons by type of disability, age, and sex
10. Number of disabled persons by relationship to head of household, sex, and type of disability
11. Heads of households by marital status, age, and sex
12. Ordinary households by household size and by number in nuclear family
13. Ordinary households by household size and generations in household
14. Housing units, households, nuclear family size, and household members by type of living quarters
15. Number of households by type of living quarters, and age and sex of head of household
16. Households by type of living quarters and occupancy
17. Households by type of living quarters, number of occupants, and number of rooms used
18. Households by type of living quarters and source of drinking water
19. Households by type of living quarters, and kind of fuel used
20. Households by administrative district and kind of household appliances owned
21. Housing units by year of construction and construction materials used
22. Housing units by construction materials used for outer walls, and roof
23. Housing units by type and kind of kitchen and bath facilities
24. Housing units by type and tenure
25. Housing units by type, number of occupants, and floor area
26. Housing units by type, occupancy of households, and total number of rooms
27. Housing units by type, year of construction, and heating facilities
28. Detached dwelling units by total floor area and dwelling site
29. Major indicators on households and housing units
30. Number of occupied households by type of housing units

Sample Items on Economic Activity

1. Population by age and economic activity status
2. Employed persons by industry (major division) and occupation (major division)
3. Employed persons by industry (major division) and occupation (major division): cross-tabulation
4. Employed persons by age and industry (division)
5. Employed persons by age and occupation (major group)

6. Employed persons by age and class of worker
7. Employed persons by industry (major division) and class of worker
8. Employed persons by occupation (major group) and class of worker
9. Employed females by age, marital status, and economic activity status
10. Employed persons by industry (major division), occupation (major group), and educational attainment
11. Employed persons by industry (major group)
12. Employed persons by occupation (subgroup)
13. Employed persons by economic activity status, industry (division), and major field of study
14. Employed persons by occupation (group) and major field of study
15. Ordinary households by number of persons in household and number of economically active persons in household
16. Heads of households by economic activity status, occupation (major division), and number of household members

Sample Items on Fertility

1. Ever-married women by number of children ever born and age
2. Ever-married women by number of children living and age
3. Ever-married women by number of children ever born and educational attainment
4. Ever-married population by age, sex, and age at first marriage
5. Ever-married women by age, age at first marriage, and number of children ever born
6. Own children by age of mother
7. Own children by age of mother and mother's marital status

Sample Items on Migration

1. Population by place of birth, place of usual residence, and sex
2. Population by place of birth, place of usual residence, sex, and age
3. Population by usual residence and residence 5 years ago
4. Population by usual residence, residence 5 years ago, and age
5. Population by usual residence, residence 1 year ago, and age
6. Population by usual residence, residence 5 years ago, and industry (major division)
7. Population by usual residence, residence 1 year ago, and industry (major division)
8. Population by usual residence, residence 5 years ago, and occupation (major group)
9. Population by usual residence, residence 1 year ago, and occupation (major group)
10. Population by usual residence, residence 5 years ago, and educational attainment
11. Population by usual residence, residence 1 year ago, and educational attainment
12. Population by usual residence, residence 5 years ago, marital status, and age
13. Commuting population by age and sex
14. Commuting population by means of transportation and sex
15. Population commuting between administrative units

MALAYSIA 1980

Department of Statistics
Kuala Lumpur, 10/01

Introduction

The most recent census of population and housing in Malaysia was conducted in June of 1980. This was the second decennial census conducted by the government since the formation of Malaysia in 1963 (the first was in 1970). The preliminary field count summary showed a total population of 13,435,588, an increase of almost 3 million from the 1970 count. The census was conducted in two stages, did not include a simultaneous sample survey, and used the personal interview approach.

The first stage of the census consisted of listing all living quarters in the country, conducting a preliminary count of the population, and recording such housing characteristics as type of living quarters, type of material used for walls and roofs, toilet facilities, and water supply. This first stage was carried out 17–26 May 1980.

The second stage of the census operation enumerated and recorded the characteristics of each individual present in the living quarters on census night, which was the night of 10 June 1980. This second stage was carried out 11–28 June 1980.

HISTORY

The Federation of Malaysia comprises the eleven states of Peninsular Malaysia, and Sabah and Sarawak on the island of Borneo. Singapore was originally part of the federation but separated from it in 1965. Prior to 1911, there were several census counts and colonial estimates for the states incorporated under British rule into the Straits Settlements (Malacca, Penang, and Singapore) and the Federated Malay States (Negeri Sembilan, Pahang, Perak, and Selangor). All of these areas were covered in the 1891 and 1901 censuses, and figures are recorded for dates as early as 1750 for Malacca, 1812 for Penang, 1879 for Perak, and 1884 for Selangor. The Unfederated Malay States (Johore, Kedah, Kelantan, Trengganu, and Perlis) were not included in these early British colonial censuses. The

first census covering all of Peninsular Malaysia was conducted in 1911. (Del Tufo 1949)

Subsequent censuses for Peninsular Malaysia were conducted in 1921, 1931, 1947, and 1957. The state of Sabah had its first census in 1901 and its most recent census, prior to joining Malaysia in 1960. The state of Sarawak conducted its first census in 1939 and its most recent census prior to joining Malaysia in 1960. (Department of Statistics 1970)

LEGAL STATUS

Under the Constitution of Malaysia, census taking is a federal responsibility and the legal basis for the census is provided by the Census Act of 1960 (revised 1969), which empowers the government to conduct a census from time to time. The responsibility for conducting the 1980 population and housing census was vested in the Department of Statistics, which implemented the project in collaboration with the state governments of Malaysia.

CENSUS ORGANIZATION

Heading the entire census project was the Census Policy Directing Committee under the chairmanship of the chief secretary to the government. The members of the committee were drawn from key ministries, departments, and central agencies of the government. The committee provided policy guidelines on financial and manpower requirements of the census as well as on the planning and execution of the project.

The overall census operation was headed by the commissioner of census, who is also concurrently the chief statistician of Malaysia. He was assisted by two teams of officials.

The first team, at headquarters level, was responsible for planning, preparation of the census documents, data processing, preparation of reports, and dissemination of the census data. The second team was drawn from officers of each of the 13 states and the Federal Territory in Malaysia. These officers were primarily responsible for the organizational, supervisory, and enumeration work at the ground level. A senior officer from each of the 13 states

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and the Federal Territory was designated as state deputy commissioner of census; a separate deputy commissioner of census was appointed for the Department of Aboriginal Affairs.

Altogether about 27,000 enumerators and 2,700 supervisors were recruited for the census project. The supervisors, who played a vital role in the project, were principally drawn from serving government officers. The majority of the enumerators, on the other hand, were recruited from the open market.

Design and Execution

PREPARATION AND PLANNING

The need for more up-to-date socioeconomic and demographic data for effective government planning became acutely felt around the mid 1970s since the last census was conducted in 1970. As a result the government in its Third Malaysia Plan explicitly stated that a population and housing census should be carried out within the Third Malaysia Plan period (1976–80).

Preliminary preparations for the 1980 Population and Housing Census of Malaysia began in 1977. Work in earnest proceeded in 1978 with the formation of the Census Policy Directing Committee consisting of key government officials under the chairmanship of the chief secretary to the government. The committee provided policy guidelines on the financial and manpower requirements of the census as well as the planning and execution of the project.

The Technical Committee, composed of government officials of key user agencies, was also formed to examine the types of data needed by the government and to formulate the topics to be covered in the census. Data needs of nongovernmental users were assessed from the data requests received from them for the 1970 census and were given due consideration in designing the census questionnaire. In addition the recommendations of the United Nations were also taken into consideration.

Coverage

The 1980 Population Census of Malaysia was essentially conducted on a de facto basis. Thus persons were enumerated in the place where they were found on census night. Malaysians who were not in the country on census night were therefore not included in the census counts.

The enumeration of persons traveling by road on census night, as well as the homeless, was done with the cooperation of the police. Persons traveling by trains on census night were also enumerated and persons afloat were enumerated with the assistance of the harbor masters.

Though the census was conducted on a de facto basis, not all persons found in the country on census night were enumerated. The exceptions were (1) crews and passengers on foreign ships (i.e., ships registered in foreign countries) that were in harbor or in Malaysian waters on census

night, and (2) those foreign military, naval, and diplomatic personnel and their families who enjoyed diplomatic immunity and wanted to be excluded from the census.

Geographical Divisions and Mapping

The total land area of Malaysia is 330,434 square kilometers distributed into Peninsular Malaysia (131,537 sq km), Sarawak (124,449 sq km), and Sabah (74,398 sq km). The South China Sea separates Sabah and Sarawak from the peninsula.

For the purposes of the census, the country was divided into separate enumeration blocks (EBs), each containing 80–120 households, or about 500 persons. These EBs were grouped into units of convenient size (8–10 blocks) called census circles; a census circle constituted the area of responsibility of a supervisor. A group of 8–10 census circles formed a census district, which was put under the charge of a district superintendent. Two to three census districts generally made up one state administrative district, and an assistant commissioner, who was generally the district officer, was responsible for the census operation within a district.

The Directorate of National Mapping provided the base maps on which boundaries of enumeration blocks were demarcated. Subsequently, larger sketch maps of EBs were constructed with greater detail (extracted from the existing national sampling frame of enumeration blocks, which is regularly updated). When the first stage of the enumeration began, each enumerator was given a houselisting book together with a map and a description of his or her EB.

Questionnaire

The content of the final questionnaire represented a distillation of many proposals and suggestions that came from government departments, universities, and knowledgeable individuals. There was a tendency to wish to include as many topics as possible in order to satisfy the many demands for information. The topics finally selected are listed below.

Population

1. Place where found at the time of census
2. Sex
3. Relationship to head of household
4. Age
5. Year of birth
6. Ethnic group
7. Religion
8. Citizenship
9. Color of Malaysian identity card
10. Physical handicap
11. Place of birth
12. Duration of residence
13. Place of last previous residence
14. Reason for migration
15. School attendance
16. Educational attainment

17. Field of vocational training
18. Ability to speak one or more languages
19. General literacy
20. Literacy by language
21. Type of activity
 - a. Short reference period (seven days)
 - b. One-year reference period
22. Employment status
23. Occupation
24. Industry
25. Marital status
26. Times married
27. Age at first marriage
28. Number of children ever born alive
29. Number of children living

Household

1. Number of persons in the household
2. Tenancy
3. Household items
4. Household income

Housing

1. Location of living quarters
2. Number of households in the living quarters
3. Number of occupants in the living quarters
4. Ethnicity of head(s) of household
5. Type of living quarters
6. Construction material of outer walls
7. Construction material of roof
8. Condition of structure
9. Occupancy
10. Ownership
11. Water supply
12. Lighting
13. Toilet facilities
14. Bathing facilities
15. Cooking facilities
16. Rooms
17. Year of construction
18. Builder

To facilitate processing, the questionnaire was designed as an optical mark reading (OMR) form (see sample in appendix 1). Enumerators recorded the information they collected directly onto the forms, which, after editing and coding, were read into the computer at census headquarters with OMR equipment. The raw data were thus captured directly on magnetic tape for subsequent processing before tabulation.

Trial Census

The trial census was conducted in the period July–September 1979 in Peninsular Malaysia, Sabah, and Sarawak. In Peninsular Malaysia the trial census was conducted in Johor Bahru, Pasir Mas, and Temerloh and encompassed a total of 41 enumeration blocks covering a total population of 18,000 persons. Four supervisors and 52 enumerators were employed in the field enumeration.

In Sabah a total of 28 enumeration blocks were selected

in the areas of Kota Kinabalu, Keningua, and Ranau for the trial census. The population in the selected EBs amounted to 14,000 persons, and some 32 staff members were employed in the exercise.

The trial census in Sarawak encompassed a total of 32 EBs selected from the areas of Kuching, Sarikei, Baram, and Miri. The population in the selected EBs amounted to slightly more than 10,000 persons, and 36 staff members conducted the enumeration.

Publicity

National publicity for the census was conducted by the Ministry of Information through a joint committee of the Ministry of Information and the Department of Statistics. Films were shown over the national television networks; slides were shown at local cinemas; publicity and feature write-ups appeared in the national and local newspapers; posters were distributed and displayed; talks and explanations were given by the information mobile units; postmarks were utilized. Small calendars promoting the census were distributed to school children and members of the public.

ENUMERATION

Recruitment and Training

The responsibility for recruitment of enumerators and supervisors was decentralized and assigned to district officers who were provided with guidelines as to the type of qualifications required of supervisors and enumerators. Generally speaking, census enumerators had to have completed at least a secondary education, that is, 11 years of school. Census enumerators needed to have at least a *Sijil Persekolahan Malaysia* (equivalent to the School Certificate), and it was preferred that they be from the area they were assigned to enumerate. In general, supervisors were required to have completed their post-secondary education, that is, 13 years of schooling. They were generally required to possess the *Sijil Tinggi Persekolahan* (equivalent to the Higher School Certificate). Supervisors consisted of school leavers as well as currently serving government officers and teachers. For the latter, the educational requirement was generally waived and their working experience taken into consideration.

The training of census personnel was also decentralized. A group of about 10 enumerators were trained by a supervisor. Supervisors in turn were trained in groups of about 10 by a district superintendent. District superintendents, about 29 on the average, were trained by headquarters staff at each regional training center. A total of 27,000 enumerators, 2,700 supervisors, and 295 district superintendents were trained for the census.

Enumeration Procedures

Enumerators were instructed to interview any adult or responsible member of the household present at the time

of the visit. If no one was at home, the enumerator was to leave a call-back card indicating the date and time when he would call back. If the enumerator was not successful in getting a respondent after three call-backs, the enumerator was to obtain as much information as possible from neighbors. There were very few outright refusals and these were referred to the supervisors and district superintendents, who in most cases resolved the problems. The enumerator visited each house in their enumeration blocks and conducted face-to-face interviews with the respondents. Based on the results of the census, enumerators enumerated an average of 5 to 6 households per day.

Supervisors were instructed to meet each of their enumerators at least once while the enumeration was in progress to review the enumerator's fieldwork. During this field check the supervisor verified that

1. the houselisting book was correctly filled;
2. there were not too many cases of vacant living quarters;
3. the enumerator had made call-backs in not-at-home cases and, after three re-calls, filled in whatever information could be obtained from neighbors; and
4. the questionnaires had been filled in completely.

After the enumeration was complete, the supervisor had to check the completed census forms handed to him by the enumerators. In addition to the checks stated in (1) and (2) above, the supervisor was to do the following:

1. Check that not-at-home cases had been handled properly and the census forms had been marked properly.
2. Ensure that the population figures obtained from the first stage and second stage were not very different. If it was ascertained that the differences were the result of an increase in vacant living quarters in the second stage, a field recheck was to be made.
3. Select a sample of the census forms for detailed scrutiny, and if a lot of forms were only partially completed, the supervisor was to instruct the enumerator to reinterview these cases.

While the majority of the population was enumerated in the normal way, a small segment of the population required special enumeration arrangements. The following outlines the arrangements made for special cases:

1. The police set up road blocks to enumerate travelers on the road and made patrols to enumerate the homeless.
2. Enumeration of persons afloat was made with the assistance of harbor masters, who contacted the captains of ships.
3. Persons traveling by train were enumerated with the assistance of the railway authorities.
4. Enumeration of army and military personnel residing in camps was made with the assistance of the commanding officers of their camps. Administrative and other staff who worked within the camp but returned to their homes

outside the camp at the end of the day were enumerated in the normal way. Enumeration of the population staying in army camps was carried out either by enumerators recruited for the area in which the camp was situated or by army personnel nominated by the commanding officer to act as enumerators. Enumerators appointed by the commanding officer were required to attend the enumerator training sessions.

5. The staff of the Department of Aboriginal Affairs enumerated Orang Asli Settlements (settlements for aborigines) in inaccessible areas.
6. Special arrangements were made for the enumeration of persons living in estates, mines, timber camps, police stations, oil rigs, hospitals, and religious, charitable, and educational institutions. Enumerators usually needed the help and cooperation of the manager or the person in charge of these institutions to ensure an efficient enumeration.
7. Enumerators canvassed small hotels while the hotel managers were made responsible for the enumeration of persons in large hotels.
8. Inmates of mental hospitals and prisons were enumerated with the help of the person in charge of the institution or the Prisons Department.

In most of these special cases an abbreviated census questionnaire containing fewer questions was administered.

Data Processing

Completed census forms were first edited manually. They were checked for errors in geographic identifiers, and the number of forms was checked against control totals to ensure that all the returns were accounted for. The census forms were then sent to the coding sections for the insertion of codes on ethnicity, place of previous residence, occupation, and industry. On completion of the coding process the forms were sequenced and batched for reading into the computer through the OMR equipment. The documents that were rejected because of incorrect marking or physical damage had to be corrected and reread into the system.

When all the data had been read and stored on magnetic tapes, the process of validation and imputation began. Missing information and inconsistencies were dealt with by the computer. When all the data passed through the validation and imputation processes, an acceptably error-free data tape was created, ready for the generation of tables.

It should be noted that the manual processing prior to reading the records into the computer was made more efficient by the extensive use of statistical quality control procedures. At each stage of the operation a sample of the census forms for each enumeration block was selected and inspected, and the number of errors found in the sample was noted. If the number of errors found in the sample did not exceed the acceptance number, the enu-

meration block was passed on for further operations. If, however, the number of errors found in the sample exceeded the acceptance number, the census forms for the whole enumeration block were rejected. These forms were then rechecked and all errors were corrected before the enumeration block was passed on to the next activity.

EQUIPMENT

In order to process the 1980 population and housing census data, the existing electronic computer configuration of the Department of Statistics was upgraded substantially. Two ICL 2956 computers with 1.5 megabytes of core storage each were installed, and one was dedicated to census work. In addition, a separate "take-on" configuration was set up to read the OMR census forms onto magnetic tapes for further processing on the main computer. The take-on system consisted of one ICL 2903 minicomputer and three optical mark readers.

SOFTWARE

To reduce the burden of developing the systems and programs to process the census data, the Department of Statistics resorted to the use of a standard software package (FILAN) provided by the manufacturer. The extensive use of this package was a satisfactory alternative since the department did not have the necessary manpower to develop its own systems and programs. Back-up support from the manufacturer was not forthcoming, however, and the department had to negotiate a contract with Dataskil to provide consultancy service in this area. The Dataskil consultants were hired for a period of 12 months essentially to train and guide the department staff in the efficient use of the FILAN package. The entire suite of programs for the validation, imputation, and generation of tables was written by the staff of the department.

In the early stages of program development, a set of sample data was used to test the validation, imputation, and tabulation programs extensively to ensure that they were performing according to the specifications established by the statisticians. This procedure minimized the turnaround time of the final tabulations, and the overall approach to data processing proved to be quite satisfactory.

Definitions

Basically the United Nations recommendations for the inclusion of topics, definitions of terms, and classification of census data were adopted.

De Facto

The census was obtained on a *de facto* basis, meaning that the population was counted where it was found on census night (10 June 1980). Previous censuses were also counted on the *de facto* basis.

Urban/Rural

The existing definition of urban/rural was adopted; that is, gazetted towns (administrative areas designated as townships by the government) with a population of 10,000 and above were classified as urban. A few of the census tabulations were made using four strata based on population size. The four strata are as follows:

1. Metropolitan: gazetted administrative areas with a population of 75,000 and above.
2. Large Urban: gazetted administrative areas with a population of 10,000 to 74,999.
3. Small Urban: gazetted administrative areas with a population of 1,000 to 9,999.
4. Rural: gazetted administrative areas with a population of less than 1,000 and nongazetted administrative areas.

Thus most tabulations were done using an urban stratum that comprised the metropolitan and large urban classifications and a rural stratum comprising small urban and rural.

Community

A separate sheet containing the list of community categories was used by the enumerator to write down and code the questionnaires during enumeration. The community group written by the enumerator allowed subsequent quality checks.

Ethnicity

The term ethnic group was used to refer to a group of people bound together by common ties of language, religion, customs, etc. Ethnicity was determined by the respondent on the basis of self-identification.

Economic Activity and Labor Force

Most of the economic activity data that were collected were based on a reference period of seven days. Since seasonality may affect labor-force activities in a predominantly agricultural country like Malaysia, some information was collected based on a reference period of 12 months. The labor-force concepts applied in the 1980 census were similar to those of the 1970 census.

The census data on economic activity were essentially based on the standard labor-force approach in which the labor force comprises the employed and the unemployed as defined below.

A person was said to be employed if that person

1. worked for pay or profit at least one day during the seven days before the interview;
2. helped on a family farm or business for more than three hours per day during the seven days before the interview; or
3. was not in (1) or (2) because of illness, injury, disability, bad weather, vacation, labor dispute, or social or religious reasons, but had employment, work on a farm, or a commercial or family enterprise to return to.

Persons were classified as unemployed if they were either actively seeking work or not seeking work because they believed no suitable job was available; were prevented from seeking work because of bad weather, illness, or confinement; were waiting for a new job; were waiting for replies to job applications or had looked for work prior to the reference week; or considered themselves to have no qualifications.

The labor-force concepts used in the census were essentially similar to those that are used in the current labor force surveys, although there were minor variations. While the census employed the concept of working for pay or profit during the previous week (i.e., a moving reference period, since the enumeration was spread over 18 days), the current labor force surveys employ a fixed reference period for each quarterly survey. Furthermore, while unpaid family helpers needed to work more than three hours per day to be classified as employed in the census, they only have to work one hour per day in the case of the labor force survey.

Occupation and Industry

The classification of occupation and industry was done according to the Malaysian Industrial Classification and the Malaysian Dictionary of Occupation Classification. The classifications follow closely the United Nations Classification of Economic Activities and the International Labour Office International Standard Classification of Occupations.

Tabulations and Publications

Tabulations of the 1980 census data are to be produced at the following levels: administrative district, state, Peninsular Malaysia, and Malaysia. A list of the tabulations planned appears at the end of this chapter.

A preliminary field count summary was released in October 1980. The preliminary report, based on a 5 percent sample, was completed in early 1982. The topics covered in the preliminary report included organization of the census, population size and structure, marriage and fertility, migration, educational characteristics, economic activity of the population, and household characteristics, including growth and size of households.

The main report based on the full census count was planned for the end of 1982, and the final census report, for the end of 1983. A list of the 1980 census publications appears at the end of this chapter.

Postenumeration Survey

A postenumeration sample survey (PES) to estimate the coverage and content errors of the main census was conducted some two months after the census enumeration. A one-stage 5 percent cluster sample of enumeration blocks was reenumerated.

The PES enumerators were largely temporary field enumerators recruited for the purpose of conducting the PES. They were school leavers with at least 11 years of formal education (i.e., with a Sijil Pelajaran Malaysia). Some of them were former census enumerators recruited again for the PES.

In order to ensure the independence of the PES, the project was carried out by a different division of the Department of Statistics. The temporary staff recruited, if found to be former census enumerators, were assigned different areas from the ones they worked in for the census. Furthermore, information obtained in the census was only used at the reconciliation stage. All information for the PES was collected afresh (i.e., new listings were done and the listed households were reenumerated). Different questionnaires were developed and used for the PES, although the concepts and definitions were maintained.

The information collected during the PES was matched with that transcribed from the census for the selected EBs. This was a two-way process, matching being done from PES to census and vice-versa.

Matching was done at three levels, namely, the living quarters (LQ) level, household level, and person level. At the LQ level, the addresses were used as a guide for matching. The information from the census LQ card was also used, although in some instances this could not be done because the cards were missing.

For the matched LQs, the households within each LQ were matched using the name of the head of household as a guide. If the names did not tally, then the age of the head and the constituent members of the household were used to match.

Once the households were matched, the individuals within households were matched using their names as a guide. Very often names were spelled differently in the two enquiries. In such cases other characteristics like relationship to head, sex, age, and marital status were used as guides.

For units that could not be matched at any of the three levels, field verification was done. Following the field verification, the final decision was made as to whether the PES records were matched, omitted from the census, or erroneously included in the census.

The principal results from the PES were used to adjust the census counts and are incorporated in volume 1 of the *General Report of the Population Census*.

Tabulations of the 1980 Malaysia Census

1. Malaysia-wide Tables

Household

GMH1	Total households and population in household × type of private household × household size (de facto) × strata
GMH2	Average number of persons per private household × type of housing unit × strata
GMH3	Total private households × tenancy × type of housing unit × strata

	tion × district of current residence × ethnic group × age group (broad age groups) × sex	GP37	Industry (3 digit) of population aged 10 years and over × ethnic group × sex × strata
GP16	Previous place of residence (state/strata) × duration of residence in present locality × ethnic group × 5-year age groups × sex × strata	GP38	Industry (5 digit) of population aged 10 years and over × ethnic group × sex × strata
GP17	Duration of residence in Malaysia × birthplace × ethnic group × 5-year age groups × sex	GP39A*	Employed labor force (employees only) × industry (3 digit) × occupation (2 digit) × ethnic group
GP18	Previous place of residence (state/strata) × reasons for migration × ethnic group × age group (broad age groups) × sex × strata	GP39B	Employment status of population aged 10 years and over × industry (3 digit) × ethnic group × sex × strata
GP19	School attendance of total population × single-year (5–24) and 5-year age groups × ethnic group × sex × strata	GP40*	Previous place of residence (state/strata) × occupation (2 digit) × ethnic group × sex × strata
GP20	Educational attainment (detailed classification) of total population × single-year (5–24) and 5-year age groups × ethnic group × sex × strata	GP41	Population aged 10 years and over × labor-force status × previous place of residence (state/strata) × ethnic group × sex × strata
GP21	Educational attainment (detailed) of total population × school attendance × single-year (5–24) and 5-year age groups × ethnic group × sex × strata	GP42	Population aged 10 years and over × employment status × previous place of residence (state/strata) × ethnic group × sex × strata
GP22	School attendance of total population × single-year (10–24) and 5-year age groups × usual activity over a period of 1 year × ethnic group × sex × strata	GP43	Usual-activity status of population aged 10 years and over × 5-year age groups × ethnic group × sex
GP23*	School attendance of total population × single-year (5–24) and 5-year age groups × household size (broad groups) × household income × sex × strata	GP44	Usual industry of economically active population × age group × ethnic group × sex × strata
GP24	Population of vocational attendance × field of vocational training × ethnic group × sex × age group (broad)	GP45	Population aged 10 years and over × employment status × educational attainment (broad) × ethnic group × sex × age group (broad) × strata
GP25	School attendance of total population × single-year (5–24) and 5-year age groups × labor-force status × ethnic group × sex × strata	GP46	Current marital status of population aged 10 years and over × 5-year age groups × ethnic group × sex × strata
GP26	Literacy of total population aged 10 years and over × 5-year age groups × ethnic group × sex × strata	GP47	Population ever married × number of times married × ethnic group × sex × strata
GP27	Literacy × language (single language) for population aged 10 years and over × ethnic group × sex × strata	GP48	Population ever married × age at first marriage × 5-year age groups × ethnic group × sex × strata
GP28	Literacy × language (languages in combination) for population aged 10 years and over × ethnic group × sex × strata	GP49	Total number of children ever born and children living × 5-year age group of women × ethnic group × strata
GP29	Ability to speak (single language) for population aged 10 years and over × ethnic group × sex × strata	GP50	Number of children born alive (parity) × 5-year age group of women × ethnic group × strata
GP30	Ability to speak (languages in combination) for population aged 10 years and over × ethnic group × sex × strata	<i>Form 33 Tables</i>	
GP31	Labor-force status of population aged 10 years and over × 5-year age group × ethnic group × sex × strata	GF1	Major ethnic groups × sex × strata (2 levels)
GP32	Labor-force participation rates for population aged 10 years and over × 5-year age groups × ethnic group × sex × strata	GF2	Population × age (in single and 5-year age groups) × ethnic group × sex × strata
GP33	Active and total unemployment rates for labor force aged 10 years and over × 5-year age groups × ethnic group × sex × strata	GF3	Citizenship × ethnic group × sex
GP34	Employment status of labor force aged 10 years and over × 5-year age groups × ethnic group × sex × strata	GF4	Birthplace × ethnic group × sex
GP35	Occupation (2 digit) of population aged 10 years and over × ethnic group × sex × strata	GF5	Highest level of schooling completed × ethnic group × sex
GP36	Occupation (3 digit) of population aged 10 years and over × ethnic group × sex × strata	GF6	Literacy of population aged 10 years and over × ethnic group × sex
		GF7	Current marital status of population aged 10 years and over × 5-year age groups × ethnic group × sex
		GF8	Labor-force status of population aged 10 years and over × 5-year age groups × ethnic group × sex
		GF9	Employment status of population aged 10 years and over × ethnic group × sex
		GF10	Occupation of population aged 10 years and over × ethnic group × sex
		GF11	Industry of population aged 10 years and over × ethnic group × sex
		GF12	Population × age (in single and 5-year age groups) × ethnic group × sex × strata (4 levels)—wayfarers and persons afloat

Housing Tables

1A	Number of living quarters, households, and persons by type of living quarters and strata
1B	Average number of households and persons per occupied living quarters by type of living quarters and strata
2	Number of living quarters by type of living quarters, number of households per living quarters, and strata
3	Number of living quarters by type of living quarters, number of occupants per living quarters, and strata
4	Number of occupied housing units and households by type of housing units, ethnicity of head of household, and strata
5	Number of occupied housing units by type of housing unit, construction materials of outer walls, and strata
6	Number of occupied housing units by type of housing unit, construction material of roof, and strata
7	Number of occupied housing units by type of housing unit, construction material of outer walls, construction material of roof, and strata
8	Number of occupied housing units and households by type of housing unit, ethnicity of head of household, condition, and strata
9	Number of occupied housing units by type of housing unit, ownership (classification I), condition, and strata
10	Number of occupied housing units (privately owned) by type of housing unit, condition, ethnicity of the owner (classification II) and strata
11	Number of occupied housing units and households by water supply, ethnicity of head of households, type of housing unit, and strata
12	Number of occupied housing units and households by toilet facilities, ethnicity of head of household, type of housing unit, and strata
13	Number of occupied housing units and households by toilet facilities, ethnicity of head of household, and strata
14	Number of occupied housing units and households by ethnicity of head of household, water used for bathing, and strata
15	Number of occupied housing units and households by water supply for drinking, water used for bathing, and strata
16	Number of occupied housing units and households by bathing facilities, ethnicity of head of household, type of housing unit, and strata
17	Number of occupied housing units and households by lighting, ethnicity of head of household, type of housing unit, and strata
18	Number of occupied housing units by type of housing unit, cooking facilities, ethnicity of head of household, and strata
19A	Number of occupied housing units, number of rooms, and persons by ethnicity of head of household, number of rooms per housing unit, type of housing unit, and strata

19B	Number of occupied housing units by average number of rooms per housing unit, ethnicity of head of household, and strata
19C	Number of occupied housing units by average number of persons per room, type of housing unit, ethnicity of head of household, and strata
20	Number of occupied housing units by type of housing unit (house or flat/apartment), ownership (classifications I and II), builder, and strata
21	Number of occupied housing units by type of housing unit, ownership (classification I), year of construction, and strata
22	Number of occupied housing units by ethnicity of head of household, ownership (classifications I and II), and strata
23	Number of occupied housing units by type of housing unit, ownership (classifications I and II), and strata
24	Number of occupied housing units by year of construction, ownership (classifications I and II), and strata
25	Number of occupied housing units by type of housing unit (house or flat/apartment), builder, year of construction, and strata
26	Number of occupied housing units by type of housing unit, year of construction, condition, and strata
27	Number of occupied housing units by lighting facilities, water supply, year of construction, and strata
28	Number of occupied housing units by type of housing unit, number of rooms per housing unit, number of occupants, and strata
29	Number of vacant housing units by type of housing unit, construction material of outer walls, and strata
30	Number of vacant housing units by type of housing unit, construction material of roof, and strata
31	Number of vacant housing units by type of housing unit, condition, and strata
32	Number of vacant housing units by type of housing unit, reasons for being vacant, and strata

NOTES: "Strata" refers to urban-rural classification (see Definitions section of this chapter).

Housing ownership was tabulated by the following classifications:

Ownership Classification I	Ownership Classification II
Private Individual	Ethnicity of the Owner (for
Owner Occupied	living quarters owned by pri-
Non-Owner Occupied	vate individuals, Peninsular
Non-Individual	Malaysia)
Government/Statutory Body	Malay
Private Employer/Company	Chinese
Other	Indian
Unknown	Other
	Unknown

* Tables produced separately at the Second General Table System.

† Tables produced at AD level only.

‡ Tables not produced at AD level.

Publications of the 1980 Malaysia Census

Dates in parentheses are the publication dates of the reports that had been released when this chapter was prepared.

Population

1. Preliminary Field Count Summary (October 1980)
2. Mukims: Population, Households, and Living Quarters (June 1982)
3. Local Authority Areas: Households and Living Quarters (June 1982)
4. General Report of the Population Census, Volume 1 (January 1983)
5. General Report of the Population Census, Volume 2 (June 1983)
6. State Population Report, Sabah (October 1983)
7. State Population Report, Sarawak (October 1983)
8. State Population Report, Selangor (October 1983)
9. State Population Report, Federal Territory (November 1983)
10. State Population Report, Penang
11. State Population Report, Kelantan
12. State Population Report, Perlis
13. State Population Report, Perak
14. State Population Report, Johore
15. State Population Report, Kedah
16. State Population Report, Malacca
17. State Population Report, Negeri Sembilan
18. State Population Report, Pahang
19. State Population Report, Terengganu
20. Population Report by Administrative Districts: Age, Ethnicity, Sex, and Households
21. Population Report by Mukims: Age, Ethnicity, Sex, and Households
22. Population Report by Local Authority Areas: Age, Ethnicity, Sex, and Households

23. Population Report by Administrative District: Economic Activity
24. Population Report by Mukims: Economic Activity
25. Population Report by Local Authority Areas: Economic Activity

Housing

1. Census of Housing, Malaysia 1980, Summary Report (July 1981)
2. General Report of the Housing Census, Volume 1 (December 1983)
3. General Report of the Housing Census, Volume 2 (December 1983)
4. State Housing Report, Sabah
5. State Housing Report, Sarawak
6. State Housing Report, Selangor
7. State Housing Report, Federal Territory
8. State Housing Report, Penang
9. State Housing Report, Kelantan
10. State Housing Report, Perlis
11. State Housing Report, Perak
12. State Housing Report, Johore
13. State Housing Report, Kedah
14. State Housing Report, Malacca
15. State Housing Report, Negeri Sembilan
16. State Housing Report, Pahang
17. State Housing Report, Terengganu
18. Housing Report by Administrative Districts/Local Authority Areas

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NEPAL 1981

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Introduction

Situated on the southern slopes of the Himalayas, Nepal covers an area of 147,181 square kilometers. It borders the two most populous countries in the world: India to the south, east, and west, and the People's Republic of China to the north. Nepal's population is relatively small compared with that of her neighbors, just over 15 million according to the preliminary results from the 1981 census.

High mountains and rugged hills account for about 83 percent of the country's total land area, while the remaining 17 percent is the flat land of the Terai. Altitude varies from 90 meters above sea level in the Terai in the south to 8,848 meters in the Himalayas in the north. On the basis of altitude the country can be divided into three geographic regions: the mountains, the hills, and the Terai. In 1981 the country was divided into the following administrative units: 5 development regions, 14 zones, 75 districts, 23 town panchayats, and 2,912 village panchayats (a *panchayat* is a group of villages or hamlets; town panchayats are considered urban, and village panchayats rural).

HISTORY

Though it is said that population censuses were taken even before the time of the Rana regime's first prime minister (Jung Bahadur, 1846–1877), no records for them are available. The first censuses for which information is still available were carried out in 1911, 1920, 1931, and 1941, but these were little more than head counts. The first census for which internationally acceptable concepts and definitions were employed was conducted in 1952/54. Unfortunately, civil disturbances interrupted this census, and while the eastern part of the country was enumerated in 1952, the western part was not enumerated until 1954. The second modern census

followed in 1961, and censuses have been conducted every ten years since then.

LEGAL BASIS OF THE CENSUS

The Statistics Act 2015 (1960) and its revisions empowers the Central Bureau of Statistics to carry out all kinds of statistical enquiries and places the responsibility on the respondents to answer any statistical queries accurately to the best of their knowledge. The same act ensures the confidentiality of individual responses.

THE CENSUS ORGANIZATION

The Central Bureau of Statistics (CBS), which is placed under the National Planning Commission Secretariate, is entrusted with the responsibility for collecting, compiling, and publishing statistics of national interest that do not fall under the domain of any of the functional ministries of His Majesty's Government. Conducting periodic censuses of population, agriculture, and manufacturing establishments and producing national account statistics is thus the function of the CBS. The CBS is headed by a director general. There are four deputy directors who act as division chiefs.

The deputy director responsible for the Population Division assumes the responsibility for conducting the census of population. Since the census is conducted only once in ten years, the census organization is created on an ad hoc basis. For Nepal's 1981 census of population, census offices were established in all 75 districts of the kingdom. These offices were manned by a district census officer, assistant district census officer, administrative cum accounting assistant, and field supervisors.

Design and Execution

PREPARATION AND PLANNING

Preparation and planning for the census started in 1978. After a careful study of the difficulties encountered in the 1971 census and of the new context in which the

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1981 census had to operate, a census program with the objective of achieving improvements in both content and coverage was formulated and submitted to the government for approval and to the United Nations Fund for Population Activities (UNFPA) for possible assistance. Both UNFPA and the government accepted the proposal. The census operation included a full enumeration and a postenumeration survey, but no simultaneous sample survey.

The planning of the census operation took a considerable amount of time. After the government chose June 1981 to conduct the census, the Central Bureau of Statistics took responsibility for the timely completion of the operation. Based on the 1971 experience, a census schedule was prepared and was submitted in a seminar organized to complete the first draft. This seminar was attended by data producers and users of census data; for example, the National Planning Commission Secretariate, the National Commission on Population, Tribhuvan University, the Center for Economic Development Administration, Ministry of Home Affairs, and the national family planning organization.

The seminar participants discussed the questionnaire and finally arrived at a consensus and agreed to test the questionnaire and to base the final version on the results of the pilot test.

Coverage

The 1981 census attempted universal coverage; that is, it attempted to enumerate all persons residing in the country at the time of the census and those who were absent for less than 6 months, except for members of foreign diplomatic missions, short-term visitors, and tourists from abroad.

Mapping

For the first time in the history of census taking in Nepal, a separate mapping project, financed largely through UNFPA contributions, was formulated as support for the national census project. Some kind of maps showing administrative areas and villages were used in the first census in 1952/54, but for 1981 a greater attempt was made to prepare detailed maps for the census.

The following maps were originally planned:

- 75 district maps
- 2,912 village panchayat maps
- 23 town panchayat maps
- town panchayat maps divided into ward and enumeration area maps

The mapping project finally prepared maps of all 2,912 village panchayats and 23 town panchayats. This helped considerably in allotting supervisory areas and in

planning for the required number of supervisors and enumerators. But the village panchayat was too large for an enumerator area (EA), and because there were no easily definable boundaries of wards within panchayats, no ward maps and consequently no EA maps could be prepared. The absence of EA maps seriously limited the effectiveness of the census mapping work.

In the absence of ward and EA maps, especially in the rural areas, ward headmen were requested to help delineate the boundaries of their wards. The ward is the lowest administrative unit; each village panchayat has nine wards, and each ward is headed by a headman and four ward members elected from within the ward.

Schedule Content

Two types of schedule were prepared: a household schedule and an individual schedule. The main purpose of the household schedule was to prepare a list of all households living in each ward of each panchayat. A few socioeconomic characteristics pertaining to the household were collected on the household schedule, although it was mainly intended to ensure the completeness of coverage in the enumeration. The following information was collected on the schedule:

1. Serial number of the house
2. Serial number of each household in the house
3. Size of household
4. Name and surname of the head of household
5. Number of household members present (including members absent for less than six months): total, males, and females
6. Number of household members absent for six months or more. For each absentee: sex, age, district or country of current residence, and reason for absence
7. For deaths during the previous year: sex and age at death
8. For physically and mentally handicapped: sex, handicap, and age
9. Number of radios used in the household
10. For households engaged in agriculture or cottage industry: whether engaged in agriculture, cottage industry, both, or other (to be specified by respondent), and serial numbers of households engaged wholly or partially in agriculture

The individual schedule was used to collect the demographic and socioeconomic characteristics of individuals. The questionnaire was precoded except for the questions on industry and occupation of economically active persons. The individual schedule collected the following information:

1. Person's serial number
2. Name and surname
3. Mother's serial number
4. Relationship to head of household

5. Sex
6. Age in completed years
7. Place of birth: same district, another district, or foreign country
8. For persons not born in the district: duration in this district (less than one year, one year or more); reason for residing in this district
9. Citizenship
10. Mother tongue
11. Religion

For persons six years and above:

12. Literate or not
13. Highest level of education attained
14. For persons who have completed class 10 or more: major subject, field, or specialization

For persons ten years and above:

15. Marital status

For married women:

16. Number of children ever born by sex
17. Number of children still alive by sex
18. Number of children born in the last year by sex

Economic activity of persons ten years and above:

19. Whether person was gainfully employed during the last week
20. Whether person not gainfully employed was looking for work
21. Reason for being unemployed
22. Whether person was gainfully employed for eight months last year
23. For those gainfully employed eight months last year: occupation, industry, employment status (employer, employee, self employed, helping hand)

Pilot Census

A pilot census was conducted in 1980 to test the questionnaire, the instructions for enumerators and supervisors, and other administrative procedures. Six districts were purposively selected from the three geographic regions of the country, viz, the mountains, the hills, and the Terai. In each selected district, two panchayats were chosen; thus, 12 panchayats were enumerated in all. All households in the selected panchayats were enumerated, which covered a total of 73,546 persons.

After the analysis of the pilot census, the design of both the household and individual questionnaires was changed and comprehensive instructions for the enumerators were prepared. In November and December 1980 regional seminars were organized at Kathmandu, Nepalganj, Pokhara, and Biratnagar with the following objectives:

To revise the schedules for final submission to the government

To mobilize the regional, zonal, and district authorities, as well as local leaders, and to introduce them to the census
To publicize that the census would be conducted in the near future and that it would cover the whole country
To seek cooperation of public and local group leaders in the census activities
To educate local people about uses of the census

The seminars proved extremely useful for the authorities preparing the census activities and the census schedule. Since the participants were a combination of civil servants and political and local leaders, the discussions were quite interesting. The participants gave the CBS very important input, which helped in the determination of the final design of the schedules. Similarly, the participants were useful in publicizing the census and in helping with the fieldwork.

The conference at the central office was extremely helpful in deciding policy matters in addition to the matters described above. Sixty-three members from 26 government, international, and private organizations, as well as dignitaries and population experts, attended the two-day seminar held at the CBS.

PUBLICITY

For the 1981 population census a separate Census Communication Project was formulated and a Communication Unit was formed in the bureau. This unit helped identify the most effective media for communication and was responsible for preparing the most suitable census messages for persons at each socioeconomic level. In fact, all available means of communication—radio, newspapers, posters, folders, wall charts, logos, cinema slides, banners, etc.—were utilized to motivate people to cooperate with the census and thereby to achieve better coverage.

Of the various means of communication, radio was found to be the most effective. Several messages accompanied by melodious music were broadcast in regional dialects. These messages helped people understand the census better.

The United Nations Development Programme's Asia and Pacific Programme for Development Training and Communication Planning (DTCP) in Bangkok helped arrange, produce, and run the communication program. The DTCP assistance significantly improved the program.

ENUMERATION

Enumeration Districts

It was decided that 200–250 households, or a maximum of two wards, could be covered by one enumerator within the 18-day enumeration period. Thus each enumerator enumerated 1,000–1,200 persons. As has been

mentioned earlier, enumeration area maps could not be prepared because of the absence of clearly defined ward boundaries and because of a shortage of time.

Recruitment and Training of Enumerators

Eighty district census officers, 80 assistant district census officers, and 80 accounts assistants were recruited temporarily for the census and were given rigorous training on the procedures, concepts, and definitions employed in the census, the questionnaire contents, and the proper method of recording responses. A census office was established in all 75 districts of the kingdom about three and a half months prior to the enumeration. Supervisors were recruited and trained by district census officers and their assistants. A total of 1,500 supervisors were involved in the census work.

Approximately 20 percent of Nepalese are literate according to the census definition (i.e., can read and write a letter), and the higher the altitude, the lower the literacy rate. In such a society it is quite difficult to hire literate persons to work as census enumerators. Furthermore, because traveling between villages may involve a difficult walk of many hours, or even days, it is difficult to get a person to go to an enumeration area far from his residence.

With these constraints in mind, enumerators were selected from the area to be enumerated and were only required to be literate—no educational certificates were necessary. It was considered sufficient for enumerators to be able to read, write, and follow the census instructions well. The supervisors made sure the enumerators could read, write, and understand the census documents. Since most of the enumeration was to be completed in the morning or late in the afternoon, any employee, teacher, student, panchayat or social worker, or any other person could be accepted as an enumerator.

There was no problem finding enumerators in the plains and mid hills, and although there were problems in the high hills, political workers of the lower levels cooperated well. About two weeks prior to the census, 15,000 enumerators were recruited. They were trained for one week by the supervisors in their respective enumeration areas.

The training was divided into two parts: training at the Central Bureau of Statistics, and training in the field. The training in the field was further divided into the training of supervisors at the district level and enumerator training.

One district census officer, one assistant district census officer, and one accounts assistant were deputed in each of the 75 districts to attend the training program at the CBS. Five additional persons were trained at each level as reserves for emergency use. Thus 240 persons were trained at the center—225 from the districts and 15 at large.

The central training program consisted of four classes

each day for four groups (two for officers and two for nonofficers). Accountant training was conducted by a separate agency—the Office of Controller General—and census training was given by the CBS. For each group, 76 classes were taken in 20 working days. The training covered the following topics:

General

1. Introduction to Statistics, Censuses, and Surveys, Including Nepal's Past Censuses
2. Importance of the Population Census
3. Population Census and Analysis
4. Population Policy and the Census
5. Problems of Census Taking and Ways to Overcome Them
6. Communication Systems (Radio, Postal Services, Wireless, etc.) in Nepal and Their Aid to the Census
7. World Population Trend
8. Sixth Plan and the Census
9. Resettlement, Migration, and the Census
10. Culture and Ethnicity in Nepal and Their Impact on the Census
11. General Administration and Financial Administration

Census

1. Communication Media and Programs and Their Use in the Census
2. Pilot Census and Its Problems
3. Use of Maps in Census and Updating Maps
4. Census Administration, Recruitment
5. Details of Filling Out Questionnaires, Primary Editing, Totalling, etc.
6. Reporting Progress
7. Interview Techniques
8. Power and Duties of Census Personnel and Their Relation to Other Officials, Leaders, etc.
9. Techniques for Collecting Information on Disability
10. Methods of Training Others
11. Methods of Imputation, Particularly for the Underreporting of Age
12. Practicals in the Field

This national census training program was conducted by master trainers—mostly persons very experienced with censuses and a few master trainers trained by the Development Training and Communication Program in Bangkok. In addition, Dr. Ueda from the Statistical Institute for Asia and the Pacific (SIAP) in Tokyo and Nazib Assifi from DTCP Bangkok participated as lecturers. National experts from government offices, universities, the media, and Bir hospital initiated the training, making it more practical. The director general, deputy director, demographer, section officers, regional officers, and others represented the CBS as master trainers.

Training at the district level was organized by district officers and assistant district officers. This stage of training lasted two weeks and included instruction on

filling out the census questionnaires, on checking and editing, and on how to obtain reliable information.

Enumerator training was the final stage of the training program. Enumerators were grouped and brought to a central place where two or three supervisors could run the training jointly. Since enumerators were paid according to the number of individuals counted, they were given a separate allowance for the training period (seven days).

All the training programs included practical exercises where trainees were given the questionnaires and sent into the field to face real enumeration problems. Afterward any problems encountered were discussed.

The organization and execution of the 1981 census training program was much improved over that of the previous census. Every step of the training was planned in detail and the field practice was improved to make the census coverage more reliable.

Enumeration Procedures

Two types of schedules were used for the census. The household schedule, primarily meant for preparing a household list, also contained a few items of information that had to be collected with the household as the unit of enumeration. The supervisors who were recruited at the district census offices and trained by district census officers and assistant district census officers were given the responsibility of filling out the household schedule.

The supervisors were given about two and a half months (March–May 1981) to fill in the household schedules. They prepared a control form from the completed schedules, and this was used by the enumerators as a reference for filling in the individual questionnaires. The control form contained the name and address of the head of each household. The supervisors' work was controlled and supervised by the district census officers and their assistants.

The individual questionnaire was filled in by the enumerators during the two weeks time allotted for enumeration. Enumerators had to identify ward boundaries with the help of supervisors, ward headmen, and ward members to avoid possible omission and duplication in the enumeration. The enumeration period lasted from 4 to 22 June 1981. The enumerators were given clear instructions about dealing with nonresponses and about calling back on absent households. On the last day of the enumeration, the supervisors and enumerators enumerated all homeless persons and institutional households in their areas. At the same time, they were instructed to record births and deaths that occurred during the period of enumeration. In addition to being supervised by the census supervisors, the enumerators' work had to be checked for completeness and accuracy by local officials.

Data Processing

DATA PREPARATION AND CODING

Though much of both schedules used in the census was precoded to expedite the input for computer processing, a large amount of coding work remained to be done before the census forms could be processed through the computer. For the purpose of coding and rudimentary editing of the forms manually, 200 coders, 20 coding supervisors, and 10 editing supervisors were recruited. They were provided with editing and coding manuals and trained properly by data processing staff and subject-matter specialists. Similarly, 120 data entry operators and 20 supervisors were recruited and trained for the data entry operation.

EDITING AND IMPUTATION

As has been mentioned above, some preliminary editing was done manually by the coders. In addition, the ICL 7502 data entry machines to be used for the census have the capacity for some editing such as range checks. These checks are programmed and performed at the data input stage. A generalized editing program to check consistency and range was written in COBOL and was to be used for correcting the data. For nonresponses and omissions, both cold and hot deck imputations were planned. A list showing the percentage of cases for which values were imputed was to be printed out for all items for which imputation had to be done. Based on this list, a decision on which items to publish with imputed values and which to discard would be made. In any event, all cases that exceeded a certain level of imputation were to be reported.

EQUIPMENT

A powerful ICL 2950/10 mainframe computer with 1 megabyte memory was provided by UNDP/UNFPA to the National Computer Center for the processing of the census and other regular jobs. To go along with its new processing capability, the computer center procured ICL 7502 machines for data entry operations. This key-to-diskette system was expected to shorten considerably the time required for data input. Even with this speedier, more efficient system, the data entry operation was expected to take about a year and a half.

Definitions

De Jure

Nepal's 1981 census of population employed the *de jure* concept of enumeration: people were enumerated at their usual place of residence. A reference period of six months was used to determine usual place of residence. Persons who had been residing in a place for six months

or more were considered usual residents of that place even if they were absent at the time of enumeration provided that absence was for a period of less than six months.

Urban/Rural

The census did not set up its own definition of urban areas, but considered all town panchayats urban. The administrative definition of town panchayat is based on certain administrative characteristics and on population.

Economically Active

In the census of 1981 all persons above age ten were asked about their economic activity and classified either economically active or economically not active. Economically active included all those who during the year prior to the census had worked either for pay or profit for at least eight months whether continuously or intermittently. It also included those who were seeking jobs for the first time and those who were unpaid family workers if the amount of work they did was at least one-third of the normal working time.

Occupation and Industry

All economically active persons were asked their occupation and industry. Occupation referred to the actual work performed by a person; industry referred to the type of organization where the activity was performed.

Race and Ethnicity

The 1981 census did not contain questions on ethnicity or race. The question on mother tongue was the only source of this type of information.

Tabulation and Publication

Immediately after the household listing was over, the district officers cabled the population totals to the CBS. These totals were broken down by sex and went down to the panchayat and ward levels. Similarly, just after the census was over, the totals were cabled to the bureau. About two months later the preliminary population total was released to users for immediate use. These figures will probably be revised when the final country total is available from computer processing (scheduled for the end of 1983).

All basic tables recommended by the United Nations and other tables deemed useful from the point of view of planning will be published. These will be released in four volumes (ten publications):

- Volume 1 Development Region, Zone, and District Tables
 - Part 1 General Characteristics Tables
 - Part 2 Social Characteristics Tables

- Part 3 Social Characteristics Tables
- Part 4 Social Characteristics Tables
- Part 5 Fertility Characteristics Tables
- Part 6 Economic Characteristics Tables
- Part 7 Economic Characteristics Tables

- Volume 2 Geographic Region Tables
- Volume 3 Urban Area Tables
- Volume 4 Household Characteristics Tables

Similar tables will be published in volumes 1-3 (see list at end of chapter), while volume 4 will contain tables pertaining to household characteristics.

Evaluation

A postenumeration survey (PES) was planned and conducted in conjunction with the 1981 census. The survey covered 55 of the 75 districts; the 20 mountainous districts were excluded owing to time constraints and their inaccessibility during the rainy season. A sampling design with two-stage stratified random sampling was used. The 55 districts were grouped into eight strata based on the geographical location of the districts. Two districts were selected for the PES from each stratum, and within each selected district wards were selected systematically. The selected rural wards were completely enumerated. Four wards of town panchayats from selected districts formed the first urban stratum. Two wards from each of the town panchayats of Kathmandu, Lalitpur, and Bhaktapur in Kathmandu Valley formed the second urban stratum.

District census officers were trained by persons from the center who had been trained by an expert. Census supervisors were used as enumerators.

As in the census, two types of forms were used: one for household listing and the other for individual enumeration. The PES forms were then matched with the census forms. A "one-way" matching of the forms was done; that is, persons enumerated on the PES forms were matched with persons enumerated on the census forms to estimate the "missed" and "matched" rates. In addition to providing a measure of coverage error, the PES is expected to provide some insights into content error as well.

Improvements

The 1981 census introduced several improvements over previous censuses; for example, the census users conference, the mapping program, and the training and communication program.

THE CENSUS USERS CONFERENCE

In order to obtain census users' reactions to and suggestions for the questionnaire, its contents, and other aspects of the census, users conferences with representatives from various ministries and departments of His

Majesty's Government as well as other economic and social organizations were organized in the eastern, western, and far western regions of the country. This not only helped the census organization obtain the requirements for information of the various social and economic agencies concerned, but also provided an opportunity to explain the methodology and the questionnaire to a broad spectrum of people, particularly opinion leaders at the local and regional levels.

MAPPING PROGRAM

As has been referred to above, efforts were made to make the census as accurate as possible by providing the much needed maps that were not available in the previous censuses. The most effective map from the point of view of the census—the enumeration area map—could not be prepared owing to various constraints. Only village panchayat and district maps were prepared. These were utilized in assigning supervisory areas and for other census planning purposes.

TRAINING AND COMMUNICATION PROJECTS

The third important innovative aspect of the 1981 census was its emphasis on the training and communication aspects of the census. Though substantial efforts were made in the previous census for training and communication, the projects for the 1981 census went far beyond previous efforts to organize an effective training and communication program. Intensive efforts were made at the center in the training of the district census officers and their assistants. In addition all available communication media were utilized for disseminating census messages to the far corners of the country. Though all media were used, the radio was found to be the most effective. This was in spite of the fact that only a small portion of the rural households in Nepal have radio receiver sets. The explanation for this paradox is that although only a small proportion of households have radios of their own, most can listen to radio messages with neighbors, friends, or relatives.

Problems Faced

It is well known that because the census is a national exercise of massive scale, it is beset with innumerable problems at every stage. The 1981 census of Nepal was no exception in this regard, but the nature of the problems encountered in Nepal might be quite different from those encountered elsewhere. The following are some of the main problems faced in the census of 1981.

TRANSPORT

The problem of transport and communication, though not unique to census exercises, nevertheless posed formidable problems. There are only a few good motorable roads across the country, and some of the outlying areas in the north are nearly inaccessible even to transporta-

tion by human porters. Consequently the bulk of census documents, administrative instructions, and other materials had to be packed and distributed some two to three months before the start of the fieldwork. Thus the procurement and packaging of census materials had to be done at the center and distributed well in advance of the enumeration.

A large number of human couriers was employed to help enumerators communicate with their supervisors and to carry out their requests for additional materials or instructions. In many cases, there was no other means of communicating with the enumerators and supervisors engaged in fieldwork.

TRAINING OF ENUMERATORS

Ensuring uniform and adequate training of enumerators for the census work poses a big problem in Nepal. Since, by the nature of the job, the tenure of enumerators is very short and their numbers are very large, the organization of their training at the center, and at regional levels as well, becomes quite difficult and entails comparatively large costs. The training of the enumerators had to be spread over all 75 districts and to several centers within the districts. This program, diffused to so many training centers over the entire country, paid a toll in the form of control. In remote northern areas, the lack of qualified supervisors meant that low-level supervisors had to be used, and these low-cadre supervisors could not properly grasp the concepts and methodology of census taking.

PROBLEMS OF THE POSTENUMERATION SURVEY

For the first time in a census of Nepal, a PES was conducted. Its main aim was to evaluate coverage and content. Since preparatory work was delayed, the fieldwork was not conducted until 1–14 August 1981. This was the middle of the rainy season and mobility in some cases was quite difficult. Because of the heavy rains, enumerators were likely to avoid lengthy travel. To avoid the temptation to duplicate census records, the records were brought back to the center before the district offices were informed which wards were to be enumerated in the PES. Of the 75 districts in the country, only 55 were included in the PES; the other 20 were inaccessible during the rains. Although the supervisors of the population census were used as enumerators for the PES, the initial results indicated the information collected was not very reliable (perhaps because of the difficulty in mobility). As a result, matching records was difficult.

Budget

UNFPA agreed to provide US\$1,304,100 (N Rs 15,518,790 at Rs 11.90 = \$1) and His Majesty's Government, N Rs 15,700,000 making a total of N Rs 31,218,790 for preparation, census operation, data processing, and printing. UNFPA was very generous, pro-

viding assistance for publicity and for mapping work to improve coverage and make the census more reliable. The total UNFPA assistance and government outlay for the 1981 census was allocated as shown in table 11.1.

Tables from Nepal's 1981 Census

(Tabulations for development regions, zones, and districts. Similar tables will be published in separate volumes for geographic regions and urban areas.)

1. Population in households, total households, and average household size
2. Number of households by size
3. Population distribution by sex, area, and density
4. Population distribution by single year of age and sex
5. Population by five-year age groups and sex
6. Number of localities by size of population and sex
7. Population distribution by place of birth and sex
8. Foreign-born population by age, sex, birthplace, and duration of stay in Nepal
9. Foreign-born population by age, sex, birthplace, and duration of stay in present place of residence
10. Foreign-born population by age, sex, birthplace, and reasons for stay in present place of residence
11. Citizenship of population by age and sex
12. Population by mother tongue, age, and sex
13. Total population by religion and sex
14. Population 6 years of age and over by literacy, age, and sex
15. Population 6 years of age and over by educational attainment (level passed), age, and sex
16. Population 10 years of age and over by age, sex, and marital status
17. Female population 10 years of age and over reporting number of children ever born by age of mother
18. Female population 10 years of age and over reporting number of children ever born by level of educational attainment
19. Female population 10 years of age and over reporting number of children still alive by age of mother
20. Children born alive in 2037 B.S. (mid-April 1980–mid-April 1981) by age of mother for women 10 years and above
21. Economic activity of population 10 years of age and over by age and sex
22. Reasons for not being economically active, population 10 years of age and over
23. Major occupation group of economically active population 10 years of age and over by age and sex
24. Major industry group of economically active population 10 years of age and over by age and sex
25. Employment status of economically active population 10 years of age and over by age and sex
26. Major occupation group by educational attainment (level passed) for economically active population 10 years of age and over by sex
27. Major industry group by educational attainment (level passed) for economically active population 10 years of age and over by sex
28. Marital status by economic activity for male population 10 years of age and over by age
29. Marital status by economic activity for female population 10 years of age and over by age
30. Marital status by economic activity for female population 10 years of age and over by age
31. Economically active male population 10 years of age and over by major occupation group and industry division
32. Economically active female population 10 years of age and over by major occupation group and industry division
33. Employment status of economically active population 10 years of age and over by major occupation group and sex
34. Employment status of economically active population 10 years of age and over by major industry group and sex

Table 11.1 Allocations for 1981 Census (in Nepalese rupees)

	<i>UNFPA Assistance</i>	<i>His Majesty's Government</i>	<i>Total</i>
Census operation.....	15,518,790 (US\$1,304,100)	15,700,000 (US\$1,319,328)	31,218,790 (US\$2,623,428)
Data processing (including operating expenses)	7,335,160 (US\$616,400)	2,000,000 (US\$168,067)	9,335,160 (US\$784,467)
Communication & training	1,014,475 (US\$85,250)	383,960 (US\$32,266)	1,398,435 (US\$117,516)
Census mapping	2,803,104 (US\$235,555)	2,006,652 (US\$168,626)	4,809,756 (US\$404,181)
Total	26,671,529 (US\$2,241,305)	20,090,612 (US\$1,688,287)	46,762,141 (US\$3,929,592)

NOTE: Converted at the rate US\$1 = N Rs 11.9.

NEW ZEALAND

1981

Population Division
Department of Statistics
Wellington

Introduction

HISTORY

The history of the census in New Zealand dates back to the days prior to the establishment of responsible government in the colony in 1853. Between 1841 and 1851, official population counts were taken regularly in the settlements of the new colony by resident magistrates. There was, however, little uniformity in the dates, methods, or scope of the inquiries, and they ignored population (such as whalers) living outside the settlements.

The first national census was taken in 1851. By then, the rapid growth of the colony, arising from a flood of immigrants, had shown the need for a simultaneous, uniform census throughout New Zealand. A census ordinance as passed by the Legislative Assembly in 1851, providing for a general census to be taken that year and "in every first, fourth and seventh year in every decade of years." A standard questionnaire, based on the English model, was used to obtain information about the new settlers' locations, names, ages, sex, infirmities, and industries—as well as their fenced land and livestock.

No second enumeration was ever taken under the ordinance. By 1853, new provincial governments had come into existence (there were variously six to ten provinces at different periods), each with its own Legislative Council. Each province passed an individual census ordinance and conducted its own census with little attempt at national comparability. A meeting of the colony's House of Representatives in 1858 recognized the importance of reviving the general census. In consequence, the Census Act was passed, repealing the ordinance and allowing for a national census at regular three-year intervals beginning in 1858. The act also provided for

the employment of census enumerators to replace the former resident magistrates as official census collectors. The 1858 census was the forerunner of a long series of censuses that have followed at intervals of three, four, or five years.

Up to the census of 1891, enactments of the central government dealing with the census were almost as frequent as the censuses themselves. The act of 1858 was amended in 1860, 1867, 1870, 1873, and 1876, until repealed in 1877 by the Census Act of that year. The most important innovation of the 1877 act was its centralization of census processing in Wellington, thereby providing for a uniform interpretation and presentation of data. Previously each province had compiled its own census statistics. Further amendments followed in 1880 and again in 1890. An act of 1910 created a separate Census and Statistics Office (extended in 1955 to a separate department of state—The Department of Statistics), under the responsibility of a government statistician.

Subsequent statistics acts, consolidating and extending the law relating to the census, as well as other statistical collections, were passed in 1926 and 1955. The current legislative authority for the census is the Statistics Act 1975.

The 1877 act substituted a quinquennial census cycle for the earlier three-year sequence. This five-year sequence has been maintained since 1881 with only two interruptions—the census proclaimed for 1931 was abandoned because of the economic recession, and the outbreak of World War II forced the postponement of the 1941 census until 1945. The twenty-seventh New Zealand census was conducted on 24 March 1981, and the remainder of this chapter will be concerned with this census.

LEGAL STATUS

Part III of the Statistics Act 1975 provides for the taking of the New Zealand census. Section 23 (1) states: "The Census of Population and Dwellings of New Zealand shall be taken by the Department in the year 1976 and in

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every fifth year thereafter.” Section 24 relates to the particulars to be collected in the census. Subsection (1) states:

At every census of population and dwellings particulars relating to all of the following matters shall be obtained from every occupier or person in charge of a dwelling:

- (a) The name and address, sex, age, and ethnic origin of every occupant of the dwelling;
- (b) Particulars of the dwelling as to location, number of rooms, ownership, and number of occupants on census night.

Section 24 (2) states:

At any census of population and dwellings the Statistician may, if he considers it in the public interest so to do, obtain from every occupier or person in charge of a dwelling particulars relating to all or any of the following additional matters:

- (a) The profession or occupation and industry in which employed, nationality and citizenship, health, marital condition, religion, birthplace, duration of residence in New Zealand, address where living at previous census or previous year, number of children, number of hours worked per week for wages or salary or financial reward, status in employment, name and address of employer, mode of transport to and from work, time taken to travel to work, income, address of usual residence, and service in the armed forces of every occupant of the dwelling;
- (b) Particulars of the dwelling as to type and tenure of dwelling and nature of materials of structure, household amenities, rent paid, and details of any livestock;
- (c) Any information relating to the kinds of statistics for which information may be required pursuant to section 4 of this Act or as may be prescribed by regulations under this Act.

Section 25 relates to the duty of persons to obtain census schedules and states:

It shall be the duty of any person who, because of any omission by an employee of the Department . . . , has failed to receive any schedule, . . . to obtain that schedule . . . and the fact that any schedule was not delivered at the dwelling shall be no defense in any prosecution . . . under this Act for failure to fill in the schedule.

Section 26 relates to the duty of the occupier and other persons in a dwelling, and states:

- (1) It shall be the duty of every occupier . . . to ensure that particulars . . . are furnished with respect to every person abiding in the dwelling . . . ;
- (2) If any person in respect of whom particulars are required to be furnished pursuant to subsection (1) of this section is not a member of the family of the occupier, it shall be the duty of that person to furnish to the

occupier the particulars necessary for filling in any schedule or schedules, and to fill in any schedule or schedules personal to himself, and to hand the completed schedule or schedules to the occupier:

Provided that any person over the age of 15 years may, if that person so wishes, enclose the completed personal schedule or schedules in an envelope endorsed with the census district number, the census sub-district number, the schedule number or numbers, and his name, and seal the envelope before delivery to the occupier.

- (3) Every occupier or sub-enumerator who opens any such envelope commits an offense against this Act: Provided that it shall not be an offense for a sub-enumerator to open the envelope where these particulars have not been properly endorsed on the envelope and he has been unable after reasonable endeavors to have these particulars completed by the respondent.
- (4) Where a dwelling is occupied by two or more persons jointly, the duty imposed on the occupier as to the furnishing of the particulars of the dwelling schedule for the census of population and dwellings shall lie upon the occupiers severally, save that the performance of the duty of the occupier by one of the joint occupiers shall discharge the obligation of the other or others.

Other relevant sections of this act include:

Section 19: Appointment of enumerators, sub-enumerators, etc.

Section 20: Evidence of appointment

Section 21: Declaration of secrecy by every employee

Section 37: Security of information

Section 39: Failure of enumerator, sub-enumerator to carry out duties

Section 43: Neglect or refusal to supply particulars

Section 47: General penalty

ORGANIZATION

The five-year census of population and dwellings is the responsibility of the Population Division of the Department of Statistics. The director, who is responsible to the assistant government statistician (population), controls the following sections: population statistics, population census processing, and population census development (see figure 12.1). The functions and staffing levels of these sections are as follows:

The Population Statistics Section has a permanent staff of 13 and is responsible for the planning, enumeration, and publication of census results. In addition, the staff and facilities of the Post Office are utilized for organizing census fieldwork. For the purposes of the field enumeration, a temporary establishment of approximately 4,800 persons is employed for periods ranging from two weeks to nine months.

The Population Census Processing Section has a permanent staff of five and is responsible for data process-

Figure 12.1. New Zealand Census Organization

ing including the coding and editing of census questionnaires. A temporary staff of 469 is employed on this phase of the operation for a period of up to 15 months.

The Population Census Development Section has a staff of two and is responsible for long-term planning and evaluation.

Design and Execution

PREPARATION AND PLANNING

Planning for the 1981 census commenced early in 1978 when a series of meetings to consider the census timetable was convened. All aspects of the census operation were reviewed until a final timetable was approved on 20 March 1978. The most significant aspect of this timetable was the advancement in time (up to 18 months) of

the various phases of the census compared with dates achieved in the 1976 census.

Coverage

The census included all persons in New Zealand at midnight 24 March 1981. Included were persons who were on a vessel between two New Zealand ports, tourists and other temporary visitors from overseas, and fishermen and others normally resident in New Zealand who were temporarily working offshore. Members of the armed forces of foreign (non-Commonwealth) nations on warships or in military camps were excluded, as were New Zealand residents overseas at census date. All persons were required to complete (or have completed on their behalf by another person) a personal questionnaire. Persons under the age of 15 and overseas visitors not working in New Zealand during their stay and not mem-

bers of the family of an overseas resident who was working while visiting New Zealand were only required to complete part A of the questionnaire.

The census also covered all dwellings in New Zealand. Only occupied dwellings had questionnaires completed for them, this being the responsibility of the occupier or person in charge of the dwelling. Unoccupied dwellings and dwellings under construction were counted as such, but did not have questionnaires completed for them.

Sample Design and Coverage

New Zealand did not use sampling methods in the enumeration of population and dwellings. Sampling was used, however, for the pretests of the questionnaire and after the census as a means of producing a preliminary selection of basic statistics within nine months of the census date.

The department has an on-going interviewer-administered household survey in operation, and topics that can be satisfactorily covered by the use of sampling methods are considered for inclusion in this survey.

Mapping

The principal aim of census mapping is to compile maps for use by enumerators in the field to ensure that no area is either omitted or duplicated during the enumeration process.

The central government mapping agency, the Department of Lands and Survey, acting according to specifications and directions of the Department of Statistics, prepares all census maps.

The Department of Statistics in consultation with the Post Office, divided New Zealand into 276 census districts. Two sets of maps were prepared for each district. Utilizing the Enumerator Reports from the 1976 census, population estimates, building permit data, aerial photography, and other relevant information, department staff divided the district enumerator maps into subdistricts. The enumerator maps were then returned to Lands and Survey where an additional 4,425 subdistrict maps were prepared.

The scale of the enumerator maps was 1:63,360 for rural areas and between 1:10,000 and 1:20,000 for urban areas. For subenumerator maps the rural scale was the same, but for urban areas it was approximately 1:5,000. Whereas the existing map stock at the Department of Lands and Survey was utilized in the preparation of enumerator maps, maps from other agencies (e.g., New Zealand Post Office, local authorities) that were considered more appropriate for field enumeration were selected for subenumerator maps. Where maps were considered inadequate or where enlargements were required in order to correctly locate census boundaries, aerial photography from existing film banks was utilized.

A series of maps for users was also prepared by the

Department of Lands and Survey. This work included the production of transparencies on which the mesh-block pattern was drawn. Meshblocks, which are sequentially numbered, are the smallest areal breakdown for which census statistics are available. Map scales are 1:63,360 for rural areas and approximately 1:10,000 in urban areas. Prints are supplied to users for a service charge.

Also available are maps showing the department's nonadministrative boundaries, i.e., statistical areas, statistical divisions, and urban areas. In the latter case, the boundaries of the local authorities within main or secondary urban areas are also depicted, together with their interior subdivisions.

Schedule Content

The Statistics Act 1975 requires that questions on nine subjects be included in all national censuses. These have already been outlined in the Legal Status section of this chapter. In addition, the act mentions 25 topics that are considered to be of national value—topics such as birth-place, occupation, employment status, children born, and rent paid. These two groups of subjects—the compulsory and the standard—form the basis of the New Zealand census. The act also provides for additional, unspecified questions to be asked where these would meet a specific need for information. To ensure that the census would provide the information that users of its data require, the Department of Statistics invited submissions for new or revised questions from 117 organizations, including central government departments, major local authorities, universities, and national councils.

Submissions were received from 44 organizations and were subsequently evaluated by the Census Planning Committee, whose members comprised senior officers of the Department of Statistics. The 1981 census asked a total of 47 questions, 29 of which were on the personal questionnaire and 18 on the dwelling questionnaire.

New topics on the dwelling questionnaire included number of vehicles, caravans, and boats; ownership of a holiday residence; and, for rented dwellings, type of landlord. Also, the question on number of rooms was modified as a result of some inconsistency in the answers reported in 1976.

For the personal questionnaire, two questions from the previous census were deleted: number of years lived at usual address and courses attended for personal interest or development. New topics included residence one year ago; social welfare income; school qualifications; and academic, vocational, and professional qualifications attained. Six questions asked at the previous census were modified to some extent and included: children born to females aged 15 years and over (previously restricted to ever-married females); hours worked (extended to include hours worked for each of first, sec-

ond, and third or more jobs); age (divided into two questions, namely, date of birthday and year born or age last birthday); ethnic origin (the separate question on Maori descendency was deleted as such information could be obtained from the main question); and educational attendance (separate questions were included on school attendance and tertiary attendance).

Samples of both the personal and dwelling questionnaires appear in appendix 1.

Pilot Test

The Pilot-test of Personal and Dwelling Questionnaires for the 1981 Census was conducted in September 1979. The pilot test covered 600 households in five purposely selected areas of New Zealand. The households were preselected in each area via a systematic random sample of residential addresses recorded in the 1976 census.

Unlike the census proper, participation in the pilot test was purely voluntary for the selected households. Despite this voluntary basis, only 7 percent of the originally selected households who were able to be contacted refused to participate. Another 5 percent declined on account of old age, illness, recent bereavement, or impending departure from the area.

Field staff issued questionnaires to those households that agreed to participate in the pilot test and arranged to return to collect the respondent-completed questionnaires at a later date. Altogether, 558 partly or fully completed dwelling questionnaires and 1,750 partly or fully completed personal questionnaires were collected. Field staff were instructed to accept partly completed questionnaires and not to obtain missing information because subsequent analysis of omissions, in the form of a nonresponse rate for each question, was relied on to reflect the degree of difficulty that each question caused respondents.

In addition to being asked to complete a questionnaire, each respondent was asked to complete a comment form, one question of which was, "Did you have any trouble in following the Notes for Guidance, instructions, wording, or layout in any question?" A question number-comment format was provided for responses, which subsequently provided data on why particular questions had relatively high nonresponse rates. On the basis of those data, questions that had high nonresponse rates—and even some questions that did not—were modified as deemed necessary or desirable. A pilot test of the modified questionnaire was not conducted.

Among the questions asked on the comment form for the dwelling questionnaire was one designed to assess the acceptability of introducing a system of postal return of census questionnaires. The question asked:

If you were to be supplied with a postage-paid envelope in the 1981 Census itself, and you were asked to post your household's completed questionnaires to a particular Post

Office (instead of having them collected by a Census Officer) how happy would you be to send them through the post?

The answer categories supplied, together with the percentage distribution of responses, were as follows (there were 484 respondents):

Very happy	25 %
Happy	35 %
Neither happy nor unhappy	21 %
Unhappy	7 %
Would object to posting them	12 %
	<hr/> 100 %

With 40 percent of respondents being less than happy to send completed census questionnaires through the post, it is unlikely that a system of postal return of census questionnaires will be adopted in New Zealand, at least within the next one or two censuses. The variation in this percentage between the five areas selected for the pilot test was not large, the percentages being 29, 37, 39, 40, and 45.

PUBLICITY

The publicity campaign for the 1981 census was the most comprehensive program ever devised by the Department of Statistics. The services of the Tourist and Publicity Department were also utilized. The objectives of the campaign were to make the public aware that a census was being held, to make respondents aware of their obligations, to provide information about the census organization, to inform the public why a census is held, and to ensure the successful completion of the census.

Publicity material included the traditional household circular delivered some three weeks before the census date, followed by releases to the media and commissioned advertisements in the press. A press kit containing 12 reproducible articles on the history of the census, the nature and use of the questions, the confidentiality of answers, and other relevant matters was prepared for the first time. A concentrated program of advertising on radio and television both up to and just after the census was reinforced by the ready availability of department staff for interviews and discussion. Other forms of publicity included explanatory leaflets in minority languages; circular letters to nonprivate dwellings (hotels, hospitals, etc.); the placing of posters in public places, post offices, and local authority offices; and a brochure to schools. In the latter, a series of competitions were organized, and in the art section a selection of the best entries were reproduced in the form of a frieze poster. While it is hard to quantify the success of the campaign, especially before the quality of the answers has been

ascertained, there was the general impression among the staff in the field that the public were better informed about the census than ever before.

ENUMERATION

Enumeration Districts

For census purposes, New Zealand is divided into thirteen census area officer regions, which together comprise the 276 census districts, each of which is controlled by a census enumerator. In turn the districts are divided into subdistricts (each being allocated to a subenumerator), and finally, at the lowest level, into meshblocks.

Census area officer regions comprise a number of census districts and are determined by factors such as density of population, numbers of field staff, topography, and accessibility. The average number of census districts per region is 21, with the highest number 32 and the lowest 13.

Census districts are those areas administered by census enumerators and generally follow the boundaries of territorial local authority areas. Each census district is divided into census subdistricts (for which a subenumerator is appointed); the average number per district is 16, with the highest number 29 and the lowest 4.

Each census subdistrict consists of a number of adjoining meshblocks. This number is limited to the number that a subenumerator can reasonably enumerate in the time available. Subdistricts follow meshblock boundaries.

In urban areas, each census subdistrict contains 250–300 dwellings. Although in rural areas the number of dwellings is approximately 150–200, some subdistricts in remote rural areas contain considerably fewer. Account is taken of large institutions, such as hospitals, prisons, and camps, where a large population (rather than a large number of dwellings) may necessitate the designation of a special subdistrict.

Meshblocks are areas of land whose boundaries are readily identifiable on the ground. The meshblock is the smallest areal unit for which census information is compiled. There were approximately 33,500 for the 1981 census.

A meshblock has no specific size in terms of area. Its size depends primarily on the number of dwellings it contains and the type of area it covers. In rural areas, meshblocks generally have a population of 100–150 persons, although some meshblocks may contain no population at all. Meshblocks in urban areas generally contain a population of 150–200 persons.

Wherever possible, meshblock boundaries remain unchanged from census to census, although any meshblock can be split at a later census into two or more meshblocks in response to changes in the residential distribution of the population.

Recruitment and Training of Enumerators

The Department of Statistics does not have sufficient permanent staff throughout New Zealand to conduct the quinquennial censuses of population and dwellings. Therefore, the Post Office provides most of the staff and facilities for organizing and controlling the census fieldwork.

Postmasters, senior officers, and other persons (such as retired postmasters) are appointed at selected post offices to act as census enumerators. Each enumerator recruits a number of subenumerators and supervises and controls their fieldwork. Each subenumerator is allocated a census subdistrict by the enumerator, and the enumeration of every person and dwelling in the subdistrict is the responsibility of the subenumerator. Enumerators are also responsible for appointing assistant/special subenumerators to assist with the enumeration of hotels, motels, camps, prisons, and other institutions.

The link between the Department of Statistics and census enumerators was maintained by a small number of census area officers employed by the department and through a liaison officer appointed by Post Office Headquarters.

The number of census field staff employed for the 1981 census of population and dwellings was as follows:

Census area officers	13
Census enumerators	276
Census subenumerators	4,425
Assistant/special subenumerators	135 (approx.)

Census area officers were recruited by the Department of Statistics some nine months before the census by means of advertisements in local newspapers.

Census enumerators were recruited and appointed by the Post Office. At a much earlier date, matters such as the defining of the census districts, the location of the Census Control Offices, and the remuneration of enumerators were determined in discussions between the Department of Statistics and the Post Office. The Post Office invited postmasters and senior supervisors to act as census enumerators. In situations where suitable personnel were not available, retired Post Office staff were approached, and in a few exceptional cases the positions were advertised.

The recruitment of subenumerators was the responsibility of the enumerators, who were required to advertise the subenumerator positions and interview the short list of most suitable applicants. The appointments of subenumerators (and special/assistant subenumerators) were approved by the census area officers.

Following the appointment of census area officers, the Department of Statistics conducted a week-long

training session for such personnel, covering their responsibilities and duties but with specific attention placed on the preenumeration phase. A further session was held two months before the census date, covering the enumeration and postenumeration phases, and a final debriefing session was held prior to the termination of the area officers' employment.

The training of census enumerators was the responsibility of the area officers. Enumerators were required to attend two one-day training sessions conducted by their respective area officers during their terms of appointment.

Subenumerators were trained by enumerators. Enumerators were also required to train any assistant/special subenumerators and any other temporary staff they engaged for census duties. Census area officers were available to assist enumerators in the training of field staff, particularly subenumerators.

Besides the actual training sessions designated for field staff, the Department of Statistics provided a series of instruction and reference manuals: the Area Officers Handbook, the Enumerators Handbook, the Subenumerators Handbook, and the Subenumerators Reference Manual. Study of the manuals and attendance at the training sessions were considered by the department to be the minimum training requirements for census field staff.

Training sessions were used to provide basic instructions on the duties of area officers, enumerators, and subenumerators. The sessions were also an opportunity for field staff to discuss problems in relation to their work and to clarify matters wherever necessary. Enumerators were encouraged to include practical exercises (numbering of questionnaires, map reading, completing field books, and so on) in their training of subenumerators.

Attendance at the appropriate training sessions was compulsory for all census field staff.

Enumeration Procedures

New Zealand's census moment is the midnight between census day and the day after. In 1981, 24 March was specified as census day. The census was conducted on a de facto basis.

New Zealand does not undertake a household listing. Census questionnaires were distributed to every dwelling that appeared to be occupied. Subenumerators were responsible for delivering, collecting, and making initial checks of the census questionnaires. Postal services were not used to distribute the questionnaires, but were often relied on for the collection of questionnaires where subenumerators failed to establish contact with the occupants of dwellings.

The census questionnaires were completed by the respondents except in the cases of children and inva-

lids, whose questionnaires were usually completed by another household member on the child's or invalid's behalf.

The delivery of questionnaires by subenumerators began 8-10 days prior to census day. Subenumerators were required to call at every dwelling in their respective subdistricts, working one meshblock at a time, to issue questionnaires to the occupants or to record the status of unoccupied dwellings (e.g., empty dwellings, dwellings with occupants temporarily absent, business establishments). Delivery of questionnaires was to be completed by noon on census day.

The collection of completed census questionnaires commenced on the morning following census day, with priority being given to nonprivate dwellings. Subenumerators revisited every dwelling in their subdistricts to collect the completed forms and to check for any occupied dwellings overlooked during the distribution phase. On collecting the completed forms, subenumerators checked them for completeness (unless the questionnaires were enclosed in properly endorsed sealed envelopes) and asked respondents to supply any missing information.

When the subenumerators finished collecting and checking the questionnaires and had written up all the required documents, they passed their work to their respective enumerators. The enumerators were required to supervise a number of clerical checking staff who scrutinized the work returned by the subenumerators. Follow-up action on the subenumerators' returns was instigated by the enumerators wherever necessary.

When the enumerators were satisfied that the checking was finished, the completed census questionnaires, subdistrict maps, and field books were dispatched to the Department of Statistics Census Processing Section for coding.

Data Processing

DATA PREPARATION AND CODING

Following the receipt of questionnaires from an enumerator's office, a series of questionnaire checks were undertaken by the department and any queries referred back to the enumerator. One of the final checks performed in this part of the operation was the numbering of each questionnaire in a census subdistrict and the balancing of this total against the total in the subenumerator's record book.

As soon as the check phase was complete, the questionnaires were passed to the Sample Selection phase where a 10 percent systematic random sample of private households was selected. These questionnaires, plus the dwelling and personal questionnaires of nonprivate dwellings, were given priority in the coding operation in

order to enable two bulletins of sample estimates to be produced within nine months of the census date.

The coding of questionnaires was done in five phases in order to enable related questions (e.g., labor-force questions) to be coded in the same operation. Coders entered coded data onto specially designed sheets, which were read by an OCR (optical character recognition) machine. This operation required the entering of over 171 million digits, or approximately 140 digits per OCR form. Each coding form had sufficient coding boxes to record one dwelling and up to four personal questionnaires for residents of the dwelling. These forms were dispatched in batches to the Computer Services Division of the New Zealand State Services Commission who operated a Control Data Corporation 959 OCR Page and Document Reader.

Optical character recognition is a process whereby manually written data can be read to disc by an electronic process. A bright light scans across each line of characters and its action is followed by a mirror, which picks up the light reflections containing the character images. These images are passed to an electronic grid whose circuitry recognizes the various characters by their characteristics.

Three key elements are required for this process: (1) a dense white paper must be used for the document so that it will reflect light and provide adequate contrast to the areas carrying written characters; (2) the written characters must conform to specified shapes and proportions and have a minimum variation in density of pencil impressions; and (3) all characters must be carefully positioned on the document, and, to this end, coding boxes in non-red ink, suitably captioned, must be printed on the OCR form.

The coding forms pass through the OCR reader at an average rate of 500 per hour after allowing for document loading and machine set up time. On occasion, the reader, despite rescanning a line, will reject a character as unrecognizable. These cases are entered on the disc file as @ and flagged. When the disc file is subsequently corrected, these flagged characters show up on a screen and the operator makes the necessary corrections after referring to the appropriate OCR form.

When the disc file is clear of all reading errors its contents are written to tape, which is subsequently used as input for the computer edit program.

The coding operation was completed in 12 months while the editing of the computer data files took 15 months, a similar time frame to that achieved in the previous census.

EDITING AND IMPUTATION

The editing system used for the 1981 census comprises a number of computer programs which are run in three phases: (1) data reformat and initial edit, (2) correction

edit, and (3) final edit and transfer. In addition, a control system monitors the progress of each batch of data to provide operational and management reports.

Approximately 160 batches of sample data, containing an average of 3,500 dwelling and personal records, and 620 batches of nonsample data, containing an average of 5,800 records, were processed. When the tape containing the data was returned from the OCR center, the data were sorted and reformatted into separate dwelling and personal records for each household. The sorting program included a subroutine to translate the data into the ICL ME29 computer format. Each of the dwelling and personal records had 57 fields. The data were then edited by the initial edit system and stored on tape.

In the initial edit each record is checked using a control file to ensure it belongs in the batch. Those that cannot be identified correctly are discarded. Each field of the accepted records is checked to see that it is within the correct code range and then all definite and suspect edits are carried out on those fields that are within range. Any record containing errors is listed along with the failed edits and a computer determination of the fields requiring correction. When the dwelling and associated personal records for a household have all been edited, providing none have failed definite edits, checks are then made on the household. These interrecord edits are performed using information stored from each of the records in the household. The status of each household is indicated on the error listing with a count of the number of males and females living there. Control totals and summaries of the frequency of failed edits are provided, as well as statistics on the quality of the coding.

The editing system features computer generation of the editing subroutines. Four of these generated editing modules are used in conjunction with the controlling program and printing modules. The system used to generate the editing modules, called TIDE (*The IDentification of Errors*) was developed to provide a flexible editing facility able to cope with the large number of edits—over 750. It provides the means to change edits easily without a large degree of programming effort or possibility of error.

The edit requirements are defined in a simple, easily understood form. This information is processed using several programs to check for syntax errors, to ensure there are no redundant or inconsistent edits, and then to generate the edit module program.

During this process a check is made for further edits that could be implied from those already specified, these are included if they are suitable. The format of the data record and error printout is also specified and included in the generated program. Another program is used to create data to check that the editing modules function correctly. The TIDE system is based on principles of

editing developed by Fellegi and Holt of Statistics Canada. Their methodology is only suitable for editing qualitative data, which covers about 90 percent of the edits required. The other edits have been included in two separate modules using conventional programming methods. The print modules are standard, but the controlling programs have been specifically tailored for each phase.

The correction edit phase uses the same edit modules as the initial and final edit phases, but the controlling program works in a different manner. The data from the initial edit phase is loaded to an indexed sequential disc file during this phase, and only those households containing records that require correction are accessed. When a correction is made to a record the whole household is reedited to ensure that no further errors have been introduced. This access method saves processing time, especially in later correction runs where only one or two households may require correction.

The corrections are input to the system through the OCR capture process, using the Department's Inforex keypunching facility where larger volumes are involved, or through three terminals situated in the coding section. The correction runs are scheduled and run in batch mode until all errors are corrected.

When a batch is cleared and the control totals of the number of records expected match the number on file, the final edit phase is run. This process checks all records to ensure that no definite edits have been overlooked during the correction edit phase. If errors are found, the batch is retained for correction, otherwise it is transferred to tape for subsequent table production runs.

Apart from the simple derivation of several fields (e.g., age from birthdate) no computer imputation procedures were used. The main reason for this was the late decision to obtain a dedicated machine for edit processing and the tight conversion time. An investigation of the fields suitable for imputation was carried out. The generated editing modules determine the fields in error, which can then be used by a suitable imputation routine. Further research on the use of computer imputation for the 1986 census, both in terms of the methodology to be used and its effect on the quality of data, is currently under action.

EQUIPMENT

CDC 959 OCR page and document reader.

ICL ME29/35 computer with $\frac{3}{4}$ megabyte main store.

2 exchangeable disk drives each with 60 megabyte capacity
—one disk is used for system and control files, the other is dedicated to population data under correction.

1 tape deck—used for data input, output, and backup.

1 300-lpm printer, 1 600-lpm printer—one printer is dedica-

ted to population work and the other is used for remote spooling of other departmental work.

3 local terminals—1 used for operating console, 2 for development work.

3 remote terminals situated in coding section for input of corrections and scheduling of runs.

Definitions

De Jure/De Facto

The New Zealand census is conducted on a de facto basis, requiring counts of all persons alive and in the country at midnight census day, including diplomatic personnel and visitors from overseas.

Since the 1945 census, foreign armed forces in camps or on naval vessels have been excluded from the census. This exclusion is to be reviewed for the 1986 census.

New Zealanders temporarily overseas on census day are not enumerated in the census, but a count of New Zealand armed forces overseas at census date is supplied to the Department of Statistics.

New Zealanders are counted in the area where they are found on census night; however, one of the census questions asks for usual residence on census night. This enables computer file relocation of persons to usual New Zealand address, although questionnaires are not relocated. Numerous tables are now produced relating to the usually resident population (excluding those temporarily overseas), in addition to the standard tables based on the de facto counts.

Urban/Rural

For the 1976 census, the classification urban comprised the department's defined nonadministrative 24 Main Urban Areas and all other towns not therein, incorporated or unincorporated, with a population of 1,000 or more. Rural comprised the remainder, excluding the shipboard population.

For the 1981 census, the urban population comprises the department's 23 Main Urban Areas (population of 30,000 and upwards), a new group of 14 nonadministrative Secondary Urban Areas (population 10,000–30,000), and approximately 100 Minor Urban Areas (remaining towns of 1,000 or more).

Population and dwelling counts at previous censuses have been revised to relate to the boundaries operative at the latest census. Population and dwelling counts for 1976 and earlier will be revised to the 1981 boundaries, but not census characteristics data.

The country's seven major population centers (75,000 population and upwards) are designated nonadministrative Statistical Divisions, but, in addition to 14 of the 23 Main Urban Areas, 3 of the 14 Secondary Urban Areas,

and several towns of 1,000 population or more, they incorporate areas that are defined as rural.

Economic Activity, Labor Force, and Unemployment

The census divides the population 15 years and over into three broad groups, viz., (1) the full-time labor force (working 20 hours or more weekly in paid employment, but including relative assisting unpaid, and unemployed); (2) the part-time labor force (working 1–19 hours weekly in paid employment); and (3) those not working in paid employment (nil hours).

Tables are produced for both the full-time and part-time labor forces, but those for part-timers are restricted in number. Persons declare their employment status, and one status is “Unemployed and seeking work.”

For census classification purposes, there are no constraints on who can qualify for inclusion, and married women, regardless of the presence of a working spouse, can be classified as unemployed. The person can be seeking full-time or part-time employment.

Occupation and Industry

Classification of the industry and occupation of census respondents is made according to the New Zealand Standard Industrial Classification (NZSIC) and the New Zealand Standard Classification of Occupations (NZSCO) issued by the department. Both these standard codes are based on, and basically maintain comparability with, the revised international classifications prepared by the United Nations and the International Labor Office in 1968.

The four-tiered hierarchically structured industry (major division, division, major group, and group) and occupation (major group, minor group, unit group, and group) classifications have been used for census classification purposes.

The 1,113 individual occupations and 494 individual industries identified have been renumbered consecutively for use during the census data capture stages, but census table outputs will be renumbered to Standard Classification numbers at publication stage.

Census data on industries and occupations is generally comparable for the 1971, 1976, and 1981 censuses.

Race and Ethnicity

The Statistics Act 1955 required a question on race to be asked of all persons. The rewritten act of 1975 changed “race” to “ethnic origin” but, in essence, this was not intended to change the content of the question, which, in both 1976 and 1981, as in earlier censuses, basically reflected differing skin colors of the population.

An extensive ethnic origin classification list is used and the 295 separate classifications in 1981 cover 32 full

origins and 263 mixed origin cases. Half or more origin is the general qualification for inclusion in an ethnic group and cases of mixed half origins are currently assigned to particular ethnic classifications according to internal decisions.

Significant increases in the numbers of persons of mixed half origin will require a review of the allocation methods for the 1986 census, relative to tabulation outputs.

Because one of the 32 full-origin classifications is European/Caucasian, persons of many differing nationalities combine together there, and table outputs based on country of birth are often used to distinguish varying census characteristics of the country's half million (16 percent) persons born overseas.

The question of race and ethnicity in New Zealand censuses is to be reviewed for the 1986 census, and will take into account the considerable public discussion and dispute on the question that preceded the 1981 census.

Tabulations and Publications

A list of publications for the 1981 New Zealand census appears at the end of this chapter.

Preliminary population counts were published in a series of news releases from mid-April to mid-July 1981. An additional news release on 1 August 1981 provided provisional population counts for each of the 13 statistical areas that make up New Zealand, as well as for the 7 statistical divisions, the 23 main urban areas, and the 14 secondary urban areas. The August news release also carried a table of occupied dwellings in statistical areas.

During September 1981, Bulletin No. 1 was published containing provisional population and dwelling counts for local authority areas including subdivisions. During November 1981 a news release was issued with the final New Zealand population total.

The data selected in the early data processing phase—the 10 percent sample of private households plus all nonprivate households—were used to produce two publications: Bulletin No. 2, *National Data—Selected Cross-Tabulations* (publication date November 1981; 60 tables), and Bulletin No. 3, *Regional Data—Single-Topic Tabulations* (publication date February 1982; 22 tables).

Bulletin No. 3 contains data for statistical areas, statistical divisions, main and secondary urban areas, and a composite minor urban area group made up of all boroughs, town districts, district communities, communities, and townships outside the main and secondary urban areas and with populations of 1,000 or more at the 1981 census.

The first publications in the standard volume series were released in May 1982. These were volume 1A containing final population counts for all nonadministra-

tive regional areas plus local authority areas including subdivisions (13 tables), and volume 1B containing statistics of population density in New Zealand together with final population counts for various small areas designated as townships, localities, and vicinities (8 tables).

A series of regional bulletins containing final census results and based on bulletins 2 and 3 were released progressively from April through November 1982. Bulletins 1 to 9 are presented as 23 single-topic tabulations for local authority areas (including subdivisions) and are published by regions approximating statistical areas. Bulletin 10 is a regional summary and a rerun of Bulletin 3, while Bulletin 11 contains national statistics and is a rerun of Bulletin 2.

The above publications plus three bulletins in the miscellaneous series (i.e., *Cigarette Smoking*, *Electoral Districts*, and *The Range and Availability of Statistics*) complete the bulletin series. A series of unpublished single-topic tabulations at the local authority and subdivision level, based on the census data base dictionary, are available in microfiche format.

Where additional information is sought that is not available from existing published or unpublished data, the Department of Statistics is able to provide the facilities for users to select and program (using Cents-Aid II or SAS) their own census requirements, from a 10 percent or 1 percent sample of population and dwellings. Tabulations based on the 10 percent sample are available for all geographical areas down to meshblock aggregation level, while the 1 percent sample is restricted to national tabulations. Users of this sample will be required to pay the full costs of computer processing, including labor costs. Procedures prescribed by the Department of Statistics ensure that confidentiality is consistently maintained.

Evaluation

ERROR OF CLOSURE

New Zealand has never conducted a postenumeration survey; however, the error of closure has been calculated since the 1951 census.

The error of closure is the difference between the population enumerated in the census and the expected population. The expected population is the population enumerated in the previous census plus the intercensal births and arrivals from other countries, minus the intercensal deaths and departures to other countries. Provided the data on intercensal births, deaths, arrivals, and departures are accurate, the error of closure measures the difference between the unenumerated population in one census and the unenumerated population in another.

New Zealand's statistics on births and deaths are gen-

Table 12.1 Enumerated and Expected Populations, New Zealand 1956-1981

Census Date	Enumerated Population	Expected Population	Differences	
			Number	Percent
24 Mar 1981	3,175,737	3,163,569	+12,168	+0.38
23 Mar 1976	3,129,383	3,148,774	-19,391	-0.62
23 Mar 1971	2,862,631	2,869,885	- 7,254	-0.25
22 Mar 1966	2,676,919	2,690,904	-13,985	-0.52
18 Apr 1961	2,414,984	2,415,435	- 451	-0.02
17 Apr 1956	2,174,062	2,177,564	- 3,502	-0.16
17 Apr 1951	1,939,472	1,953,225	-13,753	-0.71
<i>Using 1971 Census as Base Population for 1981</i>				
24 Mar 1981	3,175,737	3,182,960	- 7,223	-0.23
23 Mar 1971	2,862,631			

erally considered to be very accurate. The country's isolation from other countries (Australia, its nearest neighbor, is over 1,600 kilometers away) ensures that its external-migration statistics are not affected by persons entering or leaving New Zealand at other than official ports. Any inaccuracies that occur through incoming and outgoing passengers failing to fill in migration cards are not thought to be significant. Furthermore, vital and external-migration statistics would need to undercount population gains (births and arrivals) by more or less than population losses (deaths and departures) for the accuracy of the error of closure statistic to be affected by such inaccuracies.

Table 12.1 shows the error of closure for New Zealand censuses from 1951 to 1981. The error of closure for 1981 is a puzzlingly high figure of +12,168. It is probably significant that this high positive error of closure follows an unusually high negative error for 1976, suggesting that it arises from compensation. For the quarterly population estimations, Demographic Specialist Studies adopted a procedure wherein they calculated the error of closure over the 10-year period, 1971-81 using the 1971 census as the benchmark. This yielded an estimated error of closure for the 1981 census of about -7,000.

CONSISTENCY OF 1976 AND 1981 INFORMATION

Another census evaluation project compared the consistency of answers to six personal questions as given in the 1981 and 1976 censuses by a sample of 12,020 1981-census respondents. The study will give an indication of the quality of information supplied to the six questions, as well as to the accuracy of information for the question "Address at previous census."

Preliminary results on the matching of the 1976 and 1981 variables for the sample of respondents are as follows:

1976 questionnaire located, all variables consistent	5,951
1976 questionnaire located, variables inconsistent	3,971
1976 questionnaire not located	2,098
Total	12,020

Although complete analysis of the study is dependent on the availability of resources, it is hoped that a final report will be available in 1985.

TEMPORARY VISITOR ABSENTEE STUDY

The Temporary Visitor Absentee Study will attempt to measure the extent of coverage errors associated with persons away from their usual address on census night. It will also give an indication of the quality of information supplied to the questions "Usual address" and "Number of absentees."

The project involves tracing persons who were enumerated as visitors on census night back to their usual addresses, determining whether they were listed as absent there, and making sure they were not enumerated on more than one personal questionnaire.

At this writing, the tracing, classifying, and coding of the 205,000 visitors is complete. Also, 27,000 absentees not previously matched with visitors, were followed to their temporary addresses and classified. The analysis is expected to be complete and the report written by the end of 1984.

New Zealand's 1981 Census Publications

<i>Sample Bulletins</i>	<i>No. of Tables</i>	<i>Date of Issue</i>
1. Provisional Population and Dwelling Counts for Local Authority Areas		Sep 1981
2. National Data—Selected Cross-Tabulations	60	Nov 1981
3. Regional Data—Single-Topic Tabulations	22	Feb 1982
<i>Regional Bulletins</i>		
1. Northland	23	Jul 1982
2. Central Auckland	23	Apr 1982

3. South Auckland— Bay of Plenty	23	Jul 1982
4. East Coast and Hawke's Bay	23	Jul 1982
5. Taranaki	23	Jul 1982
6. Wellington	23	May 1982
7. Marlborough, Nelson and Westland	23	Jul 1982
8. Canterbury	23	Jun 1982
9. Otago and Southland	23	Jun 1982
10. Regional Summary	23	Nov 1982
11. National Summary	56	Nov 1982

Miscellaneous Series

Cigarette Smoking	27	Aug 1983
1983 Electorate Profiles	19	Mar 1984
Range and Availability of Statistics	—	Jun 1984

Volumes

1A. Location and Increase of Population	14	May 1982
1B. Location and Increase of Population	13	Nov 1982
1C. Location and Increase of Population	12	Apr 1983
2. Ages, Marital Status and Fertility	38	May 1983
3. Religious Professions	13	Apr 1983
4. Labor Force	32	Mar 1983
5. Incomes and Social Security Benefits	30	Oct 1983
6. Education and Training	26	May 1984
7. Birthplaces and Ethnic Origin	37	Jun 1983
8A. Maori Population and Dwellings	65	Dec 1983
8B. Pacific Island Polynesian Population and Dwellings	58	Nov 1983
9. Dwellings	28	Jul 1983
10. Households and Families	52	Mar 1984
11. Internal Migration	29	Jul 1984
12. General Report Analysis Only	—	Jul 1984

Table 12.2 Budget of the 1981 Census of Population and Dwellings (in thousand NZ\$)

	1979-80	1980-81	1981-82	1982-83	1983-84	Total
Personnel	655	977	5,120	1,075	903	8,740
Travel, transport and communication	21	72	69	29	36	227
Maintenance and equipment	2	2	11	—	—	15
Materials, supplies and services ^a	202	713	761	388	345	2,409
Other operating expenditures ^b	1	31	6,300	14	2	6,348
Capital	14	507	35	2	—	558
Total	905	2,302	12,296	1,508	1,286	18,297

NOTE: All figures in constant 1 July 1982 New Zealand dollars. ^a Includes data processing, preparation, and supply. ^b Includes enumeration costs.

PAKISTAN 1981

Population Census Organization
Statistics Division
Government of Pakistan
Islamabad

Introduction

HISTORY

The fourth decennial census of Pakistan, conducted as of 1 March 1981, marked the centenary of simultaneous decennial census taking initiated by the British in 1881. (An earlier British census was conducted in the areas constituting Pakistan, but it was spread over the years 1867–71.) This useful legacy of the colonial administration has been faithfully followed in Pakistan with gradual improvements in coverage and design. The first two censuses, taken 9–28 February 1951 and 12–31 January 1961, followed the pre-partition pattern of eliciting detailed information on education and economic activities. Both of these censuses were conducted on a *de jure* basis. The third census, also *de jure* and conducted 10–30 September 1972, blazed a new path. The operations were divided into three phases: a household listing; the complete count, which asked questions on sex, age, marital status, and literacy; and the Housing Economic Demographic Survey (HED). The HED was conducted a year after the full count and asked detailed questions on housing conditions, educational status, labor force, fertility, and migration from a scientifically drawn sample of 255,000 households (2.75 percent of the total).

The 1981 census was divided into two distinct operations, the housing census and the population census, with a gap of three months between them. The housing census, conducted 1–15 December 1980, consisted of making lists of all structures—residential as well as nonresidential—and asking detailed questions on housing conditions. The population census, which took place 1–15 March 1981, simultaneously employed two questionnaires: a short one with questions asked of the entire population, and a long one containing the full-count questions and additional sample questions.

This chapter was written by Census Commissioner Akhtar Hasan Khan.

LEGAL STATUS

Population censuses in Pakistan are conducted under Ordinance X of the 1959 Laws of Pakistan. This ordinance provides for announcement of census dates, publication of the questionnaires in the gazette for public information, appointment of census officers, making it mandatory for public officials to perform census work in addition to their normal duties, and making it obligatory for respondents to answer census questions. It also provides for confidentiality of individual census data (including its inadmissibility as evidence for civil or criminal cases) and permits release and publication of group data. Although the ordinance also provides for penalties for nonfeasance, the century-old tradition has made the census an accepted activity of national importance obviating the need for invoking penal provisions.

ORGANIZATION

The Population Census Organization, as a part of the British tradition, was an attached office of the Ministry of Interior. A separate Statistics Division, however, was set up in the Ministry of Finance, Planning & Development and Economic Coordination. All organizations dealing with statistics and censuses, including agricultural censuses, were placed under it. The 1981 census was the first to be conducted under the control of the Statistics Division.

The Population Census Organization is headed by a census commissioner, which is a statutory office. Under the commissioner are two joint census commissioners: the first deals with the formation of questionnaires, instruction manuals, data processing, demographic analysis, and publications; the second deals with field operations, pretests, sampling, and census cartography.

There are regional offices in all four provinces of Pakistan. The fieldwork from drawing area lists to manual editing is done entirely at the regional offices. The details of the organization can be seen in figure 13.1.

Figure 13.1. Organization Chart of Population Census Organization

(Abbreviations: AK & NA = Azad Kashmir & Northern Areas; FATA = Federally Administered Tribal Area; NWFP = Northwest Frontier Province.)

Design and Execution

PREPARATION AND PLANNING

Coverage

All persons found within the international boundaries of Pakistan on 1 March 1981 were to be counted. This included all Pakistanis and foreigners with the exception of diplomatic personnel and their family members. Afghan refugees living in camps were also excluded.

By definition, a census must be universal and simultaneous. Although the census is an established tradition in Pakistan, coverage by individual enumeration in all areas was completed only in the 1981 census. Because of outdated apprehensions about noncooperation of tribal people and difficulties in sending enumerators to sparsely populated, bleak, and mountainous areas, the tribal areas of the Northwest Frontier Province (NWFP) had remained outside the pale of previous censuses. Population figures for these areas were compiled on the basis of estimates provided by tribal elders. In the 1981 census, however, enumerators went to each and every remote village of the

NWFP and Baluchistan and conducted an individual enumeration. Because information on females is a sensitive issue in tribal areas, age of females was asked in two categories: below 10 years and 10 years and above. In addition, marital status of females was not asked for females other than the wife of the head of the household.

Sample Design

A single-stage stratified sample, with the census enumeration block (CEB) constituting the sample unit, was considered the most suitable for the sample survey conducted in conjunction with the census. The total number of CEBs, along with the number of households in each CEB, was available after the housing census. The CEBs within each stratum were selected with probability proportionate to number of households. The sample size was 10 percent of the urban CEBs and 5 percent of the rural CEBs. Selection of the sample was made on the basis of geographical units, classificatory breakdowns for which estimates are required, and permissible errors specified for the estimates of key characteristics. The sample size of administrative units with very few CEBs was increased to provide reliable estimates for these units. Thus the allocation of sample

size to administrative areas met the requirements for sample efficiency and for providing separate results for urban and rural areas. For ratio estimation, advantage was taken of the elements common to the short questionnaire (full count) and the long questionnaire (sample) so that the estimates conformed to the full-count data on single years of age, sex, rural-urban, and administrative district.

Geographical Divisions and Mapping

Pakistan comprises four provinces, a Federally Administered Tribal Area (FATA), and the Islamabad Federal Capital Territory. At a lower level it has 64 districts and 11 tribal agencies besides the Islamabad district.

Each subdivision of a district in the provinces of Punjab, Sind, and NWFP and each administrative district of Baluchistan was designated a census district. The average population of a census district was 300,000. All urban areas with a population of more than 50,000 were designated separate census districts.

The census districts were subdivided into census charges, circles, and enumeration blocks (usually along the boundaries of existing administrative units) so that the supervision ratio between tiers was about one to six or one to seven. Thus 272 census districts, 1,600 charges, 11,000 circles, and 80,000 CEBs were delimited. Population size, geographical area, existing administrative boundaries, and effectiveness of supervision were the main considerations in subdividing the census tiers.

Separate systems of mapping were adopted for rural and urban areas. In rural areas, subdivision maps were updated and the boundaries of census charges and circles were delineated. The subdivision maps also indicated *mauza* and *deh* boundaries (these are the smallest administrative units in rural areas).

In urban areas, enumerators used the existing maps as their operational maps to locate the boundaries of their CEBs and to avoid the omission or duplication of areas. Two types of urban maps were developed: maps for big cities, which were declared separate census districts, and maps for small urban areas, which constituted census charges. In the former case, a master map was prepared for the whole city giving boundaries of census charges and census circles, and separate maps were prepared of census circles. The census circle maps showed in detail the boundaries of each CEB by lane, street, and other physical features. Most of these maps were drawn on the scale of 12 inches to a mile. For small urban areas, a master map was prepared for the whole area giving boundaries of census circles and CEBs. In addition there was a written description of each urban CEB in order to facilitate its identification in the field by the enumerator.

Schedule Content

Translated copies of the questionnaires appear in appendix 1. Briefly, the topics covered are as follows:

Housing Census—Full Count

1. Number of rooms
2. Nature of tenure
3. Period of construction
4. Construction material of walls and roof
5. Source of water supply
6. Source of lighting
7. Cooking fuel used
8. Availability of kitchen, bathroom, and latrine (for urban areas)

Population Census—Full Count

1. Name
2. Relationship to the head of the household
3. Residence status
4. Sex
5. Age
6. Marital status
7. Religion
8. Literacy: ability to read Quran
9. Literacy: ability to read newspaper and write a letter
10. Educational attainment
11. Language spoken in household

Population Census—Sample (in addition to the full-count questions)

12. Field of study
13. Migration: years in district
14. Migration: place of previous residence
15. Employment status: working, not working, etc.
16. Occupation
17. Industry
18. Employment status: employer, employee, self employed, etc.
19. Children ever born
20. Children surviving
21. Children born alive in last 12 months
22. Disability

Household Listing

The household listing was done in the first three days of the housing census and the frame developed in the schedule was used for both the housing and population censuses. Detailed procedures were formulated for the systematic listing of all households. The household listing schedule (see sample in appendix 1) provided for the listing of all buildings, both residential and nonresidential. In the case of residential buildings, the number of households was recorded along with the total number of members in each household and those who were living abroad for work or study. All residential buildings were given census numbers with paint.

Pretest and Pilot Census

After the housing and population questionnaires had been prepared by the experts, but before they were approved by the Cabinet, they were subjected to a pretest. The pretest

was held in all four provinces and was designed to find out whether the respondents understood the questions (especially those on the sample questionnaire), to determine whether the answers as recorded by enumerators were meaningful, and to ascertain the optimum daily capacity of an enumerator. It was found that in a fortnight an enumerator could count about one thousand persons.

A pilot census was conducted in the urban and rural areas of the federal capital (population 300,000, area 906 sq km), and the field operation plan was revised in light of the comments received from enumerators and supervisors in the pilot census.

PUBLICITY

Although most of the systems introduced by the colonial administration are still useful (with adaptations for changing requirements), they are tainted by residual alien distrust. The census is viewed as an activity for discovering bogus ration cards, asking unwanted age and marital-status questions about females, taxing people, or even confiscating property (especially while inquiring about details of housing conditions). Therefore, the census publicity had two objectives: firstly, to explain the importance of census data for all types of development; and secondly, to elicit public cooperation by removing the public's misgivings.

The choice of media was made with the awareness that the majority of the population is illiterate. The emphasis was therefore on radio, which reaches more than 95 percent of the population, and television, which reaches about 78 percent. Jingles and telephone call-ins were repeated four times daily on radio and television. In addition, there were symposia, newspaper advertisements, and editorial support. The president and the governors initiated both the housing and the population censuses.

ENUMERATION

Census Enumeration Blocks

The census enumeration block (CEB) was the area covered by one enumerator. CEBs were delimited in such a way as to be coextensive with existing administrative units as far as possible. On the average, a CEB had 200 households and about 1,050 people (approximately one enumerator's work capacity for a fortnight), although every village with a population of 1,500 or less was made one CEB. Bigger villages were divided into two or more blocks.

Supervisory Tiers

There were three supervisory tiers—census district officer, charge superintendent, and census circle supervisor—each with a span of supervision of six to seven persons. The district officers, charge superintendents, and circle supervisors were required to get systematic training for a week, supply the census materials to the next lower staff level, check their houselists, and personally inspect a reasonable percentage of the households under their domain.

Recruitment and Training

More than 90 percent of the enumerators were recruited from school teachers. They were supplemented by staff from local government bodies and other government functionaries. Census district officers and charge superintendents were the highest administrative officers of the area; circle supervisors were mainly recruited from senior teachers. In some cases, senior teachers were placed under administrative officials whose rank, in other circumstances, was lower than theirs. This caused some resentment among the senior teachers.

A great deal of attention was devoted to training as a means of overcoming the shortcomings observed in the past census. A direct method of training was adopted. A corps of master trainers developed at headquarters trained the census trainers in interviewing techniques and enumeration procedures. Thereafter the census trainers trained enumerators in their respective areas.

The training was arranged in a classroom situation in which the enumeration procedure was explained in detail with the help of charts, diagrams, and manuals. The census trainers were specially directed to develop these classes into good communication sessions; they were directed to elicit the full participation of enumerators. This approach significantly contributed to the enumerators' understanding of the subject. On-the-job training in the form of mock interviews and actual field interviews was used to supplement the classroom discussions. The trainers observed the work of enumerators closely and corrected their mistakes on the spot. This not only helped correct the enumerators' tendencies to make mistakes, but also provided an opportunity to assess the quality of work being done. The field experience apprised the trainers of whether the trainees were able to perform their tasks independently, still needed more training, or were not capable of doing the work at all.

Enumeration Procedures

The enumeration for both the housing and population censuses was carried out by a personal interview between the enumerator and the respondent. In the first three days of the housing census, enumerators first inspected their CEBs and painted serial numbers on the buildings. After numbering the buildings, they prepared lists of all housing units in rural areas and of both housing and nonhousing units in urban areas. In the remaining 12 days, they personally called on the heads of the households in their CEBs and inquired about the housing conditions.

For the population census, the enumerators went from household to household asking questions from either the long or the short questionnaire. The enumerators were directed to collect information directly from the heads of households, but in exceptional cases information was collected from another knowledgeable member of the household. The enumerators visited locked housing units three

times and met daily with their supervisors at a predetermined contact point to review the progress of their work and to solve issues that had come up during enumeration. At the same time, control rooms were set up at the census district, administrative district, division, province, and federal offices for receiving complaints and forwarding information. The enumeration was completed on 15 March 1981 and preliminary results from all areas were ready on 4 April 1981.

Data Processing

CODING

All questions were precoded with the exception of those on occupation and industry, whose precoding, especially in a single digit, was difficult.

A nine-digit area code was provided on the cover page of every census register. The first two digits were for the CEB, digits three and four for the circle, five and six for the charge, and seven, eight, and nine for the district. The code for census district was given by the Census Organization and the other codes were given in the field. This area code was needed for field control because name and description of the area were difficult to use for reference purposes. At the bottom of the cover page of each census register were codes for the province, administrative district, and large urban areas for use in aggregating the data for publication.

EDITING

In anticipation of enumeration and response errors, the Census Organization decided to edit census schedules manually as well as on computer. The emphasis was placed on manual editing, which permits easier checking and correction of inconsistent data because the editor has ready access to correctly reported characteristics of the same household and relevant particulars of household members in the same and similar neighborhoods. This checking and correcting could be done by computer, but to do so would require very detailed computer edit specifications.

The scope of manual editing was restricted to identification particulars, missing information, invalid entries, and gross inconsistencies. In order to check keypunching mistakes, the punched data are usually edited on computer. Since this process was inevitable, it was decided that the scope of computer editing would include imputation for missing information, invalid codes, and some inconsistencies. There are merits and demerits to imputation; the Census Organization chose to keep imputation to a minimum.

EQUIPMENT

The usefulness of census data depends on its earliest possible release, for which computerization is indispensable. An IBM 340/148 computer and 12 dual entry machines (IBM

3742) were installed to process Pakistan's 1981 census. In addition, the UNFPA provided 20 dual data entry machines (IBM 5280) to speed up the work of inputting the trillion entries for the 83.7 million people in the country. With 64 data entry stations working on two to three shifts, the data processing was completed in eighteen months.

Definitions

De Jure/De Facto

Pakistan's censuses of 1961 and 1972 were conducted on a de jure basis, but the 1981 census was conducted on a de facto as well as de jure basis. A column on residential status was provided on the population census questionnaire allowing entries as (1) household member present, (2) household member temporarily absent, and (3) guest/visitor. These entries permit tabulation on a de jure basis if household member present and temporarily absent are added and on a de facto basis if household member present and guest/visitor are combined. Persons having no housing unit of their own were counted as members of the households where found. Homeless persons were counted where they were found at the time of enumeration. The tabulation was done on the de jure basis.

Urban/Rural

Conceptually, it is difficult to draw a distinction between rural and urban for those areas that are gradually being transformed by the acquisition of amenities like electricity, separate telephone exchange, higher-education facilities, piped water, drainage, and increase in commercial and industrial activity. When a place acquires these facilities, however, it requests the provincial government to classify it as a town committee, and the provincial government, according to prescribed criteria, determines its status. All places that had been declared municipal corporations, municipal committees, or town committees were treated as urban. All cantonment areas were also treated as urban areas. Pakistan followed administrative criteria for determining urban status.

Economic Activity, Labor, and Employment

Although economic, labor, and employment data form the core of the economic inquiry aspect of a census, there was an insufficient number of adequately trained enumerators to collect these data from the entire population. Consequently the questions on economic activity and the companion questions on occupation and industry were only asked of the sample of the population interviewed with the long questionnaire.

The usual-status approach was used in collecting these data. The question on economic activity classified respondents into five categories:

1. Works
2. Does not work, but looking for work
3. Housewife
4. Student
5. Other

Occupation and Industry

Occupations were divided into the following seven broad classifications, which were further divided into detailed groups for recording appropriate responses.

1. Agriculture, animal husbandry, forestry, fishing, hunting, and related workers
2. Production and related workers, transport, machine operators, and laborers
3. Office workers
4. Sales workers
5. Service workers
6. Administrative, management, and related workers
7. Technical and related workers

Only the gainfully employed were asked about their industry. Industries were classified up to the two-digit level with the following single-digit classifications:

1. Agriculture, forestry, hunting, and fishing
2. Mining and ores
3. Manufacturing
4. Electricity, gas, and water
5. Construction
6. Wholesale and retail trade, restaurants, and hotels
7. Transportation, communications, and storage
8. Banking, insurance, and business services
9. Collective and individual social services

Tabulation and Publication

The planned series of tables derived from the data collected in the housing and population censuses are listed at the end of this chapter. Tables on questions asked in the complete count were provided at the level of the smallest administrative area. Tables on questions asked in the sam-

ple census will be drawn at the district level in order to avoid sampling errors caused by clustering. All relevant tables have been cross classified by age and sex; the tabulation plan has been designed to meet the requirements of the main data users (i.e., planners and administrators). Specific research requirements can be met on request.

The preliminary results were released after the completion of the population census. The advance tabulations derived from the sample census were ready by the middle of 1982. All results including those of the smallest administrative area were ready by the end of 1983.

Evaluation

An evaluation survey was conducted soon after completion of the population census. Its objectives were to estimate the population and households missed or erroneously enumerated in the population census. All administrative districts were treated as strata, which were divided into three categories (large urban, small urban, and rural areas) called substrata. Within each stratum, at least one CEB was selected, and probability was proportionate to number of households.

The field operation was carried out in two phases. In the first phase households were listed and reinterviewed in the selected CEBs. The schedules of reinterviewed households were matched with the households enumerated in the census. In the second phase nonmatched households and their members were checked for reconciliation.

Budget

The total cost of conducting the field operation (not including editing, data entry, computer costs, or publications) was P Rs 90 million, which works out to approximately US\$.10 per person. Almost two-thirds of the budget was spent on honoraria to enumerators and supervisors. The balance was spent on the establishment of the census office, printing costs, and so forth. Details by year are indicated in table 13.1.

Table 13.1 Budget Expenditures for 1981 Pakistan Census (in Pakistan rupees)

	1978-79	1979-80	1980-81	1981-82	1982-83
Total establishment and their transfer and allowances	557,841 (40.9)	1,479,417 (41.5)	4,784,900 (10.3)	6,126,100 (30.5)	5,931,200 (66.9)
Purchase of durable goods, their repair and maintenance	14,933 (1.1)	727,789 (20.4)	281,400 (0.6)	145,300 (0.7)	117,000 (1.3)
Commodities and services	790,352 (58.0)	1,353,498 (38.1)	41,596,900 (89.1)	13,804,100 (68.8)	2,814,300 (31.8)
Total	1,363,126 (100)	3,560,704 (100)	46,663,200 (100)	20,075,500 (100)	8,862,500 (100)

NOTES: P Rs 9.9 = US\$1.00. Figures in parentheses indicate percentages of the total annual budget.

Tables from Pakistan's 1981 Population Census

1. Population density, average household size, decennial change, and annual growth rate by sex
2. Urban localities by population size and their population by sex
3. Number of rural localities by population size and their population by sex
4. Population by single years of age and sex
5. Population 15 years and above by age group, sex, and marital status
6. Population by religion
7. Muslim population 10 years and above by ability to read the Holy Quran
8. Literacy ratio of population 10 years and above by language, sex, and age group
9. Population 5 years and above by educational institution attendance, sex, and age group
10. Population 5 years and above attending educational institution by level of education attained, sex, and age group
11. Population 5 years and above attending educational institution by field of education, sex, and age group
12. Population 10 years and above who have completed education by level of education attained, sex, and age group
13. Population 10 years and above who have completed education by field of education, sex, and age group
14. Population 10 years and above by activity, sex, and age group
15. Population 10 years and above working and looking for work by occupation, sex, and broad age group
16. Working population 10 years and above by industry, employment status, sex, and broad age group
17. Working population 10 years and above by occupation, employment status, sex, and broad age group
18. Working population 10 years and above by literacy, educational attainment, sex, and age group
19. Population 10 years and above looking for work by literacy, educational attainment, sex, and age group
20. Population by duration of continuous residence, sex, and age group
21. Migrant population by place of previous residence, literacy, and educational attainment
22. Number of persons gone abroad during the last 10 years
23. Disabled population by nature of disability, sex, and age group
24. Households by languages spoken in household
25. Selected population statistics of individual rural localities
26. Selected population statistics of individual urban localities

Tables from Pakistan's 1980 Housing Census

1. Housing units by number of rooms and household size
2. Housing units by number of rooms and tenure
3. Housing units by number of rooms and period of construction
4. Housing units by period of construction and tenure
5. Housing units by tenure and material used in outer walls and roofs
6. Housing units by period of construction and material used in outer walls and roofs
7. Housing units by number of rooms, tenure, and period of construction

8. Housing units by period of construction and source of drinking water, lighting facilities, and cooking fuel used
9. Housing units by tenure and source of drinking water, lighting facilities, and cooking fuel used
10. Housing units by period of construction and kitchen, bathroom, and latrine facilities
11. Housing units by tenure and kitchen, bathroom, and latrine facilities
12. Housing units by material used in outer walls, by material used in roofs, and by period of construction

Timetable of Pakistan Census Operations

Review and revision of census legislation	Nov-Dec 1978
Consultation with users and professionals about scope, content, and methodology of census	Nov 1978-Jun 1979
Determination of requirements with respect to staff, equipment, and other material resources; preparation of budget and organizational plan	Nov 1978-Feb 1979
Preparation of census cartography plan	Nov 1978-Feb 1979
Recruitment of office staff	Nov 1978-Jun 1983
Acquisition of supplies, equipment, and facilities	Nov 1978-Jun 1983
Determination of data collection strategy	Jan-Apr 1979
Content planning (definition of concepts; design of schedules, forms, manuals, and training materials)	Feb 1979-Jan 1980
Preparation of sample design	May-Dec 1979
Determination of census tabulations and preparation of data processing plan	Jun 1979-Feb 1980
Pretesting, trial census, mini census	Jul-Sep 1979
Procurement and evaluation of maps and area lists	Jan-Jun 1979
Delineation of census areas and geo-coding	Jul 1979-Jun 1980
Preparation and reproduction of enumeration maps	Mar 1979-Aug 1980
Printing of census schedules, forms, and manuals	Jan-Jul 1980
Preparation of field operation plan	Jan-Mar 1980
Preparation of publicity plan and its material	Jan-Jun 1980
Appointment and training of enumerators and their supervisory staff	Apr-Sep 1980
Distribution of enumerators' and supervisors' kits and similar supplies	Aug-Dec 1980
Household listing and housing census	1-15 Sep 1980
Population census enumeration	1-15 Mar 1981
Close-out operation and retrieval of census documents	16 Mar-15 Apr 1981
Release of preliminary data	Jul 1981
Editing and coding of schedules	May 1981-Apr 1983
Data entry and computer editing	Jul 1981-Jun 1983
Tabulation	Oct 1981-Sep 1983
Report writing	Dec 1981-Nov 1983
Printing of census publications	Mar 1982-Feb 1984

PAPUA NEW GUINEA 1980

National Census Project
Bureau of Statistics
Port Moresby

Introduction

Papua New Guinea became an *independent nation* on 16 September 1975. It occupies the eastern half of the island of New Guinea and some 600 associated islands, the largest of which are New Britain, New Ireland, and Bougainville. The western half of the main island of New Guinea is the Indonesian province of Irian Jaya; Australia and the Solomon Islands lie to the south and east respectively.

The terrain of the mainland and the larger islands is rugged. High mountain ranges extend up to 4,000 meters in several places, the highest being Mount Wilhelm in central New Guinea, which is 4,706 meters above sea level. Fast-flowing rivers descend to the coastal plains joining some of the world's largest swamp systems.

The coastal population is generally clustered in villages, but there are areas of higher density in some coastal areas such as the Gazelle Peninsula in East New Britain and the Maprik area of East Sepik. Over one-third of the population lives in the densely populated highland valleys of the New Guinea mainland.

Papua New Guinea is notable for its relative lack of contact with people from other countries. Prior to independence, the southern part of the country was an Australian colony and the northern part was administered by Australia under a mandate from the United Nations. Australia gained this mandate after the First World War, when New Guinea ceased to be a German colony.

Up until the Second World War, little development took place in the country. After the war, development assistance from Australia increased considerably, but even in the 1950s administration patrols were still establishing first contact with the people of some of the remote valleys.

Papua New Guinea is also noted for its cultural and linguistic variety. Over 700 languages are spoken, although Hiri Motu and particularly Melanesian pidgin

have spread widely and are now the *lingua franca*. English is the language of education, higher administration, and commerce.

HISTORY OF CENSUS TAKING

Prior to 1966 there had been two distinct types of censuses conducted in Papua New Guinea. The less-important one covered the nonindigenous population at the same time as the Australian census. In 1961 a census of this type counted only 25,000 persons out of an estimated total population of 2 million.

More important was the administration census of the indigenous population. Censuses of this type collected a considerable amount of information for administrative purposes and usually provided a summary of population figures for each patrol area or census division. They were of limited value for population information because they collected information on only a few items, results were only available in summary form, there was a lack of simultaneity, and, often, the coverage was incomplete. Despite these limitations, the censuses of the indigenous population did provide the essential base for the first true census in 1966.

The 1966 census was the first to attempt to provide estimates of the total indigenous and nonindigenous population at one point in time. A complete enumeration was conducted in all urban areas and rural nonvillages. (Rural nonvillage, or RNV is the accepted local census term for missions, plantations, and similar non-traditional rural settlements.) A 10 percent sample was taken of the traditional villages. The data available from the administration village census was the base for this sample. This first complete census raised considerable enthusiasm and was generally accepted to have been a success.

In 1971 a virtual repeat of the 1966 operation was attempted, but the social and political climate had changed considerably. It was an uncertain time, not very suitable for conducting such a major operation. Local political feelings favoring self-government and independence were building and resulted in a decline in num-

This chapter was written by Census Director R. Gilbert.

bers, quality, and enthusiasm of the noncitizen staff available in rural areas. Noncitizens at this time still held most of the senior positions. The standard of the national staff was not high because most were new trainees. Furthermore, support from Australia was much less than in 1966 and only a very short preparation period was allowed. Preliminary results of the processing of the 1971 census showed a probable major undercount. A demographer was commissioned to analyze the demographic data available from 1966 and 1971, and some very limited data available from small postenumeration surveys. He produced a set of recommended adjustment factors, which were applied to the data. Only the adjusted results were published. Unfortunately, the adjustment process was never fully recorded and considerable doubt has been cast on the final figures.

Proposals were put forward in early 1975 to continue the five-year census cycle by having a 1976 census; however, the proposals found little support, primarily because the operation would follow too closely independence, which was achieved in 1975. The census was deferred each year until a firm date in 1980 was finally fixed for the first postindependence census.

LEGAL STATUS

The 1966 and 1971 censuses were conducted under the authority of the Census (Papua New Guinea) Act 1966. There was also a Statistics Act 1950 in effect. Both of these acts were considerably out of date, particularly after independence in 1975. Work commenced on a revised Statistical Services Act in 1976. The act was circulated to all concerned departments and agencies in 1977. It was intended that this act cover the population census and all other statistical collections. In 1977 the draft of the new act met a certain amount of opposition. It was redrafted and recirculated in 1979 with the expectation that approval would be complete in time for the 1980 census to be conducted under the authority of this new act. Unfortunately, it was not fully approved until February 1981. When it became obvious that the new Statistical Services Act would not be approved in time for the 1980 census, a submission was put before the cabinet to revalidate the Census (Papua New Guinea) Act 1966 for the 1980 census. This was done and the census was conducted under the authority of the 1966 Act.

ORGANIZATION OF THE NATIONAL CENSUS PROJECT

As noted earlier, the 1980 census was the first census to be fully organized and processed within Papua New Guinea. In the early stage, the scale of the project was badly underestimated. It was initially assumed that the project could be conducted by a relatively small section working under the Bureau of Statistics. As planning

progressed it was realized that this was impossible; the project was upgraded and enlarged to a semi-independent division (called the 1980 National Census Project) of the Prime Minister's Department, although formally it was still linked to the Bureau of Statistics.

It was realized very early that the project would need the resources (staff, transport, etc.) of many branches of the government if it was to be a success. Thus a high-level coordinating body was essential. Initially it was proposed that the coordinating committee be at the ministerial level or at least chaired by a minister. This was rejected. Finally it was decided that a National Steering Committee would be established at department-head level under the chairmanship of the secretary, Prime Minister's Department. The Steering Committee was given the full support of the cabinet and in particular the prime minister. The National Steering Committee only met twice, but it did give the necessary authority to the working subcommittees, which met more often, and to the project itself for its day-to-day operations.

The Users Advisory Committee was formed quite early and submitted proposals on coverage and topics for the census. It and its subcommittees met often during the development stages and in the postcensus stage as tabulations and publication strategy were being firmly decided.

During the early stages of the development of the census project, the Papua New Guinea government decided to establish 19 separate provincial governments in the country. The provincial governments were to take control of most government functions in the provinces. This made it essential to have a separate steering committee in each province. These provincial steering committees were established and were usually chaired by the administrative secretary of the province. Senior project staff from headquarters attended at least one meeting of the steering committee in each province, but the provincial census officer was the key person servicing the committee for the province.

The organization of the census project itself was changed considerably during the development phases. Staffing at the senior levels was a continuing problem. Positions were not classified high enough initially, were temporary, and were thus unattractive to national officers. A large proportion of the positions eventually had to be filled with overseas staff, although most were understudied by a national officer.

Figure 14.1 shows the final, functioning structure of the project. The urban-operations section largely consisted of staff of the permanent urban-surveys section of the Bureau of Statistics (later the National Statistical Office, or NSO). The tabulation and publications section was a part-time commitment of the permanent population section of the Bureau of Statistics. Due to staff shortages, research staff were almost all assigned to

Figure 14.1. 1980 National Census Project, Papua New Guinea

operational duties later in 1980 and were reformed as a unit at a much lower level in 1981. The operational branch continued on a much reduced level in 1981 to service the 1981 sample operations. Similarly, the processing branch built up to full strength in early 1981 and slowly decreased in 1982. The project organization formally terminated at the end of 1982.

Eventually, the permanent sections of the Bureau of Statistics will be fully reactivated, and it is hoped that some additional positions will be approved to create an ongoing Population and Social Division of the new, renamed National Statistical Office to control all continuing census functions.

Design and Execution

PREPARATION AND PLANNING

Coverage

Early in the planning stages of the 1980 census it became obvious that the project would only have full support if it undertook a complete enumeration. The two previous censuses, in 1966 and 1971, had been sample censuses of the rural village sector. The major factor in the demand for a complete count was the desire for small-area data for planning purposes. Census project staff advised the government that a complete enumeration was possible but that the collection period would have to be spread over at least three months. Also all branches of government would have to be willing to release a large proportion of their staff, transport, and other resources for varying time periods. This commitment was given and planning proceeded on this basis. Major factors that

had to be borne in mind were the logistical difficulties of operations in Papua New Guinea at this stage of development and the relatively low education level of many of the staff available.

As expected, members of the Users Advisory Committee initially proposed a very large number of questions for the census. Census staff were very aware that nothing too ambitious should be attempted in this, the first complete census. Many of the user requests for economic topics were particularly applicable to the urban areas or the rural nonvillages (RNVs). Other requests would be reasonably satisfied if only provincial totals were available. This particularly applied to the more-detailed demographic questions. Thus the following compromise strategy was recommended to the government and accepted:

All urban areas, RNVs, and a sample of rural villages would be covered with a "long" questionnaire containing 26 questions.

The remaining rural villages would be covered with a "short" questionnaire containing 12 questions. (These 12 questions were also on the long form).

As planning proceeded, field officers stated that this strategy was too complex. Field supervisors in rural areas could not manage an operation with two questionnaires, two sets of training materials, and two field plans. When the original strategy was tried in the major pilot test, operational problems were demonstrated and people were missed in the boundary between sample and nonsample areas because the areas were not clearly defined.

With government approval, the survey of the rural

sample with the long questionnaire was deferred to 1981, and all rural villages were covered with the short form in 1980. This made the 1980 operation far more manageable and allowed more attention to be given to the rural, long-form operation in 1981. The rural data has been of a much higher quality than would have been achieved in the original plan.

Sample Design and Coverage

The essential base for the rural sample was the village census books. These books, which at one time had been updated regularly during administrative patrols had fallen into disuse in many provinces during the 1970s. They were reactivated in all provinces during the period 1977-80 as part of a separate but very closely related project titled the Provincial Data System (PDS). The aim of the PDS project was to reactivate and expand population summaries similar to those done in the past and also to collect social data (e.g., access to schools and aid posts) for village units on a uniform basis. With the attainment of full staffing for the census operations in early 1979, the PDS was totally integrated into the census preparations. Completion of at least the first round of the PDS was the first task of all provincial census officers. This task fell well behind schedule: some areas were still being covered in early 1980, and some very remote areas were never covered. The delay in obtaining the PDS base for the rural sample was an added reason for deferring the sample operation to 1981.

As PDS data were completed for a province, the census divisions (CDs) were placed in two to five strata, depending on the size of the province. This formed the base from which the sample was drawn. Stratification was done using factor analysis applied to most of the data items available from the PDS. The most weight was given to demographic items because the major purpose of the rural sample was to measure fertility and mortality. Strata derived in the office were checked in the field by provincial staff and adjusted if this was thought desirable.

A two-stage selection method was then used. Two CDs were selected (with replacement) from each stratum, on a probability-proportional-to-size basis. The villages in the selected CDs were then grouped into clusters of approximately 1,000 inhabitants and one cluster was selected from each CD. In a few cases CDs were doubly selected, and two clusters were selected (without replacement) from such CDs. Selection of two clusters per stratum allows calculation of standard errors for estimates using the World Fertility Survey program CLUSTERS.

The national sampling fraction was approximately 1:15 but was allocated among provinces in proportion to the square root of the rural population interviewed with the short form. The number of strata were varied

to accord with the sample allocation; e.g., a sample allocation of 10,000 resulted in five strata, with two clusters of 1,000 in each stratum.

Considerable assistance in sample design was given by personnel from the Australian Bureau of Statistics.

Mapping and Dwelling Listing

Rural Villages. The first basic step in the rural mapping program was a thorough evaluation of available base maps. It was soon established that no comprehensive set of maps of village locations was available. There had been some attempt to map the location of village sample clusters for the 1966 and 1971 censuses. In addition, during the 1970s the university and other organizations had produced maps of parts of some provinces and areas showing locations of most villages. Unfortunately, a comprehensive program to show all village locations was never mounted. It was thus decided that the major, initial effort for rural mapping would be directed at producing a series of maps showing the location of every village. A major advance that made this possible was the production of a map series covering the whole country by the Royal Australian Survey Corps. These 1:100,000 maps became available during 1978 and 1979 and formed the base for the census series. The 1:100,000 maps showed some but not all of the villages and were based on aerial photography of several years previous. Thus the first task of the mapping program for the provincial census officers was to locate every village unit on their 1:100,000 maps or a similar base. To do this they had to establish an up-to-date list of village units. This was not an easy task as villages move, join, and are deserted over time. An added problem was that some areas do not contain nucleated villages but contain dispersed settlements instead. For these areas the rest house for the clan or subclan was taken as the location. The rest houses are established points where clans gather for most administrative services (e.g., voting, health services). During the 1970s, however, some of the rest houses had fallen into disuse and local field investigation was often necessary to establish a suitable alternate location.

When firm lists were drawn up and locations marked, the lists and maps were sent to census headquarters for checking. From the base maps, provincial maps were drawn in ink on transparent, matte-finished drafting film. The maps varied in scale from 1:400,000 to 1:100,000 depending on the density of census units for that province. The lists were entered on computer records to form the key register for the census. Dyeline copies of first drafts of the maps and copies of the computer listings were sent back to the provinces for checking. The maps went through several cycles of checks and corrections, which took several months. The maps showed roads and rivers as well as village locations.

Preliminary plans were to map dwellings within vil-

lages in the next stage. It was acknowledged that this was impossible to do for the whole country, but it was hoped that it could be done for at least the clusters of sample villages. Early pretests were directed at determining the feasibility of mapping dwellings and the subsequent field procedure of house-to-house enumeration. It was found that house-to-house enumeration was not practical and mapping of dwellings for villages was abandoned. This is discussed in more detail in the pre-testing section.

Rural Nonvillages. Rural nonvillages (RNVs) are nontraditional settlements in the rural areas (e.g., schools, missions, plantations). The same initial tasks had to be done for RNVs as for villages: a comprehensive list had to be drawn up and the location of each unit plotted. Listing RNVs was more difficult in one respect in that they were not originally covered by the administrative census patrols and thus there was no established list to use as a base. On the other hand, many were shown accurately on the 1:100,000 series maps, and they often occupied alienated land of which there were good records. Furthermore, the 1966 and 1971 censuses attempted to draw up lists of RNVs. From these sources it was possible to establish a comprehensive list and to locate the RNVs on the base maps. Thus the listing and plotting of RNVs became part of the system of village mapping. RNVs were generally added to the provincial maps in the same way as villages; however, in some provinces the larger RNVs were shown by shading their land area, which was particularly effective for plantations and settlement schemes.

In some areas of the country, particularly near the major towns, there is a very dense clustering of RNVs, particularly migrant settlements, some of which are organized and recognized by the government, others not. To ensure coverage of these, special aerial photographs were taken and larger-scale maps drawn.

It was always planned that RNVs should be censused house-to-house, and thus detailed sketch maps of dwelling locations were deemed essential. Instructions were issued to add RNVs to the round of village censuses being done during 1978-79 as part of the Provincial Data System (PDS) and the general national census preparations. Sketch maps of RNVs were to be drawn with dwellings numbered sequentially on the sketch, and at least an estimate was to be obtained of each RNV's population. Although the instructions and the necessary list of RNVs were often issued late and not all RNVs were covered, most of the major RNVs were mapped and numbered, and the numbered maps served as a dwelling list for enumerators. Migrant settlement RNVs were a particular problem because dwellings in them changed rapidly (i.e., new ones were added, others demolished). For these settlements the sketch maps usually showed only the location of clusters of dwellings. The urban-settlement procedure of using a dwelling

sticker was applied during the actual enumeration. Usually the dwellings were not prenumbered, rather the sticker was put on the dwelling after it was censused to show it had been covered. This enabled supervisors to check for complete coverage of all dwellings at that cluster or for the whole rural settlement. Aerial photographs of settlements proved ineffective for detailed dwelling location as many dwellings were obscured by trees.

Census Divisions. Census division (CD) was the accepted term for the division of provinces into groups of villages. CDs were usually defined by the villages in them and no accurate mapping had ever been done to locate boundaries. Usually a CD contained people of a similar cultural and linguistic group and was delineated so that one administrative patrol could cover the whole CD during one continuous (originally walking) patrol. One of the major tasks of the rural mapping operation was to show the CD boundaries for the first time. Attempts were made to follow geographic features (e.g., rivers, ridge tops) wherever possible.

Census Unit Numbering. As part of the listing and locating exercise a unique number had to be allocated to each census unit (CU). Considerable work went into the development of the numbering system because it was realized that once developed the system would be used for other purposes besides the census. An attempt was also made to ensure that the system was compatible with existing numbering systems. The system that was finally developed assigned a unique nine digit number for each CU as follows:

Digits one and two used 01-20 to number provinces sequentially.

Digits three and four numbered the districts within provinces (maximum number allocated was seven).

Digits five and six were for CD numbers within provinces: Numbers 01-74 were for rural CDs; 75-79 were for rural CDs administered by one province but legally located in another province; and 80-99 were for urban CDs.

Digits seven to nine numbered CUs sequentially within CDs: In urban areas, numbers 001-599 were used for urban CUs within gazetted town boundaries. In rural areas, 001-399 were village numbers, 400-499 were for small RNVs, and 500-599 were for large RNVs. Numbers 600-699 were for urban CUs outside gazetted town boundaries; and 900-999 were for rural CUs administered by one province but legally located in another province.

For mapping purposes the number was only shown at the relevant geographic level; that is, CD number shown only once with the name for the whole CD, CU number given with the name for the CU (e.g., 025 Bitapaka Village).

Final Rural Maps. The resulting rural location maps were a major advance for the country and were warmly

received by many branches of the government. Copies of the relevant section of the provincial map were supplied to the census patrol going to that area. In practice, local knowledge was used for directions more often than the maps; the standard of map reading of field staff was very low. It was hoped that field staff would supply corrections to the maps, but in practice very few were received.

There is no doubt that the rural mapping exercise was an essential one. The maps and the associated lists were the key base for coverage. The maps themselves were rarely used in the common manner, but they were the first step towards adopting the international system, should it be useful in the future. The rural census maps are still in demand and will be of great use in the interpretation of census results and for other purposes. In particular they have been used as a base for a series to show electoral boundaries accurately for the first time.

Urban Maps. The definition of an urban area adopted for the 1980 census was very similar to that adopted for the 1966 and 1971 censuses. To be classified as urban a settlement should be generally urban in character, have a minimum population of 500 persons, and a minimum density of 500 persons per square mile at the time of the census. The boundary criteria were relaxed slightly in 1980 to ensure that migrant settlements associated with an urban area were included with that urban area.

It was decided to separate urban preparations from rural preparations and to place urban mapping and listing under the control of a special section located at census headquarters in Port Moresby. This section's first task was to take stock of all available base maps and related resources. Some records and maps were available from the 1971 census, but the boundaries of both the total urban areas and each CU were not clear. It was decided to clearly define every urban area and redraw the CDs. Papua New Guinea was fortunate in that most urban areas had already been surveyed, and cadastral maps at a scale of 1:4,000 were available for most of these. Also, recent aerial photography was available for many urban areas. As with most developing countries, urban areas in Papua New Guinea are a mix of formally subdivided areas, usually of high- or low-cost housing, and areas of planned and unplanned settlements and villages, usually composed of self-help or traditional housing. The methodologies adopted in the different areas explains the mapping and listing system that had to be applied.

Planned urban areas were to be completely prelisted during 1979 and 1980. Each interviewer was to be given a folder showing his area clearly defined and an accompanying list of the dwellings starting from a clearly marked starting point. An enlarged aerial photo of each CU was also to be supplied wherever possible.

For settlement or village areas, only the boundaries

were to be defined early. Then, in the week prior to the census, the supervisor was to stick a census sticker with the CU and consecutive dwelling number on each dwelling. The supervisor was to draw up a listing at the same time. The dwellings would then be allocated to interviewers.

Nonprivate dwellings, including hotels, hostels, communal workers quarters, jails, and single barracks, were to be done by a special team using a sketch map for each nonprivate dwelling. They were extracted from normal CU work loads, usually in planned urban areas.

During 1979 and 1980, the urban mapping and listing section performed the following tasks:

Defined the boundary of each urban area so that it followed geographic features wherever possible and included all migrant settlements or other locations closely connected economically with the core urban area. This boundary was drafted in headquarters and later confirmed or adjusted in the field.

Divided the planned urban areas into census units of approximately 50 dwellings using aerial photographs and cadastral maps. CU boundaries were to follow geographic features wherever possible and electoral ward and 1971 CU boundaries, if available. A headquarters team listed every dwelling in each census unit. At headquarters, CU boundaries were adjusted wherever necessary to meet size or boundary criteria. Nonprivate dwellings were sketch-mapped separately and given separate CU numbers.

Delineated the boundaries of urban settlements and villages using aerial photographs and field checks. An approximate count of dwellings was made in the field but no detailed list was made.

Transferred all final boundaries to transparent matte-base film copies of the 1:4,000 cadastral maps. The boundaries and CU numbers were shown by stick-on transparent screened numbers and symbols. After careful checking, copies were produced using an ammonia dyeline printer with two-tone paper. The screened symbols and numerals showed up as red while solid linework copied as blue.

Prepared the interviewer folders of maps, dwelling lists, and aerial photos.

Prepared master control maps, lists, dwelling summaries, and aerial photomosaics for urban supervisors and integrated them into an overall control program.

The above program was extremely ambitious and only just met its deadlines; however, we are confident that, as a result, the urban coverage was very thorough and the best possible.

Pretests and Pilot Test

There were strong reasons for planning a comprehensive testing program for this, the first complete enumeration in Papua New Guinea. The testing program for the two previous censuses had been very limited and the 1971 census produced a sizable undercount. There had also

been considerable change in the country following independence and the institution of self-government. A two-form strategy was chosen early and both a short form and a long form with associated field controls, manual, and training materials had to be developed.

The pretesting program commenced in 1978 and culminated in the Madang District pilot test, a full-dress rehearsal that concluded in February 1980. The broad aims of the pretests can be summarized as follows:

- Investigate all aspects of coverage in as many varied situations as possible to ensure that everyone gets counted once and once only.
- Arrive at standardized operational procedures for enumeration in villages, rural nonvillages, and urban areas.
- Develop the questionnaire design.
- Develop the field-staff selection and recruitment procedures.
- Develop a system of quality control for use in the field.
- Assess individual and team work rates and thus recommend work load and team composition for differing operational conditions.
- Provide information and realistic examples for use in training manuals, workbooks, and verbatim guides; test these materials in field conditions.
- Give staff experience in conducting census activities.

The total pretesting program covered 17 of the 20 provinces and 6 urban centers. The pretests are best discussed in four groups.

Early Urban Tests. Urban censuses were conducted in five urban centers in 1978. The census project was not fully established or staffed at this stage and these censuses were the result of provincial requests rather than part of the organized series of census tests. Still, the opportunity was taken to test sections of draft questionnaires and urban operational procedures. The final census in 1978—of Lae, the second largest town—was a major test of both the long-form questionnaire and most urban procedures. Some of the results of the urban tests were: the numbering system for settlements was evolved; a two-visit system was tested and abandoned; an urban control system was developed; the decision to bind books of questionnaires was made; a quality-control system was developed; a basic work load of 50 dwellings per interviewer was adopted; and considerable progress was made in questionnaire design. By the end of 1978, a broad operational system had been adopted for urban areas, and attention was redirected to the rural areas.

1979 Rural Short-Form Tests. These tests centered on the development of an operational system in the rural villages to ensure maximum coverage. House-to-house enumeration was tested and rejected as it was impossible to locate all the dwellings in a reasonable time. Even nuclear villages have outlying clusters of houses, garden

houses, and beach houses that are periodically occupied and very difficult to locate. Also, men often sleep together in "men's houses" but eat and work with their families, which caused confusion. In areas of scattered settlement, problems were even more severe with houses for one clan often miles apart and scattered across rugged, virtually inaccessible terrain. The alternative to house-to-house enumeration was the procedure established for the earlier administrative censuses in which all people for a village or clan gathered at a central point and were enumerated there. With this procedure it was possible to check against the village census books, which had been reestablished during the precensus round of the Provincial Data System. Tests did show that house-to-house enumeration was more effective in some cases, but the time taken to locate every dwelling made it impractical for universal application.

It was decided to tie the 1980 census very closely to the village books and concentrate on improving on them as a base. In the final procedure each family was called up in turn from the list on the village book. For the purpose of this "line up" census a household was defined as a nuclear family unit—normally a "head" with his wife or wives and unmarried children. Each household was asked about additional family members or visitors, and names, ages, and sexes from the village book were transcribed onto a family-record card.

The family-record card had been developed during the pretests to formalize the interview process, to relieve interviewers of the task of sorting out household composition, and particularly to alleviate the problem of complete recalculation of age. The family took the card to a team of 1980 census interviewers who again checked for additional members or visitors as they completed the census form for the family. Both the central man with the village book and the census interviewer were to check the age as recorded and reestimate if necessary. A revised book of notable events was produced to assist with this. A check was made for additional families after the list of persons from the village book was exhausted. The tests established that considerable publicity would have to be aimed at encouraging people to gather for their village census.

During this series of tests, the short form of the census questionnaire was changed from a vertical format (questions on the top) to a horizontal format (questions on the side). In addition, the wording and order of the questions was improved. Particular attention was given to translation problems and potential misinterpretations, and pidgin and Motu versions of the questions were developed.

Tests were also conducted on interviewer recruitment and quality control, which resulted in the establishment of a selection test and a standard for interviewers and a field quality-control procedure for supervisors.

By August 1979 the staff was confident of the short-

form design and operational procedures to be used in the final pilot test. Most of the research team at this time was fully occupied in producing a complete set of training materials, including interviewer and supervisor verbatim guides; field manuals for interviewers, supervisors, district officers, and trainers; and interviewer and supervisor workbooks in which practical exercises were completed during training. The emphasis of the training was on mock interviews, oral tests, and the like, culminating on the last day in a practical session in which a village census was conducted under close supervision. Only very limited testing of the program and the materials was possible in the pretests.

1979 Rural, Urban, and RNV Long-Form Tests. Following the Lae urban test, very little work was done on the long form until a redesign was produced that basically merged the final short form with the additional questions from the Lae questionnaire. The format had to be horizontal to contain all the questions in a reasonably understandable manner. This became the 1979 pre-test version and fully incorporated data processing requirements for the first time. Color shading for code boxes and noncodable items was introduced and found to be highly successful both in the field and for processing.

The 1979 series of tests focused on the design of the long form, the major questionnaire. The series included two small-scale urban tests and tests conducted in villages and RNVs. Considerable improvements were made in the wording and order of the questions as a result. Translations into pidgin and Motu were produced and taken into account when revising the English wording.

The rural village tests were used to retest the field procedures. The urban tests were particularly used to give staff experience in long-form interviewing; at the same time, quality-control formats were developed. Both sets of tests were used to determine work rates and to gain insight into the extra skill needed for long-form interviewing as contrasted with short-form interviewing.

The rural nonvillage tests were the first major tests of procedures in RNVs. The use of dwelling stickers as a means of marking dwellings that had been censused was developed in rural migrant settlements and government settlement schemes. This was later applied in some peri-urban areas where rural villages often contained a high proportion of migrants. Plantation procedures were also tested and revised.

By November 1979, a very comprehensive pretesting program had been completed and questionnaires and procedures were ready for a thorough test in the main pilot test. The only other small test conducted was one with the defense force to establish how their normal operational procedures could be varied to fit in with rural census requirements.

The Pilot Test. The major pilot test covered one com-

plete district of Madang Province. This district contained approximately 100,000 persons and included an urban center of 20,000 persons, a variety of RNVs, and rural villages spreading from islands to coastal belt to a mountainous hinterland. A full-dress rehearsal was conducted, and all questionnaires, control documents, manuals, training materials, and administrative procedures were tested.

The major result of the pilot test was that it confirmed the recommendation to defer the rural sample to 1981. Field staff had considerable difficulty managing two operations with different questionnaires, manuals, and training materials at the same time. Also, sample clusters were not clearly defined and people were missed on the boundary between sample and nonsample areas.

The rural short-form operation, however, went very well in the pilot test and few changes were recommended. The urban and RNV operation did expose some weaknesses, and improvements were recommended for procedures, the long-form questionnaire, and the training materials. The pilot test was the first major test of the training materials, and overall the fully scripted verbatim training guides and accompanying workbooks proved to be a success.

Thorough debriefings were held after each stage of the pilot test and work quickly commenced on redrafting all procedures, manuals, and forms for the main operation. Processing of the pilot-test data began immediately, but, unfortunately, little feedback could be given for the design of the final documents. One change that was made as a result of the pilot-test processing was the choice of color for the shading on the questionnaires. The pink used on the pilot questionnaire proved wearing on the eyes of processing staff and was changed to green and blue for the main operation.

The major weakness of this very comprehensive testing program was that the pilot test was too close to the main enumeration period. Little time was allowed to incorporate changes after the pilot test and, as noted, very little feedback was possible from processing or from the results.

Questionnaire Content

The short-form questionnaire sought the following information:

For each household member:

Name

Relationship to head of household

Sex

Date of birth and/or age

Citizenship

Province and district of birth (country if born overseas)

Highest school grade completed

Current school attendance (yes/no)

Activity last week (choice of 10 activity codes)

For all members of each household:

Selected household economic activities, e.g., growing coffee (9 categories)

Sources of nonwage income, e.g., selling fish (8 categories)

The long-form questionnaire covered the above questions plus the following:

For each household member:

Period of residence at current location

Usual residence at time of independence (September 1975)

Training details

Whether mother still alive and if so, her person number on questionnaire

For females 15 years of age and over:

Total number of children ever born by sex and whether now dead, living elsewhere, or living at that location

Date of birth of last-born child and whether now alive or dead

For all persons 10 years of age and over:

Language spoken most at home

Language spoken most at the market

Church membership and name of church

For persons 10 years and over engaged in money-raising activities:

Occupation

Name of employer

Industry

For the dwelling unit:

Tenancy of dwelling

Type of dwelling (10 categories)

Copies of the two questionnaires appear in appendix 1.

PUBLICITY

The publicity campaign for the 1980 census was the largest and most comprehensive single campaign to publicize a government project since independence was achieved in 1975. The diversity of Papua New Guinea's population presented a special challenge. The publicity campaign had to reach people who varied from doctors and lawyers to subsistence farmers, and from urban dwellers to people in remote mountain valleys.

The high illiteracy rate and the variety of languages spoken presented special problems. The decision to make the 1980 census a complete enumeration made it easier in some respects than the previous census where only a sample was taken. The publicity campaign was designed with different facets to reach different audiences. The project staff devoted full time to publicity were few, but considerable cooperation was given by most branches of the government and private media organizations in the country.

Teachers and students were a major target of the publicity campaign. The schools provided the best means of spreading information throughout the country. Pamphlets and other materials were distributed to teachers at in-service training courses in 1979 and 1980. Teachers distributed the material as part of population projects and encouraged their students to go home and tell their parents about the census and the reasons for it. The Education Department made 1980 "Population Awareness Year" and gave considerable support and assistance. A particularly successful innovation was the distribution of thousands of colorful disks to school children with the project name, the slogan "count me in," and a smiling face on each. These were commonly worn by children around their necks on a piece of string and certainly helped awareness of the census.

The PNG press responded well to census releases and helped keep people aware of census planning and of the main enumeration period. Both press releases and feature articles were used to keep the census in the public eye. From the onset it was realized that broadcasting would have to play a major part in census publicity. In all, over 15 vernaculars were used for census publicity broadcasts as well as English, pidgin, and Hiri Motu. Feature programs, plays, and discussion sessions were all used. A regular weekly program was very well received by the more educated sector of the population, particularly in urban areas. A film and several videotapes were planned; however, only one videotape was finally produced. A change of government in early 1980, prevented a major videotape with considerable segments by the previous prime minister from being used.

Despite a low level of literacy, much of the publicity material had to take a printed form. In some cases, material was printed in five highland languages, as well as English, pidgin, and Motu. Booklets were commonly read to groups of people while they looked at the pictures. Static visuals and well-illustrated pamphlets played a major part in census publicity. Displays were used in some provincial shows, and demountable photographic displays were distributed to all provinces for use in villages.

Other media used were theater advertising, stamps, sandwich boards, and car bumper stickers. A printed T-shirt was used as an official census interviewer's uniform and proved an excellent way of alerting villagers and householders to the presence of census teams. Four competitions were run for a poster, slogan, song, and essay at different stages of the publicity program. The essays provided excellent feedback on all aspects of the census operation and some poster designs were used in final publicity material, which were widely distributed. A census logo was also designed and used on all census stationery, questionnaires, and equipment as a quick and easy way to identify the census.

In addition to building a general awareness of the census, the publicity program publicized the need for a national census and the uses to which the data could be put. Special pamphlets were prepared for public servants, women, census workers, and teachers. Two booklets were prepared: *The Census Questions and Questions and Answers about the Census*. A recruitment program was integrated into publicity aimed at public servants, teachers, and students. These groups formed the majority of census workers, who numbered over 5,000 persons.

A more restricted target for publicity was the higher-level national and provincial policymakers and policy implementers. To reach this group, publicity material was integrated into all user meetings and meetings of national and provincial steering committees. Special submissions were prepared for national and provincial cabinets. A monthly newsletter was prepared and distributed beginning in early 1979. It detailed the progress of the census program, included pictorials of census operations, and proved very popular.

The publicity program did prove effective and has been hailed as a model for future similar exercises in the country. Enthusiastic support was given to the project at the political and administrative level by all branches of government. Many private organizations also joined in to assist. Cases of refusal were extremely rare and there were no expressions of public opposition to the census. There were still cases of remote villages who had not heard of the national census before the census patrol arrived, but it seems that without considerable additional expense there is no means of making such groups aware of such a project.

The postcensus publicity program included the production of poster-sized maps of results for school children. In addition, media releases were made as results became available, and pamphlets were planned explaining the major results. The census newsletter continued on a quarterly basis to keep higher-level policymakers and other users informed on census processing and the availability of results. A detailed archival collection of all photographs and other publicity material was established for future use.

TRAINING

Considerable attention was given to training throughout the project. Very few staff members from the highest to the lowest levels had any previous census experience.

At the headquarters level, every possible advantage was taken of international training opportunities. This was supported by in-house formal and on-the-job training. All pretests and the pilot test were viewed as training operations. For provincial staff, four week-long provincial census officers' conferences were held. These conferences were primarily held for briefing and coordination purposes but had a large training component. Provincial staff were involved as much as possible in

pretests and the pilot test. Senior headquarters staff visited provinces regularly for coordination purposes, but usually a large element of training was also involved.

The development of the training scheme and materials for field staff were dealt with in the pretesting section, and details of the implementation are in the main enumeration section. The major feature of the field-staff training was the use of verbatim guides and workbooks. Verbatim guides were used in previous censuses in Papua New Guinea, and it is thought they are essential to ensure uniform application of the questionnaires in a country with poor communications and, often, inexperienced trainers. The workbook was an innovation for the 1980 census and proved highly successful. Considerable effort was put into the preparation of the field training material and it has been hailed as a good example for any similar exercise in the country.

Training of processing staff followed a pattern similar to that of the field-staff training; however, no verbatim guide was necessary as all staff were trained at one central location. Quality-control measures were implemented for all processing staff training, and retraining was done whenever necessary.

The final phase of training was in data analysis. The demographer conducted both formal and on-the-job training in data analysis for a group of permanent staff. The 1980 census relied very heavily on overseas staff, but it is expected that the considerable emphasis on training now will mean considerably less reliance in the future.

THE MAIN ENUMERATION

The operational structure adopted in each province is given in figure 14.2. The structure functioned in a different manner for each aspect of the operation. There were usually four distinct phases of the operation in each province. These are best discussed separately.

Rural Village and Small RNV Operations (short-form coverage)

Organization. The general plan was for one census team, consisting of a supervisor and group of interviewers, to enumerate all the short-form census units in a particular census district. The provincial census officer (PCO), in some cases working with the district census officer (DCO), made a detailed operations plan for each patrol. This covered team size, timetable, transport, census material supplies, other supplies, and funding. In Papua New Guinea such detailed logistical arrangements are the basis of successful operations. The average team size was one supervisor and four interviewers. Patrol duration averaged about three weeks. Methods of transport varied from light aircraft to canoes and trucks. Walking was almost always a major component. Patrols were normally staged out of the district headquarters with the DCO in charge of detailed

Figure 14.2. Organization of Provincial Operation

day-to-day operations. In most cases in Papua New Guinea, once a patrol is in the field no contact is possible until it returns; thus good preparations, including training, are essential.

Recruitment and Selection. Staffing was a problem in many areas because of the generally low level of education. Supervisors were recruited mostly from rural public servants or teachers. Often no selection was possible and whatever staff was made available by the local administration had to be taken. In some cases supervisors had to be specially sent in from provincial headquarters because no local supervisors were available.

Every attempt was made to recruit interviewers from the area to be canvassed. In remote areas, however, local recruitment of suitable staff proved impossible. For these areas, interviewers were taken from the Papua New Guinea Defense Force (PNGDF). The PNGDF used the census partly as a training operation for itself, and in patrols of the more remote and inaccessible areas, enumerated about 6 percent of the total population. Generally the rural people responded well to the PNGDF enumerators; attendance at the census points was good in large part because people were curious to see what the defense force men were doing in their village.

Training. A one-week training course was conducted for all teams, usually at the district headquarters. Instructors came from provincial or national training units or from longer-term national census staff. The course consisted of a two-day course for supervisors, two days for both interviewers and supervisors, and a one-day field trial followed by a debriefing. The training materials were all prepackaged with fully scripted training guides and workbooks.

Enumeration Methods. In villages, the census was conducted at a central point for each village or clan with families coming up in turn as their names were called from the village book. More detail is given in the pre-testing section. In RNVs the enumeration was done on a house-to-house basis.

Coverage Checks. In addition to the coverage checks described in the pretesting section, three special checks were carried out for the whole census unit: a check for any nonlisted RNVs at that CU (e.g., schools, aid posts, migrant settlements); a check of all the subclans covered by that CU and whether they had all been enumerated; a check of the 1980 count for that CU against previous PDS records (if there was a difference of more than 20 percent this was to be investigated and a reason given). These three checks were on a special census-unit summary form which was to be filled in by the supervisor after each CU was enumerated.

A complete patrol coverage check was made by the quality controller and the DCO when the patrol returned to district headquarters. The check revealed cases of villages disappearing or combining with other census units. A common problem was that census pads for small RNVs were combined with those for the nearby village raising suspicions that they may have been missed. There were also cases of unlisted settlements being located and included.

This comprehensive series of coverage checks assured the highest coverage possible.

Quality Control. The most effective quality controller was the supervisor. He was instructed to check every form while in the field and, for at least the first few days, completed an interviewer report form for each interviewer.

These procedures were not entirely effective and there were cases of interviewer mistakes carrying through complete patrols. When the team returned to district headquarters, a specifically trained quality controller went through all the forms and made basic checks on such things as completeness and addition. In general, the standard of addition was poor. As mentioned above, a complete coverage check was also done. Because staff were often reemployed on a later patrol, wherever possible they were given feedback on their mistakes before returning to the field. Where quality control was centralized at provincial headquarters owing to lack of suitable staff at the district level, this was often not possible.

Program. Most provinces arranged their patrols so that the outlying areas were covered first and the more accessible areas afterward. This meant that staff could be reemployed on later patrols. The earliest rural short-form patrols were made in May 1980 to the remote areas of West Sepik. All provinces gradually joined in with most starting in early July after the completion of the South Pacific Arts Festival. (This is a major festival, and we were anxious to avoid having it disrupt the cen-

sus activities.) The peak of rural census activity was in late July and August. Some rural short-form patrols carried on over September and into October. These were principally in areas close to towns or where staff could only be obtained in the September school holidays.

Large RNV and Special Long-Form Area Operations (long-form coverage)

The 500 series CUs included plantations, mining camps, government stations, settlement schemes, and large missions. These are places of varied economic activity and thus places for which users require more detailed economic information. This and the problems of representing them in the rural sample were the major reasons for making these CUs a special category and enumerating them with the long form.

Another group that was enumerated with the long form comprised five specially designated long-form rural areas:

1. The CDs around the capital, Port Moresby.
2. Part of the CD around Lae, the second major town.
3. Popondetta CD, which surrounds the town of Popondetta and includes a mixture of oil palm settlements, blocks, and villages. There is considerable movement between the blocks and the villages.
4. The Gazelle Peninsula, East New Britain, which is one of the most economically advanced areas of the country, is densely populated, and has a mixture of RNVs and villages.
5. The whole of Manus Province.

The special long-form areas, except for Manus, are areas of varied economic activity, high mobility, and, generally, areas for which more information was required. Also, an adequate pool of more educated staff was available. It was therefore decided to enumerate them completely with the long form.

Manus was a special case. It was originally to be part of the rural sample enumerated with the long form in 1981; but because of its small size, the sample for Manus would have to cover a large proportion of the population to be useful. Instead it was decided that, since Manus is the most educated province with the best available work force, it could adequately manage a complete enumeration with the long form in 1980.

Organization. The large RNVs were covered by special teams trained at provincial headquarters and usually controlled directly by the PCO. Most of the large RNVs were in areas with road access, but in some cases the team had to be flown in, or shipped in, to enumerate an isolated plantation or government station. As with other operations, these special patrols were all preprogrammed in detail.

The five special long-form areas were also controlled directly by PCOs. A senior member of the census project, or another department, was usually given supervision of the operation. The procedures were similar to

those used in other rural operations, but more attention was paid to coverage. In some villages a complete house-to-house census was conducted and dwelling stickers were used. In others, a detailed postenumeration check was made at all dwellings in the evening to ensure that everyone was covered. This special attention to coverage was necessary because of the high mobility in these areas. Near the main towns it is common for people to spend the weekend in the village and weekdays in the town. In these areas enumeration was restricted to weekdays.

Recruitment, Selection, and Training. Higher-level staff were generally selected for all long-form interviewing. The questionnaire was more difficult and usually the field procedures needed more care. Students from teachers colleges, grade 11 and 12 high school students, university students, and the best grade 10 school leavers were used. The training was the same basic long-form format but had to be varied to take account of the different types of CUs to be covered. This training was usually given by the PCO himself or another of the senior census staff.

Enumeration Methods. House-to-house enumeration was generally applied through all the large RNVs and in many of the long-form areas. Special techniques had been evolved in the pretest for some of the problem areas. These were discussed in the pretesting section.

Coverage Checks. For the large RNVs a special section was put on the CU summary for the supervisor to complete. This was a check of the number of dwellings covered against the number on the sketch map that had been drawn earlier. For the special long-form areas, the same checks as for the short form applied.

Quality Control. Quality control was generally centralized at provincial headquarters. If the RNV or long-form area teams were going out and returning each day, a daily check on quality was attempted. This enabled rapid feedback on errors. With long patrols to remote RNVs, this was obviously not possible, and checks had to wait until the teams returned.

Program. The long-form RNV patrols were usually restricted to September and October 1980. Many provinces completed their rural short-form operations before they started their long-form RNV operations. They found this easier to manage. The special long-form area operations were, except for Manus, done in the main enumeration period from 22 September to 3 October. Because these areas were near urban centers their operations were coordinated with the urban operations. The Manus operation was completed in four weeks in August and early September.

Urban Operations (long-form coverage)

Organization. A town supervisor was appointed for each designated urban center. Most of the town supervisors were senior officers either from census headquarters, the National Statistical Office, or statistical bran-

ches of other departments. Considerable attention and importance was attached to the urban operation because urban procedures were more complex than rural procedures, the long form was to be used throughout, and the urban centers were thought to be the major areas of underenumeration in the 1971 census. As noted earlier, urban preparations were largely managed by the urban operations section based at census headquarters. This was done because few provincial staff had any experience in urban census procedures and because they had a very heavy work load with their rural operations. Most PCOs were, however, given urban experience either in the last urban pretests in Mount Hagen and Port Moresby or as trainers and observers in the Madang pilot test.

PCOs were gradually brought directly into urban preparations beginning in early 1980. As town supervisors were formally appointed, they worked with PCOs to ensure all preparations were proceeding on schedule. The PCO managed recruitment, publicity, and accommodation preparations, which had to be done early at the local level. The urban operations section was responsible for the preparation of a complete package for each urban center, including CU folders, master control maps and aerial photos where available, control sheets, training and operational supplies, and a draft operational plan.

Town supervisors received their training in Port Moresby or in one of the two courses conducted in the highlands and the New Guinea Islands. They developed their final operational plans while keeping in close contact with the urban operations section and the PCO. The PCO was in overall charge of the urban operation, but the PCO's detailed involvement varied greatly between provinces depending on the ability and experience of the selected town supervisors.

Interviewers were allocated one CU of approximately 50 dwellings to enumerate over a two-week period. Interviewers were grouped into teams under a supervisor. The ratio was one supervisor to approximately five interviewers. A special team was formed to enumerate "Special Dwellings," communal living quarters. One quality controller was responsible for checking the work of two teams.

Interviewing was conducted during the lunch hour, afternoon, and early evening. Supervisor and quality-control checks were done later in the evening or in the morning.

Recruitment and Selection. Because of security problems in Papua New Guinea towns, most interviewers and supervisors were males. The majority of quality controllers were females. Supervisors were selected from a pool of available public servants and teachers. Interviewers principally came from high schools or teachers colleges. If possible, teachers were teamed with their own students as they already knew each other well. Some unemployed school leavers were also selected.

Interviewers were of at least grade 10 level or students currently studying grade 10. Quality controllers were female teachers or public servants.

Training. The urban training for supervisors took 22 hours and was spread over the two weeks prior to interviewer training. Supervisors then had to check the dwelling list for their CUs or, for settlements and urban villages, list and number the dwellings. Supervisors then attended and assisted with interviewer training. Interviewer training took three days plus the Saturday morning prior to enumeration. A field test was conducted on the preceding Friday afternoon and evening. The training materials were all prepackaged with fully scripted training guides and workbooks.

Enumeration Methods and Coverage Checks. All enumeration was house-to-house. Interviewers worked their way progressively through their work load of approximately 50 dwellings. Papua New Guinean respondents were very cooperative and refusals were rare. Noncitizens, who often live in houses surrounded by high wire fences with dogs, were a problem to contact and were generally less cooperative. A careful check was kept on vacant dwellings and noncontacts. Supervisors were to recheck all vacant dwellings and help solve noncontacts. Quality controllers kept tallies of nonresponse and high rates were investigated by the town supervisor or his assistant. Toward the end of the main enumeration period, publicity was directed at getting people who had not been enumerated to ring a contact number.

Quality Control. Quality controllers were given the full supervisor training plus a segment on their own role. Their role in checking coverage was explained above. In order to maintain the quality of the data from the more complex long form, they were trained to apply a series of detailed consistency checks. The major problem for the quality controllers was the short time they had to check the forms each day before the interviewers returned with the forms to the field. This was severe in the first few days when errors were common. The quality controller's role was a vital one and was, in general, quite successful.

Program. The main enumeration period allocated for the urban operation was 22 September to 3 October 1980. Smaller towns completed their operation early, some within a week, while the larger towns continued operations on a reduced scale into the third and fourth weeks. Urban high covenant areas proved difficult to complete because of noncontact problems.

1981 Rural Sample Operations (long-form coverage)

The rural sample was drawn from areas covered with the short form in 1980. It thus excluded urban areas, 500-series RNVs, and the special long-form areas. Only 18 provinces had to be covered since Manus and the National Capital District had been covered by the long

form in 1980. The main emphasis of the rural sample operation was on the demographic questions. Economic activities in rural areas are largely agricultural and not very varied. Thus information on them is relatively easy to collect.

Organization. The 1981 sample was quite a small operation compared with the 1980 operation. It was controlled regionally with only four regional census officers (RCOs), although other staff from the 1980 operation, particularly from census headquarters, did assist in some provinces. Operations in each region were staggered province by province. The basic structure of operations from 1980 was maintained, but the RCO was in direct charge and no DCOs were employed. Another variation was that a quality controller was sent on each patrol, when possible, to provide on-the-spot checks on quality. This was thought necessary because of the complexity of the long form.

Recruitment and Selection. The best available staff from the 1980 short-form and long-form operations were selected and used, although new recruitment was necessary in some provinces. In most provinces, operations were staggered so that only one or two teams could cover several clusters of villages. Maximum use was made of the best staff.

Training. In most cases 1981 training was a retraining exercise since most staff had worked in 1980. Still, a complete training course was conducted to ensure that everyone was fully aware of the complexities of the long form.

Enumeration Methods. The same methods as for the short-form operation in 1980 were applied.

Coverage Checks. The same CU summary form and checks were applied as in 1980. The total population enumerated in 1981 was compared with the 1980 census population. This gave a tighter check. Some differences were discovered and faults were identified in both the 1980 and the 1981 operations. This exercise enabled the 1981 sample operation to function partly as a postenumeration check on the 1980 results. Most differences seem to have been caused by climatic changes between 1980 and 1981 or seasonal differences caused by the 1981 enumeration being at a slightly different time than the 1980 operation. These differences are being further analyzed.

Quality Control. As noted above, a quality controller went on most of the 1981 patrols. Also, a centralized quality-control check was carried out for each province. Because of the small scale of the operation, the RCO often did this check, or at least closely supervised it. Adoption is very common in Papua New Guinea, and this was the major source of error in the fertility data. Even with careful checks, errors remained because of this.

Program. RCOs were allowed considerable flexibility in designing their program for 1981. Attempts were made to hold the 1981 operation at the same time as

1980 in areas with seasonal crops, but, as noted, this was not always possible. The first patrols started in March 1981 and the last were completed in early December 1981.

Data Processing

PREPARATION AND PLANNING

Background

In 1978 when serious planning for the census processing commenced, data processing was in a relatively undeveloped state in Papua New Guinea. The government's National Computer Center (NCC) was the major processing installation in the country, but it had experienced considerable staff and other problems. The major task of the NCC was processing the government payroll. A few statistical collections had been processed using the NCC, but most had experienced major delays and a general lack of coordination. The 1966 and 1971 censuses and the ongoing trade and taxation statistics collection were all processed in Australia. The National Statistical Office was, in 1978, formulating a firm proposal for its own computer or at least data entry facilities. Australian authorities had given notice that they would not be able to continue assistance once 1976 data for trade and taxation were fully processed.

In planning new data processing facilities, staff availability and proficiency were two of the biggest concerns. Mainly as a result of uncertainties about staffing, it was initially proposed that all or part of the census processing be done in one of the southeast Asian countries. This option, however, was dismissed by government advisors as politically unacceptable. The government also saw the training of staff in new skills as a major reason for processing the data within the country. A favorable factor in this was that a surplus of grade 10 school leavers had recently formed in the labor market. Still, the location of these unemployed school leavers and their interest in and suitability for data processing were unknown.

Lae Urban Pretest Processing

The urban pretest in Lae in late 1978 provided a reasonable volume of data for a processing test to determine at least some of the unknown factors. A small processing center was established in early 1979. It took the Lae questionnaires through all stages of processing: editing, coding, transcription, data entry, and tabulation. To test the availability of the work force, a major recruitment campaign was launched.

The response to the recruitment campaign was very high, which answered that question. A selection test was applied to all those who responded, and 15 persons were deliberately chosen across the range of scores on the selection test. Their work output was found to correlate

strongly with the selection test scores, and the test was then adopted as the first screen for all future processing recruitment. Generally, work quality and work rates of coders and editors were better than expected. Labor turnover was high but acceptable. This experiment provided confidence in the ability of the National Statistical Office to adequately staff the main processing center in 1981-82.

The Lae questionnaire had no space for coding or code boxes. Coding was done on the questionnaire but later transcribed to special data-entry sheets. This transcription proved to be a major source of error, and eliminating the need for transcription was strongly recommended for the future.

Data entry was done at the National Computer Center on "blind" keyboards. The data entry rates were found to be relatively low and error rates relatively high. This gave firm basic figures for throughput calculations but raised queries about possible alternate equipment.

Tables were successfully produced using COCENTS on the NCC computer. Overall, the Lae pretest processing was a worthwhile exercise. It answered several queries and provided firm throughput rates for staff and equipment planning.

Choice of Equipment

After the Lae processing, a significant amount of time was spent in considering Datapad as a device for data entry. With Datapad, staff enter data by writing codes on special paper positioned on programmed, touch-sensitive pads. This device was finally rejected for a variety of reasons, one of the main ones being that it was unproven for bulk data entry. Another major factor was that both the long and short questionnaires had been redesigned during 1979 and now had code boxes and color shading for all items to be entered onto computer records. This made standard keyboard entry far easier.

It had been firmly established by mid-1979 that the National Computer Center did not wish to manage data entry for the main census processing. The NCC would produce tabulations from clean data on their mainframe computer and possibly handle major editing runs; however, it thought the census office should buy its own small computer and other facilities for data entry and basic editing. The National Statistical Office then chose to put out a tender for its own medium-sized computer and related data entry facilities. These NSO facilities, however, did not have the capacity for census processing given the considerable backlog of other statistical data waiting to be processed.

In August 1979, the government issued tender specifications for the processing of the census data. The five proposals received varied from the purchase or lease of equipment to data entry at one company's own site. It was finally decided that purchase of equipment was most suitable for the long-term interests of the country. A short, intensive evaluation was carried out in late

1979 and the Honeywell proposal was accepted. The equipment is detailed in the Equipment section below. The major features affecting the choice of equipment were that data would be entered via formatted video display units, operator statistics would be easily produced, basic edits on range and consistency could be done at data entry, and on-line correction could be performed at reasonable speed. Another major factor in the selection of the Honeywell proposal was that the NSO had chosen Honeywell equipment. Both locations using the same equipment meant backup would be available for emergencies. The equipment was first installed in March 1980 at the NCC. It was later moved to the National Statistical Office at Waigani and finally fully installed at census headquarters in August 1980. The temporary installations were necessitated by delays in building alterations at census headquarters.

Pilot Test Processing

While work was proceeding on the choice of equipment, other data processing staff were developing a complete system for manual and computer processing with all associated controls. Unfortunately few of the available staff had sufficient experience, and the coding frames, computer edits, and imputations developed at this stage were a major cause of later problems. It was decided to conduct a complete test of the overall processing system using the pilot test data as it became available in late 1979 and early 1980. As noted earlier, the pilot test was conducted too late for the tabulated results to be taken into consideration in redesign of the questionnaires, training, and field procedures. This was unfortunate. Only broad indications from early editing and the total field counts could be taken into consideration.

Pilot test processing proceeded from February to November 1980. Data entry in particular had to be delayed until the building alterations were complete at census headquarters in August. In addition, all computer systems and programs were being developed, written, and tested over this period.

Work rates for editing, coding, and data entry had been considerably underestimated from the Lae processing exercise. However, several new data items and codes had been added to the final questionnaires since the Lae census. Overall we were able to make slight reductions in most of our staffing estimates for the main census processing. An important two-way test was made of the editing system to be used in processing the short-form data. The data were processed once using automatic imputation and once using manual correction of computer-identified edit queries. The results of this test were reviewed, and as a result automatic imputation was adopted for short-form data for the main census. This decision caused major problems, which are discussed later.

The pilot test processing was a very useful exercise in that it gave a test of systems and equipment and gave

more realistic throughput statistics. It suffered greatly in that most research and senior staff were heavily occupied with the conduct of the main census operation. There were major problems with the processing system and equipment that were only partly identified at the time and few steps could be taken to solve those that were identified.

In late 1980 NSO and Honeywell staff triggered a crisis review by stating that by their evaluation the computer system used in the pilot processing definitely could not cope with the main census processing. Steps were then taken to redesign the computer system.

MAIN CENSUS PROCESSING

Preliminary Field Counts

The government had insisted that preliminary field counts for each CU, CD, district, and province be available if at all possible by the end of 1980. The major reason for this was to enable work to proceed on setting new electoral boundaries for the 1982 elections.

The major obstacles to this deadline were logistical problems in the field. Completed census pads had to pass back through the chain of command in provinces and then be returned to Port Moresby. It had been hoped that a considerable proportion of the rural pads would start to arrive in September and October 1980. In the event, the pads from most provinces arrived virtually as a unit in November with the pads from the few remaining provinces trickling in through mid-December. This made the preliminary processing schedule very tight.

A register of all CUs by CD had been established based on the PDS and urban listing. These were printed out and checked for each CD as the pads arrived. Basic checks on addition were made for each questionnaire and totals through CU totals. It was again found that the standard of addition by field staff was poor. The total of persons, males, and females for each CU were written against their CU names on the computer sheets and passed to data entry for entry onto computer records. The most time-consuming task was finding lost CUs or finding why a CU had gone out of existence as a population center. Some CUs missed in the field were located, and these were rapidly censused, or if that was impossible, a value was imputed (such CUs were then reenumerated in 1981).

Considerable effort was put into correcting the register, which was used for the production of field counts and as the main production-control register. Other information was entered at this time, for example, type-of-CU codes for urban CUs and RNVs. Correcting the register was the first task the computing staff and equipment faced under pressure, and a few problems did arise. The building complex that housed the census project was completely rearranged during this time from a field operations center to a data processing center.

Finally the problems were solved, all CUs were located or imputed (less than .1 percent), and, on 30 December 1980, the preliminary field counts were produced. Booklets giving lists down to the CU level were printed and distributed during January and February 1981.

Manual Processing

Manual processing of the data was planned to commence in October 1980. This proved impossible because the forms arrived late, the building was being rearranged, and most senior staff were heavily involved in the production of the preliminary field counts. The main recruitment was conducted in December 1980 with training starting between Christmas and New Year. The first processing began in early January 1981.

Short-form processing started first. Separate teams were established for editing, edit checking, coding, and code checking. The overall system of manual processing included a rather elaborate system of records and controls. Many of these proved unnecessary and very time consuming and were later abandoned.

Long-form processing started in April 1981 and the same basic system was used as for the short form except that coding was split into two areas with the more difficult questions being coded by a specialist group. Better staff were used on the long-form manual processing because of its greater complexity.

Manual processing of both short and long forms proceeded throughout 1981. Manual processing of the short forms was completed in October 1981, and the 1980 long forms in December 1981. The 1981 sample long forms joined the processing system in October 1981 and were through manual processing by January 1982. Overall, manual processing of both forms was quite smooth. Work rates were higher than anticipated and less staff were needed than expected.

Data Entry

As noted earlier, problems with the computer processing system were identified in late 1980. One of the major problems was the slow rate of data entry, principally caused by slow machine speeds. At this time it was recognized that the complete system for data entry, editing, and amendment was badly designed and generally too complex. Additional systems staff were supplied on loan from the National Statistical Office and the system was completely redesigned in late 1980 and early 1981. This did not solve the problem of slow machine speeds; Honeywell staff worked closely with the census staff to solve this problem.

The Honeywell Level 6 was upgraded from a model 47 to a model 57 (on loan) and the project purchased an extra half megabyte of memory. Priorities were also rearranged in the operating system. These steps were not completely implemented until May 1981, but then data entry, which had been proceeding uncertainly at less than 5,000 keystrokes per hour, made a dramatic

increase to over 8,000 keystrokes per hour on average with some operators reaching over 12,000. By then, however, processing was well behind schedule. The government supplied extra funds to operate a night shift to eliminate some of the backlog. The night shift worked extremely well. All short- and long-form data from 1980 were processed by Christmas 1981. Only part of the 1981 sample data remained at the end of the year and this was entered by early April 1982.

Automatic Imputation

After the pilot test, it was decided to use automatic imputation for several items of the short-form data. For the main census, it was noted that the rates of imputation were higher than acceptable. The main problems arose with age. Not-stated ages and corrections on stated ages were to be imputed largely based on relationship.

On checking the basic data we found that coding and field errors in relationship were causing more distortions in the data than they were correcting. The major problem was adopted children being identified as true children. This was not so common in the pilot test area, and given the smaller scale of the pilot test processing, most such occurrences were edited out during manual processing. After a thorough review, it was decided to cease automatic imputation of ages. During this review, major errors were found in many of the computer programs, which had been inadequately tested. A major cause of the errors was that the coding structures were unnecessarily complex, leading to complex program specifications, which were never fully understood by the programmers involved. Nothing could be done about the coding structures at this stage. It was decided to redesign the complete system of automatic imputation and rewrite all programs.

All original short-form data were rerun through the redesigned system. Several fields continued to be subject to automatic imputation, but the imputation rates were considerably lower for these and the imputed values were reasonable. Not-stated ages were identified and printed out, and values were imputed manually. The redesign of this system and the rewriting of programs delayed this phase of the operation considerably.

Manual Editing

For the more complex long form, it was decided to rely mainly on manual correction of computer identified edit errors. The writing of programs for these computer edits was delayed considerably as systems and programming staff were occupied rewriting the short-form imputations and other aspects of the system in which errors had been found. The main edit of the long-form data started in December 1981 and was scheduled for completion by May 1982 along with the 1981 sample data. Manual correction or imputation was specified for the long form for all the item tests contained in the

short-form automatic imputation; however, an imputation package was applied to the long-form data later to ensure that the item tests were definitely done and that a consistent set of imputations was applied to both short-form and long-form data.

When the first tabulations were produced, we were able to identify several consistent errors in the field, coding, and data entry. Some of these were caused by poorly planned coding systems. Special edits were designed and applied to the data to identify records that might contain these errors. These were checked manually and corrected where necessary.

Tabulations

Tabulations are being produced using the COCENTS tabulation package. The package has proved quite efficient, but the first tabulation system produced in 1981 was poorly designed, and the complete system had to be redesigned in 1982. The new design resulted in a more flexible system that takes far less time, resulting in better service for special user requests. The table layouts were redesigned at the same to increase clarity.

Review of Data Processing

Problems with data processing were not expected. Staff turnover at the senior processing levels was high and was a major factor in the problems. But most of the problems were successfully resolved. Clean data are expected to be available 18 months after the commencement of processing, which is a reasonable achievement for the first census to be processed in the country.

Equipment

A full list of the equipment at census headquarters, the National Statistical Office, and the National Computer Center is given below. As noted earlier, the NCC originally planned to do the census tabulations and the main edits. When the census office computer was upgraded, however, census headquarters took over those operations.

A computer link to the NCC was used early in the operation for program development and continues to be used for other survey work. Up to the tabulation stage, the NSO facility had not been used, but the word processor and the plotter will be used for publications. Also, the census office borrowed one of the small terminal printers from NSO to assist with the development of the tabulation system.

1980 National Population Census Office

Central Processor:	Honeywell Level 6 Model 57, 1 megabyte
Disk storage:	2 × 67 megabytes (formerly 33 megabytes)
Tape drive:	9 track, 1600 bpi, phase encoded
Line printer:	300 lines per minute
Terminals:	20

National Statistical Office

Central Processor:	Honeywell Level 6 Model 47, 1.5 megabyte
Disk storage:	2 × 256 megabytes 1 × 67 megabytes
Cartridge disks:	2 × 5 megabytes
Line printer:	600 lines per minute
Visual displays:	30
Terminal printers:	4
Word processor:	WANG (S-Screen)
Plotter:	Tektronix graphics terminal Foolscap-size flat-bed plotter

National Computer Center

ICL Equipment	
Central processors:	2 ICL 2950, 1 megabyte each
Disk storage:	5 × 200 megabytes
Tape drives:	4 9-track tape drives, 1600 bpi, phase encoded
Line printers:	2 × 1500 lines per minute
Honeywell Equipment	
Central processors:	Honeywell Level 6 model 47, 1 megabyte
Disk storage:	2 × 67 megabytes
Diskette	
Line printer:	300 lines per minute
Tape drive:	9 track, 1600 bpi

Communication Lines

1. Between the census and the NSO Honeywell computers
2. Two ECS 4000 terminals and one terminal printer at the census office connected to one of the NCC ICL 2950 computers.

Definitions

De Facto/De Jure

It was not possible in Papua New Guinea to use a single night as a reference point for census enumeration purposes as is done in most other countries. Consequently, a mixture of *de facto* and *de jure* rules were applied.

In urban areas and rural nonvillages, persons who spent the night previous to the day of enumeration in a given dwelling were counted at that dwelling.

In rural villages, all persons who usually lived in the village and who did not spend the night previous to the day of enumeration in an urban area or rural nonvillage were counted.

Under these rules, it was, of course, quite possible for a person who moved about during the enumeration period to be counted more than once or not at all. It was assumed, however, that population movements were fairly uniform over time, and thus that the application of these rules would give an accurate count of the total population.

Urban/Rural

For operational purposes, the country was divided into three sectors: urban areas, rural villages, and rural non-villages.

An urban area was defined as a settlement with a generally urban character, a minimum population of 500 persons, and a minimum population density of 500 persons per square mile (about 195 persons per square kilometer). For the boundaries of the larger urban centers the density criterion was applied a little more loosely in order to set boundaries conforming with geographic features and, in particular, to include migrant settlements closely associated with that urban center.

The rural village sector comprised all traditional villages, hamlets, etc., in rural (i.e., nonurban) areas.

The rural nonvillage (RNV) sector comprised all persons living in rural areas other than those in rural villages (e.g., persons living on missions, plantations, schools, and settlement schemes). For publication and operational purposes the RNV sector was divided into two groups, "large" RNVs and "small" RNVs. Large RNVs generally contained over 100 persons but included all RNVs of unusual economic activity irrespective of size (e.g., sawmills, plantations, mining camps, and larger government stations and settlement schemes). These were enumerated with the long form in 1980. Small RNVs generally contained less than 100 persons and were closely related to traditional villages (e.g., schools, aid posts, and small migrant settlements). These were enumerated with the short form in 1980.

Households

The definition of a household applied in rural villages was quite different from that applied in urban areas and rural nonvillages. In rural villages, a household was defined as the nuclear family unit, usually a head of household with his wife or wives and unmarried children. In urban areas and RNVs, a household was simply taken as all the persons in a dwelling who were included on the *de facto* coverage rule. No attempt was made to identify multiple households within dwellings. It was thought that such identification would confuse interviewers, and survey experience had shown that multiple households are very rare in Papua New Guinea.

Household tabulations have been produced for the three sectors separately. Combined "all sectors" tabulations were not considered meaningful.

Economic Activity

It was decided not to attempt a sophisticated measure of economic activity in the 1980 census. Questions on hours worked or income were very unlikely to be successful in the census interview. It was decided that these things were best measured by sample surveys. Still, the census did collect some data on economic activity.

Individuals 10 years of age and over were asked what they did most of the time last week. Their answers were coded in the field, using codes from 01 to 10 as shown on the questionnaires in appendix 1. Codes 01 to 04 give a measure of all persons earning money from wage jobs, business, or farming and include unpaid helpers in businesses. Persons earning any money from farming were to be included in 04 even if their major activity was subsistence farming. Code 09 gives a measure of "open" unemployment, those who were looking for work. Thus codes 01 to 04 plus 09 give a measure of the labor force. There were a considerable number of persons coded 08 (too young, too old, or handicapped) or 10 (other activities), particularly in the younger age groups. Many of these were available for work but were not openly seeking it because they knew none was available. These persons should be taken into consideration in any analysis of the work force or of unemployment.

Two sets of questions on economic activity were asked of households. The first set (Q-11 short form, Q-23 long form) asked whether anyone in the household was engaged in any of a series of agricultural or pastoral activities. No reference period was given and the person did not have to receive any income from the activities, which involved what are commonly cash crops that could have been immature at the time of the census. Such information at the household level is often more useful and valid than individual data, particularly for rural areas of Papua New Guinea. The second set (Q-12 short form, Q-24 long form) asked about a series of sources of income in the last 12 months. This information is very useful for both the rural and urban areas.

Occupation and Industry

All persons 10 years and over who were engaged in money-earning activity (activity codes 01 to 04) were asked their occupation and industry. Occupation was coded using a recently developed draft of the Papua New Guinea National Classification of Occupations. This was based on the International Standard Classification of Occupations. Industry was coded using a recently developed Papua New Guinea Standard Industrial Classification, which was closely based on the International Standard Industrial Classification.

Tabulations and Publications

TABLE SERIES PLANNED

The first set of proposed tabulations was produced as early as 1977. These tabulations were changed and expanded as work proceeded on the questionnaires. A reasonably complete set of tables was prepared for the last major User's Advisory Committee meeting in August 1979. The content of the questionnaires was not changed after this date, and very little work was done on the tabulations until after the main enumeration period.

During 1981, systems and programming staff were often diverted to problem areas and only limited progress was possible on the detailed specifications. It was not until early 1982 that urgent attention was focused on the tables. The tabulations for the 1980 census were the first census tabulations to be produced in Papua New Guinea, and many of the finer details had to be firmed up in detailed discussions with users in early 1982. As of April 1982, discussions were still proceeding with users, although most major tables were fully specified and had been produced for some provinces.

The National Census Project's goal was to satisfy most major national and provincial users with the first set of tables. Special tables for specialist users were to be produced later as resources allowed.

The tables listed at the end of this chapter were generally produced at the province and district level for three sectors: rural villages and small RNVs, large RNVs, and urban areas. When the tables have been produced for lower geographic levels (i.e., CDs or CUs), this has been mentioned. It must be noted that the long form was only applied to a sample of rural villages. The sample was selected on a provincial basis and thus any table with a topic from the long form has been produced only at the provincial level for the rural sector. Such topics may also appear in total province tables.

PUBLICATIONS

The first publications from the census were 20 booklets, one for each province, giving preliminary field counts down to the census unit level. These were released in January 1981. The National Statistical Office summarized these in two preliminary bulletins released in March 1981. The first contained provincial and district figures for all provinces, and the second contained figures down to the census division level. Only total population, male and female, were tallied and published for the preliminary counts.

The National Census Project plans to produce a comprehensive bulletin for each province plus one for the nation when complete tabulations for the provinces are available. These bulletins will contain a subset of the tabulations listed at the end of the chapter. These bulletins will give sufficient information to satisfy most general users.

Since this was the first complete census of the country, it was particularly important to document various aspects of the project. To this end, the following series of technical reports is being produced:

- No. 1 Publicity
- No. 2 Sample Design and Stratification
- No. 3 Mapping
- No. 4 Field Coordinator's Report
- No. 5 Census Pretesting
- No. 6 Director's Report

In addition, a series of research monographs giving analysis of the census results has been proposed. The first monograph *Urban Growth 1966-80* has been published and others are planned by researchers working on the project or for other departments and organizations.

Evaluation

POSTENUMERATION SURVEY

A full postenumeration survey (PES) was not possible. All resources had to be devoted to the main operation in 1980, and certainly the best staff were not available for a PES. Although the 1981 sample operation partially functioned as a PES, it was taken over a longer period, sometimes in a different season, and in several provinces quite a large amount of migration had occurred between the two operations. For some provinces it will be possible to produce two sets of estimates and an analysis of these is planned. The 1981 sample operation did locate cases of under- and overenumeration and gave additional insight into the quality of the data. These cases have been documented and will be taken into consideration during analysis. Also, in 1981 an urban survey was conducted in Port Moresby at the same time the census had been taken in 1980. Two questions were put on the survey questionnaire relating to census coverage. The results of this exercise are currently being analyzed. Where matching of census and survey questionnaires has been possible, a comparison of answers to several questions is being carried out to gain additional insight into data quality.

OTHER EVALUATION MEASURES

A small demographic unit of three staff members headed by an experienced overseas demographer was established in late 1981 to analyze the demographic data from the census. This unit is to conduct a thorough demographic analysis of all available data. The analysis will provide considerable insight into data quality. The demographic unit will be responsible for producing detailed population projections based on the census data. These can be verified and adjusted as other data become available.

The National Statistical Office will absorb the demographic unit when the census project formally terminates at the end of 1982. The NSO will also be analyzing and applying the data to update the national accounts and other economic estimates.

Other major users with definite plans to analyze and apply the data are the National Planning Office and the Department of Labor for manpower planning, Department of Education for its next five-year education plan, and provincial planners for their local development plans.

Observations on Overall Operation

The preparation period was far too compressed for a country conducting its first complete census. Activities were very restricted in 1978 because of bureaucratic delays largely caused by a general underestimate of the size and complexity of the census project.

When staff were recruited in late 1978 and early 1979, it took several months for them to become fully conversant with their tasks. Most had skills in their own field of expertise, but few had experience applying them to a census. This slow buildup resulted in far too many activities being compressed into the later parts of 1979 and early 1980. As noted earlier the pilot test was conducted too late to be fully evaluated, a situation that is not recommended for the future. The final deadlines for the main census were only met by the considerable efforts of the government printer and by the assistance of the Royal Australian Air Force in transporting census materials and supplies to the provinces. Although data processing lagged behind the original schedule, the schedule was very optimistic given that most aspects of the processing were being done in Papua New Guinea for the first time. Overall, the project met most of its deadlines. The government expressed considerable satisfaction with the progress and output of the project. The success has largely been due to a very dedicated and hard-working staff.

Major Tabulations of the 1980 Papua New Guinea Census

Age/Sex

Total Population:

1. Age (single years) $\times$ citizenship $\times$ sex
2. Age (5-year groups) $\times$ citizenship $\times$ sex (percent distribution)

PNG Citizens:

- 3A. Age (single years 0-12) $\times$ census division
- 3B. Age (single years 13-24, 25+) $\times$ census division
4. Age (PDS groups) $\times$ sex $\times$ rural census division

Total Population:

5. Citizenship $\times$ sex $\times$ census unit

Marital Status

1. Population $\times$ marital status $\times$ age $\times$ citizenship $\times$ sex
2. Married women (with husband present) 15 years of age and over $\times$ age $\times$ age of husband $\times$ citizenship

Fertility

Female Citizens 15 Years Old and Over:

1. Age $\times$ number of total issue $\times$ sex of issue $\times$ survival of issue

Female Citizens 15 Years Old and Over with Known Total Issue:

2. Age × number of total issue × educational level × survival of issue
3. Age × number of total issue × religion × survival of issue
4. Age × number of total issue × migration × survival of issue
5. Age × number of total issue × activity × survival of issue
6. Age × number of total issue × survival of issue; ever-married females only
7. Age × sex of issue × vital status of issue

Female Citizens 15 Years Old and Over:

8. Age × age of last born child
9. Age × educational level × age of last born child
10. Age × religion × age of last born child
11. Age × migration × age of last born child
12. Age × activity × age of last born child
13. Age × age of last born child; ever-married females only

Female Citizens 15 Years Old and Over Showing Last Born Child in Year before Census:

14. Age × survival of children
15. Age × educational level × survival of children
16. Age × religion × survival of children
17. Age × migration × survival of children
18. Age × activity × survival of children
19. Age × survival of children; ever-married females only

Citizens 0–9 Years Old:

20. Age × age of women identified as their natural mothers
21. Age × age and educational level of women identified as their natural mothers
22. Age × age and religion of women identified as their natural mothers
23. Age × age and migration of women identified as their natural mothers
24. Age × age and activity of women identified as their natural mothers
25. Age × age of women identified as their natural mothers; ever-married natural mothers only

PNG Citizens:

26. Age × sex × survival of mothers

Migration

PNG Citizens:

1. Province of birth × sex × age
2. Age × sex × 1980 location related to birthplace (i.e., same district, other district in same province, other province)
3. Province of birth × highest grade completed × sex; persons at school only
4. Province of birth × highest grade completed × sex; persons not at school only

Noncitizens 10 Years Old and Over:

5. Country of birth × activity × sex
6. Country of citizenship × activity × sex

Noncitizens:

- 5A. Country of birth × age
- 6A. Country of citizenship × age

Citizens 10 Years Old and Over:

7. Province of birth × duration of residence less than 1 year (in months) × sex
8. Province of birth × duration of residence (in years) × sex

PNG Citizens:

9. Province lived in at Independence (1975) × sex × age
10. Age × sex × 1980 location related to location at Independence (1975) (i.e., same district, other district in same province, other province)
11. Province lived in at Independence (1975) × highest grade completed × sex; persons at school only
12. Province lived in at Independence (1975) × highest grade completed × sex; persons not at school only

Population 10 Years Old and Over:

13. Province lived in at Independence (1975) × activity × sex; citizens only
14. Province lived in at Independence (1975) × activity × sex; noncitizens only

PNG Citizens:

15. Province of birth × province lived in at Independence (1975) × sex
16. District of birth × district lived in at Independence (1975) × sex
17. Age × sex × coincidence of province of enumeration, province of birth, and province lived in at Independence (1975)

Religion

Population 10 Years Old and Over:

1. Religious group × age; citizens only
2. Religious group × age; noncitizens only

Language

PNG Citizens 10 Years Old and Over:

1. Language spoken at home × age
2. Language spoken at the market × age
3. Language spoken at home × highest grade completed × school attendance
4. Language spoken at home × birthplace
5. Language spoken at the market × birthplace
6. Language spoken at home × language spoken at the market

Education and Training

PNG Citizens:

1. At school × highest grade completed × age (single years)
2. At school × highest grade completed × age group
3. Not at school × highest grade completed × age group
4. 5 years old and over × highest grade completed × census division
 - A. At school
 - B. Not at school

Noncitizens only:

5. At school $\times$ highest grade completed $\times$ age
6. Not at school $\times$ highest grade completed $\times$ age

Population 10 Years and Over:

7. Type of training $\times$ level of training

PNG Citizens 10 Years Old and Over:

8. Training $\times$ highest grade completed $\times$ sex
9. Training $\times$ age $\times$ sex
10. Training $\times$ activity $\times$ sex

PNG Citizens Earning Money:

11. Training $\times$ occupation $\times$ sex
12. Training $\times$ industry $\times$ sex

Noncitizens 10 Years Old and Over:

13. Training $\times$ highest grade completed $\times$ sex
14. Training $\times$ age $\times$ sex
15. Training $\times$ activity $\times$ sex

Noncitizens Earning Money:

16. Training $\times$ occupation $\times$ sex
17. Training $\times$ industry $\times$ sex

Self-employed Noncitizens:

18. Training $\times$ occupation $\times$ sex

Activity

Population 10 Years Old and Over:

1. Activity $\times$ citizenship $\times$ sex

PNG Citizens 10 Years Old and Over:

2. Activity $\times$ age $\times$ sex
3. Activity $\times$ highest grade completed $\times$ sex
4. Activity $\times$ birthplace $\times$ sex
5. Activity $\times$ census division
6. Activity $\times$ duration of stay in area

Population Earning Money:

7. Occupation (3-digit) $\times$ citizenship $\times$ sex

PNG Citizens Earning Money:

8. Occupation (2-digit) $\times$ age $\times$ sex
9. Occupation (2-digit) $\times$ highest grade completed $\times$ sex
10. Occupation (2-digit) $\times$ type of employer $\times$ sex
11. Occupation (1-digit) $\times$ industry (1-digit) $\times$ sex
12. Occupation (2-digit) $\times$ industry (1-digit) $\times$ sex

Population Earning Money:

13. Industry (3-digit) $\times$ citizenship $\times$ sex

PNG Citizens Earning Money:

14. Industry (2-digit) $\times$ age $\times$ sex
15. Industry (2-digit) $\times$ highest grade completed $\times$ sex
16. Industry (1-digit) $\times$ type of employer
17. Type of employer $\times$ district
18. Agricultural industry $\times$ selected occupations

Noncitizens 10 Years Old and Over:

19. Activity $\times$ age $\times$ sex
20. Activity $\times$ highest grade completed $\times$ sex

Noncitizens Earning Money:

21. Occupation (2-digit) $\times$ age $\times$ sex
22. Occupation (2-digit) $\times$ highest grade completed $\times$ sex
23. Occupation (2-digit) $\times$ type of employer $\times$ sex
24. Occupation (1-digit) $\times$ industry (1-digit) $\times$ sex
25. Occupation (2-digit) $\times$ industry (1-digit) $\times$ sex
26. Industry (2-digit) $\times$ age $\times$ sex
27. Industry (2-digit) $\times$ highest grade completed $\times$ sex
28. Industry (1-digit) $\times$ type of employer $\times$ sex
29. Type of employer $\times$ district
30. Agricultural industry $\times$ selected occupations

Household

PNG Citizen Households:

1. Distribution of number and sex of persons in the household
2. Activity of head where head earning money
3. Selected household economic activities $\times$ census division
4. Selected household economic activity $\times$ household composition; rural sectors only
5. Selected sources of nonwage income $\times$ census division
6. Selected sources of nonwage income $\times$ household composition

PNG Citizen Households (Urban Only):

7. Dwelling type $\times$ census unit type
8. Dwelling type $\times$ household composition
9. Dwelling type $\times$ distribution of number of persons per household
10. Dwelling type $\times$ activity of head and other household members
11. Dwelling type $\times$ dwelling ownership
12. Census unit type $\times$ household composition
13. Census unit type $\times$ distribution of number of persons per household
14. Census unit type $\times$ activity of head and other household members

Noncitizen Households (Urban Only):

15. Dwelling type $\times$ census unit type
16. Dwelling type $\times$ household composition
17. Dwelling type $\times$ activity of head and other household members
18. Dwelling type $\times$ dwelling ownership

Households (Urban and Rural):

19. Type of household $\times$ composition of household

Nonprivate Dwellings (Urban Only):

20. Occupancy $\times$ census unit type

Private Dwellings (Urban Only):

21. Occupancy $\times$ dwelling type
22. Occupancy $\times$ census unit type

PHILIPPINES 1980

National Census and Statistics Office
Manila

Introduction

The population census is a government-sponsored canvass of the entire country for the purpose of enumerating its residents at a specific reference time. In other words, the population census is a snapshot of the quantity and of the population in a given area. It provides information on the demographic, social, and economic characteristics of the population, which form the bases of many government policies and development plans. Population is both a given and a variable when it comes to planning. Therefore the importance of the census in social, economic, and physical planning cannot be over-emphasized.

Census taking is not a new activity in the Philippines. As early as 1877, a head count of the population of the country had already been taken. Population growth since the turn of the twentieth century can be traced through a series of periodic population censuses. A total of eight censuses has been taken since 1903, five of which were conducted after the Second World War.

The most recent is the 1980 population census. The government has allowed this tradition of taking censuses because the censuses are sources of vast amounts of information. In fact, in February 1980, Parliamentary Bill No. 809 was filed in the Batasang Pambansa (National Assembly) to provide for the taking of a census every ten years starting in 1980 and using 1 May of each census year as the reference date. This bill, which was enacted as Batas Pambansa Blg. 72 on 11 June 1980, authorized the National Census and Statistics Office (NCSO) to conduct censuses periodically without having to seek approval each time. In earlier years population censuses were authorized by special acts of congress passed and approved only for the specific undertaking.

Conducting a population census in recent years has become more and more complex not only because of

increasing demand for timely information but also because of the larger and more complex organization required to enumerate the growing population. Hence, despite its long experience of census taking, the NCSO undertakes each census as if it were a unique operation. The planning is always treated as a special project to allow for deliberations on important issues that are in keeping with current conditions. But of course, experiences and problems encountered in previous undertakings are considered, reviewed, and evaluated for the improvement of future operations. For example, soon after winding down the 1975 census operations, planning for the 1980 census started. Initially, this took the form of assessment of the 1975 census operations. The assessment revealed the need for procedural improvements for the 1980 census. Attendance by NCSO officials in relevant census-related conferences, workshops, and seminars also helped improve the quality of census taking. Examples of such seminars are the annual summer seminars on population conducted by the East-West Population Institute and the seminars sponsored by the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Asian Statistical Institute (ASI). Innovations and updated techniques in census taking and census data processing learned from these population census conferences were incorporated whenever they were feasible and applicable.

The 1980 Census of Population and Housing had important legal implications: it was the basis for the reapportionment of seats in the National Assembly, and the population counts at the *barangay* (village) level proclaimed by the president were to be used for all official purposes.

Planning for the 1980 census started at least two years prior to the enumeration. A special committee, consisting of technical personnel and top management, was created to formulate the basic policies and guidelines regarding the conduct of the census. The whole census taking process can be divided into three major phases, namely, the preparatory phase, the enumeration phase, and the postenumeration phase.

This chapter is by Tito A. Mijares, Deputy Director General, National Economic and Development Authority, and Executive Director, National Census and Statistics Office.

Preparatory Phase

The preparatory phase embraces all activities that have to do with planning the census. It is during this stage that an overall operational plan is created. This is the crucial step of census preparation because the plan determines the direction by which the different activities are to be undertaken. The success of the entire undertaking depends largely on how well the plans are made and how efficiently the preparatory activities are executed.

Aside from determining the overall plan, the following major activities were carried out during the preparatory phase:

1. Preparation of calendar of operations
2. Estimation of budgetary requirements and fund allocation
3. Design and printing of questionnaires and other census forms
4. Preparation of instruction manuals for enumerators and supervisors
5. Geographic and cartographic work
6. Pretests of questionnaires and procedures
7. Publicity program
8. Development of electronic data processing systems, preparation of processing instructions, and preparation of tabulation and publication plans
9. Allocation of census materials and personnel

CALENDAR OF OPERATIONS

Because of the importance of a census calendar as an information device and because of its usefulness in controlling the major census activities, a timetable of operations outlining the sequence and timing of relevant activities was prepared. In general, the major activities and target dates were as follows:

Determine coverage, scope, and enumeration technique; budget preparation; cost estimates; allocation of forms; geographic and cartographic work; tabulation and publication
1 Jul 1977-15 Dec 1978

Preparation of questionnaires, manuals, census forms, and translation of topics into different dialects
4 Sep-11 Oct 1978

Development of tabulation plans for publication, processing instructions, and computer programs
28 Sep 1978-30 Jun 1979

Pretest, analysis of results, and recommendations
4 Oct-29 Nov 1978

Revisions and printing of questionnaires and other forms
1 Dec 1978-21 Jan 1979

Allocation, shipment, and distribution of census forms and materials
2 Jan-25 Apr 1980

Recruitment of teachers for city and municipal census supervisors and enumerators
5 Jan-31 Mar 1980

Publicity
3 Feb-30 Apr 1980

Training in four levels from central office task force to enumerators at designated training centers
18 Feb-25 Apr 1980

Field enumeration
1-20 May 1980

Receipt and control of questionnaires at provincial offices
1 May-30 Jul 1980

Shipment of census documents to Manila
21 May-31 Oct 1980

Receipt and control at central office
21 May-31 Dec 1980

Manual tabulation of total population by municipality/city/province and transmittal of preliminary results to the president
1 Jun-8 Sep 1980

Review of sample questionnaires at provincial offices
1 Jun-28 Oct 1980

Manual and electronic data processing
1 Aug 1980-31 Dec 1981

Publication of advance census reports
1 Aug 1980-31 Dec 1981

Analysis and publication of final reports
1 Sep 1980-31 Oct 1982

Due to unforeseen problems, target dates for some activities, such as analysis and publication of final reports, were not strictly adhered to.

BUDGET

The initial budget for the 1980 census as contained in Batasang Pambansa Blg. 40 was only 15,456,000 pesos, but an appeal for additional funding was granted, which put the revised total outlay at ₱29,425,079. With an estimated total population of 48 million in 1980, the average cost of enumerating an individual came to about ₱.61. The corresponding costs during the 1975 and 1970 census were ₱.45 and ₱.33, respectively.

Of the total ₱29.4 million approved for the budget, about ₱28.2 million was actually spent, thus realizing a saving of almost ₱1.2 million as of 31 December 1980. About ₱9.9 million, or 35 percent of the funds expended, was for personnel services, including wages of casual employees, cartographers, and data processors and honoraria of supervisors, enumerators, and baran-

gay captains. Maintenance and other operating expenses amounted to ₱17.8 million or 63 percent. Of this amount, ₱11.3 million was spent for traveling expenses, ₱.6 million for communication services, ₱.3 million for transportation services, ₱2.1 million for other services, and ₱3.0 million for supplies and materials. The remaining outlay of ₱.5 million was used to buy calculators, generators, transceivers, and other equipment.

DESIGN OF QUESTIONNAIRES

An interagency technical working group was created to decide which items should be included in the census questionnaires. This group included representatives from the National Economic and Development Authority (NEDA), Ministry of Human Settlements, National Housing Authority, Commission on Population, Ministry of Education and Culture, University of the Philippines Population Institute, and the Ministry of Health. The group provided recommendations and guidelines in the design of the questionnaires taking into consideration the following:

1. The data needs of major users
2. The size of the paper available for printing the questionnaire
3. The optimum size of the questionnaire from the point of view of manual processing
4. The cost of printing the questionnaires

To coordinate with the interagency committee of NEDA on the technical aspect of the census, the Technical Committee on Censuses was formed within the NCSO. Three subcommittees were organized under the technical committee, one of which was the Subcommittee on Population and Housing Census. This subcommittee was primarily responsible for designing the questionnaire to be used for the census.

Both national and international requirements were major factors determining the content of the census; however, topics most useful and relevant to the country's social and economic development were given the highest priority. A case in point was the inclusion of the topic "Place of Schooling/Work" to shed light on the number and transportation problems of commuters, especially in urban areas and growth centers. Moreover, fertility, a topic ruled out in the earlier proposals on account of the ongoing 1978 World Fertility Survey, was ultimately included in order to continue the trend established in the 1970 and 1975 censuses. Many other proposed topics, such as family nucleus, religion, and class of workers, were rejected. Topics on which data were collected in the population censuses in the Philippines from 1903 to 1980 are shown in table 15.1.

In 1975 the first quinquennial census—the Integrated Census of the Population and Its Economic Activities—

was conducted in the Philippines. It aimed to provide more recent demographic data necessary for social and economic planning in the country, for properly evaluating progress made in various socioeconomic fields, and for measuring the impact of ongoing projects of the government. The 1975 census was taken in two phases. Phase 1 took the count and distribution of the population by barangay—a complete enumeration of all individuals within the territorial jurisdiction of the Philippines. Covering all households in the country, this phase obtained information on sex, age, civil status, mother tongue, school attendance, highest grade completed, vocational and technical skills, industry, usual occupation, and residence in 1970. Phase 2, undertaken in December 1975, collected data on the economic activities of individuals in a sample of households from all barangays. Among the questions asked in the phase 2 questionnaire were types of economic activities engaged in, number of hours worked, income, receipts, costs of operation, and value of equipment used in the year 1975. A complete list of phase 2 topics follows:

Topics Covered in 1975 Integrated Census of Population and Economic Activities Phase 2

Vocational/Technical Skill

Economic Activities of Persons 10 Years Old and Over

Size/number/type/kind of activity

Class of worker

Total no. of hours worked

Net receipts, yearly salary, wage (in cash or in kind)

Pension, gifts, winnings, dividends, etc.

Farming and Truck/Home Gardening

Area of farm/garden operated

Tenure

Area planted, production, and disposal of produce

Cost of operation and other expenses

Farm equipment and facilities used

Net income

Livestock and Poultry

Production and number of each kind of livestock and/or poultry raised and number or quantity disposed

Cost of operation and other expenses

Equipment and facilities used

Net income

Fishing

Production

Disposal of product

Cost of operation and other expenses

Fishing equipment used

Net income

Table 15.1 Topics Covered in Philippines Censuses, 1903-1980

	2 Mar 1903	31 Dec 1918	1 Jan 1939	1 Oct 1948	15 Feb 1960	6 May 1970	1 May 1975	1 May 1980
<i>Geographic Characteristics (Place where found at time of census and/or place of usual residence.)</i>								
Census building number	—	—	—	—	—	X	X	X
Enumeration district/barangay no.	—	—	—	—	—	X	X	X
Urban or rural	—	—	—	—	—	X	X	X
City dist./Poblacion/Barrio	X	X	X	X	X	X	X	X
City/Mun./Mun. Dist.	X	X	X	X	X	X	X	X
Province	X	X	X	X	X	X	X	X
Island	X	X	X	X	X	X	—	—
<i>Personal Characteristics</i>								
Name	X	X	X	X	X	X	X	X
Sex	X	X	X	X	X	X	X	X
Date of birth	—	—	—	—	—	—	X	X
Age	X	X	X	X	X	X	X	X
Marital status	X	X	X	X	X	X	X	X
Citizenship	X	X	X	X	X	X	—	X
Race	X	X	X	X	—	—	—	—
Color	X	—	—	—	—	—	—	—
Place of birth	X	X	—	—	X	X	—	X
Number of times married	—	—	—	—	—	—	—	X
<i>Household or Family Information</i>								
Relationship to head of household	X ^a	X ^a	X	X	X	X	X	X
Family nucleus	—	—	—	—	—	—	X	X
Number of families in the household	—	X ^a	—	—	—	X	—	—
<i>Marriage and Fertility</i>								
Age at marriage	—	—	—	—	X	X	—	X
Number of children born alive	—	X	X	X	X	X	X	X
Number of children now living	—	X	—	—	X	X	X	X
Number of births last 12 months	—	—	—	—	—	—	—	X
<i>Cultural Characteristics</i>								
Mother tongue	—	X ^b	X ^b	X ^b	X	X	X	X
Religion	—	X	X	X	X	X	—	—
Language:								
Tagalog	—	—	X	X	X	X	—	X
Spanish	—	X	X	X	X	X	—	—
English	—	X	X	X	X	X	—	X
<i>Educational Characteristics</i>								
School attendance	X	X	X	X	X	X	X	X
Highest grade completed	—	X	X	X	X	X	X	X
Highest grade obtained in college-university	—	X	—	—	—	X	X	X
Literacy	X	X	X	X	X	X	—	X
Vocational-technical skills	—	—	—	—	—	X	X	—
<i>Social Data</i>								
Place of residence in year of previous census	—	—	—	—	X	X ^c	X	X
Physical disability	X	X	X	X	—	—	—	—
<i>Economic Characteristics</i>								
Place of work-schooling	—	—	—	—	—	—	—	X
Labor force concept:								
Type of activity	—	—	—	—	X	X	—	—
Occupation	—	—	—	—	X	X	—	—

Table 15.1 (continued)

	2 Mar 1903	31 Dec 1918	1 Jan 1939	1 Oct 1948	15 Feb 1960	6 May 1970	1 May 1975	1 May 1980
Industry	—	—	—	—	X	X	—	—
Status	—	—	—	—	X	X	—	—
Gainful occupation concept:								
Usual activity	—	—	X	X	—	—	—	—
Occupation	X	X	X	X	—	X	X	X
Industry	X	X	X	X	—	—	X	X
Status	—	—	X	X	—	—	—	—
Wage or salary	—	—	X	X	—	—	—	—
Additional occupation	—	—	X	X	—	—	—	—
Income from additional occupation	—	—	X	X	—	—	—	—

KEY: X item asked

— item not asked

* Refers only to families.

^b Other dialects or languages.

^c Asked place of residence in 1965 as well as 1960.

Manufacturing and Processing

Kind/value of production/value of sales receipts

Number of workers engaged

Disposal of products

Cost of operation and other expenses

Equipment and facilities used

Net income

Other Economic Activities Operated by Household

Other economic activity

Value of gross receipts, fees, sales, rents, commissions, or other income and payments

Cost of operation and other expenses

Equipment and facilities used

Net income

The 1980 census was meant to take an inventory of the population and its demographic, social, and economic characteristics, as well as an inventory of housing accommodations. Since it would be very expensive to collect all information on a 100 percent basis, it was decided that only the basic demographic characteristics would be asked of everybody while the other information would be collected on a sample basis. The sampling proportion was pegged at 20 percent.

There were five basic enumeration forms prepared:

PH Form 1, List of Households

PH Form 2, Common Private Household Questionnaire

PH Form 3, Sample Private Household Questionnaire

PH Form 4, Collective Household Questionnaire

PH Form 5, Barangay Schedule

Samples of the first four of these appear in appendix 1.

The list of households, or PH Form 1, was used to record the name of household heads in an area, the number of persons in each household by sex, and the type of building the household resided in. This form served as the frame for the selection of the sample households.

The common household questionnaire, PH Form 2, contained the items asked of all individuals, such as relationship to head of household, line number of member's mother, sex, age, and marital status. It also asked for dwelling unit characteristics, such as type of building, construction materials of roof and walls, year the house was built, number of rooms, and floor area.

The sample household questionnaire, PH Form 3, included the same information as the common household questionnaire but, in addition, asked questions on citizenship, mother's residence at the time of the member's birth, residence in 1975, language or dialect spoken at home and ability to speak Pilipino or Tagalog and English, school attendance and highest grade completed, literacy, usual occupation and industry, place of schooling or work, and fertility (for ever-married women), as well as additional dwelling unit characteristics.

The sample household questionnaire was administered to only 20 percent of all private households, that is, to every fifth household that was listed in PH Form 1. For all other private households, the common household questionnaire was used.

The collective household questionnaire, PH Form 4, collected the same information as the common household questionnaire but from individuals residing in institutions, hotels, military camps, construction camps, dormitories, et cetera.

The barangay schedule, PH Form 5, identified the economic and social characteristics of the barangays. This schedule was used as the basis for determining the level of urbanization of barangays.

PREPARATION OF MANUALS

As soon as the questionnaire was designed, the manuals for enumerators and supervisors, manuals for field operations and office processing, and a training guide for enumerators were prepared.

Primarily intended for the enumerator's use, the enu-

merator's manual provided all the fundamental concepts about census taking, practical approaches to field enumeration, guidelines on how to obtain accurate, complete, and consistent data from respondents and instructions on how to complete the various forms.

The supervisor's manual, on the other hand, dealt with the supervisor's role in the collection of complete and accurate population data in the area assigned to him. It contained basic information on the preenumeration activities supervisors were expected to carry out, such as preparatory work for the enumerators' training, the training itself, selection of team supervisors, assignment of enumeration areas, and distribution of census materials.

Similarly, the field operations manual served as the field officer's guide. It provided basic information, such as the timetable for major field operations, and instructions necessary for the efficient coordination of all activities in the field.

The training guide for enumerators was an innovation for the instruction manuals usually prepared for enumeration and supervisory personnel. The trainers found the guide an effective tool in all levels of training. The training guide insured the uniform and organized training of enumerators and served as a handy reference for additional instructions.

Two office processing manuals were prepared for editing and coding the census questionnaires, one for processing PH Form 3 and another for PH Form 2.

GEOGRAPHIC AND CARTOGRAPHIC WORK

Good coverage in the census is highly dependent on the accuracy of the maps of the geographic subdivisions of the country. Therefore, one of the more important aspects of the preparatory work was the preparation of a geographic listing of all areas and of enumeration area maps for the use of enumerators. Since 1960, the NCSO has been continuously updating its geographic lists and maps. One of the difficulties encountered in map preparation was the absence of scaled maps for barangays coupled with the creation or abolition of many barangays every year. There was no agency of the government that had a complete record of barangays existing at any given time. During census operations, some legally created barangays that were listed in previous update work were found to be unorganized, while some barangays that were actually in existence were not supported by legal authority.

While mapping was a continuous activity, the NCSO was not able to keep up with the many changes in geographic subdivisions. Maps for many areas had to be sketched and drawn during the enumeration phase to update the files. Hence, aside from the cartographic and geographic work in the central office, supervisory and enumeration personnel were instructed to update baran-

gay lists, to update city and municipality scaled maps, to verify maps, and to visually inspect barangays prior to the enumeration. Enumerators were likewise required to update their enumeration area (EA) maps in the course of enumeration and to prepare barangay or EA maps if such were not available.

PRETESTS

The pretest is essential to the census—it tests the adaptability of selected field procedures and determines whether or not questions are properly phrased. Both informal and formal pretests were conducted for the 1980 census. The informal pretest focused on questionnaire design rather than on census procedures and was held 19–20 October 1978 at the urban barangay of San Roque, Murphy, Quezon City. The formal pretest was held at Los Baños, Laguna, 17–18 July 1979. It was conducted by participants in the 1979 Census of Population Coordinators Training Course held in the Philippines from June to August 1979. This international training program was jointly sponsored by the UN/ESCAP and the U.S. Agency for International Development (USAID) and was conducted under the direction of the Statistical Institute of Asia and the Pacific (SIAP) in coordination with the NCSO.

Based on the results of the pretests, the questionnaires and manuals underwent minor revisions before they were finally printed for distribution.

PUBLICITY PROGRAM

The publicity program for the 1980 population census turned out to be one of the best planned, if not the most intensive, public information programs ever carried out for the Philippine census. All channels of communication—television, radio, press, and other media—were fully utilized to focus attention on the national head count.

The program sought to gain the public's cooperation and support. Its main objective, therefore, was to inform people of the forthcoming census so as to prepare them for the enumerators' visit to their homes. The advance information was intended to eliminate the need for enumerators to explain the purpose of their visit, and to prevent the unpleasant incidents often caused by lack of information.

Two publicity programs were developed: the first concentrated on the preparation and distribution of information brochures, and the second, on audio-visual coverage, utilizing mass media such as newspapers, magazines, radio, and television. Brochures were printed and distributed to ministries and other government offices. Spot announcements were aired daily in English and Pilipino on radio and television, and slides were shown in theaters. In addition, special accordion-type handouts, questions and answers on the 1980 census, and

radio and TV interviews of four high-ranking NEDA-NCSO officials were among the activities performed to ensure publicity of the 1980 census.

PREPARATION OF PLANS FOR PROCESSING, TABULATION, AND PUBLICATION

The plans for the processing of questionnaires and for the tabulation and publication of data were prepared after the design of the questionnaires was complete. For the 1980 census, the tabulation plans were based on the recommendations of the Subcommittee on the 1980 Census of Population and Housing in coordination with NEDA's Technical Working Group. Data needs of the agencies represented in the Technical Working Group were considered. Because of the high cost of printing, some of the tables that were meant to be published were only made available in the form of computer printouts.

Basically, four kinds of publications were prepared from the 1980 census results:

1. Preliminary population count by sex at municipality/city level
2. Final population count by sex at barangay level
3. Individual provincial volume (volume 1 of the final census results), containing selected tables for the province and its municipalities
4. National summary (volume 2 of the final census results), containing selected tables for the country and its sub-areas

In addition, special publications on population, land area, and density for 1970, 1975, and 1980 and on urban population by region, province, and municipality/city were prepared.

Enumeration Phase

The enumeration phase involved the recruitment of census field personnel, training them, and conducting the field enumeration. This was, of course, preceded by the organization of the central and field office personnel responsible for the field operations.

ORGANIZATION OF CENSUS FIELD OPERATIONS

In order to carry out the objectives of the 1980 census, the NCSO mobilized its permanent field offices located in 13 regions, 74 provinces, and 941 cities and municipalities. Cooperation from other government agencies was also enjoined. The systematic coordination of these agencies was achieved through the creation of the National Census Coordinating Board (NCCB), which was composed of the minister of economic planning, as chairman, and the ministers of agriculture, the budget, education and culture, finance, human settlements, jus-

tice, labor, local government and community development, national defense, national resources, public information, public highways, public works, and transportation and communication. The executive director of the NCSO acted as the executive officer of the board. Corresponding to the NCCB, local census coordinating boards were created at the provincial, city, and municipal levels. Aside from the local NCSO personnel, the boards included as members top local officials of the province, city, or municipality. A chart of the coordination network for the 1980 census is shown in figure 15.1.

The NCCB, through the local counterparts at the regional, provincial, city, and municipal levels, provided the necessary facilities and assistance required by NCSO to carry out the census operations. The census coordinating boards likewise assisted in the publicity campaign that was undertaken to ensure the success of the 1980 census.

The data collection activity had its own organization as shown in figure 15.2. The executive director of NCSO, assisted by the assistant executive director and supported by the three service staffs, namely, Administrative Services, Fiscal Services, and the 1980 Census Operations Center (CENOCEN), took the overall responsibility for the entire operation. In the field, command responsibility emanated from the regional census officers and filtered through the provincial census officers, the city and municipal census supervisors, the team supervisors and finally, the census enumerators.

The organization chart of the NCSO is shown in figure 15.3. The Population and Housing Branch under the National Census and Household Surveys Department consists of the Population Census Division, the Housing Census Division, the Civil Registry and Vital Statistics Division, and the Household Surveys Division.

RECRUITMENT OF CENSUS FIELD PERSONNEL

Anticipating the need for a great number of field personnel for the 1980 census, the population and housing census staff determined the allocation of enumerators and supervisors early in 1979. The allocation by province was based on the projected number of households to be interviewed, a 20-day enumeration period, and an enumeration rate of 12-18 households per day per enumerator.

By arrangement with the Ministry of Education and Culture, the city and municipal census supervisors were drawn from district supervisors, principals, and head teachers, and the team supervisors and enumerators, from head teachers and classroom teachers. School-teachers have been used as enumerators since the 1970 census.

The following lists the total field personnel recruited

Figure 15.1. Coordination Network and Composition of the National Census Coordinating Board and Local Census Boards

Figure 15.2. Field Operations Organizational Chart

and trained to supervise and collect data for the 1980 census:

Regional census officers	12
Provincial census officers/OIC	72
Regional/provincial statisticians	92
Municipal census officers	972
Municipal census supervisors	1,105
Team supervisors	3,748
Enumerators	<u>27,986</u>
Total	33,987

This number excludes 24 central office staff who acted as members of the task force and as supervisors-at-large during the enumeration.

TRAINING

The training of personnel was conducted at four levels. The training of the task force, which was composed of central office senior staff, constituted the first level. The second level was the training of NCSO regional and provincial census officers and regional and provincial statisticians in four designated training centers. The central office task force conducted the training at this level.

The third level of training, attended by NCSO's municipal census officers and the newly hired municipal census supervisors, was undertaken in provincial census offices. The provincial census officer and his statistician were responsible for training in the third level. The training consisted of two sessions; the first was attended

Figure 15.3. Organizational Chart of the National Census and Statistics Office

by municipal census officers and assistants, and the second by city and municipal census supervisors.

The fourth and final level of training was the training of census enumerators at the city/municipality level. The municipal census officer or the municipal census supervisor (the Ministry of Education and Culture's district supervisor or a principal) trained the enumerators.

The training for the first level lasted for ten days while the second, third, and fourth levels were conducted for seven, six, and five days, respectively. As part of the training, a day was devoted to field practice to subject the trainees to an actual listing operation, selection of samples, and interviewing.

TIMING AND DURATION OF THE CENSUS

One of the earlier decisions that had to be made was the timing and duration of the enumeration. The reference date selected for the 1980 census was 1 May, exactly five years after the immediately preceding census. This choice of date facilitates the calculation of growth rates because the interval between the two censuses is a whole number of years. Moreover, this date, which coincided with the summer vacation, made possible the enlistment of schoolteachers as enumerators.

Twenty days was allowed to canvass the entire population. The 1970 and 1975 census operations lasted for 10 and 15 days, respectively. It was deemed, however, that to improve the quality of data to be collected, there should be closer supervision of enumerators. This was possible if each supervisor had fewer enumerators and more time to review their work; hence, the decision to make the period of enumeration 20 days. As it turned out, enumeration had to be extended even longer in some areas.

FIELD ENUMERATION

All persons living in the Philippines as of census day were counted at their usual place of residence. Persons who died on or before, and babies born after 12:01 A.M., 1 May 1980, were excluded from the enumeration. Information was collected for each individual as of census day, except for relationship to head of household and marital status, which were taken as of the date of visit.

As in previous censuses, the personal interview method of enumeration was utilized. The enumerators visited all households in their area, listed every building, dwelling unit, and household on PH Form 1, and interviewed a responsible member of each household. For nonsample households, the information collected was recorded on PH Form 2, and for sample households, on PH Form 3.

The average rate for listing and enumerating households was 20–25 private households per day. Although this could not always be accomplished every day, the

total load of 300 households was generally completed in 12–15 days within the period 1–20 May 1980.

Postenumeration Phase

The postenumeration phase of the census comprises the activities that are required to transform the information collected into tabulated data and to publish the results. This includes manual processing of data—such as editing and coding the completed questionnaires—keypunching, machine processing, and tabulation.

MANUAL PROCESSING

Some of the manual processing activities were done in the field offices immediately after enumeration. Central office staff reviewed the work done in the field.

The field reports and the individual booklet cover summaries were checked against the corresponding questionnaires for the enumeration area and for the barangays constituting the city or municipality, and, on the basis of such verification, the provincial census officer prepared a tabulation on PH Forms 11 and 12 showing the population by sex for each city and municipality of the province for submission to the Manila office. These provincial tabulations were verified and consolidated by the Manila office and served as the basis of the preliminary count of population for the country, which was broken down by province and city/municipality and was released in November 1980.

The results obtained from PH Forms 1 and 1-A, after verification, formed the basis of the final report at the barangay level.

PH Form 3, or the sample questionnaires, were initially edited and coded in the field offices and verified at the Manila office. The verification procedure consisted of two phases: the complete or 100 percent verification of all 26 items on population and 13 items on housing and the sequential sampling verification (10 percent of households in a folio) involving the checking of 6 items. Processing of PH Forms 2 and 4 was done only at the Manila office.

ASSESSMENT OF FIELD OPERATIONS

Perhaps because the population count determined the allocation of seats for the Batasang Pambansa (National Assembly) and of revenue allotments, some municipalities and barangays tended to overenumerate their populations. Certain anomalies in the census returns confirmed this: age gaps between children less than seven months, many menopausal babies in the barangay, different penmanship on the same questionnaire, very young mothers (ages 10 and below), erasures and the addition of household members between other members, occurrence of common names and names of movie stars, large household sizes, manufacturing of house-

holds, and number of household members in PH Forms 2 and 3 larger than numbers listed in PH Form 1. As a result, the growth rates of the population and households in these areas were very high.

Measures were instituted to verify and adjust the results in problem areas. One method was to hand tally the household members listed in PH Forms 2 and 3 to get the household sizes and graph the trend by barangay. Barangays suspected of padding tended to deviate greatly from a normal curve and the modal peak was on bigger household sizes. The population counts were adjusted based on these graphs.

Another method of verification was to match the households listed on PH Form 1 with those listed on CAF Form 1 from the census of agriculture and fisheries conducted nine months after the 1980 population census. It turned out that there were many unmatched households. This was further verified when central office supervisors went to problem areas for visual inspections.

In general, it may be concluded that the 1980 population count is overenumerated rather than underenumerated. Other problems regarding field operations, and their solutions, are discussed in an administrative report being prepared as a guide to those who will plan the next census.

MACHINE PROCESSING

The major operations in machine processing included converting the data on the questionnaires into machine-readable form on tapes, disks, or punch cards; entering the data into the computer by a disk-to-tape, card-to-tape, or equivalent operation; machine (computer) editing and tabulation of the data; and producing tables for publication. For the 1980 census, the records were punched on CMC keypunch machines. Data were entered into an IBM 4341 computer by a disk-to-tape method, edited using the CONCOR software package, and finally tabulated by utilizing the CENTS package program.

The processing system for PH Form 3 is described below:

Data Encoding. PH Form 3 questionnaires folioed by enumeration area were keypunched and verified by province.

Sort. The CMC outputs were sorted and the province codes checked.

Completeness Check. The Barangay Reference File was used to check the completeness of barangays within a province, and a barangay was accepted or rejected depending on actual count of sample households.

Manual Review/Verification. The subject-matter division determined the completeness of barangays within a province and the completeness of samples in each barangay.

Rejected barangays were carefully reviewed; if

accepted, such barangays were retained in the file, otherwise they were deleted from the file and keypunched again.

Validation of Repunched Barangays. The validity of ID fields was checked and households with too many errors in individual line numbers were deleted.

Update. Stray or rejected barangays were deleted and the barangay ID corrected.

Recode. Age and usual occupation fields were recoded from an alphanumeric to an all-numeric format.

Marginals. A frequency distribution of all codes occurring in the file was provided. The program was run before and after edit; before-edit output provided information about the quality of data collected, while the after-edit run revealed the effectiveness of the edit/input program and the quality of data before imputation.

Edit/Impute. Invalid or inconsistent entries in the PH Form 3 file were corrected or had values imputed for them.

Expansion. Raising factors for the household and for every member of the household were generated.

Urban-Status Check. Correctness of urban/rural code of each barangay was ascertained.

Creation of Subfiles. Out of the expanded master file, three subfiles were created.

Extract/Merge. All collective population records of a specific province were extracted from PH Form 4 and merged with private household population records.

Tabulation. All tabulation programs were run.

TABULATION AND ANALYSIS

Three special reports were released by 31 January 1983. Special Report No. 1—1980 Census of Population contains the final count of the population classified by sex for the Philippines and for each region, province, and municipality; the total population count includes the population of private households as well as collective households. The report also contains the number of private households enumerated during the census. Special Report No. 2 presents the final population count classified by sex and the number of private households for each barangay, municipality, and city for every province, while Special Report No. 3 contains the population, land area, and density in 1970, 1975, and 1980. A fourth special report will contain the growth of urban population in the Philippines in 1970, 1975, and 1980.

The final census results appear in two volumes. Volume 1 contains the provincial reports; ten population tables and nine housing tables were generated for all 74 provinces. Volume 2 is the national summary.

EVALUATION

Awareness of the fact that census taking is not without flaws necessitates the need for evaluation of census results. Evaluation has three broad objectives: to mea-

sure accuracy, to identify sources of error, and to provide guidance for future statistical programs.

In order to improve the local knowledge of evaluation, a workshop on evaluation of censuses of population and housing conducted by the International Statistical Programs Center, U.S. Bureau of the Census, and USAID was held in Manila 30 August–16 September 1982. This workshop was attended by the technical staff of the NCSO concerned with census evaluation and by participants from other Asian countries. Topics such as cohort analysis, sources and classification of errors, content errors, age-sex evaluation, and postenumeration surveys were taken up during the workshop.

Further assistance in evaluating the quality of the 1980 census was sought from an ESCAP regional advisor.

POSTENUMERATION SURVEY

A postenumeration survey (PES) was taken to determine the completeness and accuracy of the census. The PES was limited to the Metro Manila area; a nationwide PES was not undertaken owing to a lack of funds.

From a stratification scheme based on the population increase from 1975 to 1980, a total of 132 sample barangays (8 percent of the 1,698 barangays in Metro Manila) were selected. Twenty percent of the households listed during the PES were selected as sample households.

Field operations consisted of simultaneously listing private households and interviewing sample households from 17 September to 15 October 1980. Nine supervisors and 66 enumerators constituted the field force. Although the results of the PES were already tabulated, at the time of this writing the analysis was not complete.

Utilization of Census Results

The NCSO is not only the producer of census statistics, it is one of the major users as well. Census results are a rich source of data of vital importance to NCSO's detailed analysis and appraisal of the composition, distribution, growth, and movement of the population. The NCSO also uses census data for estimating fertility and mortality rates.

The following sections present the demographic research undertaken by the NCSO using the 1970 and 1975 census results and the plans for the utilization of the 1980 census data.

RESEARCH USING 1970 CENSUS DATA

Research utilizing the 1970 census data can be classified into four broad categories. These categories and the titles of the studies undertaken are listed below.

Projections

1. Age and Sex Population Projections for the Philippines by Province: 1970–2000 (Monograph No. 2)

2. Age and Sex Population Projections for the Philippines by Province: 1970–2000 (Supplement No. 2.1)
3. Labor Force Projections by Age and Sex for the Philippines: 1970–2000 (Monograph No. 6)
4. Labor Force Projections by Age and Sex for the Philippines by Region and Province: 1970–2000 (Monograph No. 10)
5. School Population Projections by Age, Sex, and Level of Education for the Philippines: 1970–2000 (Monograph No. 16)
6. Household Projections of Cities and Municipalities in the Philippines: 1970–2000 (Monograph No. 3)
7. Household Projections for the Philippines: 1970–2000 (Monograph No. 4)
8. Projections of Food Requirements for the Philippines: 1970–2000 (Monograph No. 17)

Fertility Studies

1. Estimates of Fertility in the Philippines Derived by the Own-Children Method: 1960–1968 (Monograph No. 9)
2. The Impact of Changes in Marriage Patterns on Fertility in the Philippines (Monograph No. 13)
3. Fertility Differentials Among Filipino Women by Migrant Type
4. The Impact of Internal Migration on Regional Fertility Levels in the Philippines: 1960–1970
5. Fertility Trends as Estimated from Civil Registration Data: An Application of a New Method (Occasional Paper No. 1)

Mortality and Morbidity Studies

1. Estimates of the Life Table Function of the Philippines (Monograph No. 1)
2. Working Life Tables for Males and Females in the Philippines: 1970 (Monograph No. 7)

Migration Studies

1. Geographical Patterns on Internal Migration in the Philippines: 1960–1970 (Monograph No. 5)
2. Migration Differentials by Migration Types in the Philippines—A Study of Migration Typology and Differentials: 1970 (Monograph No. 8)
3. Social, Economic and Demographic Factors Relating to Interregional Migration Streams in the Philippines: 1960–1970 (Monograph No. 11)
4. Differentials in Socio-Economic and Demographic Characteristics of Non-migrants and Migrants to and from Manila and Rizal, Gaining Provinces and Losing Provinces, Philippines: 1960–1970 (Monograph No. 12)
5. Differential Characteristics of Outmigrants with Non-migrants from the City of Manila, Philippines: 1965–1970 (Monograph No. 14)

RESEARCH USING 1975 CENSUS DATA

The following studies using the 1975 census results were undertaken by NCSO:

1. Revised Age and Sex Population Projections Based on the 1975 Census Data for the Philippines by Province: 1975–2010 (Monograph No. 19)

2. Projection of Housing Needs by Region and Province: 1975-2000
3. An Analysis of Cumulative Fertility in the Philippines Using 1975 Census Data
4. Fertility Estimates from the Philippine Civil Registration Data for 1974
5. Some Indirect Estimates of Fertility in the Philippines
6. Fertility Estimates Using Own-Children Method Based on 1970 and 1975 Census Data—The Philippine Experience

PLANS FOR UTILIZATION OF 1980 CENSUS DATA

The 1980 census data will be used in preparing projections of all types, including population, labor force, households, housing needs, and studies of fertility, mortality, migration, and urbanization. An assessment of the quality of the census data will also be prepared.

At present, projections by single year, single years of age, and sex have been undertaken, while a study on labor-force participation of women is being prepared.

SINGAPORE 1980

Census Office
Department of Statistics
Singapore

Introduction

HISTORY

The census of population has now become the most important reservoir of basic data of the people of Singapore. The first census of Singapore was conducted in April 1871 and was followed by regular decennial censuses up to 1931. The 1911 and earlier censuses of Singapore were taken as part of the censuses of the Straits Settlements, which also comprised Malacca and Penang (including Province Wellesley). The 1921 and 1931 censuses were taken in conjunction with the British Malaya censuses comprising the Straits Settlements, the other states of the Malay Peninsula, and Brunei. The Second World War delayed the subsequent census till 1947 when it was conducted jointly with that of the Federation of Malaya. In 1957 Singapore and Malaya conducted censuses separately but with a common census reference date and in close consultations with each other.

The first census after independence was conducted in 1970—a departure from the usual decennial intervals because of other priorities and the desire to follow the United Nations's recommendation to conduct censuses in years ending in either zero or one for international comparability. In this census a sample enumeration (of 10 percent of the population) for the collection of detailed information on certain more complex items was first introduced. The 1970 census also adopted a properly designed postenumeration survey to evaluate census results and the use of electronic computers for editing, processing, and tabulating the results.

The 1980 census was Singapore's second census since independence, and the second time a sample enumeration (20 percent) of more detailed items was incorpo-

rated to meet the increasing needs of planners and policymakers. It was the first census in which a postenumeration survey was used not only to evaluate the results but also to collect additional data by the use of a larger sample for the survey.

LEGAL STATUS

The legal backing for the censuses of Singapore dated back to 1880 when the first Census Ordinance was enacted for the 1881 census. Through the years amendments and modifications were introduced to accommodate modern needs and conditions. Ultimately in 1973 the Census Act replaced the Census Ordinance. Under the act an important section providing for safeguarding the confidentiality of individual records was introduced.

The 1980 census was conducted under the 1973 Census Act, which had provisions empowering census officers to gain access to dwellings and buildings and to ask relevant questions relating to the census. It stipulated that response by occupants was mandatory and safeguarded the confidentiality of the information supplied. The act also authorized the superintendent to recruit civil servants to work as census officers. Since there was an acute shortage of labor about the time of the 1980 field operations, this section helped ensure a sufficient qualified and experienced team of census takers. With these provisions and intensive publicity, not only was a virtually complete response achieved but also the quality of the results was greatly enhanced.

CENSUS ORGANIZATION

The Census Office within the Department of Statistics was specially organized to execute the census. At the office, the superintendent, assisted by the headquarters assistant superintendents and supervisors and clerks, controlled the administrative aspects and supply of equipment and monitored the progress of the field operations. The organization chart at the time of field operations is shown in figure 16.1.

For field control, Singapore was divided into three sectors, namely, western, central, and eastern as shown

This chapter was written by Khoo Chian Kim, Chief Statistician and Superintendent of Census. The author acknowledges with thanks the contributions of Mr. Wong Cheong Shek, Deputy Chief Statistician and Deputy Superintendent of Census, and Mrs. Leow Bee Geok, Principal Statistician and Deputy Superintendent of Census, as well as the staff of the Census Office, in the preparation of this article.

Figure 16.1. Singapore Census Organization

* These are average numbers. The actual numbers fluctuated because of resignations and replacements.

in the organization chart. Each sector was under the charge of either the superintendent or a field deputy superintendent, assisted by a headquarters assistant superintendent. Field operations were decentralized with divisional assistant superintendents taking charge of their respective gazetted census divisions. Close contacts were maintained with the Census Office. Two-way communication with the field staff was carried out through receipt of regular reports and issuing of necessary instructions via the supervising deputy superintendents or the superintendent. General matters and liaison with other authorities or organizations were centrally handled by Census Office staff.

Design and Execution

PREPARATION AND PLANNING FOR THE CENSUS

Planning for the 1980 census began with the establishment of a Census Planning Committee in March 1978 with the then senior minister of state for finance, Mr. Goh Chok Tong, as chairman. The members included demographers, physical and economic planners, statisticians, and computer professionals from government ministries and departments, as well as academicians and

research workers from the University of Singapore (which was reorganized in August 1980 with the Nanyang University to become the National University of Singapore). The committee provided overall guidance and made policy decisions on the conduct of the census. The details were delegated to three subcommittees, namely, Questionnaire and Tabulations, Census Reticulation and Mapping, and Classification of Occupation and Industry. The Department of Statistics was well represented in the committee and its subcommittees.

The Department of Statistics, Ministry of Trade and Industry, initiated preliminary studies on the need for and estimated the costs of conducting a population and housing census in early 1977. A Standing Committee on Census Matters was set up with the chief statistician as chairman and the Department of Statistics's senior staff as members to serve as the secretariat throughout the whole duration of the census from its planning to the publication of the results.

The Census Planning Committee deliberated on broad issues while the subcommittees worked out the technical and other details. The standing committee prepared the various reports that identified issues requiring the planning committee's deliberations, directions, and decisions. This modus operandi greatly facilitated the

decision making of the planning committee and relieved its members of the task of sifting through a morass of details. Hence the planning committee was able to complete its deliberations and decisions on all census issues after six meetings spread over a period of 18 months from June 1978 to December 1979. The planning committee decided that census day would be fixed at 24 June 1980 and appointed the chief statistician as the superintendent of census. It also decided to conduct a trial census of population in 1979. The execution of the decisions and the conduct of the census was assigned to the chief statistician and the staff in the Department of Statistics. Consequently, a special division known as the Census of Population Office (census headquarters) was established within the same building as the Department of Statistics to facilitate work flow and to ensure that the other duties and responsibilities of the department continued without any disruption.

Coverage

The census covered all persons present in Singapore on census day as well as those who were normally Singapore residents but were overseas on census day because of work, study, training, vacation, or personal reasons. Foreigners and nonresidents, including diplomatic personnel and those in transit in Singapore on census day, were included in the count. For tabulation and analysis, however, the total population of Singapore excluded foreign visitors living in hotels, ships' crews and passengers in Singapore waters, and nonlocally domiciled military personnel and their dependents.

Hence the coverage of the 1980 census of population is both *de facto* and *de jure*, which may be more appropriately labeled a "modified *de facto*" count.

Sample Design

In conjunction with the 1980 census, a sample of 20 percent of persons in private households was selected to answer additional and more detailed questions. For practical reasons the sampling frame was confined to persons in private households within the main island. Thus those living in institutions, wayfarers, and those living on board boats within port limits and the outlying islands were excluded.

The design planned and executed ensured that the sample was representative of the various characteristics of the population, was sufficiently spread throughout the island, and yet was efficient technically, administratively, and operationally. It was a single stage stratified sample design.

The island was divided into 69 strata to correspond to the 69 census divisions. Within each stratum, the reticulated units, each with population size averaging about 100 households or 500 persons, formed the sampling units. The reticulated units were arranged in order of size and systematically selected with a random start. One in five reticulated units within each stratum was

then selected. By making the reticulated units as small as possible in terms of population size, the relatively higher sampling error due to cluster effect was minimized. All houses and households in the selected reticulated units were covered in the sample.

The selection was carried out in the office well before field operations. It was operationally simple to execute, and better qualified enumerators were assigned to the sample reticulated units. Since all households in the same reticulated units were selected, better control of field staff and better cooperation from respondents were achieved.

Census Reticulation and Mapping

For fieldwork, the island of Singapore had to be geographically subdivided into small "reticulated units" (enumeration districts or census tracts) suitable for completion within the allotted time by enumerators. The reticulation and mapping began in 1978 using the boundaries of the electoral divisions and polling districts as the basic units.

To subdivide the polling districts or census districts into reticulated units the following criteria were followed:

1. The number of houses in each reticulated unit was such that between one and three units would make up the work load of one enumerator.
2. The boundaries of each reticulated unit did not cross any census district and as far as possible followed clearly defined conspicuous physical features such as roads, paths, streams, and fences.
3. Large institutions—that is, group quarters such as hospitals, hotels, and hostels—were delineated as separate reticulated units.
4. The number of houses in any reticulated unit in sparsely populated areas was fewer than those in built-up areas.

A total of 5,426 reticulated units were delineated. Those in high density areas covered 100–120 houses while those in low density areas covered 80–100 houses. In order to prevent having oversized units, exceptionally large high-rise apartments had to be divided into two or more reticulated units. For such cases, the unit boundaries were floors of the buildings.

The Survey Department undertook all the mapping and cartographic work. Maps of different scales depending on the nature of the area were produced. The scale of 1:2,500 was used for built-up areas, and either 1:5,000 or 1:10,000 for low density areas. The maps of areas with high-rise flats included information on the block number and the number of stories. In the case of Housing and Development Board (HDB) flats, the number of rooms was also shown.

In preparing the maps, the HDB, the Jurong Town Corporation (JTC), and the Urban Redevelopment Authority (URA) cooperated by giving access to their

latest plans and maps. Aerial photographs were used and physical inspection of the ground was carried out whenever necessary to ensure that sufficient details were obtained. Census mapping was completed by March 1980.

For tabulation and analysis, 69 census divisions, which corresponded to the 69 electoral divisions, were used. To study broader areas, complete census divisions were combined to produce 10 "census areas." Maps showing the boundaries of census districts, census divisions, and census areas were also prepared and published.

Schedule Content

The 1980 census included questions relating to a wide range of topics. The basic and traditional questions were asked of all households and another set of more detailed questions on more complex topics were collected from a sample of 20 percent of the households. The basic questions as contained in Enumeration Schedule A (see appendix 1) include the following:

For All Persons

Name, relationship to head of household, sex, ethnic/dialect group, date of birth, marital status, birthplace, year of first arrival (for persons born outside Singapore), citizenship, and residential status.

For Persons Aged 5 Years and Over

Level of formal education attending (full-time students only) and highest level/qualification attained (nonstudents only).

For Persons Aged 10 Years and Over

Language(s) literate in (with emphasis on the four official languages, namely, Malay, Chinese, English, and Tamil) and activity/occupational status.

For Working Persons Aged 10 Years and Over

Occupation, name and activity of employer/firm.

Nine additional questions were included in Sample Enumeration Schedule B (see facsimile in appendix 1):

For Working Persons Aged 10 Years and Over

Address of workplace, usual mode of transport to workplace, income from work—gross monthly earnings and bonus received during last 12 months.

For Full-time Students Aged 5 Years and Over

Name and location of school and usual mode of transport to school.

For Persons Aged 5 Years and Over

Language or dialect most frequently used at home when speaking to grandparents, parents, brothers and sisters, spouse, children, and grandchildren.

For Persons Aged 10 Years and Over
Religion.

For Ever-married Females

Year of first marriage and number of children born alive.

House and Household Numbering and Listing

The numbering and listing of houses and households was considered essential to avoid duplication and ensure complete coverage. This part of the field operations began on 20 May 1980. All residential units whether occupied or vacant and all units though not designed for residential purposes but used as such were identified, labeled, and listed. The information collected for each house included address and type of house, and for households, name of head of household, languages/dialects household members could speak, the relationship of the informant to head of household, number of persons in household, and telephone (if available).

The numbering of census houses was systematic, following closely the most convenient route worked out during field reconnaissance. The routes varied according to type and pattern of distribution of houses in each reticulated unit. For example, for blocks of flats the numbering was generally carried out floor by floor beginning with a corner unit on the lowest floor. For houses along a street, it usually began with a corner house, running along one side of the street before moving to the other side. For houses that were clustered or randomly scattered, the most convenient route that minimized traveling was followed. Each census house was given a three-digit number.

The household was defined as a group of persons sharing common food arrangements within a house. Households were assigned two-digit numbers consecutively beginning with 01 in each census house. For institutions, however, household numbers were assigned differently. For example in hotels, hostels, and camps, occupants of the same building or structure (one assigned a census house number) were regarded as one household. Patients in the same ward in hospitals were treated as a household.

A self-adhesive identification label was affixed at the entrance of each census house numbered. The label, pink in color, had the pre-entered census division/district and reticulated unit numbers, as well as the assigned census house and household numbers. These numbers were uniquely assigned and thus facilitated subsequent revisiting of households. Unoccupied houses, though labeled, did not have a household number. One label was used for census houses with more than one household, but the first and last household numbers were entered on the label. This method proved to be efficient and economical as well as acceptable to house-proud respondents.

Throughout the duration of house and household numbering and listing, which ended on 27 May 1980, daily progress reports were submitted by the field staff to the Census Office. Close monitoring was necessary to ensure that this stage of the operations was completed on schedule.

The information collected during this stage was used to compile a comprehensive house and household register, which ensured achievement of the objective of complete and unduplicated enumeration of the population. After the census operations the data collected provided the basis for building up a sampling frame of houses that, when updated, facilitated the selection of samples for household surveys.

Pretest—Trial Census

To test the plans and procedures, a trial census (a miniature dress rehearsal or pilot census) was carried out in June 1979. The results were used to make final revisions in the plans for the actual census in 1980. Tuesday, 26 June 1979, was designated as the trial census reference day. The date was chosen about one year ahead of the official census day to ensure conditions comparable to those expected in the actual census. This included weather conditions and the midyear school holidays when many Singaporeans take vacations overseas.

The trial census covered a sample of about 1 percent—50 reticulated units with 6,400 households or 26,500 persons. These units were deliberately selected to include areas of different socioeconomic characteristics and terrain.

Five supervisors and 26 enumerators took part in the field operations after being trained in all aspects of census fieldwork. They kept details of time spent in the field as well as traveling time.

Thirty editors and coders were trained for office processing of the trial census results. Details of time spent in editing and coding were also recorded. The coded schedules were used to test computer edit and tabulation programs.

Among its major findings, the trial census confirmed the suitability of scheduling one week for house and household numbering and listing, and three weeks for preliminary and three days for final enumeration. It also confirmed the rapid turnover of enumerators engaged on a temporary basis and the successful use of specially printed, self-adhesive paper instead of cards for numbering and labeling houses and households. The trial census removed the fear of poor response to sensitive questions like income from work, mode of transport to workplace or school, and language or dialect most frequently used at home. The two types of enumeration schedules, used one type to an entire reticulated unit, did not cause any enumerator or respondent problems.

The trial census also showed that on average the time

taken to enumerate a household with the sample schedule compared with that using the main schedule was in the ratio of 4:3. The results also confirmed the suitability of the classification schemes and that it was more efficient to have specialized coders for difficult items like industry and occupation. The editing and coding of schedules for the trial census facilitated the Computer Services Department's estimation of manpower requirements and use of computer time.

PUBLICITY

To ensure the success of the census, a full-scale publicity campaign was launched to seek public cooperation, allay apprehension, and create awareness of the purpose and nature of the census. The main message focused on the legality of the census, the safeguards on confidentiality in the release of data, and the importance of supplying accurate information. The extensive publicity program was carried out both before and during the enumeration period. All possible media were used to inform the public on the when, where, how, why, and what of the census.

Some publicity was generated when the trial census was conducted in 1979, although it was confined to the mass media such as newspapers, television, and radio. In May 1980 the publicity program was launched with a press conference by the chairman of the Census Planning Committee, Mr. Goh Chok Tong. Newspapers of all languages and the Singapore Broadcasting Corporation (SBC) gave extensive coverage to the conference. Editors of newspapers helped to generate further public awareness as a follow-up to the press conference by publishing feature articles on the census and related subjects.

Publicity was channeled through the press and SBC after the conference by the release of statements at the start of each stage of field operations. The statements provided details of the duration, the information required, how respondents could identify census officers, and what they should do if they planned to go overseas during the field operations. These statements helped to sustain the public's interest and awareness of the census throughout the entire operation. Besides using the free television and broadcasting of press statements, SBC was also paid to advertise color slides with voice announcements over television and spot announcements over radio in the four official languages (Malay, Chinese, English, and Tamil). To ensure more effective communication of the messages to housewives and others who did not have a good understanding of the official languages, spot announcements in Xiamen and Guangzhou dialects were made over Rediffusion. This proved to be worthwhile because these people were mainly the ones who were at home when the enumerators called.

The census was also publicized by Census Office staff

in person. Senior officers were interviewed by SBC news reporters and the interviews were telecast as news items and newsreel programs over television and were broadcast over radio. A special 10-minute film on the census, highlighting the importance of the census and ways the public could help by showing scenes of activities in the office and the field, was featured in the "News Magazine" program.

About 22,000 copies of eye-catching, brightly colored census posters with the caption "Help Plan A Better Future" were printed in the four official languages. They were prominently displayed at government departments, statutory boards, schools, post offices, community centers, markets, hawker centers, banks, coffee shops, supermarkets, emporia, department stores, bus stops, and lift lobbies of high-rise flats and factories in public housing and industrial estates managed by HDB and JTC.

Other less commonly known channels of publicity were also used. They included a special article on the census published in the April 1980 issue of the magazine *Our Home*. This magazine, a bi-monthly publication of the HDB in English and Chinese, was distributed to all HDB and JTC households, which comprised over 70 percent of the total population. Color-slide advertisements with messages in English and Chinese were shown in 34 of the more popular cinemas before the commencement of each show. The former Postal Services Department imprinted the census message on the franking dies of its canceling machines for local mails. The Public Utilities Board assisted by having a message and a sketch of a census interview printed on its envelopes and bills during the enumeration period. The Telecommunication Authority of Singapore's time announcing service inserted a census slogan as an interlude between two consecutive time announcements at 15-second intervals.

With such a comprehensive publicity program reaching virtually all persons in Singapore, the quality of the response was much better than in the 1970 census. It also helped to reduce the frequency of revisits.

ENUMERATION

Recruitment and Training of Enumerators

The 1980 census was conducted during a tight labor market. To ensure that sufficient staff were available for the successful completion of the census on schedule, special measures for recruiting enumerators had to be initiated.

All the senior field staff were drawn from the civil service and statutory boards. Besides being recruited from the Department of Statistics, assistant superintendents and supervisors were recruited from among division I, II, and III officers in the other public service offices. Only a few supervisors were recruited from outside the public service.

To ensure that a sufficient number of public servants responded positively, in late 1979 the permanent secretary, Prime Minister's Office (concurrently permanent secretary, Trade and Industry), wrote to all heads of ministries and departments and to all chief executives of statutory boards on the importance of the census. They were requested not only to encourage their officers to apply to be census officers but also to release them upon being selected. With such high-level support, the response was overwhelming. The main criteria for selecting assistant superintendents and field supervisors were seniority and relevant supervisory experience, organizing skill, educational qualification, and availability of personal transportation (car or motorcycle). The requisite criteria for selecting enumerators were educational qualification, ability to speak languages and dialects, previous field experience, and willingness to work hard and outside normal office hours. The selection of enumerators was completed by the end of March 1980. A total of 700 public officers were selected for field operations. Of these, 57 were appointed assistant superintendents, 307 as field supervisors, and 336 as enumerators. By designating the census as a priority national project, the Ministry of Defense assisted by releasing 500 national servicemen with the General Certificate of Education (GCE) "A" level to work as enumerators.

The public service, however, could not provide sufficient enumerators. The majority had to be recruited from outside the civil service through advertisements in major newspapers, extracts from the register of job sectors maintained by the Ministry of Labour and Public Service Commission, and circular letters and notices to junior colleges, pre-university centers, Singapore and Ngee Ann Polytechnics, and the universities. More than 1,300 enumerators were recruited from these sources. A reserve list of candidates was also maintained in anticipation of resignations.

To ensure that the majority of enumerators were well qualified, preferably with a minimum of a GCE "A" level, the recruitment efforts were concentrated at the pre-university centers, junior colleges, polytechnics, and universities. For practical reasons, however, some enumerators with lower than the GCE "A" level but with relevant working experience had to be recruited. The distribution of the enumerators according to educational qualification was as follows:

Less than three credits at GCE "O" level	2.8%
Three or more credits at GCE "O" level	16.5%
GCE "A" level	48.3%
Polytechnic students	9.4%
University undergraduates	23.0%
Total	100.0%

Since more than 80 percent of the enumerators had qualifications of GCE "A" level or higher, the 1980 census had the best qualified work force in Singapore's his-

tory of population censuses. Among those with less than GCE "A" level qualification, the majority (54 percent) were experienced, serving public employees.

Even though the field force was relatively well qualified, it was still necessary to train them in the various aspects of census operations to ensure uniformity of application of concepts and definitions and collection of good quality data. Intensive centralized training was adopted in an air-conditioned environment to ensure maximum absorption. Training was mainly based on the manual of instructions for enumerators, which was first drafted for the trial census in 1979 and modified subsequently to incorporate the lessons learned from the trial census. As a fair proportion of the enumerators were educated in the Chinese stream, important sections of the manual were translated into Chinese. The manual covered details of definitions and concepts, operational procedures, interview techniques, examples, and illustrations of completed enumeration schedules.

The training of field staff was organized into three phases, one for each level of staff. From 1 to 15 April 1980, assistant superintendents were trained at census headquarters by the superintendent and the two field deputy superintendents with the assistance of the three headquarters assistant superintendents. They were organized into two classes of about 30 persons each. Training conducted in the form of lectures, discussions, mock interviews, and field practice covered all aspects of census taking with special emphasis on the enumeration phase. Among the important general points highlighted were the need for developing team spirit among staff, the need for setting examples of proper personal conduct, and the need to be firm and fair in dealing with staff.

From 16 to 30 April 1980, immediately following the completion of the training of the assistant superintendents, training of over 300 field supervisors was carried out at the lecture theaters and classrooms in the University of Singapore's Bukit Timah campus. Supervisors were organized into 10 classes with those assigned to census divisions with similar characteristics in the same classes. The classes were conducted by assistant superintendents who specialized in the topics assigned and used materials prepared by the Census Office. To ensure that a high standard was maintained, the superintendent, deputy superintendents, and headquarters assistant superintendents visited the classes regularly. They gave confidence to the trainers and helped clarify queries or points not specified in the manuals. Among other things, the need to be thoroughly familiar with the ways of dealing with the more common enumeration problems (such as reluctant respondents, noncontact, and difficulty communicating in a language or dialect) was emphasized.

To train 2,200 enumerators during 2-16 May 1980, two central training centers were set up, one at Bukit Timah campus and the other at Kent Ridge campus of

the University of Singapore. Enumerators were divided into 38 classes with 20 in Bukit Timah and 18 in Kent Ridge. Training materials and time schedules were supplied by the Census Office. Each assistant superintendent, assisted by the supervisors, was responsible for training the enumerators assigned to him. Lectures and discussions were given by the assistant superintendents, and the supervisors tutored their respective teams of enumerators. Emphasis was placed on the understanding of the contents of the enumerator's manual and the practical application of the concepts and procedures. Also stressed were conscientiousness in work and the necessity to remain patient and polite at all times. Trainees had to participate actively during the training sessions. Hence mock interviews were conducted to illustrate how questions should or should not be asked. This also gave enumerators an opportunity to practice completing the enumeration schedule. Near the end of the training session a short test was conducted to identify weak trainees and to assess areas of misunderstanding. Remedial briefings were given after the test to rectify misunderstandings and to clear up any doubts before the commencement of fieldwork. The enumerators went on field reconnaissance to familiarize themselves with the areas assigned to them. Census Office staff visited the training centers to supervise and to help answer queries. Extensive use was made of audio-visual aids like color slides and transparencies on overhead projectors. Specimen taped (audio) interviews in Mandarin, English, Hokkien, and Cantonese demonstrating the questioning procedure and likely responses were played and replayed during the training.

A great deal of preparation and resources went into training the field force. Some six weeks were devoted to training the more than 2,600 field staff for a total enumeration period of five weeks.

Enumeration Procedures

After numbering and listing the houses and households, the enumeration of the population was carried out in two phases. The first phase, called the preliminary enumeration, commenced on 30 May 1980. During this stage, particulars were collected for every person using either Enumeration Schedule A (the short schedule for the 80 percent of the households not selected into the sample) or Enumeration Schedule B (the long schedule with additional questions for the 20 percent sample of households).

Households were covered as far as possible in the order they were listed by the enumerators. Enumeration of household members followed a systematic order based on relationship to head of household and age to avoid inadvertent omission. The enumeration of households was greatly facilitated by the intensive publicity program. Revisits were still necessary, however, to obtain the answers to the questions on occupation, activity of firm, address of workplace, and income from

work, which the informant (usually the housewife) was not able to answer on behalf of the person concerned.

To minimize revisits, the telephone was used (if the household had one) for collecting simple items. For the more difficult or sensitive items, the enumerator telephoned the working person concerned. For those households without a telephone a "personal reply form" specifying and explaining the details of the information required was left behind for the person concerned to complete and for subsequent collection.

Special Enumeration Schedule C was designed to enumerate "absentee members," defined as family members who were working full time abroad or who had been abroad for other reasons for a relatively long time and whose expected date of return was uncertain. Such persons, however, were not included as Singapore's population for tabulation and analysis.

A different procedure was adopted for enumerating inmates of institutions. Enumeration Schedule A was used in all cases except for those hotel guests who were tourists. For tourists, Enumeration Schedule D was used. Inmates of institutions were enumerated during the last few days before census day to minimize deletions and additions. For institutions that primarily housed local residents, such as hospitals, maternity homes, and hostels, the usual residential address of each inmate was also recorded for subsequent matching in the office to eliminate double counting. A system of enumeration control was adopted similar to that of the house/household listing stage. Except for a few odd cases, preliminary enumeration was completed by 23 June 1980 as scheduled.

The second phase of the enumeration, known as final enumeration, began on 24 June 1980—the census reference day. This phase was completed by 26 June 1980. Final enumeration was necessary to ensure that all information collected earlier referred to census day. In practice, final enumeration meant the confirmation of the validity of the majority of entries in the enumeration schedules and amending those that became out-of-date because of a change of particulars. Enumerators revisited every house and read out the names of all the members to confirm that they were still members of the households and that they had not died or left the household. All particulars of those who were confirmed as members were retained in the schedules. The particulars of others were deleted. Additions were made, for example, for newborn babies. All houses indicated as unoccupied during the preliminary enumeration were revisited to ensure that occupants who moved in after the preliminary enumeration were enumerated. This final, systematic enumeration over a short duration helped to minimize omissions or duplications.

Enumeration of Special Categories of Persons

Wayfarers. Although almost all persons could be located in census houses, there were a few homeless per-

sons known as wayfarers whose enumeration required special procedures. A total of 303 wayfarers were enumerated on census night from 11:00 P.M. 23 June to 3:00 A.M. 24 June 1980. They were found in five-foot ways, public parks, corridors and staircases of buildings, markets, hawker centers, and other public places. After they were enumerated they were issued a "pass" to produce as evidence that they had been interviewed, which prevented duplication.

Persons Within Port Limits. Those living on board boats and ships anchored along rivers or within the territorial waters of Singapore were also enumerated on census night. The enumeration was carried out by the assistant superintendent (Port Limits), a senior official of the Marine Department, under the overall direction of the deputy superintendent (Eastern Sector). The assistant superintendent was assisted by supervisors and 197 enumerators who were mostly staff of the Marine Department, Port of Singapore Authority, and shipping companies specially recruited for the operation. Foreign in-transit passengers and crew members on board ocean-going vessels were collectively enumerated in Enumeration Schedule F.

Enumeration of persons on board lighters and other local vessels was more complicated. Special training of supervisors and enumerators was conducted on 11 June and 17 June 1980 respectively. Reconnaissances of the areas within which lighters usually plied or anchored were undertaken a week before census day. Actual enumeration was carried out between 10:00 P.M. 23 June and 3:00 A.M. 24 June 1980. Local addresses were recorded where applicable for subsequent matching and checking at the Census Office. Approximately 130 persons were enumerated in this manner.

Data Processing

CODING

Upon receipt of the completed schedules from the field, the Census Office's team of about 300 editors and coders carefully scrutinized, edited, coded, and check-coded the contents. Editing was undertaken mainly by senior and more experienced staff. All the staff were specially trained for editing and coding.

All items were checked thoroughly for completeness and consistency. Omissions, inconsistencies, and mistakes were rectified by reference to related entries in the schedule. For households with telephones, clarification was obtained from the respondent by phone if necessary.

Coders and check-coders were divided into five teams, each team specializing on selected topics: (1) relationship to head, sex, ethnic/dialect group, state of birth, marital status, birthplace, citizenship, and residential status; (2) language(s) literate in, level of formal education attending, highest level/qualification

attained, activity/occupational status, and action last taken to look for work; (3) occupation; (4) activity of employer/firm; and (5) address of workplace/school, mode of transport to workplace/school, language or dialect most frequently used at home, religion, and year of first marriage. Type of household was separately coded by the editors. This specialization proved to be more efficient than coding without specialized teams.

The coding staff used specially prepared coding manuals. In addition, they referred to the register of establishments and the directory of manufacturing establishments to code industry. Preparation for coding and editing and the actual process was completed within three months.

COMPUTER EDITING

After a sufficient number of folders were coded, they were sent to the Computer Services Department (CSD) for data entry onto magnetic disks and for computer editing.

The editing criteria were prepared by the Census Office for execution by the CSD. Records that failed to satisfy the editing criteria were maintained in separate files for verification, amendments where appropriate, reediting, and subsequent updating. Amended records were similarly reedited and verified till all the records in the file were completely cleaned before merging with the main data file for tabulation.

Computer editing included range validity checks and intra- and interrecord consistency checks for personal and household information. All items were subject to range validity and discrete value checks. Consistency checks were based on both logical and rational criteria between related items of information. Logical criteria were used for cases where data on the related items could not be true simultaneously (e.g., "male" for sex and "2" for "number of children given birth to"). Rational criteria were used where it was highly unlikely, though not impossible, that the information on the related items could hold simultaneously (e.g., "14" for age and "divorced" for marital status). The majority of inconsistencies detected were cleared by reference to the source documents and only a very small number of errors were corrected by imputation via the hot deck method. Amended records were reedited and some error records were subjected to as many as four edit passes.

Since age is a very important item, most of the items were checked for consistency with age.

Interrecord checks were employed to confirm the consistency of household information and related personal particulars of members in the same household.

All information required for quality control during the data editing phase was prestored in a disk dataset. Each personal record with one or more invalid codes or with inconsistencies between two items was regarded as an error record. Nominal "error" frequencies and imputation frequencies by item as reckoned in computer

editing were also recorded onto the disk dataset. The items that were more error prone were occupation, industry, qualification attained, income, mode of transport to school, and language spoken to specified category of members of households. The error rates recorded by computer were only nominal because both related items involved in any detected inconsistency were regarded as in error. Verification with source documents showed that generally only one of the items was collected, coded, or punched incorrectly. A number of unlikely cases programmed to be reckoned as errors in computer editing were subsequently verified and confirmed as true.

Imputation of items was limited to sex, birthplace, marital status, qualification attained, citizenship, residential status, level of education attending, and ethnic group. Values were assigned by computer to replace the inconsistent values in accordance with prescribed imputation rules so that all related data fields were consistent with each other. When more than two errors were detected within a record, no imputation was made. In such cases all the error items were printed out for manual verification with source documents.

EQUIPMENT

The computer initially used for processing the census results was an IBM 370/145, which was also used for other ongoing projects. By May 1981 another computer, IBM 4331, was installed to augment the computer capacity of the Computer Services Department. This helped to expedite the processing of the census results. For converting data to machine-readable form, the CMC XL 40 key-to-disk system was used. Data capture was carried out by temporary female operators who were trained during July 1980 using materials from the 1979 trial census. Actual capturing of census data began in August and was completed in early December 1980.

Three CMC XL 40 systems with 40 work stations were manned by 76 data entry operators working two shifts from early August 1980. The number was reduced to 52 in mid-December 1980. The average speed of data entry was about 8,000 key depressions per person per hour. An average of 36,000 person records was entered daily during the peak period.

The computer system has a memory capacity of one megabyte with eight model 3420 tape units and two WAS 7420 tape units. The disk space provided by the system was 6 billion bytes.

Definitions

The definitions and concepts used in the census followed closely the United Nations principles and recommendations for the 1980 round of censuses of population and housing. To suit local conditions, however, some modifications had to be made.

De Jure/De Facto

For the purposes of collecting the data both the de facto and the de jure approach was used. De facto is defined as covering all persons present in Singapore on census day. De jure is defined as covering only Singapore residents, irrespective of where they were on census day.

For practical reasons all persons present in Singapore on census day were enumerated. In addition, Singaporeans who were temporarily away on holiday, conference, or training courses related to their work were also enumerated through their household members.

For tabulation and analysis, tourists, though covered, were excluded from Singapore's population.

Urban/Rural

Because it is a city-state, the Republic of Singapore is regarded as entirely urban. Therefore, there is no need to define urban or rural. For the purposes of tabulation and analysis, however, the 69 census divisions were grouped into 10 census areas according to contiguity and relative distance from the city center. These areas were classified into four broad categories: (1) the central city area comprising the congested business core of the city; (2) the city periphery comprising the three census areas just outside the central city area; (3) the suburbs comprising the three census areas lying outside the city periphery, separating it from the remaining part of Singapore; and (4) the outlying areas comprising the remaining three census areas that are furthest away from the central city area.

Economic Activity, Labor Force, and Unemployment

Persons aged 10 years and over were classified according to activity status; that is, whether "economically active" or "economically inactive" during the seven days preceding the day of the interview.

A person was classified economically active if:

1. The person worked for pay or profit for at least 15 hours during the reference week (seven days preceding the day of the interview). This included all those with a job who were not at work during the census because of illness, accident, leave, holiday, industrial dispute, bad weather, or plant breakdown.
2. The person worked in a family business for 15 hours or more without any fixed pay.
3. The person was not working but was *actively* looking for work or planning to start a business. To qualify as *actively* looking for work, the person had to be registered with the Employment Services or private employment agencies; to have answered advertisements, applied directly to prospective employers for employment, or sought the help of friends and relatives; or to have taken positive steps to start a business.

A person was classified economically inactive if during the reference week the person was not working and not looking for work. The person could be working, but for less than 15 hours a week in the family business or farm. Economically inactive persons included housewives or others engaged in household duties without pay, full-time students, persons awaiting national service call-up, inmates of institutions (e.g., mental, penal, or corrective institutions, homes for the aged, and orphanages), retired persons, those too young or too old to work, and those with private means.

The labor force was defined as all economically active persons; that is, those who were working and those who were not working but were actively looking for work or had taken steps to start a business during the reference week.

Those who were not working but were actively looking for work during the reference week or had taken steps to start a business were classified as unemployed.

Occupation and Industry

Occupation and industry classifications applied to working persons only. Occupation was defined as the kind of work the person was doing during the reference week. This need not necessarily relate to the person's training or qualifications.

Industry was defined as the type of economic activity or the nature of business of the firm, establishment, or department where the person was employed. For the self-employed, industry referred to the kind of economic activity or the nature of the business they were operating.

Race and Ethnic Group

The census distinguished four major ethnic groups: Chinese, Malay, Indian, and other ethnic origin. The ethnic group of the father was followed for persons of mixed race. The Chinese ethnic group was subdivided into various dialect groupings such as Hokkien, Cantonese, Teochew, and Hainanese. The Malays included Malays of Indonesian origin such as Javanese and Boyanese. The Indians included Tamils, Pakistanis, Bangladeshis, Sri Lankans, Malayalis, Bengalis, and Punjabis. Those of other ethnic origins included Eurasians (persons of mixed European and Asian origin), Europeans (all persons of Caucasian origin, including Americans, Canadians, Australians, and New Zealanders), and Asians (e.g., Japanese and Koreans).

Tabulation and Publication Plans

To ensure the timely release of census results, two separate sets of tabulation programs were prepared. First a list of tables for priority output for publication was submitted to the CSD. These tables were mainly three-way cross-classifications. As soon as the tables came off the

computer they were checked and verified with control totals, and the titles, headings, and stubs were pasted over with bigger and better print from an IBM composer. A few photocopies of each set of tables for the nine releases were made on a Ubix photocopier for advanced circulation to selected priority users within the government. The modified computer printouts were then sent to the printers where they were reproduced by the photo-offset method.

The first census release was published in December 1980, and the ninth and last release in September 1981. Each release contained definitions and concepts as well as a brief analysis highlighting some of the major findings. A list of tables published in the nine census releases is shown at the end of this chapter.

Because of the wealth of data collected from the census, more detailed cross-classifications in the form of five-way tabulations were prepared after the tables for publication were completed. The list of long tabulations (see end of this chapter) was submitted to CSD in July 1980. A series of eight monographs by specialists in the fields of demography, economics, and social subjects mainly from the universities was planned to follow the publication of the census releases. The first monograph, *Demographic Trends in Singapore* by Professor Saw Swee Hock, was published in January 1982.

In addition to the census releases and monographs, the Administrative Report, currently under preparation by the Census Office, is scheduled for publication before the end of 1983. The report will review census operations and highlight the main findings as well as evaluate the quality and coverage of the census based on the postenumeration survey.

Evaluation

POSTENUMERATION SURVEY

For the second time, a postenumeration survey (PES) was conducted after the census of population in Singapore. The first PES followed the 1970 census. The PES following the 1980 census was the first to include additional questions in the survey. Because of this new aspect of the PES, the size of the sample was doubled to 2 percent.

The 1980 PES covered a total of 10,412 houses or 9,544 households and 42,385 persons. Eight basic items collected in the census were repeated in the PES: sex, ethnic group, date of birth, marital status, citizenship, residential status, activity/occupational status, and literacy. Name and relationship to head of household were also recorded for matching and identification. The reference time was census day, 24 June 1980, and the survey was conducted immediately after the completion of the census.

A two-stage stratified sample design was adopted for

the survey. The first stage sampling units were census divisions and the second stage sampling units were reticulated units. The 69 census divisions were arranged according to predominant type of house and physical proximity, and 20 divisions were systematically selected. Within each selected census division five or six reticulated units were selected. A total of 104 reticulated units were ultimately selected, and all houses and households in the selected reticulated units were surveyed. A team of 20 supervisors and 98 enumerators was retained to carry out this exercise.

Since the entire reticulated units were covered, a coverage check could be carried out. Particulars of houses and households were checked with the corresponding entries in the census house/household listing schedule to confirm that the houses and households were in both the census and the PES and to identify any cases of omission, addition, or removal. The eight basic items on personal and demographic characteristics of members in the household were similarly checked with those recorded in the census.

The results of the PES showed that the coverage of houses, households, and persons in the census was virtually complete. The degree of match was nearly 100 percent for all three categories.

When the particulars of the matched persons—that is, those who were found in both the census schedule and the PES—were analyzed, the degree of agreement was also very high. The highest degree of agreement was for citizenship, followed very closely by sex, marital status, and residential status. Slightly lower agreement, but still near a perfect match, was found for activity status. The lowest degree of agreement was for literacy. In general, the degree of agreement was very high for characteristics with high frequencies and lower for those with lower frequencies as well as for those where the response tended to be more subjective.

EVALUATION OF THE 20 PERCENT SAMPLE CENSUS

Since a 20 percent sample survey was conducted together with the main census, the items common to both the sample and the main census could be compared.

It was found that for the common items there was very little difference between the census and the sample. The difference was found to vary within ± 0.3 percent. The deviations, however, widened with items of smaller frequencies. Hence for items that were collected from the sample, users were cautioned about using information from cells with grossed-up values below 400 for which the relative standard error exceeded 20 percent.

OTHER EVALUATION MEASURES

Whenever possible, census aggregates were compared with data from administrative records to assess the qual-

ity of the census aggregates. The number of students compared well with school enrollment data, and the number of Singapore citizens, with the national registration records. Comparisons were also made with vital registration records to evaluate the enumeration of those born in Singapore during the intercensal year, as well as to obtain some estimates of migration. Generally, the coverage and quality were good.

The census procedures were also evaluated with the view that future censuses could be improved. One improvement evaluated was the dovetailing of house numbering and preliminary enumeration. The procedure introduced in 1980 avoided the separate recruitment and training of numberers and enumerators, reduced the duration of house numbering from three weeks to one, and reduced the interval between the two stages from two weeks to two days. Thus, administrative work was reduced, and turnover of enumerators and amendments to records due to households shifting were minimized. With the rapid development of modern housing, urban redevelopment, and resettlement, more and more atap (thatch) and zinc-roofed houses and shophouses will be replaced by high-rise buildings. Therefore, future censuses should probably further integrate the house and household numbering and listing and preliminary enumeration stages to streamline field operations.

Budget and Schedule

BUDGET

The census of population is the largest statistical project ever undertaken by the Department of Statistics in terms of manpower, money, and other resources. A block provision of about S\$4.8 million was spread over the financial years 1979/80, 1980/81, and 1981/82. The actual expenditure, however, was lower, about a million dollars less than what was provided. This unexpected "savings" arose because sufficient suitably qualified supervisors, enumerators, and coders could not be found in the tight labor market. Consequently, a larger number of government servants and national servicemen, who were paid only honoraria or token allowances, had to be used. Furthermore, certain costs incurred for the census, such as office renovation, preparation of maps, and use of computer time, were charged to the relevant departments as their contributions to the national project.

CENSUS OPERATIONS SCHEDULE

In early 1978 during the planning of the census, a tentative census operations schedule was drawn up. This served as a guide on the time required to carry out critical activities. The operations schedule was constantly reviewed and adjusted after the trial census. A brief timetable of the major activities follows.

Timetable of Census Operations

Establishment of Census Planning Committee and subcommittees	Mar-Jun 1978
Determination of scope and coverage of census	Jul-Dec 1978
Preparation for trial census 1979	Jan-May 1979
Conduct of trial census 1979	Jun-Oct 1979
Finalization of census plans	Oct-Dec 1979
Preparations for field operations:	
Setting up census headquarters and making budget provision for staff and supplies	Aug 1979
Design and printing of enumeration schedules, manuals, classifications	Dec 1979-Feb 1980
Preparation and printing of maps	Jan 1979-Feb 1980
Acquisition of supplies	Jan-Mar 1980
Design and selection of sample	Feb 1980
Recruitment of staff	Jan-Mar 1980
Training of staff	Apr-May 1980
Publicity for census	Apr-Jun 1980
Field operations:	
House/household listing	20-27 May 1980
Preliminary enumeration	30 May-23 Jun 1980
Final enumeration	24-26 Jun 1980
Postenumeration survey	1-14 Jul 1980
Processing and tabulation:	
Recruit and train staff for editing, coding, and punching	Jul 1980
Editing, coding, and punching (on diskettes)	Jul-Oct 1980
Computer editing and verification	Aug-Nov 1980
Programming for tabulations and tables	Apr 1980-May 1981
Production of tables for census releases	Dec 1980-Sep 1981
Production of long tabulations	Jun 1981-Feb 1982
Production of tables for postenumeration survey	Jan-Feb 1982
Publication of results:	
Census releases	Dec 1980-Sep 1981
Administrative report	Dec 1982-Nov 1983
Monographs by specialists (eight monographs planned)	Dec 1981

List of Tables Published in Census Releases: 1980 Census of Population, Singapore

Census Release No. 1 (December 1980)

1. Population by age group, ethnic group, and sex
2. Population by age group, residential status, and sex
3. Persons aged 10 years and over by age group, marital status, and sex
4. Persons aged 10 years and over by age group, languages literate in, and sex
5. Population by census district, ethnic group, and sex
6. Population by census district, broad age group, and sex
7. Population by age group, census division, and sex
8. Population by census division, residential status, and sex

Census Release No. 2—Demographic Characteristics (January 1981)

1. Population by age group, ethnic group, and sex
2. Population by ethnic group, residential status, and sex
3. Population by citizenship, ethnic group, and sex

4. Population by country of birth, ethnic group, and sex
5. Population by country of birth, citizenship, and sex
6. Children under 1 year by age in completed months, ethnic group, and sex
7. Population by single year of age, ethnic group, and sex
8. Population by single year of age, residential status, and sex
9. Population by age group, residential status, and sex
10. Chinese by age group, residential status, and sex
11. Malays by age group, residential status, and sex
12. Indians by age group, residential status, and sex
13. Persons of other ethnic groups by age group, residential status, and sex
14. Population by age group, citizenship, and sex
15. Chinese by age group, citizenship, and sex
16. Malays by age group, citizenship, and sex
17. Indians by age group, citizenship, and sex
18. Persons of other ethnic groups by age group, citizenship, and sex
19. Population by age group, country of birth, and sex
20. Chinese by age group, country of birth, and sex
21. Malays by age group, country of birth, and sex
22. Indians by age group, country of birth, and sex
23. Persons of other ethnic groups by age group, country of birth, and sex
24. Population by country of birth, residential status, and sex
25. Chinese by country of birth, residential status, and sex
26. Malays by country of birth, residential status, and sex
27. Indians by country of birth, residential status, and sex
28. Persons of other ethnic groups by country of birth, residential status, and sex
29. Population by citizenship, residential status, and sex
30. Chinese by citizenship, residential status, and sex
31. Malays by citizenship, residential status, and sex
32. Indians by citizenship, residential status, and sex
33. Persons of other ethnic groups by citizenship, residential status, and sex
34. Chinese by age group, dialect group, and sex
35. Malays by age group, dialect group, and sex
36. Indians by age group, dialect group, and sex
37. Persons of other ethnic groups by age group, specific ethnic group, and sex
38. Persons aged 10 years and over by age group, marital status, and sex
39. Chinese aged 10 years and over by age group, marital status, and sex
40. Malays aged 10 years and over by age group, marital status, and sex
41. Indians aged 10 years and over by age group, marital status, and sex
42. Persons of other ethnic groups aged 10 years and over by age group, marital status, and sex
43. Persons aged 10 years and over by ethnic group, marital status, residential status, and sex
44. Persons aged 10 years and over by birthplace, ethnic group, marital status, and sex
45. Persons born in Singapore by age group, ethnic group, and sex
46. Persons born in Singapore aged 10 years and over by age group, marital status, and sex
47. Persons born outside Singapore by age group, ethnic group, and sex
48. Persons born outside Singapore by age group, residential status, and sex
49. Persons born outside Singapore by ethnic group, residential status, and sex
50. Persons born outside Singapore by age group, year of first arrival, and sex
51. Persons born outside Singapore by year of first arrival, ethnic group, and sex
52. Persons born outside Singapore by year of first arrival, residential status, and sex
53. Persons born outside Singapore by year of first arrival, country of birth, and sex
54. Persons born outside Singapore aged 10 years and over by age group, marital status, and sex
55. Persons born outside Singapore aged 10 years and over by year of first arrival, marital status, and sex

Census Release No. 3—Literacy and Education (March 1981)

1. Persons aged 5 years and over by highest qualification, ethnic group, and sex
2. Persons aged 5 years and over by highest qualification, age group, and sex
3. Chinese aged 5 years and over by highest qualification, age group, and sex
4. Malays aged 5 years and over by highest qualification, age group, and sex
5. Indians aged 5 years and over by highest qualification, age group, and sex
6. Persons of other ethnic groups aged 5 years and over by highest qualification, age group, and sex
7. Persons aged 5 years and over by highest qualification, residential status, and sex
8. Singapore citizens aged 5 years and over by highest qualification, age group, and sex
9. Singapore residents other than citizens aged 5 years and over by highest qualification, age group, and sex
10. Nonresidents aged 5 years and over by highest qualification, age group, and sex
11. Persons aged 5 years and over by highest qualification, country of birth, and sex
12. Persons born in Singapore aged 5 years and over by highest qualification, age group, and sex
13. Persons born outside Singapore aged 5 years and over by highest qualification, age group, and sex
14. Persons born in Singapore aged 5 years and over by highest qualification, ethnic group, and sex
15. Persons born outside Singapore aged 5 years and over by highest qualification, ethnic group, and sex
16. Persons aged 10 years and over by highest qualification, activity status, and sex
17. Persons aged 10 years and over by highest qualification, languages literate in, and sex
18. Persons aged 10 years and over by highest qualification, marital status, and sex
19. Chinese aged 10 years and over by highest qualification, marital status, and sex
20. Malays aged 10 years and over by highest qualification, marital status, and sex

21. Indians aged 10 years and over by highest qualification, marital status, and sex
 22. Persons of other ethnic groups aged 10 years and over by highest qualification, marital status, and sex
 23. Persons aged 10 years and over by languages literate in, activity status, and sex
 24. Persons aged 10 years and over by languages literate in, ethnic group, and sex
 25. Persons aged 10 years and over by languages literate in, age group, and sex
 26. Chinese aged 10 years and over by languages literate in, age group, and sex
 27. Malays aged 10 years and over by languages literate in, age group, and sex
 28. Indians aged 10 years and over by languages literate in, age group, and sex
 29. Persons of other ethnic groups aged 10 years and over by languages literate in, age group, and sex
 30. Persons aged 10 years and over by languages literate in, residential status, and sex
 31. Chinese aged 10 years and over by languages literate in, residential status, and sex
 32. Malays aged 10 years and over by languages literate in, residential status, and sex
 33. Indians aged 10 years and over by languages literate in, residential status, and sex
 34. Persons of other ethnic groups aged 10 years and over by languages literate in, residential status, and sex
 35. Persons aged 10 years and over by languages literate in, marital status, and sex
 36. Chinese aged 10 years and over by languages literate in, marital status, and sex
 37. Malays aged 10 years and over by languages literate in, marital status, and sex
 38. Indians aged 10 years and over by languages literate in, marital status, and sex
 39. Persons of other ethnic groups aged 10 years and over by languages literate in, marital status, and sex
 40. Persons born in Singapore aged 10 years and over by languages literate in, ethnic group, and sex
 41. Persons born outside Singapore aged 10 years and over by languages literate in, ethnic group, and sex
 42. Persons born in Singapore aged 10 years and over by languages literate in, age group, and sex
 43. Persons born outside Singapore aged 10 years and over by languages literate in, age group, and sex
 44. Persons born in Singapore aged 10 years and over by languages literate in, marital status, and sex
 45. Persons born outside Singapore aged 10 years and over by languages literate in, marital status, and sex
 46. Persons born outside Singapore aged 10 years and over by languages literate in, year of first arrival, and sex
 47. Students aged 5 years and over by education level attending, ethnic group, and sex
 48. Students aged 5 years and over by education level attending, age group, and sex
 49. Students aged 5 years and over by education level attending, residential status, and sex
 50. Students aged 10 years and over by languages literate in, education level attending, and sex
 51. Students aged 10 years and over by languages literate in, ethnic group, and sex
 52. Students aged 10 years and over by languages literate in, age group, and sex
 53. Students aged 10 years and over by languages literate in, residential status, and sex
- Census Release No. 4— Economic Characteristics (April 1981)*
1. Persons aged 10 years and over by age group, activity status, and sex
 2. Chinese aged 10 years and over by age group, activity status, and sex
 3. Malays aged 10 years and over by age group, activity status, and sex
 4. Indians aged 10 years and over by age group, activity status, and sex
 5. Persons of other ethnic groups aged 10 years and over by age group, activity status, and sex
 6. Persons aged 10 years and over by activity/occupational status, ethnic group, and sex
 7. Persons aged 10 years and over by activity/occupational status, marital status, and sex
 8. Chinese aged 10 years and over by activity/occupational status, marital status, and sex
 9. Malays aged 10 years and over by activity/occupational status, marital status, and sex
 10. Indians aged 10 years and over by activity/occupational status, marital status, and sex
 11. Persons of other ethnic groups aged 10 years and over by activity/occupational status, marital status, and sex
 12. Persons aged 10 years and over by activity/occupational status, residential status, and sex
 13. Economically active persons aged 10 years and over by age group, ethnic group, and sex
 14. Economically active persons aged 10 years and over by age group, marital status, and sex
 15. Economically active persons aged 10 years and over by age group, residential status, and sex
 16. Economically active persons aged 10 years and over by age group, activity/occupational status, and sex
 17. Economically active persons aged 10 years and over by age group, languages literate in, and sex
 18. Economically inactive persons aged 10 years and over by age group, ethnic group, and sex
 19. Economically inactive persons aged 10 years and over by age group, marital status, and sex
 20. Economically inactive persons aged 10 years and over by age group, residential status, and sex
 21. Economically inactive persons aged 10 years and over by age group, activity status, and sex
 22. Economically inactive persons aged 10 years and over by age group, languages literate in, and sex
 23. Economically active persons aged 10 years and over by activity/residential status, ethnic group, and sex
 24. Economically active persons aged 10 years and over by activity status/highest qualification, ethnic group, and sex
 25. Working persons aged 10 years and over by age group, ethnic group, and sex
 26. Working persons aged 10 years and over by age group, marital status, and sex

27. Working persons aged 10 years and over by age group, residential status, and sex
 28. Working persons aged 10 years and over by age group, languages literate in, and sex
 29. Working persons aged 10 years and over by age group, highest qualification, and sex
 30. Working persons aged 10 years and over by industry (1-digit), age group, and sex
 31. Working persons aged 10 years and over by occupation (1-digit), age group, and sex
 32. Working persons aged 10 years and over by languages literate in, ethnic group, and sex
 33. Working persons aged 10 years and over by industry (1-digit), ethnic group, and sex
 34. Working persons aged 10 years and over by occupation (1-digit), ethnic group, and sex
 35. Working persons aged 10 years and over by residential status, marital status, and sex
 36. Working persons aged 10 years and over by languages literate in, marital status, and sex
 37. Working persons aged 10 years and over by highest qualification, marital status, and sex
 38. Working persons aged 10 years and over by industry (1-digit), marital status, and sex
 39. Working persons aged 10 years and over by occupation (1-digit), marital status, and sex
 40. Working persons aged 10 years and over by highest qualification, residential status, and sex
 41. Working persons aged 10 years and over by industry (1-digit), residential status, and sex
 42. Working persons aged 10 years and over by occupation (1-digit), residential status, and sex
 43. Working persons aged 10 years and over by highest qualification, occupational status, and sex
 44. Working persons aged 10 years and over by industry (1-digit), occupational status, and sex
 45. Working persons aged 10 years and over by occupation (1-digit), occupational status, and sex
 46. Working persons aged 10 years and over by industry (1-digit), highest qualification, and sex
 47. Working persons aged 10 years and over by occupation (1-digit), highest qualification, and sex
 48. Working persons aged 10 years and over by industry (1-digit), occupation (1-digit), and sex
 49. Working persons aged 10 years and over by industry (3-digit), age group, and sex
 50. Working persons aged 10 years and over by industry (3-digit), ethnic group, and sex
 51. Working persons aged 10 years and over by industry (3-digit), residential status, and sex
 52. Working persons aged 10 years and over by industry (3-digit), marital status, and sex
 53. Working persons aged 10 years and over by industry (3-digit), occupational status, and sex
 54. Working persons aged 10 years and over by occupation (3-digit), age group, and sex
 55. Working persons aged 10 years and over by occupation (3-digit), ethnic group, and sex
 56. Working persons aged 10 years and over by occupation (3-digit), residential status, and sex
 57. Working persons aged 10 years and over by occupation (3-digit), marital status, and sex
 58. Working persons aged 10 years and over by occupation (3-digit), occupational status, and sex
 59. Working persons aged 10 years and over by industry (3-digit), occupation (1-digit), and sex
 60. Working persons aged 10 years and over by occupation (3-digit), industry (1-digit), and sex
 61. Unemployed persons aged 10 years and over by age group, ethnic group, and sex
 62. Unemployed persons aged 10 years and over by age group, marital status, and sex
 63. Unemployed persons aged 10 years and over by age group, highest qualification, and sex
 64. Unemployed persons aged 10 years and over by age group, action taken to look for work, and sex
 65. Unemployed persons aged 10 years and over by age group, residential status, and sex
 66. Unemployed persons aged 10 years and over by age group, languages literate in, and sex
 67. Unemployed persons aged 10 years and over by languages literate in, ethnic group, and sex
 68. Unemployed persons aged 10 years and over by action taken to look for work, ethnic group, and sex
 69. Unemployed persons aged 10 years and over by highest qualification, marital status, and sex
 70. Previously worked unemployed persons aged 10 years and over by age group, highest qualification, and sex
 71. Never-worked unemployed persons aged 10 years and over by age group, highest qualification, and sex
 72. Persons born in Singapore aged 10 years and over by age group, activity status, and sex
 73. Working persons born in Singapore aged 10 years and over by industry (1-digit), age group, and sex
 74. Working persons born in Singapore aged 10 years and over by occupation (1-digit), age group, and sex
 75. Persons born outside Singapore aged 10 years and over by age group, activity status, and sex
 76. Working persons born outside Singapore aged 10 years and over by industry (1-digit), age group, and sex
 77. Working persons born outside Singapore aged 10 years and over by occupation (1-digit), age group, and sex
- Census Release No. 5—Geographic Distribution (May 1981)*
1. Population by age group, census area, and sex
 2. Population by census area, ethnic group, and sex
 3. Population by census area, residential status, and sex
 4. Population by census area, citizenship, and sex
 5. Population by census area, country of birth, and sex
 6. Persons aged 10 years and over by census area, marital status, and sex
 7. Persons aged 10 years and over by census area, activity/occupational status, and sex
 8. Persons aged 10 years and over by census area, languages literate in, and sex
 9. Students aged 5 years and over by census area, education level attending, and sex
 10. Persons other than students aged 5 years and over by census area, highest qualification, and sex

11. Economically active persons aged 10 years and over by age group, census area, and sex
12. Economically inactive persons aged 10 years and over by age group, census area, and sex
13. Working persons aged 10 years and over by census area, occupation (1-digit), and sex
14. Working persons aged 10 years and over by census area, industry (1-digit), and sex
15. Private households by census area and type of house
16. Private households by census area and size of household
17. Private households by census area and type of household
18. Private households by census area and number of working persons in household
19. Census houses by census area and type of house
20. Census houses by census area and number of persons in house
21. Population by census division, residential status, and sex
22. Population by census division, country of birth, and sex
23. Persons aged 10 years and over by census division, activity status, and sex
24. Persons aged 10 years and over by census division, marital status, and sex
25. Persons aged 10 years and over by census division, languages literate in, and sex
26. Economically active persons aged 10 years and over by census division, age group, and sex
27. Economically inactive persons aged 10 years and over by census division, age group, and sex
28. Working persons aged 10 years and over by census division, occupation (1-digit), and sex
29. Working persons aged 10 years and over by census division, industry (1-digit), and sex
30. Students aged 5 years and over by census division, education level attending, and sex
31. Persons other than students aged 5 years and over by census division, highest qualification, and sex
- 32.1-32.71. Population by census division, age group, ethnic group, and sex
33. Persons in private households by census division and type of house
34. Persons in private households by census division and tenancy
35. Private households by census division and type of house
36. Private households by census division and size of household
37. Private households by census division and type of household
38. Private households by census division and tenancy
39. Private households by census division and number of working persons in household
40. Census houses by census division and type of house
41. Census houses by census division and number of households in house
42. Census houses by census division and number of persons in house
43. Population by census district, broad age group, and sex
44. Population by census district, ethnic group, and sex
45. Population in specific island by ethnic group and sex
46. Population in specific island by age group and sex

Census Release No. 6—Households and Houses (June 1981)

1. Persons in private households by type of house, ethnic group, and sex
2. Persons in private households by type of household, ethnic group, and sex
3. Persons in private households by size of household, ethnic group, and sex
4. Persons in private households by tenancy, ethnic group, and sex
5. Persons in private households by type of house, broad age group, and sex
6. Persons in private households by type of house, residential status, and sex
7. Persons aged 10 years and over in private households by type of house, languages literate in, and sex
8. Persons aged 10 years and over in private households by type of house, activity status, and sex
9. Working persons aged 10 years and over in private households by type of house, industry (1-digit), and sex
10. Working persons aged 10 years and over in private households by type of house, occupation (1-digit), and sex
11. Students aged 5 years and over in private households by type of house, education level attending, and sex
12. Persons other than students aged 5 years and over in private households by type of house, highest qualification, and sex
13. Persons aged 10 years and over in private households by type of household, marital status, and sex
14. Persons aged 10 years and over in private households by type of household, activity status, and sex
15. Students aged 5 years and over in private households by type of household, education level attending, and sex
16. Persons other than students aged 5 years and over in private households by type of household, highest qualification, and sex
17. Persons in institutions by age group, type of institution, and sex
18. Persons in institutions by type of institution, ethnic group, and sex
19. Persons in institutions by citizenship, type of institution, and sex
20. Persons in institutions by age group, ethnic group, and sex
21. Private households by type of house and type of household
22. Chinese private households by type of house and type of household
23. Malay private households by type of house and type of household
24. Indian private households by type of house and type of household
25. Private households of other ethnic groups by type of house and type of household
26. Private households by type of house and size of household
27. Chinese private households by type of house and size of household
28. Malay private households by type of house and size of household
29. Indian private households by type of house and size of household
30. Private households of other ethnic groups by type of house and size of household

31. Private households by type of house, occupancy, and tenancy of household
32. Private households by type of house and number of working persons in household
33. Private households by type of house and ethnic group of head
34. Private households by type of house and age group of head
35. Private households by type of house, marital status, and sex of head
36. Private households by type of house and residential status of head
37. Private households by type of house and literacy of head
38. Private households by type of house and activity/occupational status of head
39. Private households by type of house and highest qualification of head
40. Private households by type of house and occupation (1-digit) of head
41. Private households by type of household and size of household
42. Chinese private households by type of household and size of household
43. Malay private households by type of household and size of household
44. Indian private households by type of household and size of household
45. Private households of other ethnic groups by type of household and size of household
46. Private households by type of household, occupancy, and tenancy of household
47. Private households by type of household and number of working persons in household
48. Private households by type of household and ethnic group of head
49. Private households by type of household and age group of head
50. Private households by type of household, marital status, and sex of head
51. Private households by type of household and residential status of head
52. Private households by type of household and literacy of head
53. Private households by type of household and activity/occupational status of head
54. Private households by type of household and highest qualification of head
55. Private households by type of household and occupation (1-digit) of head
56. Private households by size of household, occupancy, and tenancy of household
57. Private households by size of household and number of working persons in household
58. Chinese private households by size of household and number of working persons in household
59. Malay private households by size of household and number of working persons in household
60. Indian private households by size of household and number of working persons in household
61. Private households of other ethnic groups by size of household and number of working persons in household
62. Private households by size of household and ethnic group of head
63. Private households by size of household and age group of head
64. Private households by size of household, marital status, and sex of head
65. Private households by size of household and residential status of head
66. Private households by size of household and highest qualification of head
67. Private households by size of household and occupation (1-digit) of head
68. Private households by tenancy and ethnic group of head
69. Private households by tenancy and residential status of head
70. Private households by tenancy and activity/occupational status of head
71. Private households by tenancy and highest qualification of head
72. Private households by tenancy and occupation (1-digit) of head
73. Private households by number of working persons in household and ethnic group of head
74. Private households by number of working persons in household and residential status of head
75. Private households by number of working persons in household and highest qualification of head
76. Private households by number of working persons in household and occupation (1-digit) of head
77. Private households by age group, ethnic group, and sex of head
78. Private households by marital status, ethnic group, and sex of head
79. Private households by residential status, ethnic group, and sex of head
80. Private households by literacy, ethnic group, and sex of head
81. Private households by activity status, ethnic group, and sex of head
82. Private households by highest qualification, ethnic group, and sex of head
83. Private households by industry (1-digit), ethnic group, and sex of head
84. Private households by occupation (1-digit), ethnic group, and sex of head
85. Private households by age group, marital status, and sex of head
86. Private households by age group, residential status, and sex of head
87. Private households by age group, highest qualification, and sex of head
88. Private households by age group, occupation (1-digit), and sex of head
89. Private households by highest qualification, residential status, and sex of head
90. Private households by occupation (1-digit), residential status, and sex of head
91. Census houses by type of house and number of persons in house
92. Census houses by type of house and number of households in house

Census Release No. 7—Income and Transport (July 1981)

1. Working persons aged 10 years and over by income, occupational status, and sex
2. Working persons aged 10 years and over by income, type of house, and sex
3. Employees aged 10 years and over by income, age group, and sex
4. Self-employed persons aged 10 years and over by income, age group, and sex
5. Employees aged 10 years and over by income, marital status, and sex
6. Self-employed persons aged 10 years and over by income, marital status, and sex
7. Employees aged 10 years and over by income, residential status, and sex
8. Self-employed persons aged 10 years and over by income, residential status, and sex
9. Employees aged 10 years and over by income, languages literate in, and sex
10. Self-employed persons aged 10 years and over by income, languages literate in, and sex
11. Employees aged 10 years and over by income, highest qualification, and sex
12. Self-employed persons aged 10 years and over by income, highest qualification, and sex
13. Employees aged 10 years and over by income, industry (1-digit), and sex
14. Self-employed persons aged 10 years and over by income, industry (1-digit), and sex
15. Employees aged 10 years and over by income, occupation (1-digit), and sex
16. Self-employed persons aged 10 years and over by income, occupation (1-digit), and sex
17. Singapore-resident employees aged 10 years and over by income, highest qualification, and sex
18. Singapore-citizen employees aged 10 years and over by income, highest qualification, and sex
19. Nonresident employees aged 10 years and over by income, highest qualification, and sex
20. Employees aged 10–19 years by income, highest qualification, and sex
21. Employees aged 20–29 years by income, highest qualification, and sex
22. Employees aged 30–39 years by income, highest qualification, and sex
23. Employees aged 40–59 years by income, highest qualification, and sex
24. Singapore-resident employees aged 10 years and over by income, occupation (1-digit), and sex
25. Singapore-citizen employees aged 10 years and over by income, occupation (1-digit), and sex
26. Nonresident employees aged 10 years and over by income, occupation (1-digit), and sex
27. Persons in private households by household income, age group, and sex
28. Persons in private households by household income, residential status, and sex
29. Persons aged 10 years and over in private households by household income, activity status, and sex
30. Persons in private households by household income, type of house, and sex

31. Persons in private households by household income, tenancy, and sex
32. Private households by household income and type of house
33. Private households by household income and type of household
34. Private households by household income and size of household
35. Private households by household income, occupancy, and tenancy
36. Private households by household income and number of working persons in household
37. Private households by (a) household income and residential status of head, and (b) household income and occupational status of head
38. Private households by household income and highest qualification of head
39. Private households by household income and occupation (1-digit) of head
40. Private households living in their own houses by household income and type of house
41. Sole-tenant private households by household income and type of house
42. Other-tenant private households by household income and type of house
43. Working persons aged 10 years and over by mode of transport to work, occupational status, and sex
44. Working persons aged 10 years and over by mode of transport to work, highest qualification, and sex
45. Working persons aged 10 years and over by mode of transport to work, age group, and sex
46. Working persons aged 10 years and over by mode of transport to work, industry (1-digit), and sex
47. Working persons aged 10 years and over by mode of transport to work, occupation (1-digit), and sex
48. Working persons aged 10 years and over by mode of transport to work, income, and sex
49. Employees aged 10 years and over by mode of transport to work, income, and sex
50. Self-employed persons aged 10 years and over by mode of transport to work, income, and sex
51. Working persons aged 10 years and over by mode of transport to work, household income, and sex
52. Working persons aged 10 years and over by mode of transport to work, type of house, and sex
53. Students aged 5 years and over by mode of transport to school, age group, and sex
54. Students aged 5 years and over by mode of transport to school, education level attending, and sex
55. Students aged 5 years and over by mode of transport to school, household income, and sex
56. Students aged 5 years and over by mode of transport to school, type of house, and sex

Census Release No. 8—Languages Spoken at Home (August 1981)

1. Persons aged 5 years and over by principal language spoken to parents and age group
2. Persons aged 5 years and over by principal language spoken to brothers and sisters and age group

3. Persons aged 5 years and over by principal language spoken to parents and ethnic/dialect group
4. Persons aged 5 years and over by principal language spoken to brothers and sisters and ethnic/dialect group
5. Persons aged 5 years and over by principal language spoken to parents and residential status
6. Persons aged 5 years and over by principal language spoken to brothers and sisters and residential status
7. Persons aged 5 years and over by principal language spoken to parents and highest qualification
8. Persons aged 5 years and over by principal language spoken to brothers and sisters and highest qualification
9. Persons aged 5 years and over by principal language spoken to parents and principal language spoken to brothers and sisters
10. Chinese aged 5 years and over by principal language spoken to parents and principal language spoken to brothers and sisters
11. Non-Chinese aged 5 years and over by principal language spoken to parents and principal language spoken to brothers and sisters
12. Persons aged 5 years and over by principal language spoken to parents and type of house
13. Persons aged 5 years and over by principal language spoken to brothers and sisters and type of house
14. Persons aged 5 years and over by principal language spoken to parents and type of household
15. Persons aged 5 years and over by principal language spoken to brothers and sisters and type of household
16. Persons aged 5 years and over by principal language spoken to parents and literacy of head of household
17. Persons aged 5 years and over by principal language spoken to brothers and sisters and literacy of head of household
18. Persons aged 5 years and over by principal language spoken to parents and highest qualification of head of household
19. Persons aged 5 years and over by principal language spoken to brothers and sisters and highest qualification of head of household
20. Persons aged 5 years and over by principal language spoken to parents and household income
21. Persons aged 5 years and over by principal language spoken to brothers and sisters and household income
22. Students aged 5 years and over by principal language spoken to grandparents and ethnic/dialect group
23. Students aged 5 years and over by principal language spoken to parents and ethnic/dialect group
24. Students aged 5 years and over by principal language spoken to brothers and sisters and ethnic/dialect group
25. Students aged 5 years and over by principal language spoken to grandparents and education level attending
26. Students aged 5 years and over by principal language spoken to parents and education level attending
27. Students aged 5 years and over by principal language spoken to brothers and sisters and education level attending
28. Students aged 5 years and over by principal language spoken to parents and principal language spoken to brothers and sisters
29. Chinese students aged 5 years and over by principal language spoken to parents and principal language spoken to brothers and sisters
30. Non-Chinese students aged 5 years and over by principal language spoken to parents and principal language spoken to brothers and sisters
31. Students aged 5 years and over by principal language spoken to parents and type of house
32. Students aged 5 years and over by principal language spoken to brothers and sisters and type of house
33. Students aged 5 years and over by principal language spoken to parents and type of household
34. Students aged 5 years and over by principal language spoken to brothers and sisters and type of household
35. Students aged 5 years and over by principal language spoken to parents and literacy of head of household
36. Students aged 5 years and over by principal language spoken to brothers and sisters and literacy of head of household
37. Students aged 5 years and over by principal language spoken to parents and highest qualification of head of household
38. Students aged 5 years and over by principal language spoken to brothers and sisters and highest qualification of head of household
39. Students aged 5 years and over by principal language spoken to parents and household income
40. Students aged 5 years and over by principal language spoken to brothers and sisters and household income
41. Married persons by principal language spoken to spouse and age group
42. Married persons by principal language spoken to spouse and ethnic/dialect group
43. Married persons by principal language spoken to spouse and residential status
44. Married persons by principal language spoken to spouse and languages literate in
45. Married persons by principal language spoken to spouse and activity status
46. Married persons by principal language spoken to spouse and highest qualification
47. Married persons by principal language spoken to spouse and occupation (1-digit)
48. Married persons by principal language spoken to spouse and type of house
49. Married persons by principal language spoken to spouse and household income
50. Married persons by principal language spoken to spouse and principal language spoken to children
51. Ever-married persons aged 40 years and over by principal language spoken to grandchildren and ethnic group
52. Ever-married persons by principal language spoken to children and ethnic/dialect group
53. Ever-married persons by principal language spoken to children and residential status
54. Ever-married persons by principal language spoken to children and languages literate in
55. Ever-married persons by principal language spoken to children and activity status
56. Ever-married persons by principal language spoken to children and highest qualification

57. Ever-married persons by principal language spoken to children and occupation (1-digit)
 58. Ever-married persons by principal language spoken to children and type of house
 59. Ever-married persons by principal language spoken to children and household income
 60. Persons aged 5 years and over by principal household language and type of house
 61. Persons aged 5 years and over by principal household language and type of household
 62. Persons aged 5 years and over by principal household language and ethnic group of head of household
 63. Persons aged 5 years and over by principal household language and highest qualification of head of household
 64. Persons aged 5 years and over by principal household language and household income
 65. Students aged 5 years and over by principal household language and type of house
 66. Students aged 5 years and over by principal household language and ethnic group of head of household
 67. Persons aged 5 years and over by languages spoken in household and type of house
 68. Persons aged 5 years and over by languages spoken in household and type of household
 69. Persons aged 5 years and over by languages spoken in household and ethnic group of head of household
 70. Persons aged 5 years and over by languages spoken in household and highest qualification of head of household
 71. Persons aged 5 years and over by languages spoken in household and household income
 72. Students aged 5 years and over by languages spoken in household and type of house
 73. Students aged 5 years and over by languages spoken in household and ethnic group of head of household
 74. Private households by principal household language and type of house
 75. Private households by principal household language and type of household
 76. Private households by principal household language and ethnic group of head of household
 77. Private households by principal household language and highest qualification of head of household
 78. Private households by principal household language and household income
 79. Private households by languages spoken in household and type of house
 80. Private households by languages spoken in household and type of household
 81. Private households by languages spoken in household and ethnic group of head of household
 82. Private households by languages spoken in household and highest qualification of head of household
 83. Private households by languages spoken in household and household income
 84. Private households by languages spoken in household and occupation (1-digit) of head of household
- Census Release No. 9—Religion and Fertility*
(September 1981)
1. Persons aged 10 years and over by religion, age group, and sex
 2. Persons aged 10 years and over by religion, ethnic group, and sex
 3. Persons aged 10 years and over by religion, marital status, and sex
 4. Persons aged 10 years and over by religion, residential status, and sex
 5. Persons aged 10 years and over by religion, highest qualification, and sex
 6. Persons aged 10 years and over by religion, languages literate in, and sex
 7. Persons aged 10 years and over by religion, activity status, and sex
 8. Persons aged 10 years and over by religion, type of house, and sex
 9. Persons aged 10 years and over by religion, type of household, and sex
 10. Persons aged 10 years and over by religion, religion of head, and sex
 11. Working persons aged 10 years and over by religion, occupation (1-digit), and sex
 12. Working persons aged 10 years and over by religion, industry (1-digit), and sex
 13. Students aged 10 years and over by religion, age group, and sex
 14. Students aged 10 years and over by religion, ethnic group, and sex
 15. Students aged 10 years and over by religion, education level attending, and sex
 16. Ever-married females by ethnic group, age group, and age at first marriage
 17. Ever-married females by ethnic group, year of first marriage, and age at first marriage
 18. Ever-married females by languages literate in and age at first marriage
 19. Ever-married females by highest qualification, year of first marriage, and age at first marriage
 20. Ever-married females by religion, year of first marriage, and age at first marriage
 21. Ever-married females by residential status, year of first marriage, and age at first marriage
 22. Ever-married females by activity status, year of first marriage, and age at first marriage
 23. Ever-married females by ethnic/dialect group and age at first marriage
 24. Ever-married females by ethnic group, age group, and number of children born alive
 25. Ever-married females by highest qualification, age group, and number of children born alive
 26. Ever-married females by activity status, age group, and number of children born alive
 27. Ever-married females by religion, age group, and number of children born alive
 28. Ever-married females by ethnic group, highest qualification, and number of children born alive
 29. Ever-married females by activity status, ethnic group, and number of children born alive
 30. Ever-married females by ethnic group, religion, and number of children born alive
 31. Ever-married females by year of first marriage and number of children born alive
 32. Married females by ethnic group, duration of marriage, and number of children born alive

33. Married females by highest qualification, duration of marriage, and number of children born alive
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SRI LANKA 1981

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Introduction

HISTORY

Although no authentic records have been discovered of census taking in Sri Lanka during its ancient and medieval history (from the sixth century B.C. to the arrival of the Portuguese in 1505), the existence of palm-leaf registers in those days justifies the inference that detailed inventories of all that was required for taxation or administrative purposes had been made. In further support of this belief, it has been argued that the construction of massive religious edifices and an elaborate network of irrigation works in the northern and eastern dry zone during this period would have required the means to conduct extensive recruitment of labor. The mustering of troops and the collection of revenue from the cultivated agricultural holdings would also have necessitated the systematic collection and maintenance of information on the distribution and the numbers of the population.

The earliest enumeration of the people in Sri Lanka for which there is hard evidence was in the year 1779 when the area was under Dutch rule. The Dutch, like the Portuguese before them, occupied the coastal belt of the country. They ruled in Sri Lanka from 1658 to 1796, until the arrival of the British. In 1779 the Dutch governor Van der Graffe ordered an enumeration of inhabitants of the coastal areas and made an estimate of the total population of the island. That estimate was 1.5 million.

In 1815 the British, who ruled in Sri Lanka from 1796 to 1948, captured the central kingdom of the Sinhalese king, thereby putting the entire country under foreign rule for the first time. In 1824 an enumeration of the population was carried out at the direction of the British

governor, Sir Edward Barnes. Accordingly, each province prepared a return, a process that took three years to complete. The report published in 1827 is the earliest record of an islandwide population count. The population was estimated at 850,000, but owing to the incompleteness in the coverage, it is believed that one million would be nearer the mark.

The first census in Sri Lanka to use modern techniques was the 1871 census under the superintendence of W. J. MacCarthy, the registrar general at that time. The 1871 census commenced a series of decennial censuses in Sri Lanka. Five regular censuses were taken up to the year 1921, thus establishing a well-defined census-taking procedure. Unfortunately, because of the prevailing economic situation resulting from the great depression, the census of 1931 was confined to the capital city of Colombo, and only a head count was taken for the rest of the country.

The tradition of census taking in years ending in one and the decennial periodicity could not be maintained in the forties, fifties, and sixties. World War II caused the 1941 census to be postponed until 1946, and the 1951 census could not be taken until 1953 because of a paper shortage resulting from the Korean War. The decennial census due in 1961 could not be taken and was held instead in 1963. The next census, taken in 1971, was the eleventh census and is significant for two reasons: firstly, it was taken 100 years after the first census, and secondly, it restored the tradition of taking the census in a year ending in one. On 17 March 1981, the twelfth decennial census was taken, thus reestablishing Sri Lanka's census-taking tradition.

LEGAL STATUS

The census of 1871 had legal sanction by the Census Ordinance of 1868, which was framed on the lines of the English law covering censuses. This ordinance was amended in 1880, and in 1900 it was repealed and a new ordinance was passed by the legislature. The new ordi-

This chapter was written by Wettasinghe A. A. S. Peiris, Director of Census and Statistics, and Thambiah Nadarajah.

nance was drafted by census superintendent P. Arunachalam on the lines of the Indian Census Act. It made the census-taking procedure more flexible, for example, by making it possible for the government to use at each census the most suitable methods of census taking. In addition, an important omission in the old law was corrected: it became the duty of each person occupying any land, house, enclosure, vessel, or other place to allow a census officer "such access thereto as he may require for the purpose of Census and as having regard to the customs of the country may be reasonable and allow to such letters, marks or numbers as may be necessary for the census to be painted or marked on such property."

In the 1900 Census Ordinance, "census officers" were declared public servants within the meaning of the penal code. The appointment of officers to supervise the enumerators was provided for, and officers in charge of each administrative district were given legal status as census commissioners of their districts. Legal sanction was also given for census officers to ask questions relating to the census schedule, and persons of whom such questions were asked were bound to answer such questions to the best of their knowledge and belief. The Census Ordinance also provided for the enumeration of military and naval forces and of travelers by land and sea. Breaches of census rules, abuse of power by a census officer, obstruction of census officers in the discharge of their duties, and similar acts and omissions were made punishable according to the new law.

Although the Census Ordinance of 1900 was amended in 1945, and again in 1955, it remains the main legal basis for census taking in Sri Lanka. The question of whether the Census Ordinance should be amended to reflect current requirements was examined in 1979, and a census bill was prepared and passed in Parliament as Census (amendment) Act of 1981. It became law before the 1981 census was taken. The main changes introduced by this amendment were (1) the director of census and statistics functions as the superintendent of census if no appointment is made to this post, (2) punishments for various offenses referred to in the Census Ordinance were enhanced, and (3) confidentiality of the information collected in the census was given legal sanction.

The Census Ordinance (Ordinance No. 16 of 1981) as it now stands states that it shall be lawful for the minister "from time to time by order published in the gazette, to direct that a Census be taken of the Population, Housing, Agriculture, Livestock, Trade, Labor, Industry or Commerce or such other matters as he may deem necessary for ascertaining the demographic, social or economic conditions of the inhabitants of Sri Lanka." Thus the present ordinance covers not only the population census but censuses of agriculture, industry, and commerce as well. The Census Ordinance also obligates every person to answer all questions asked in the census to the best of his or her knowledge and belief. At the

same time, it safeguards the confidentiality of the information given by individuals by causing any information collected in a census to be inadmissible as evidence in a court of law.

ORGANIZATION OF CENSUS BUREAU

Prior to 1944, there was no permanent census organization; a temporary department was formed whenever a population census was held. But a census department was formed in 1944 to carry out a comprehensive census of population and agriculture on a scale wider than any previously attempted in the country. The Census Ordinance of 1900 was the legal basis for carrying out the census at that time, but because it did not give sufficient authority for the superintendent of census to carry out a census like the one planned, the ordinance was amended. The Census Ordinance of 1945 gave the necessary legal powers to the superintendent of census to carry out censuses on various aspects of the economy. The census of population and agriculture was taken in 1946.

After the 1946 census, the government decided to establish a new department, namely, the Department of Census and Statistics, and the superintendent of census was appointed director of statistics. Since 1946, this department has carried out all population censuses. The Population Division within the Department of Census and Statistics was responsible for the population censuses of 1953, 1963, and 1971. In 1978, however, a separate division known as the Census Division was established to carry out the population and housing census of 1981. This was done because it was considered necessary to have a permanent organization to make optimal use of the census. The new Census Division was responsible for planning, organizing, and implementing the program of work connected with the 1981 population census. The newly established Census Division will continue to exist as a permanent division, along with the 12 other divisions of the department (Social and Demography, Library, Data Processing, Field Operations, Printing, Agriculture, Administration, Trade and Industry, Training and Research, Sample Surveys, Publications, and National Accounts and Prices). During the intercensal period the division will attend to the analysis of census data, report writing, publication of census results, and planning the 1991 census.

The field organization for the 1981 census is diagrammed in figure 17.1.

Design and Execution

PREPARATION AND PLANNING

Planning for the 1981 census was done in two broad stages. The first stage comprised a series of initial decisions such as fixing the date of the census count, work-

Figure 17.1. Census Field Organization: Sri Lanka

ing out a broad outline of the census program, and establishing the new Census Division. This work commenced in early 1978 with the appointment of a Census Steering Committee with the director of census & statistics as chairman, and with the appointment of an assistant director to be in charge of the Census Division. A publication giving an outline of the scope and content of the proposed census was prepared and circulated among government departments and private organizations interested in population, housing, and related matters. The main users of census data were invited to make comments and suggestions regarding the census proposals.

The second stage consisted of detailed planning for the census. A flowchart was prepared giving a diagrammatic description of the network of activity for the census. The flowchart formed the main basis of the program of action and served the following purposes:

- to identify major activities connected with the preenumeration phase of the census and to serve as a guide for implementation;
- to identify the sequence of census activities and the time periods within which such activities should be carried out;

- to plan and marshal men and material for the census;
- to identify interrelationships and interdependence between various activities and take cognizance of such relationships and dependencies;
- to allocate officers responsible for the implementation of census activities; and
- to serve as a management tool to monitor the progress of the census operation.

In 1979 the director of census and statistics was appointed superintendent to oversee the 1981 census.

Sample Design and Coverage

A decision was made to limit the collection of some items of information to a sample of the population in order to reduce the work load and keep costs down. As in the 1971 census, an area sampling plan using census blocks as the sampling units was adopted. Sampling, however, was restricted to rural and estate areas. The rural and estate areas of each district were treated as separate strata and a systematic sample of one in ten census blocks was selected from each stratum, yielding a 10 percent sample of blocks. In all selected rural and estate census blocks, as well as all urban census blocks, a 100 percent enumeration of housing units was under-

taken in addition to the 100 percent population enumeration. The Population and Housing Schedule (see appendix 1), used in the sample blocks and urban census blocks contained additional questions on place of birth, migration, and housing characteristics. These did not appear in the Population Schedule (also see appendix 1), which was used in all other census blocks.

Schedule Content

As mentioned above, two types of schedules were used in the 1981 census. The population schedule included the following items to be collected from the entire population:

Name
Relationship to head of household
Sex
Religion
Ethnic group
Citizenship
Physical infirmity
Date of birth and age
Marital status
Attendance at school or other educational institution
Educational attainment
Literacy in Sinhala, Tamil, and English
Principal activity during the last 30 days
Whether sought work during the last 30 days
Period of search for work
Reason for not seeking work
Principal occupation or kind of work
Kind of industry, business, or service
Employment status
Distance from usual residence to place of work or school
Principal mode of travel to place of work or school

The Population and Housing Schedule, which was used in all urban census blocks and the sample census blocks from rural and estate areas, contained, in addition to the items on the Population Schedule, the following items:

Additional Population Topics

Place of birth
Place of usual residence
Period of stay in the town or village of usual residence
District of previous residence

Housing Topics (to be collected with respect to housing units and living quarters other than housing units)

Description of unit
Type of structure
Number of households in the unit
Number of usual occupants
Year of completion
Principal materials of construction of (a) walls, (b) roof, (c) floor
Number of rooms

Main source of drinking water
Toilet facilities for the unit
Principal type of lighting
Principal cooking fuel
Tenure of unit

The schedules were designed so that almost all answers were either self-coded or precoded. Only the entries relating to occupation and industry were written out by the enumerator, though educational attainments that could not be entered in numerical form were also written down to be coded later in the office.

As in the censuses of 1946, 1953, and 1963, information on physically disabled persons was also collected. The physical disabilities covered were total blindness, total deafness, dumbness, and loss or paralysis of an arm or leg. Physically disabled persons were first identified by means of a special question on the Population Schedule. For persons so identified, more-detailed information was recorded on the Physical Infirmity Schedule, which contained questions on the following items:

Name of disabled person
Sex
Age
Place of birth
Whether blind, deaf, or dumb
Age at which blindness, deafness, or dumbness occurred
Cause of blindness, deafness, or dumbness
Disability in hands (if any)
Age at which disability in hands occurred
Cause of disability in hands
Disability in legs (if any)
Age at which disability in legs occurred
Cause of disability in legs
Other disabilities
Means of livelihood
Whether living in an institution
Occupation

Facsimiles of the population, population and housing, and physical infirmity schedules appear in appendix 1.

Revision of Town and Village Lists and Prelisting of Housing Units

One of the first operational activities undertaken was the revision and updating of the lists of towns and villages throughout the country. Sri Lanka is divided into 24 administrative districts, each of which is further subdivided for administrative purposes into AGA (assistant government agent's) divisions. Each AGA division consists of a number of GS (*grama sevaka*) divisions, and each GS division consists of one or more villages. The GS division is the smallest territorial unit for administrative purposes, and a *grama sevaka* (village officer) is

in charge of each such division. Although each town falls into one of the AGA divisions, it has its own territorial boundaries and local government authority.

The revision and updating of the lists of towns and villages were followed by the census prelisting—listing housing units and other buildings within each town and village. In the towns, the prelisting was done within each ward or subdivision of the town by officers of the local government authority responsible for administering the town. In the villages, the prelisting was done by the *grama sevaka*. As in previous censuses, these officers were entrusted with the task because they were local officials quite familiar with their respective areas.

At the prelisting, the listing officers were required to personally visit and assign numbers to housing units, living quarters other than housing units, and nonhousing units. The numbers were affixed to each unit on a specially designed label and recorded on the prelisting form. Census blocks, the divisions to be assigned to each enumerator for the census, were designated during the prelisting by suitably grouping adjacent units and listing them on a separate prelisting form.

Mapping

A cartographic unit was formed in 1979; however, this unit did not have the time or the capability to perform the cartographic work required for a census. Hence, as in the 1971 census, enumerators used sketch maps of the census blocks prepared by the listing officers during the prelisting.

Pretests and Pilot Census

Several pretests of the census schedules were conducted before the final forms were adopted. The pretests were intended to test the format of the schedule, as well as the wording and form of the questions.

In addition, a pilot census was conducted in July and August 1980 in 80 census blocks drawn from all sectors and districts. The main purpose of the pilot census was to test the census procedures and instruction manuals.

PUBLICITY

The importance of a national publicity program well in advance of the census was recognized at an early stage of planning. Several months before the full enumeration began, an islandwide publicity program was launched and was then progressively intensified as the census date approached. The program was mainly designed with two objectives. One was to make the public aware of the census procedures and activities, and the benefits of the census to the country and the people. The other was to enlist the cooperation of the residents, alerting them to the preliminary enumeration and the final enumeration dates, and motivating them to cooperate, particularly

when enumerators visited their housing units. The publicity program was more extensive and intensive than any previous publicity program used for a census. Every possible medium available was employed. The press, radio, cinema, television, and posters were used to publicize basic information about censuses. Messages from the president of Sri Lanka and the director of census were delivered through the radio and press emphasizing the importance, confidentiality, and legal requirements of the census.

The press and the radio played a major role in the publicity campaign. The national papers carried a series of news items on the important events of the census and several articles about its uses and coverage. In addition, special press advertisements and radio announcements were made to keep the public aware of the census dates. Apart from frequent news broadcasts made over the radio, there were radio discussions directed towards educating the public on the need for and the benefits resulting from a census.

One of the special features in the publicity program was the issue of a commemorative stamp to draw public attention. The design on the stamp depicted the main theme of a census. Another important item in the publicity program was the production of a short film entitled "Census and You." The film was a brief presentation of census history, census taking, tabulation activities, and the uses and uses of census data. In addition, slides giving information on the census dates and times were shown in most cinema theaters. Posters with simple and appealing messages were displayed at public places and in the public transportation system. When the final enumeration was completed, a "missed persons" campaign was conducted, urging persons to notify the local census office if they had not been enumerated.

The president of Sri Lanka made two appeals to the public. One appeal was for the public to assist the census officers by promptly and accurately furnishing the information required during the preliminary census. The other appeal was for the people to stay indoors between 6:00 P.M. and midnight on 17 March 1981 for the final census count. A half holiday was also given to workers in government and private establishments to enable them to get back to their places of residence before 6:00 P.M. on census night.

The success of the publicity program can be seen in the following statement of the census superintendent:

Mixed with a sense of relief is a feeling of gratitude to the people of Sri Lanka whose good sense, good citizenship and splendid cooperation were amply shown at dusk on the 17th of March, when an unusual silence fell throughout the country. In few countries, I may say, has such high standard

of voluntary cooperation with its Government been attained. It should be a matter of pride to everyone that a task of such magnitude, has been accomplished by persuasion and not by compulsion.

ENUMERATION

Enumeration Districts

The enumeration districts, called census blocks, were demarcated at the time of the prelisting. The listing officers were required to visit all the housing and other units within their areas (wards in urban areas and GS divisions in rural areas) and, in a suitable and convenient order according to the geographical situation of the units, affix numbered labels to the units and list them on a prelisting form. During the course of the prelisting, the units were grouped to form census blocks. In general, each block was to consist of 50–80 units in rural areas and 70–100 units in urban areas. The units in a block were listed on a separate form. The main criterion in forming the census blocks was that an enumerator had to be able to visit all the units in the block during the six-hour period 6:00 P.M. to midnight on census night. (A visit for a final verification count was expected to take two to three minutes for each unit.) In determining the number of units in the block, the walking distance between units was an important factor. Urban census blocks where units are close to each other could contain more units on the average than rural blocks. Variations from the specified ranges were permitted in special cases where the units were isolated or situated far apart; consequently, some census blocks contained only a very few units. The listing officers were also required to draw sketch maps of their census blocks showing important landmarks and the situation of the units as a guide to the enumerator. These maps were drawn in space provided on the prelisting form.

Recruitment and Training of Enumerators

Commissioners and assistant commissioners selected the supervisors and enumerators. Supervisors and enumerators were required to be thoroughly familiar with the areas to which they were assigned. They could be government employees but did not have to be. Enumerators were expected to have the General Certificate of Education—GCE(O/L)—or equivalent, but in areas where it was difficult to get such persons they were required to have had sufficient education to be able to read and understand simple instructions in order to fill in the census schedule correctly. In most cases, the *grama sevaka* was appointed supervisor in rural areas; officials of the local authority were appointed supervisors in towns. One supervisor was appointed for 15–30 enumerators.

The training of supervisors and enumerators was undertaken by the statisticians, statistical officers, and

statistical investigators of the department. In the previous censuses the departmental staff trained the supervisors and the supervisors in turn trained their enumerators. This procedure was unavoidable because the number of departmental officers was limited and therefore inadequate to directly train such a large number of enumerators (about 70,000). By 1980 there was a statistical investigator attached to each AGA division. It was therefore decided to use this investigator together with additional officers from headquarters to train the enumerators and not to leave such training in the hands of supervisors alone. This was done to improve the quality of enumerator training.

The assistant superintendents coordinated the census work in each district and also served as liaison officers with the census head office. The commissioners of census were given extensive training. They in turn trained the statistical staff in the districts. The statistical officers and investigators in the districts conducted the training classes for supervisors and enumerators. The training class for supervisors lasted two days and the enumerators' training class lasted one. The training program commenced in January 1981 and was completed by 26 February 1981.

Enumeration Procedures

The preliminary census, during which most of the data for the census were obtained, was taken during the period 1–10 March 1981. Enumerators visited each housing unit in their census blocks and enumerated the usual residents of each unit, including temporary absentees but excluding visitors. Information relating to the housing unit and to physically disabled persons was also recorded during the preliminary census. Enumerators were requested to visit the houses as far as possible in the evenings, when all or most of the occupants were likely to be in.

The final census enumeration consisted of a final verification of the information obtained at the preliminary census between 6:00 P.M. and midnight on 17 March 1981. During the enumerator's visit to each unit, he was to cross out the entries for any person who was not present in the unit on the final census night even though that person was enumerated in the unit in the preliminary census. Any person not enumerated in the unit at the preliminary census, but present in the unit at the time of the enumerator's visit on the final census night, was to be enumerated unless he produced an enumeration pass indicating that he or she had been enumerated elsewhere on the final census night. The enumerator was also required to enumerate himself and persons who were found out of doors, in temporary huts or tents, and in new buildings not included in the list of units for the census block.

Appeals had been made to the general public to remain indoors between 6:00 P.M. and midnight on the

final census night to facilitate the enumeration. In spite of this, a complete cessation of all activities could not be expected and special arrangements were made for the enumeration of travelers by train, bus, and so forth. Special outdoor enumerators were posted at public places like bus stops and street junctions to enumerate persons found there. Special railway enumerators were assigned to railway stations to enumerate passengers and railway staff. All persons enumerated outdoors were issued enumeration passes to indicate that they had already been enumerated to prevent them from being enumerated a second time.

Data Processing

DATA PREPARATION AND CODING

At the end of the final enumeration, each enumerator was required to compile a summary of the population for his census block. These first, provisional figures were transmitted by the district offices to the head office and released as provisional population totals by district on the third day after the final enumeration.

Within three weeks of census night, the completed census schedules from the 24 districts were received at the Census Division head office. These schedules were checked to ensure that all schedules had been received and that none had been lost or misplaced.

Editing and coding of the census schedules for the 10 percent sample were done by 50 editor-coders who were recruited and trained for this task. Most of the answers to the questions on the census schedules were either self-coded or precoded, and enumerators had coded the area identification particulars and the district of birth. Only entries relating to education, occupation, and industry needed to be coded in the office. Manual editing was kept to a minimum with editor-coders performing the editing and coding functions at the same time. The operation was confined to

1. ensuring that area identification entries were not missing and coding them if not coded by the enumerator;
2. ensuring that age entries were present and imputing the age if missing;
3. coding education, occupation, and industry; and
4. coding district of birth and previous residence if not coded by the enumerator.

EDITING AND IMPUTATION

Apart from the manual edits mentioned above, a scheme of computer edits including consistency checks and imputation of certain missing entries was drawn up. Wherever imputations were not possible on the basis of the criteria determined for computer imputation and correction of errors, the records containing errors were printed out for manual correction.

EQUIPMENT

Data entry for the 1981 population and housing census was done with an IBM System 34 computer with 14 data entry terminals and with 22 card-punching machines with 9 card verifiers. The data from these two sources were transferred to magnetic tape files in the main computer, an IBM 4331, after which the editing and imputation were done. Errors were printed and then manually corrected to update the tape files.

The system configuration consisted of the following:

<i>System 4331</i>		
Central processing unit	4331-101	512K bytes main memory Diskette I/O
Disk drives	3310-A02 3310-B02	129 megabytes 128 megabytes
Tape drives (2)	8809-A02/002	1,600 bpi, 9 track
Line printers	3203-005 3262-001	1,200 lines per minute 650 lines per minute
Card reader	3505-B01	800 cards per minute
Display terminals (8)	3278-002	
Typewriter keyboards (2)	3278-002	
System console	3278-A02	
<i>System/34</i>		
System unit	5340-E23	128K bytes main memory 27 megabytes disk storage
Display stations	5251 (two sets) 5252 (dual, seven sets)	
Line printer	3262-B01	650 lines per minute

The data processing staff included 3 systems analysts, 12 programmers, 1 computer operational assistant, 4 computer supervisors, 9 computer operators, 1 tape librarian, 2 supervisors, and 75 data entry machine operators.

Definitions

De Jure/De Facto

As in all the previous Sri Lankan censuses, the 1981 census of population was taken on a de facto basis. The enumeration during the preliminary census was, however, conducted on a strictly de jure basis, with each person being recorded at his or her usual residence. Usual residence was defined as the housing unit or living quarters where a person usually lived—i.e., slept, kept clothes and other belongings, and from where the per-

son generally went to work if working or attended school if a student. In the case of persons with more than one residence, the usual residence was the one from which the person went to work or school and where he or she spent the greater part of the week.

In the final enumeration on 17 March 1981, preliminary census entries for persons not present at the time of the enumerator's visit were deleted and any new persons present in the unit were enumerated. Persons who were traveling or happened to be outside housing units or living quarters and in public places during the final census hours were enumerated by specially appointed outdoor enumerators. Persons so enumerated were issued enumeration passes so they would not be enumerated more than once. Thus, the final census returns were on a de facto basis with each person being recorded at the place where he was found at the time of the final enumeration. The geographic distribution of the population provided by the census was based on the de facto count.

The purpose of conducting the preliminary census on a de jure basis was to make possible a comparison of the accuracy of the de jure and de facto enumerations. Although it is generally felt that the de jure count of the population is the more useful one, a de facto enumeration leads to a more accurate count by reducing the possibilities of omissions and double counts. On the other hand, the methods adopted for the de facto enumeration have posed problems in the administration of the census that are expected to increase with the urbanization and industrialization of the country. The census planners have in mind changing over to a de jure enumeration in future censuses and a comparative study based on the 1981 census is expected to help them make the decision.

Urban/Rural

As in the 1963 and 1971 censuses, urban areas were defined as the areas within the administrative boundaries of local government bodies that had been conferred the status of a municipal, urban, or town council. The degree of urbanization, as well as the size of population, generally declines in the order stated above—municipal council areas are the most urbanized and town council areas the least. The preliminary results from the 1981 census show that 21.5 percent of the population is urban according to this definition. It must be noted, however, that in the 1946 and 1953 censuses, town council areas were included as rural areas and not as urban areas.

Economic Activity, Labor Force, and Unemployment

In a developing country with a considerable proportion of the working population engaged in agricultural occupations of a seasonal nature, the application of a labor-force concept that depends upon an individual having

worked a minimum number of hours in a specified period poses many problems. In the 1971 and earlier censuses, the gainful occupation concept was adopted with no stipulation of a reference period. In the 1981 census, a reference period of 30 days was introduced.

All persons aged 10 years and over were first questioned about their principal activity during the last 30 days and assigned to one of following categories:

1. Employed
2. Student
3. Retired/unable to work
4. Engaged in own housework
5. Other

Persons who did not belong to one of the first four categories, including those who had no job but were seeking employment, were classified as other.

An employed person was one who, during the last 30 days, was engaged in any kind of work for pay or profit, which included salary, wages, commissions, payment at piece rates, or payment in kind. Unpaid family workers who worked for at least an average of 15 hours a week in any cultivation, trade, business, or other economic activity carried on by a member of the household (excluding housekeeping duties) were also regarded as employed. Self-employed persons, as well as apprentices in receipt of an allowance, were treated as employed.

In the case of temporary absence from work, a person was regarded as employed if he had a job in which he usually worked but from which he was temporarily absent because of illness or injury, because he was on leave, because of industrial dispute, or because of temporary interruption of work due to mechanical breakdown, bad weather, or the like.

In the case of seasonal workers, a person who had a usual occupation but did not do any work during the reference period because of seasonal factors, such as it being the off-season or unfavorable weather, was also regarded as employed.

Persons who were employed at the time of enumeration were considered employed even if they had not worked during a major part of the reference period. But casual workers, those who seek and find work on a casual basis from day to day, were regarded as employed only if they had worked during a major part of the reference period.

The following criteria were used to determine the status of persons with dual activities: An employed person who was also engaged in part-time study was regarded as employed and not as a student; however, a full-time student who, in his spare time, did some unpaid family work was treated as a student and not as employed. A housewife who was engaged in home duties but also worked as an unpaid family worker for an average of at

least 15 hours a week during the last cultivation season was regarded as employed.

Unemployed persons were identified by means of the question, "Did he/she seek work during the last 30 days?" This question was addressed to persons who were classified as either engaged in own housework or "other" in response to the question on principal activity during the last 30 days. Those who answered yes, they had sought work, were regarded as unemployed. "Seeking work" was defined in the enumerators' reference manual as follows:

"To seek work" means to seek a job or some kind of employment or work. A person may be regarded as seeking work if he/she did one or more of the following:

1. applied for jobs or advertised for jobs
2. registered with an employment agency or job bank
3. asked relatives, friends, etc., to find him/her employment
4. tried to set up own business or start some work or trade
5. after doing any of the activities mentioned above, is awaiting an offer of employment

To be regarded as seeking work it is not necessary that any of the activities mentioned in (1)–(4) should have been performed during the 30 days period. Even if such action was taken prior to the 30-day period he/she should be regarded as seeking work if he/she was awaiting a reply or offer of employment during the 30 day reference period or was interested in finding employment or wanting employment during the reference period.

Occupation and Industry

Information collected on occupation related to the principal occupation or kind of work done during the 30-day reference period. Enumerators were instructed that the entry must describe clearly and specifically what the person does—for example, paddy cultivator, wholesale trader, lorry driver. It was emphasized that an acceptable description of occupation often requires at least two words. Examples of acceptable as well as unacceptable entries were given in the enumerators' reference manual.

Information on industry related to the type of industry, nature of business, or service carried on in the establishment or place where the person worked. In the instructions to enumerators, the distinction between occupation and industry was emphasized and examples given to show that the same occupation can be performed in different industries. In the case of self-employed persons not working in an establishment, the enumerators were asked to enter the nature of the work done—for example, paddy cultivation, selling fish, carpentry. Examples of acceptable and unacceptable entries for industry were also given in the enumerators' reference manual.

Race and Ethnicity

Sri Lanka's population is composed of a number of ethnolinguistic and religious groups. The Sinhalese, who are the descendents of ancient Aryan settlers from India, comprised 74.0 percent of the population counted in the 1981 census. The other ethnic groups in order of size are Sri Lankan Tamils (12.6 percent), who are the descendents of early settlers from South India; Indian Tamils (5.6 percent), who are more recent migrants from South India having come during the nineteenth and twentieth centuries; Sri Lankan Moors (7.1 percent), who are the descendents of early Arab settlers; Burghers (0.3 percent), who are the descendents of the European settlers of the colonial period; and Malays (0.3 percent), who trace their origin to Java.

Most Sinhalese are Buddhists by religion, whereas most of the Sri Lankan and Indian Tamils are Hindus. Almost all Sri Lankan Moors are Muslims, and all Burghers are Christians. The Sinhalese who are not Buddhists and the Tamils who are not Hindus are generally Christians.

Enumerators were required to accept the respondent's declaration about his ethnic group and religion. No definitions were given, but the difference between Sri Lankan and Indian Tamils was emphasized. The Sri Lankan Tamils have been settled in the island for a long time and are regarded as citizens of Sri Lanka by descent. The Indian Tamils do not automatically qualify for Sri Lankan citizenship but have to apply for it, and only those who satisfy certain conditions can obtain it.

There is a tendency due to misunderstanding for some Indian Tamils who have obtained Sri Lankan citizenship to regard themselves as Sri Lankan Tamils. Except for this, the ethnic groups are fairly clearly differentiated and there does not seem to be any willful misreporting of ethnic group or religion. In the case of mixed parentage, a person is regarded as belonging to the father's ethnic group.

Tabulation and Publication

TABLE SERIES PLANNED

Three series of tabulations have been planned for release: preliminary results, advance 10 percent sample tabulations, and final tabulations.

The preliminary results were compiled from the enumerators' summaries and provide provisional figures of the geographical distribution of the population down to the village level with breakdowns by the following simple categories: sex, under 18 years and 18 years and over, ethnic group, and religion.

Advance tabulations based on a 10 percent sample were completed before the end of 1981. The sample con-

sists of 10 percent of all census blocks, which were selected on a systematic basis using the urban, rural, and estate areas as strata. Almost all the tables for districts planned on a 100 percent basis were completed before the end of 1983, but only a limited amount of basic data was to be published. Instead, interested users are given access to unpublished data for research or administrative purposes. Advance tabulations were produced from both the population and the housing census.

The final tables are based on the complete count except in the case of the data for rural areas that were only collected from the 10 percent sample (e.g., migration data). Final population tables are, in general, prepared for each of the 24 administrative districts of the country showing figures separately for urban and rural areas. The tabulation plan is listed at the end of this chapter.

PUBLICATIONS

Preliminary Results Series

The preliminary results series contains provisional population data prepared from the enumerators' summaries. Population data are classified by sex, under 18 years and 18 years and over, religion, and ethnic group. Preliminary Release No. 1, giving data for districts, AGA divisions, and towns, was published three months after the final census count. Subsequent issues for each district give the figures for wards of towns in urban areas and *grama sevaka* divisions in rural areas.

Preliminary Release No. 2 contains tables based on a 10 percent sample and provides national- and district-level data.

Final Reports

Final reports containing the final tables are to be published in three volumes: Volume I, 24 separate district reports; Volume II, country tables; and Volume III, the general report.

Volume II will contain the tables for the country as a whole. The general report will contain an account of the census and an analysis of the results. An appendix will contain copies of the census schedules, instructions, and related materials.

Evaluation

POSTENUMERATION SURVEY

The postenumeration survey (PES) was designed to assess the extent of underenumeration in the census. The fieldwork was carried out in May and June of 1981, two months after the census enumeration. Urban, rural, and estate areas were treated as separate strata, and a sample of 2 percent of the urban census blocks and 0.5 percent of the rural and estate blocks was selected for

investigation. Trained interviewers drawn from the permanent staff of the Population Division of the Department of Census and Statistics visited the census blocks and canvassed all housing and other units within the block to determine and record (1) whether or not each unit was included in the prelisting carried out before the census, (2) whether the persons resident in the units were present on the census night and whether they were enumerated, and (3) whether any persons not usually resident in the unit were present and enumerated in the unit.

The schedule used for the PES is shown in appendix 2. Information collected in the PES was matched with the census schedules completed at the final census enumeration to detect underenumeration and double counting.

Along with the PES, a survey to assess the completeness of birth and death registration was carried out by the same interviewers in the same sample of census blocks.

OTHER EVALUATION MEASURES

It is proposed to carry out an evaluation of the accuracy of the census data with respect to content as well as coverage. The standard techniques such as the balancing equation utilizing birth and death registration statistics, tests for accuracy of age distributions, and measures of age heaping will be applied when the necessary data become available.

Timetable for 1981 Sri Lanka Census

Determination of objectives and general program,	
preliminary discussions and planning	Jan 78–Jun 79
Preliminary estimate of expenses	Jan–Jun 79
Organization of census office	Jan–Jun 79
Discussions with data users	Jan–Jul 79
Revision of lists of towns and villages	Jul 79
Preparations for prelisting of housing units	Jul–Dec 79
Draft schedules and instructions	Sep–Dec 79
Enumeration and sampling plans	Sep–Dec 79
Tabulation plans	Sep 79–Jun 80
Prelisting of housing units	Jan–Feb 80
Pretests of census schedules	Feb 80

Table 17.1 Expenditures for 1981 Census (in million Sri Lanka rupees)

Salaries of permanent and temporary staff	
attached to the census office	1.32
Prelisting operations	2.00
Payments to supervisors and enumerators	10.71
Paper and printing	2.10
Publicity campaign	.23
Transport and stationery	2.57
Poste numeration survey	.07
Total	19.00
	(Approx. US\$1 million)

Pilot census	Jul-Aug 80
Preparation and printing of final schedules and instructions	Aug-Dec 80
Recruitment and training of supervisors and enumerators	Sep 80-Feb 81
Publicity and propaganda work	Nov 80-Mar 81
Preliminary census	1-10 Mar 81
Final census	17 Mar 81
Provisional district totals released	20 Mar 81
Receiving and checking of completed schedules	Apr-May 81
Preliminary Release No. 1	Jun 81
Editing and coding	
Coding of 10 percent sample	May-Jul 81
Editing and coding of full count	May 81-Jun 82
Preliminary Release No. 2 (10 percent sample tabulations)	Dec 81
Processing and tabulation (balance of schedules)	Jun 81-Sep 82
Publication of final report	Jun 81-Dec 83

Tabulation Plans for 1981 Sri Lanka Census

Population Distribution

1. Population distribution by sex by urban, rural, and estate areas and AGA divisions and towns
2. Population in localities by size, class of locality, and sex

Age

3. Population by five-year age groups and sex
4. Population by single years of age and sex

Marital Status

5. Population by marital status, age, and sex
6. Population by relationship to household head, marital status, and sex

Citizenship, Ethnic Group, and Religion

7. Population by citizenship, age, and sex
8. Population by ethnic group, single years of age, and sex
9. Population by religion, age, and sex

Literacy, School Attendance and Education

10. Population 10 years of age and over by literacy, age, and sex
11. Population 10 years and over by ability to read and write Sinhala, Tamil, and English; by ethnic group; and by sex
12. Population 5-29 years by school attendance, single years of age, and sex
13. Population 5-29 years by school attendance, educational attainment, age, and sex
14. Population 30 years and over by educational attainment, age, and sex

Principal Activity

15. Population 10 years and over by type of activity, age, and sex
16. Female population 10 years of age and over by type of activity, marital status, and age
17. Persons other than the employed, students, and retired/unable to work by searched for work and reason for not seeking and by sex

Occupation, Industry, and Status

18. Employed population by occupation (1 digit groups), age, and sex
19. Employed population by industry (1 digit groups), age, and sex
20. Employed population by status, age, and sex
21. Employed population by occupation (3 digit groups), status, and sex
22. Employed population by industry (4 digit groups), status, and sex
23. Employed population by occupation (1 digit groups), industry (1 digit groups), and sex
24. Employed population by occupation (1 digit groups), educational attainment, and sex
25. Employed population by occupation (1 digit groups), marital status, and sex

The following tables are to be done for the whole country only and not by districts since they involve detailed cross-classifications and will be unduly large if done at the district level.

26. Employed population by occupation (3 digit groups), age, and sex
27. Employed population by industry (3 digit groups), age, and sex
28. Employed population by occupation (3 digit groups), industry (3 digit groups), and sex
29. Employed population by occupation (2 digit groups), educational attainment, age, and sex

Unemployed Persons

30. Unemployed persons by period of search for work, age, and sex
31. Unemployed persons by period of search for work, educational attainment, and sex
32. Unemployed persons by relationship to head of household, age, and sex

Distance to Place of Work or School and Mode of Transport

33. Employed persons by distance from usual residence to place of work, mode of travel, and sex
34. Students aged 10 years and over by distance from usual residence to school, mode of travel, and sex

Place of Birth and Migration

The tables on place of birth and migration are based on a complete count for urban areas but on a 10 percent sample for rural areas. The tables at the district level are obtained by adding the urban and rural figures for the district. The following tables are for districts unless otherwise indicated.

35. Urban and rural population by district of birth and sex
36. Urban and rural population by whether born in the district of enumeration or elsewhere, age, and sex
37. Population by district of usual residence, place of birth, age, and sex (for Sri Lanka as a whole only)
38. Sri Lanka born population by district of birth, age, and sex
39. Urban and rural population by district of usual residence and sex
40. Urban and rural population by duration of residence in town/village of enumeration, age, and sex

41. Population of towns by usual residence, duration of stay in the town, age, and sex
42. Migrant population in urban and rural areas by district of usual residence, duration of residence in town/village of enumeration, district of previous residence, and sex

Basic Population Data for Towns and AGA Divisions

The following tables are designed to provide basic population data for towns in urban areas and assistant government agent's divisions in rural areas.

S-1 Population by age and sex

S-2 Population aged 15 years and over by marital status and sex

S-3 Population by ethnic group and sex

S-4 Population by religion and sex

S-5 Population by citizenship and sex

S-6 Population aged 5-19 years by school attendance, age, and sex

S-7 Population aged 10 years and over by literacy and sex

S-8 Population aged 10 years and over by educational attainment and sex

S-9 Population aged 10 years and over by principal activity and sex

S-10 Employed population by occupation (1 digit groups) and sex

S-11 Employed population by industry (1 digit groups) and sex

S-12 Employed population by status and sex

Basic Population Data for Wards of Towns and GS Divisions

Data will be tabulated for wards (subdivisions of towns) and *grama sevaka* divisions (subdivisions within AGA divisions) showing the following classifications:

- a. Age (under 1 year, 1-4, 5-9, 10-14, 15-19, 20-24, 25-44, 45-64, 65 and over) and sex
- b. Children attending school in the age groups 5-9 and 10-14 by sex
- c. Literacy of persons aged 10 and over by sex
- d. Unemployed persons by sex
- e. Employed persons by occupation (major groups)
- f. Employed persons by status

Housing Tables

For districts by urban, rural, and estate sectors:

1. Housing units and living quarters other than housing units by type and number of occupants
2. Housing units by type and kind of structure
3. Persons in occupied housing units by type and kind of structure
4. Occupied housing units by type and year of construction
5. Occupied housing units by type and number of rooms
6. Occupied housing units by type, number of rooms, and number of occupants
7. Occupied housing units by type and principal materials of walls
8. Occupied housing units by type and principal material of roof
9. Occupied housing units by type and principal material of floor
10. Occupied housing units by year of construction and materials of walls and roof

11. Occupied housing units by type and main source of drinking water
12. Persons in occupied housing units by type of unit and main source of drinking water
13. Occupied housing units by type and toilet facilities
14. Persons in occupied housing units by type of unit and toilet facilities
15. Occupied housing units by type and principal type of lighting
16. Occupied housing units by type and principal cooking fuel
17. Occupied housing units by type and tenure
18. Persons in occupied housing units by type of unit and tenure

For towns by wards:

S-1 Occupied housing units by type and main source of drinking water

S-2 Occupied housing units by type and toilet facilities

S-3 Occupied housing units by type and principal type of lighting

S-4 Occupied housing units by type and tenure

Tables on Physically Disabled Persons

For districts by urban, rural, and estate sectors:

1. Blind, deaf, and dumb persons by type of disability, age, and sex
2. Blind, deaf, and dumb persons by type of disability, age at which disability occurred, and sex
3. Blind, deaf, and dumb persons by type of disability, cause of disability, and sex
4. Blind, deaf, and dumb persons by type of disability, whether living in an institution, means of livelihood, and sex
5. Blind, deaf, and dumb persons by type of disability, occupation, and sex
6. Persons with disability in hands by type of disability, age, and sex
7. Persons with disability in hands by type of disability, age at which disability occurred, and sex
8. Persons with disability in hands by type of disability, cause of disability, and sex
9. Persons with disability in hands by type of disability, whether living in an institution, means of livelihood, and sex
10. Persons with disability in hands by type of disability, occupation, and sex
11. Persons with disability in legs by type of disability, age, and sex
12. Persons with disability in legs by type of disability, age at which disability occurred, and sex
13. Persons with disability in legs by type of disability, cause of disability, and sex
14. Persons with disability in legs by type of disability, whether living in an institution, means of livelihood, and sex
15. Persons with disability in legs by type of disability, occupation, and sex
16. Physically infirm persons with more than one disability by principal disability, secondary disability, and sex

THAILAND 1980

National Statistical Office
Office of the Prime Minister
Bangkok

Introduction

HISTORY AND LEGAL STATUS

The 1980 Population and Housing Census of Thailand was conducted 1–25 April 1980 by the National Statistical Office (NSO) under the provisions to the 1965 Statistical Act. This census was the eighth population census and the second housing census to be conducted in Thailand.

Thailand's first national census was organized in 1909, and, after reenumeration in some districts, revised national returns were assembled and published for 1911. The next census was taken in 1919 and covered the whole kingdom with the exception of the metropolitan area of Bangkok, which was enumerated in 1920 (the combined returns were adjusted to give a figure for the earlier year). In 1929 a third census was conducted on a more elaborate basis. The fourth census was taken in 1937.

The 1947 census was the first to use mechanical tabulation with punchcards. The particulars for individuals included on the cards were age, sex, relationship to head of household, marital status, birthplace of individual, birthplace of parents, nationality, race, religion, literacy, educational attainment, occupation, and employment status.

The first five censuses were conducted by the Ministry of Interior. Since 1952 the National Statistical Office has been in charge of conducting censuses under the authorization of the 1952 Statistical Act, which was revised in 1965. The first population census taken by the NSO was the 1960 census, which presented statistics for each province and for the whole kingdom, as well as a separate report for the northeastern region. Most of the statistics published in the report were tabulated originally on an *amphoe* (district) basis although some data were tabulated on a *tambon* (commune) and village basis.

The 1970 population and housing census was the first to utilize electronic data processing equipment (IBM 360). It was also the first census to produce an evaluation report, adjusted population census figures, and detailed analytical reports on major subjects such as fertility, economic characteristics, and migration, which were tabulated on a sam-

ple basis and published in addition to the basic characteristics reports for the *changwat* (province), regions, and whole kingdom.

ORGANIZATION OF THE NATIONAL STATISTICAL OFFICE

The National Statistical Office (NSO) is a government agency with departmental status under the Office of the Prime Minister. The administration within the NSO is divided into seven divisions (see figure 18.1). The major functions of these divisions are as follows:

The Population Survey Division is responsible for overall planning and coordination of the population and housing census as well as sample surveys pertaining to population, housing, labor force, education, and related social statistics.

The Economic Survey Division is responsible for censuses and sample surveys pertaining to agriculture, wholesale and retail trade, industry, household expenditure, and related economic statistics.

The Statistical Techniques Division is responsible for planning the sampling design for sample censuses or surveys, for evaluation and analysis of census or survey results, and for preparing maps for censuses and surveys. The division reviews all statistical project proposals of government agencies for technical soundness and priority.

The Field Operation Division is responsible for organizing and administering field operations for censuses and surveys.

The Data Processing Center is responsible for the data processing operations of censuses and surveys as well as data processing for other government agencies and private organizations.

The Statistical Reports Division is responsible for issuing census and survey reports and other statistical publications, and for planning and implementing census and survey publicity programs.

The Office of the Secretary is responsible for correspondence, personnel, finance, office supply procurement and maintenance, and other services that are not specifically assigned to other divisions.

Figure 18.1. Organization Chart of the National Statistical Office

In fiscal year 1980 (October 1980/September 1981) there were about 1,100 persons in the NSO, about one-third of whom were stationed in the field offices located in 71 provinces to perform data collection.

Design and Execution

PREPARATION AND PLANNING

Coverage and Sample Design

As in the previous census, the 1980 population census covered all persons residing in the country as of the census date, 1 April. This included all Thai nationals; civilian citizens of foreign countries whose usual residence was in Thailand or who had resided in Thailand for at least three months; persons whose usual residence was in Thailand but who were at sea or temporarily abroad on the census date; and both military and civilian government officials, including Thai diplomatic personnel, and their families located abroad.

Not enumerated were nomadic groups (i.e., hill tribes and fishing groups having no fixed place of residence), foreign military and diplomatic personnel and their families located in Thailand, and citizens of foreign countries visiting or traveling in Thailand for less than three months.

The housing and population censuses were conducted simultaneously with the household as the basic unit of enumeration. Households were divided into two types: private and collective. Private households consisted of persons living together in a house or part of a house who make common provision for food and other essentials for living. Collective households included *wats* (monasteries), penal institutions, welfare homes, hospitals, barracks, hotels, and boarding houses. All households and all persons residing within each household were enumerated. Persons falling within the scope of the census were enumerated on a *de jure* basis, except for students, who were enumerated on a *de facto* basis.

In municipal areas, long forms consisting of 11 basic population questions and 33 other population and housing questions were used to enumerate every household and every person. In Bangkok Metropolis and nonmunicipal areas, all households were enumerated with the short form containing the 11 basic questions, and then 20 percent of the households were selected for enumeration with the other 33 population and housing questions. Listing form 1 was used as the frame for sample selection. The sampling design adopted was systematic with a random start.

Mapping

In 1980, census maps were made for Bangkok Metropolis, all municipal areas, and large villages. There were two types of maps, enumeration district maps and master maps. Each enumeration district (ED) map showed the ED boundaries, streets, lanes, canals, landmarks, location of houses, and block boundaries within the ED. Enumera-

tion districts covered approximately 200–350 houses. Large EDs in municipal areas might consist of one or more blocks. Master maps showed the location of all enumeration districts in each municipal area or each district in Bangkok Metropolis. There were 118 municipal areas, excluding Bangkok Metropolis.

Schedule Content

Form 1 was used for household listing (see appendix 1). Form 2 was used for enumeration and had two types: a short form and a long form. Short forms with 11 population questions (topics 1–11 below) were used to enumerate every household, and long forms with 26 population questions and 18 housing questions were used for sample households (see appendix 1 for facsimile of long form). The topics covered on form 2 were as follows:

Population Topics

1. Type of household
2. Name
3. Relationship to head of household
4. Month and year of birth and age
5. Residence status
6. Sex
7. Educational attainment
8. Marital status
9. Occupation during past year (April 1979–March 1980)
10. Industry during past year
11. Work status during past year
12. Line number of mother
13. Religion
14. Place of birth
15. School attendance
16. Literacy
17. Length of residence in village or municipal area
18. Place of previous residence (if at present place of residence less than 5 years)
19. Reasons for moving
20. Age at first marriage
21. Number of children born alive living in the household
22. Number of children born alive living elsewhere
23. Number of children ever born who died
24. Contraceptive use
25. Occupation last week
26. Reasons for not working

Housing Topics

- H1. Type of structure
- H2. Type of construction materials
- H3. Whether living quarters used for commercial purpose
- H4. Tenure of living quarters (excluding land)
- H5. Advance payment
- H6. Monthly rent
- H7. Owner of living quarters (if “rent” or “not pay” in H4)
- H8. Ownership of land (if “owner” or “buying on installment” in H4)
- H9. Owner of land (if “rent” or “not pay” in H8)
- H10. Number of bedrooms and other rooms regularly used for sleeping

- H11. Drinking water
- H12. Water supply system
- H13. Type of bathroom
- H14. Type of lighting
- H15. Type of toilet facilities
- H16. Place for cooking
- H17. Type of cooking fuel
- H18. Household appliances: radio, television, telephone, refrigerator, electric fan, air conditioner, bicycle, motorcycle, automobile, motorboat, water pump for agricultural use, tractor.

Pretest and Pilot Census

Three pretests were conducted in different regions of Thailand in January, April, and July of 1977. The main objectives of these pretests were to test the applicability of the questionnaire, concepts, and definitions, and to find out the response to each question. Interview time and efficiency of enumerators and trainers were also studied.

In 1977, after the results of the three pretests were studied, preparations and planning started for the 1978 pilot census. Preparation of the 1980 census maps had begun in February 1977 by the Statistical Techniques Division of the NSO. The maps were to be used for the pilot census as well as the main census.

The pilot census was conducted in April 1978 in Samutprakarn, a province about 25 kilometers from Bangkok with a population of approximately 500,000 inhabitants. Enumeration began on 1 April and took 25 days. Every stage of the pilot census was designed similar to the corresponding stage of the 1980 census in order to test all phases of the operation, particularly the field organization, the effectiveness of field control, and the effect and applicability of sampling in villages.

Publicity

For the publicity program of the 1980 population and housing census, the NSO utilized mass media such as newspapers, radio, television, postal stamps, and movie films. In the rural areas, the NSO launched a publicity campaign through local authorities and local social activities centers (e.g., monasteries, schools, market places, and local health centers). The campaign employed posters, brochures, calendars, postal stamps, wood boards, and banners. Some of these publicity materials—e.g., the posters, brochures, and calendars—were funded by the United Nations Fund for Population Activities (UNFPA).

ENUMERATION

Enumeration District

The enumeration district (ED) was defined as the area assigned to an enumerator to be completed during the stated enumeration period. In municipal areas, the ED consisted of one or more blocks totaling 200–300 households.

In nonmunicipal areas, the ED consisted of 250–350 households. It could be part of a village, a whole village,

or more than one village. Villages were classified by size into three groups: large villages were areas where the number of households exceeded 350 and were divided into two or more EDs; medium-sized villages were those with 250–350 households; and small villages contained less than 250 households. One enumeration district could consist of two or more small villages, but not more than six villages and not more than about 350 households.

Recruitment and Training of Enumerators

Crew leaders and enumerators were selected from local school teachers and were appointed by the secretary general of the NSO. The criteria for selection of the crew leaders and enumerators were as follows: Crew leaders had to be senior school teachers not over 40 years of age and thoroughly familiar with the localities to which they were assigned. Enumerators had to be between the ages of 18 and 35 and familiar with their assigned work areas. In some areas, however, crew leaders and enumerators were also recruited from students who had at least graduated from high school.

The provincial and district field directors were appointed from provincial governors and district officers or their deputies. They were responsible for administering field operations in their provinces and districts with provincial and district statistical officers as coordinators.

Each district also had one or two technical supervisors who were responsible for the technical aspects of field supervision. During the training phase, the technical supervisors instructed crew leaders and enumerators on enumeration procedures.

The training of the 1980 census personnel was organized in three stages (see figure 18.2). Subject-matter officers were first selected from NSO program technicians who had participated in the planning of the census. In the first stage, the subject-matter officers trained 65 master trainers (selected from technicians of the NSO), 12 regional statistical officers, and 72 provincial statistical officers. In the second stage, the master trainers trained 1,190 district technical supervisors. In the third stage, the district technical supervisors went out in teams to each of the provinces to train crew leaders and enumerators. An average ratio of one district technical supervisor to 25 enumerators was maintained. The in-class training lasted one week for crew leaders and one week for enumerators, and each training period included field practice. All crew leaders observed the enumerator training and field practice. The training course was equipped with standard instruction manuals, overhead projectors, flip charts, and tape recorders.

Enumeration Procedures

Enumeration was divided into three operations according to type of administrative areas as follows:

Bangkok Metropolis. Interviewing was conducted in two phases. In phase 1 all persons and private households in each enumeration district were listed and enumerated

Figure 18.2. 1980 Census Training Program

using the short form containing 11 basic questions. Collective households were enumerated by the long form for population characteristics but were not interviewed on the housing questions. After the first phase was completed for the ED, phase 2 began. A 20 percent sample of private households was selected by the crew leader for further interviewing with the long form to collect detailed information on both population and housing questions. The listing forms (form 1) were used as a frame for the selection of sample households. The sample design was systematic with a random start.

Other Municipal Areas. All persons and households were listed and enumerated on the long form. Detailed information on population and housing was collected, except from collective households, where questions on housing were not asked.

Nonmunicipal Areas. Enumeration was conducted in two phases: Phase 1—In each village or enumeration district, all persons and private households were listed and enumerated using the short form. For collective households, only the listing was performed at this stage. Phase 2—After the listing was completed in each ED, the crew leader selected a 20 percent sample of private households to ask detailed information on both population and housing characteristics using the long form. At this stage, collective households were interviewed using the long form but were not asked the housing questions.

Data Processing

The data processing plan for the 1980 population and housing census was designed to use data processing equipment as effectively and as extensively as possible. Machine editing was used to check completeness and correct incon-

sistencies. Computers also calculated weights for the information collected on a sample basis, recoded, and tabulated the data.

DATA PREPARATION, CODING, AND PUNCHING

There were 214 clerks, 83 clerks for verification, and 28 supervisors working on the various stages of manual editing and coding. Their work involved checking the questionnaires for each ED or village against the ED listing for completeness, general editing and coding, editing and coding of occupation and industry, and verification of editing and coding.

Data entry was done by a key-to-disk method using DATA 100 equipment. There were 96 key stations with 96 keypunchers, 16 of whom were supervisors.

The questionnaires were to be punched in two stages. In the first, short-form records (the 11 basic population questions) from both short and long forms were punched. In the second stage, the additional information from the long forms was punched.

EDITING AND IMPUTATION

The short form and long form were to be edited separately, with each operation divided into two parts. The following describes the short-form operation.

Structural Edit for Identification and Completeness Check. The identification codes of each household were compared with a control table prepared from the ED listing. Unmatched records were deleted and listed in an ED diary. A certain number of households—missing, lacking interview, or with poor information—were replaced by a duplication method.

Range and Consistency Edit. Responses were checked against all the possible codes of each field and were cor-

rected where necessary. Hot deck was used for correcting sex and age. For each individual, the consistency check verified the information of one field against another within the same record, and at the household level checked the field of one record against another record of the same household.

Long-form editing was similar to the short-form editing except that, in the structural edit, there was no replacement by duplication for missing households.

The ED diary report for structural, range, and consistency edits in each ED or village with a high error rate was considered by the Population Survey Division staff to determine whether the ED or village should be reedited and repunched.

EQUIPMENT

The computer system used at the National Statistical Office was an IBM 3031 model 002 with a memory of two megabytes. The whole process of editing, correcting, computing, and tabulating was expected to take 370 hours.

Definitions

De Jure/De Facto

For the 1980 Population and Housing Census of Thailand, all persons falling within the scope of the census were enumerated on a de jure basis with the exception of students, who were enumerated on a de facto basis. The de jure basis meant that persons were enumerated as part of a household if that household was their usual residence.

Urban/Rural

The urban designation was given to municipal areas and to sanitary districts with more than 5,000 inhabitants (urban SDs).

The municipal area is a legal unit established by the Royal Decree of the 1953 Municipality Act. There are three categories of municipal areas—*nakhon* (city), *muang* (town), and *tambon* (commune). A *tambon* municipality is established wherever it is deemed appropriate. A *muang* municipality is established where the administrative seat of the provincial government is located or where the population is at least 10,000 persons with an average density of not less than 3,000 persons per square kilometer. The sources of tax revenue must also be sufficient for the execution of municipal affairs as stipulated in the 1953 Municipality Act. A *nakhon* municipality is established where the population is at least 50,000 persons with an average density of not less than 3,000 persons per square kilometer. Tax revenues must also be sufficient for the execution of municipal affairs as stipulated in the 1953 Municipality Act.

Sanitary districts are established by the Ministry of Interior under the provisions of the Sanitary District Act of 1952. Under the provisions of the Municipality Act, any

sanitary district may be established as a municipal area by issuing a Royal Decree.

Nonmunicipal areas and sanitary districts with less than 5,000 inhabitants (rural SDs) were classified rural.

Tabulations by area were done with either a two-level or four-level classification system. The two-level system presented data separately for municipal and nonmunicipal areas; the four-level system, for municipal areas, urban SDs, rural SDs, and nonmunicipal areas and areas outside of SDs.

Economic Activity

Persons aged 11 years and over were classified either economically active or not economically active.

The economically active population—the labor force—comprised all persons 11 years of age and over who worked for wages, salaries, profits, or any other kind of payment any day during the seven days or during the 12 months preceding the census date (two reference periods were used). Included were experienced workers who were looking for work, persons who had never worked but were looking for work, and persons waiting for the farm season.

The non-economically active population included homemakers, students, persons who were unable to work because of physical or mental disability or chronic illness, retired persons who receive a pension from former activities, priests and nuns, persons who receive income from property or investments without working, and persons who receive private support without working.

Occupation

Principal occupation referred to the kind of work done by persons who were economically active in the 12 months preceding the census date. Occupation last week referred to the kind of work done by employed persons in the seven days preceding the census date. For persons who worked at more than one job during the specified period, only the job at which they worked most was recorded.

Industry

Industry referred to the activity of the establishment in which the economically active person worked during the 12 months preceding the census date. If a person had more than one job, industry was recorded for the job referred to under occupation.

Tabulation and Publication

Publications planned for the 1980 census fall into four categories:

1. A preliminary report of the total population by province based on the counts from the control form of the listing operation and major characteristics presented as percentage distributions based on the 1 percent sample analytical tabulation.

2. An advance report presenting total numbers for some basic population items by region and whole kingdom based on the 1 percent sample tabulation.
3. The final province, region, and whole kingdom reports of population and housing data.
4. Analytical subject reports from sample tabulations on major characteristics of population (i.e., migration, economic characteristics, fertility, etc.).

The tabulations that will appear in the advance report and the provincial reports are listed at the end of this chapter.

Evaluation

After the completion of the census fieldwork, a postenumeration survey (PES) was conducted in order to evaluate the completeness and the quality of the data obtained and to evaluate the quality and efficiency of the census enumerators. All PES interviewers were regular field staff officers of the National Statistical Office. The PES had the following objectives: to investigate coverage errors (i.e., errors in the total count resulting from missing or double counting the population); and to investigate content errors (i.e., errors in characteristics reported for persons who were counted).

The PES was conducted in 5 percent of the census enumeration districts both in the municipal areas and outside of the municipal areas. In EDs in municipal areas, three segments of approximately 25 households each were reenumerated. In nonmunicipal areas, one village was reenumerated from the selected EDs.

The detailed analysis of the PES with regard to content errors for selected major characteristics such as age, marital status, and occupation, along with an evaluation of the census based on other demographic techniques, will be presented in a separate analytical report.

Tabulations from the 1980 Census of Thailand

Advance Report (from 1 percent sample)

Population Tables (by whole kingdom and regions)

1. Population by sex, municipal and nonmunicipal areas, households, and average size of households

Table 18.1 Budget for 1980 Population and Housing Census

<i>Fiscal Year</i>	<i>Budget (in baht)</i>
1977	233,800
1978	2,210,800
1979	9,411,300
1980	75,035,280
1981	13,709,000
1982	14,325,400
Total	114,925,580 (US\$5,606,126*)

*Converted at 20.5 baht = US\$1.

2. Population by 5-year age groups
3. Population 13 years of age and over by marital status
4. Number of ever-married women 15 years of age and over by number of children ever born alive and number of children still living
5. Currently married women 15–49 years of age by type of contraceptive method used
6. Population 6 years of age and over by years of school completed
7. Population 11 years of age and over by type of economic activity
8. Economically active population 11 years of age and over by occupation last year
9. Economically active population 11 years of age and over by industry last year

Provincial Reports (indicates tabulations from 20 percent sample)*

Population Tables

1. Total population by sex, total households by type, and number of agricultural households, all by area (districts and urban/rural)
2. Population in private households and number of private households by size by area (districts and urban/rural)
3. Population by sex, single years of age, and area (urban/rural)
4. Population by 5-year age group, sex, and area (districts and urban/rural)
5. Population by religion, sex, and area (urban/rural)*
6. Population 13 years of age and over by marital status, age group, sex, and area (urban/rural)
7. Number of ever-married women 15 years of age and over by number of children ever born alive, average number of children, and age group of women*
8. Number of ever-married women 15 years of age and over by number of children still living, average number of children, and age group of women*
9. Number of own children aged 0–14 years by age of mother*
10. Ever-married women 13 years of age and over by age at first marriage and present age*
11. Duration of marriage of ever-married women by number of children ever born*
12. Currently married women 15–49 years by type of contraceptive method and age group*
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UNITED STATES OF AMERICA 1980

U.S. Department of Commerce
Bureau of the Census
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Introduction

The 1980 Census of Population and Housing—20th in a chain of censuses that have been taken every year ending in zero since 1790—was conducted as of 1 April 1980 by the Bureau of the Census, an agency of the U.S. Department of Commerce. The enumeration covered the population and housing characteristics of the 50 states, the District of Columbia, Puerto Rico, and the outlying areas under U.S. jurisdiction or sovereignty (including Guam, American Samoa, and, by special agreement, the Northern Marianas and the Trust Territory of the Pacific Islands). The 1980 census counted 226,545,805 persons and 88,411,263 housing units in the United States and 3,565,376 persons and 1,082,288 housing units in Puerto Rico and the outlying areas.

HISTORY

The eminent nineteenth century French statistician Alexandre Moreau de Jonnès observed, "The United States presents in its history a phenomenon which has no parallel. It is that of a people who instituted the statistics of their country on the very day when they formed their government."

De Jonnès's observation acknowledges the fact that the U.S. Constitution, ratified in 1789, required an enumeration of the population at least every 10 years. The constitutional mandate for a census stems from a compromise between the large and small states at the Constitutional Convention in 1787. This compromise gave each state equal representation in the Senate, but linked representation in the House of Representatives to each state's population. Thus, article 1, section 2 of the Constitution called for a census as the means of equitably apportioning representatives among the states. This constitutional mandate remains the primary reason for conducting the census.

The first census was conducted in 1790 by U.S. marshals and their assistants under the direction of the secretary of state. The act authorizing this census, with minor modifications and extensions, governed the tak-

ing of the censuses through 1840. The inquiries in 1790 were limited to six items—the name of the head of the family and the number of persons in each household of the following descriptions: free white males 16 years and older; free white males under 16; free white females; all other free persons (i.e., free blacks); and slaves. By 1840 the marshals were also gathering data on education, literacy, and occupation, as well as taking censuses of agriculture, manufactures, and mineral industries. In 1850 the new census law provided for collecting the names and characteristics of each person counted.

In 1880 specially appointed supervisors and enumerators began taking the censuses instead of the U.S. marshals and their assistants. The 1880 population census was an encyclopedic undertaking that made hundreds of minor inquiries in addition to the basic population questions. Because of the vast scope of this census, however, publication of the detailed results was not completed until just before the 1890 enumeration. The 1890 census, which was similar in scope to the 1880, introduced the use of punchcards and electric tabulating machines to accelerate data processing.

The censuses from 1790 to 1900 were conducted by temporary staffs that disbanded after the count was completed and the results published. Some observers, particularly in the latter half of the nineteenth century, noted that this ad hoc census taking was inadequate in several respects: there was a lack of continuity and experience in census work, the enumerations had to be organized in haste, and the accuracy of the statistics was impaired. Based on these observations and recommendations from government and the private sector, Congress established a permanent Bureau of the Census in 1902. With a permanent organization, the Census Bureau was able to conduct lesser surveys and the census of manufactures separately from the decennial census.

The 1940 census was, in many ways, the first modern census. One of the major innovations was the use of sampling, which involved asking some of the questions of only a fraction of the population. The 1940 census

was also the first to obtain facts on the conditions of the nation's housing.

The 1950 census brought the use of one of the first electronic computers, UNIVAC I, to help tabulate a small part of the data. Nearly all of the data processing for the 1960 census was done by computer, and an electronic device for reading the census schedules—called a film optical sensing device for input to computer, or FOSDIC—was used in this and subsequent censuses.

Prior to 1960, census enumerators used a conventional door-to-door procedure, completing a census questionnaire at each housing unit. But in 1960 mail carriers delivered an unaddressed questionnaire containing the basic 100 percent questions to every housing unit before the field enumeration. The householder was asked to complete the questionnaire and hold it until an enumerator visited to pick it up. In areas containing about 80 percent of the population, the enumerator picked up the 100 percent questionnaire, and, at every fourth housing unit, left another containing the sample population and housing questions requesting that the respondent fill it out and mail it to the census district office. When these questionnaires were returned, the responses were transcribed to the special FOSDIC schedules. In rural areas, the sample information was obtained during the enumerator's visit and recorded directly on FOSDIC schedules. Self-enumeration had been used on a very limited scale previously, but this was the first time it was made a major part of the decennial procedure.

The mails were used even more extensively in the 1970 census. Approximately 60 percent of the housing units received addressed questionnaires by mail and were asked to complete them and mail them back. Some of the households received short forms containing only the 100 percent questions, while households predesignated on the address lists received long forms containing the 100 percent and additional questions. All the questionnaires were designed to be read by FOSDIC. In the areas where this procedure was used, enumerators contacted only those housing units and households for which questionnaires were not returned, were incomplete, or contained inconsistent answers. For the remainder of the housing units, most of which were located in rural areas or small towns, mail carriers left a census form containing the 100 percent questions at each residential housing unit on their routes, as in 1960. An enumerator then visited to collect the completed questionnaire and ask additional questions for the sample units identified in the listing books.

In the 1970 census, changes in subject content over 1960 were relatively minor. The only population data collected on a 100 percent basis related to the same five subjects (age, sex, race, marital status, and relationship to household head). The sample questions were asked of

either a 15 percent or a 5 percent sample of housing units, with a number asked for both. Fifteen housing items were covered on a complete-count basis; others were collected on a sample basis similar to that used for the population inquiries.

The method of enumeration for the 1980 census was not radically different from that for 1970, though there were some significant developments: (1) the mail-out/mail-back area was extended to over 95 percent of the housing units, (2) new procedures for improving the coverage of the population were introduced and 1970 procedures were enhanced, and (3) the publicity campaign was the most extensive and creative ever undertaken for a census. The questionnaires contained about the same number of items as the previous census, but there were some subject changes reflecting new data needs. The sample design was different (see Sample Design section below), but the general approach of asking only a few basic questions of everyone and the more detailed items of a sample of the population was the same as in 1960 and 1970.

LEGAL STATUS

The U.S. Constitution does not describe how the census should be conducted, which questions are to be asked, or other vital aspects of census taking; instead, it empowers the Congress to conduct the census in "such Manner as they shall by Law direct." Congress passed special acts for the taking of each census from 1790–1920 that gave quite detailed instructions about how to conduct the enumeration and which questions to ask. In 1929, Congress passed the Permanent Census Act, under which the 1930 census was taken. The most notable feature of this act was the discretion it gave to the secretary of commerce and the Bureau of the Census with regard to conducting the census. Modifications to the 1929 act, and additional legislation covering the census of housing, governed the 1940 and 1950 censuses.

The basic law under which the 1980 census was taken was title 13 of the United States Code, which was passed in 1954 and has been amended several times since. Like the 1929 act, title 13 does not specify which questions are to be asked, nor does it specify the method of enumeration. It does, however, contain provisions relating to the areas to be covered, and it requires that the Census Bureau advise Congress of the general subject content three years before the census and of the specific questions two years before. Furthermore, it requires the Census Bureau to deliver the state population counts and apportionment results to the president "within 9 months after the census date."

Title 13 requires individuals to answer the census. Anyone 18 years of age or older who willfully neglects or refuses to answer the census may be fined up to \$100. Anyone who gives false answers is subject to a fine of up

to \$500. In 1970, in addition to the fines, there were provisions for minor jail terms for refusing to answer or answering falsely, but these were dropped for 1980.

The same law that makes answering the census mandatory provides strict confidentiality for the information gathered. It states,

Neither the Secretary, nor any other officer or employee of the Department of Commerce or bureau or agency thereof, may . . .

- (1) use the information furnished under the provisions of this title for any purpose other than the statistical purposes for which it is supplied; or
- (2) make any publication whereby the data furnished by any particular establishment or individual under this title can be identified; or
- (3) permit any other than the sworn officers and employees of the Department or bureau or agency thereof to examine the individual reports.

Every employee of the Census Bureau must take an oath to protect the confidentiality of information gathered in the census. Any employee who wrongfully discloses census information is subject to a fine of up to \$5,000 and imprisonment up to 5 years.

Census records are by law confidential for 72 years from the time the information was collected. Many people rely on copies of their census records to prove age or identity, and the Census Bureau releases such information only to those persons, their authorized representatives, or their legal beneficiaries upon proof of death.

The Census Bureau was required by law to provide the president, by 1 January 1981, with the final official state population counts from the 1980 census and the number of representatives to which each state was entitled in the House of Representatives. Related to the apportionment of representatives is the delineation of congressional and legislative district boundaries on the basis of "one person, one vote" (the concept that legislative districts should have nearly equal populations). Under the provisions of a law enacted in 1975 (P.L. 94-171), the bureau was required to produce population data for geographic areas outlined in plans submitted by the state offices or public bodies that had initial responsibility for the legislative apportionment or districting of the state (the secretary of commerce established the criteria for the state plans). These data had to be delivered to the states by 1 April 1981. It should be noted that, while the Census Bureau provided data that could be used for redistricting, it did not actually draw the congressional or legislative district boundaries.

The decennial census has, of course, many uses other than apportioning seats in the House of Representatives and drawing legislative district boundaries. Census data are also used for allocating federal and state funds

under various grants-in-aid and revenue-sharing programs, for formulating public policy, and in private-sector decision making. Legislation passed during the 1970s tied the distribution of federal revenue-sharing funds to population totals and characteristics; this action contributed to a heightened public awareness of and support for the 1980 census.

ORGANIZATION OF THE BUREAU OF THE CENSUS

The bureau's headquarters is in the Washington, D.C., suburb of Suitland, Maryland. It has processing and operational offices in Jeffersonville, Indiana, and Pittsburg, Kansas, where large-scale clerical operations are conducted, and regional offices in 12 cities throughout the country—Atlanta, Boston, Charlotte, Chicago, Dallas, Denver, Detroit, Kansas City (Kansas), Los Angeles, New York, Philadelphia, and Seattle (see figure 19.1). To conduct the field enumeration, a regional census center (RCC) was set up in each regional office city. The 12 centers directed the work of 409 temporary district offices in the 50 states and the District of Columbia, 8 in Puerto Rico, and one for each of the outlying areas.

Two large processing sites were set up for the 1980 census operations, one in New Orleans, Louisiana, and the other in Laguna Niguel, California. These offices closed in early 1982. The Jeffersonville facility was also a major site of 1980 census processing.

The field enumeration, or data collection, was the direct responsibility of the bureau's Field Division at headquarters, and the RCCs were responsible for directing operations in the temporary census district offices. RCC personnel trained key district office supervisors, monitored costs and progress of operations in the district offices, processed district office payrolls, and in general had overall responsibility for assuring the timely completion of fieldwork. The person responsible for directing the operation in the RCC was the regional census manager (officially called the assistant regional director—census), who was assisted by technical specialists for operations, administration, geographic matters, recruitment, publicity, and community services. The regional census manager reported to the regional director of the permanent regional office, who in turn reported to the Field Division at headquarters.

There were four types of district offices. In mail-census areas, district offices were either "centralized" or "decentralized." The 87 centralized offices were in inner-city areas, while the 286 decentralized offices were located primarily in suburban and rural areas. There were 24 offices in areas of the country where the conventional method of enumeration was used. In addition, there were 12 two-procedure offices where both conventional and decentralized procedures were employed.

District office operations were under the direction of

Figure 19.1. 1980 U.S. Regional Office Boundaries

NOTE: During the 1980 census, there were two regional boundary systems—one for activities that had been operational before the 1980 census (current surveys, informational services, etc.) and one for decennial activities only. The decennial boundary system was in use roughly from 1978 to 1981.

a district office manager, who was assisted by top-level supervisors for field, office, special place, administrative, and recruitment operations. The census enumerators worked under the supervision of crew leaders and higher-level field supervisors, and there was a clerical force in each office.

Planning, direction, and support services were provided by the bureau's permanent staff. This staff was augmented for the peak periods of census operations—particularly in the areas of training, publicity, and processing—and then reduced as operations came to a close. Large numbers of temporary workers were hired for the field offices and processing centers.

Design and Execution

The 1980 census involved several overlapping phases, extending generally over the period 1973–83 and involv-

ing planning and preparation, data collection, data processing, data dissemination, and evaluation.

The 1980 Census of Population and Housing also included two small surveys—the Components of Inventory Change Survey, which was designed to obtain information on counts and characteristics of housing units that changed or stayed the same between 1973 and 1980, and the Residential Finance Survey, which was a survey of residential properties to obtain data on mortgages, shelter costs, and selected housing and owner characteristics.

PREPARATION AND PLANNING

Planning for the 1980 census began while the last phases of the 1970 census were still underway, and funding for formal planning began in July 1973. The planning process included a review of the experiences in the 1970 census, consultation and contacts with data users, congress-

sional review, and a series of tests of procedures and content.

The extensive use of the mails in 1970 had proved successful. About 86 percent of the households in mail census areas cooperated by mailing back their questionnaires to the census district offices. The Census Bureau conducted a test during the 1970 census of the feasibility of extending the mail method to rural areas and small towns. Based on the 1970 mail-return rates, the results of the mail extension test, and other factors, a decision was made to widen the mail-census areas in 1980 to include 95.5 percent of the population.

Another aspect of the 1970 census that affected planning for 1980 was the estimate that about 5.3 million people, or 2.5 percent of the population, had been missed. Further evaluations indicated that blacks had been disproportionately undercounted: while only 1.9 percent of whites were not counted, it was estimated that 7.7 percent of blacks were missed. (A reestimation of the 1970 census undercount done in 1981 with new figures for such factors as emigration estimated that 4.7 million people were missed in 1970, or 2.2 percent of the population. The undercount for blacks was 7.6 percent and for whites, 1.5 percent.) Limitations in the administrative data (birth, death, and migration records) used to estimate population, and thus undercount, did not allow calculating the undercount for other minority groups—Hispanics, American Indians, and Asians and Pacific islanders.

No issue figured as prominently in planning the 1980 census as the undercount of minority groups in 1970. Considerable time and money went into identifying methods for improving coverage of these hard-to-enumerate segments of the population. The goals for coverage improvement in the 1980 census were (1) to attain a relatively low overall undercount and (2) to reduce the coverage differential between whites and minorities.

The Census Bureau took two main approaches toward achieving these goals. First, it undertook a number of special publicity and outreach efforts to make people more aware of the census, to explain the importance of census data, and to convince people that their responses were confidential. Special efforts were designed to reach minority groups. One of these was the Community Services Program, in which over 200 community services specialists contacted leaders of community-based minority organizations and American Indian tribes to obtain their active support for the census.

The second approach was to improve census-taking procedures to reduce the possibility of people being missed. The major improvements were (1) additional checks on the compilation of address lists to be used as controls in the mailing and handling of the census questionnaires, (2) matching to census records the names of individuals living in selected hard-to-enumerate areas

(the names were taken from drivers' license lists), (3) rechecking the occupancy status of units that had been classified vacant or nonexistent, (4) establishing special procedures for counting the transient populations, and (5) giving local officials an opportunity to review census counts before the census district offices were closed.

The Census Bureau consulted a broad spectrum of data users in planning the 1980 census, and it received advice from a dozen public or other advisory committees. These included members of the American Statistical, American Economic, and American Marketing Associations, committees on population and housing, and three minority advisory groups representing blacks, Hispanics, and Asian and Pacific island Americans. Regional meetings held with American Indian and native Alaskan groups were forums for an exchange of ideas on how best to count these people. Representatives of more than 90 federal agencies formed the Federal Agency Council for Demographic Censuses, which outlined federal data needs, helped advise on census content, and reviewed other matters related to the census. Participants in local public meetings held throughout the country suggested improvements for the 1980 count. Meetings were also held with state planning agency officials to get their views. A blue-ribbon panel of the National Academy of Sciences/National Research Council reviewed census plans and made recommendations. Extensive contacts were made with national and community-based minority organizations to inform these groups of plans and to gather comments.

In addition, the Census Bureau's plans for the 1980 census underwent extensive congressional review. Numerous hearings were held before the bureau's House oversight committee (the Subcommittee on Census and Population of the Committee on Post Office and Civil Service) and Senate oversight committee (the Subcommittee on Energy, Nuclear Proliferation, and Federal Services of the Governmental Affairs Committee). The General Accounting Office conducted and published a number of studies of 1980 census plans. Plans were also reviewed by the House and Senate committees responsible for funding the census.

Coverage

The territory covered by the 1980 census included the 50 states and the District of Columbia (these 51 units comprise the official population of the United States), Puerto Rico, and the outlying areas—Guam, the U.S. Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Trust Territory of the Pacific Islands. As a result of the 1978 treaty between the United States and Panama, the Canal Zone, which had been enumerated in each census from 1920 to 1970, was not part of the 1980 census. A number of other areas under the jurisdiction or control of the

United States—Johnston Atoll, Midway, Wake, and miscellaneous other islands—were either uninhabited or had counts supplied for them by other federal agencies.

All persons living in the United States on census day were covered in the census, including foreigners having their usual residence in the United States, whether legally or illegally. (While illegal aliens were to be counted in the census, no attempt was made to identify them as such.) Included were persons working or attending school in the country and members of their families living with them. Foreigners temporarily visiting or traveling in the United States or living on the premises of an embassy, ministry, legation, chancellery, or consulate were not enumerated. Procedures were established to count U.S. residents who were short-term travelers abroad, but U.S. citizens residing overseas (including federal civilian employees, students, and armed forces personnel stationed there) were excluded.

As in every preceding census, each person was counted as an inhabitant of his or her usual place of residence, which generally meant the place where the person lived and slept most of the time. This was not necessarily the same as the person's legal or voting residence. Rules were established for enumerating categories of the population for whom residence was not obvious.

The basic unit of enumeration was the housing unit. Population characteristics were obtained for each person living in an occupied housing unit (a household) and housing characteristics were obtained for both occupied and vacant units. A housing unit was defined as a house, an apartment, a group of rooms, or a single room occupied (or if vacant, intended for occupancy) as a separate living quarters. Separate living quarters were those in which the occupants or intended occupants lived and ate separately from other persons in the building and which had direct access from the outside of the building or through a common hall. Boats, tents, vans, caves, and the like were included in the housing inventory only if they were occupied as someone's usual place of residence. Vacant mobile homes were included provided they were intended for occupancy on the site where they stood.

If a living quarters contained nine or more persons unrelated to the resident owner or renter, or 10 or more unrelated persons, it was considered a "group quarters." College dormitories, military installations, prisons, hospitals, orphanages, convents, and the like fell under this category. Areas with group quarters were called "special places" (these sometimes contained regular housing units as well). Characteristics were collected for the group quarters population in a separate operation. No housing characteristics data were collected on group quarters.

Members of the armed forces living on military installations were counted, as in every previous census, as residents of the area in which the base was located; mem-

bers not living on base were counted as residents of the area in which they were living on census day. Persons in families with armed forces personnel were counted where they were living on census day (i.e., on the military installation or off base, as the case might be).

Each naval ship was allotted to the municipality that the Department of the Navy designated as its home port, except for those of the Sixth and Seventh Fleets, which were deployed overseas on census day (these were considered part of the overseas population because of their long-term assignments). In home ports with fewer than 1,000 naval personnel assigned to ships, the crews were counted aboard the ship. In home ports with 1,000 or more naval personnel assigned to ships, the personnel who indicated that they had a usual residence within 50 miles of the home port of their ship were attributed to that residence, and those who did not so indicate were counted aboard ship. When a home port was split between municipalities, ships berthed in the home port on census day were assigned by the bureau to the one in which the land immediately adjacent to the dock or pier was located. Ships not physically present in their home port and not deployed to the Sixth or Seventh Fleets on census day were allocated to the municipality named on the navy's home port list.

If a U.S. merchant vessel was berthed in a U.S. port on census day, the crew was enumerated at that port. If the ship was not docked in a U.S. port but was inside the territorial waters of the United States, the crew was enumerated at the port of destination, if in the United States, or at the home port of the ship if its destination was outside the United States. Crews of U.S. flag vessels that were outside American waters on census day and crews of vessels flying a foreign flag were not enumerated in the 1980 census.

College students were counted as residents of the areas in which they were living while attending school, as they have been since 1950; however, students in boarding schools below the college level were counted at their parental homes.

Inmates who ordinarily lived in an institution for considerable periods of time were counted as residents of the area where the institution was located. Patients in general hospitals for a short period of time were counted at their usual place of residence; if they had none, they were counted at the hospital.

Persons in hotels and motels on the night of 31 March 1980 were requested to fill out an individual census report and were assigned to their home areas if they indicated that no one was at home to report them to the census. A similar approach was used for persons visiting in private residences, as well as for Americans who left the United States during March 1980 via major intercontinental air or ship carriers for temporary travel abroad. In addition, information on persons away from their usual places of residence was obtained from their

families, resident managers, or neighbors. If an entire household was expected to be away during the whole period of the enumeration, information on that household was obtained from neighbors. A matching process was used to eliminate duplicate reports for persons who reported for themselves while away and who were also reported by someone else.

A special enumeration was conducted on the night of 6 April 1980 in such places as missions, flophouses, jails, and detention centers, and persons enumerated there were counted as residents of the area in which the establishment was located.

Sample Design

Two main questionnaires were used in the 1980 census—the short form containing the basic, or 100 percent, population and housing questions asked for all persons and housing units, and the long form containing the basic items plus questions only asked of a sample of the population and housing units. One housing unit in six was required to answer the long form, except for governmental units estimated to have under 2,500 people, where one half the housing units were sampled. This created a 16 $\frac{2}{3}$ percent sample in larger areas and a 50 percent sample in smaller areas, and meant that about one-fifth of the population nationwide was enumerated on the long form. The 50 percent sample for governmental units with under 2,500 people made it possible to produce substantially more reliable data from the sample questions than would have been possible with the 16 $\frac{2}{3}$ percent sample used elsewhere.

Geographic Structure and Mapping

The 1980 census provided data for numerous political and statistical geographic areas. The political areas include the states, counties, county subdivisions, and incorporated places. Areas that have been specially created for statistical purposes include standard metropolitan statistical areas, urbanized areas, census county divisions, census tracts, and city blocks.

Below are definitions for some of the areas for which census data are reported. Data for the 100 percent questions are published for all census areas down to the smallest blocks, while data for the sample questions are published only at the census-tract or block-group level and above.

United States. The 50 states and the District of Columbia.

Regions and Divisions. There are four census regions (West, South, Northeast, and North Central) defined for the United States, each composed of two or more geographic divisions. The nine divisions are groupings of states.

Political Units. The states, District of Columbia, Puerto Rico, other outlying areas, congressional districts, counties or county equivalents, minor civil divi-

sions (MCDs) such as towns and townships, incorporated places (e.g., cities or villages), and, in some states, election precincts. In addition, data are provided for American Indian reservations and Alaska native villages.

Standard Metropolitan Statistical Areas. SMSAs for 1980 comprised one or more counties defined around a central city of 50,000 population or an urbanized area of 50,000 or more inhabitants with a total metropolitan population of at least 100,000. Contiguous counties are included if they have a high degree of social and economic integration with the area's population nucleus. (New England SMSAs are defined in terms of towns and cities, rather than counties.)

Standard Consolidated Statistical Areas. SCSAs were composed of two or more closely related SMSAs having a combined population of 1 million or more.

Urbanized Areas. An urbanized area consists of a central city and surrounding densely settled territory with a combined population of 50,000 or more inhabitants.

Urban/Rural. The urban population comprises all persons living in urbanized areas and in places of 2,500 or more inhabitants outside these areas. All other population is considered rural.

Metropolitan/Nonmetropolitan. Metropolitan areas are inside SMSAs; nonmetropolitan areas are outside SMSAs. Both metropolitan and nonmetropolitan areas can contain urban and rural population.

Census County Divisions. CCDs were created by Census Bureau and local officials in 20 states in which the MCDs were not adequate for reporting census statistics.

Census Designated Places. CDPs, formerly referred to as "unincorporated places," are closely settled population centers without legally established limits. They were delineated with state and local assistance for statistical purposes, and generally have a population of at least 1,000.

Census Tracts. Statistical subdivisions of counties. Each tract, averaging 4,000 inhabitants, is delineated by local committees (subject to Census Bureau standards) within SMSAs and other selected areas.

Blocks. Generally bounded by streets or other physical features, blocks are defined and numbered in urbanized areas, incorporated places of 10,000 or more population, and other areas that contracted with the Census Bureau for the collection of block statistics.

Block Numbering Areas. BNAs were defined for the purpose of grouping and numbering blocks where tracts were not established.

Block Groups. BGs were sets of contiguous blocks within a census tract or BNA and were used in lieu of enumeration districts for tabulation purposes in blocked areas.

Enumeration Districts. EDs were used for census tabulation purposes where census blocks and block groups

were not defined. In all parts of the country they were the administrative units to be covered by census enumerators, generally one ED per enumerator.

Maps are essential tools for both data collection and data dissemination. For the 1980 census, the bureau produced more than 32,000 individual maps covering the entire country, Puerto Rico, and the outlying areas. The bureau started with existing maps from the U.S. Geological Survey, state highway departments, county governments, and incorporated places and adapted these for the census by removing unnecessary information and adding boundaries for special statistical areas.

Enumerators were given maps with their assigned EDs delineated in order to keep them within their areas and to assure that they found every housing unit and assigned each unit and its inhabitants to the correct geographic area.

The maps used for fieldwork reflected the geographic situation as of 1 January 1978 for mail-census areas and 1 January 1979 in door-to-door areas. During the field enumeration, the maps were updated to reflect current conditions. The official date for census geography was 1 January 1980; any changes effective after that date, such as annexations, were not reflected in the final census geography.

Updated maps were made available to users so they could relate the data to the proper geographic area. Appropriate maps were also included with the printed and microfiche reports.

Schedule Content

Census content, or what questions would be asked, was a major focus of 1980 census planning. The bureau's goals were to meet the data needs of the 1980s without unnecessarily burdening the public. As in 1970, most questions were asked of only a sample of the population, and only a few basic population and housing items were asked of everyone. The 1970s ushered in new concerns and data needs (e.g., more detailed data on minority groups, transportation, and housing costs); thus, some of the questions asked in 1970 were deemed no longer necessary and new ones were requested by various sources. Some questions were added, while some 1970 items were dropped. Similarly, some questions asked on a sample basis in 1970 were asked on a 100 percent basis in 1980, and vice versa.

Table 19.1 lists the 1980 census content items (see appendix 1 for a facsimile of the long-form questionnaire). The term "head of household" was not used in the 1980 census. Instead, the census questionnaire instructed respondents to enter in column 1 the name of one of the household members in whose name the housing unit was owned or rented, and then asked for each persons' relationship to the person in column 1. Examples of items that can be derived from the census questions are families, family type and size, family income,

poverty status, population density, household size, persons per room (overcrowding), institutions and other group quarters, gross rent, and farm residence.

There was space on both the short and long forms for enumerating up to seven people in each household. If there were more than seven people in a household, the respondent was to list all the persons in question 1, complete the form for seven people, and mail it in. Enumerators obtained information for the additional persons in a follow-up visit.

Questionnaires for individuals ("individual census reports"), containing only population inquiries, were used for persons in group quarters. The information on the individual census reports was later transcribed onto regular FOSDIC-readable questionnaires. A supplementary questionnaire was used at some American Indian reservation households and at some households in areas of Oklahoma that were formerly Indian reservations to get more detailed information about special living conditions of native Americans. Spanish-language versions of the main short- and long-form questionnaires (as well as questionnaires for individuals) were available upon request. In addition, translations of the short- and long-form questionnaires were prepared in 32 different languages. Separate questionnaires were developed for Puerto Rico and each of the outlying areas (with common subject content for the Pacific jurisdictions). No sampling was done in the outlying areas because their small populations were not conducive to sampling methods. Instead each housing unit received a questionnaire similar in length to the standard long form. Most types of questionnaires were specially designed so that when they were microfilmed, the film could be read by FOSDIC.

Pretests and Pilot Censuses

One of the most important components of the planning for the 1980 census was the series of pretests and dress rehearsals conducted between 1976 and 1979. The pretests were designed to examine the feasibility and cost-effectiveness of new and alternative field operations, enumeration procedures (particularly those designed to improve the coverage of the population), and questionnaire content items. The major tests were the National Content Test (1976), which was devoted entirely to testing alternative question formats and wordings, and tests primarily of census procedures in Travis County, Texas (1976), Camden, New Jersey (1976-77), and Oakland, California (1977). The latter three pretests were "mini-censuses" in which most facets of enumeration were studied. In addition, there were a number of other tests, some held as early as 1975, which were designed to try out specific procedures or questionnaire content items.

The dress rehearsals (pilot censuses) were the final run-throughs of procedures planned for the 1980 census. These were conducted in 1978 in the Richmond area

Table 19.1 1980 U.S. Census Content

<i>Population Items</i>	<i>Housing Items</i>
<i>100 percent</i>	
*Household relationship	Number of housing units at address
Sex	*Complete plumbing facilities
*Race	Number of rooms in unit
Age	Tenure (whether the unit is owned or rented)
Marital status	*Condominium identification
*Spanish/Hispanic origin or descent	*Value of home (for one-family owner-occupied units and condominiums)
	Rent (for renter-occupied units)
	Vacancy status
	Duration of vacancy
<i>Sample</i>	
School enrollment	Number of units in structure
Educational attainment	Stories in building and presence of elevator
State or foreign country of birth	Source of water
Citizenship and year of immigration	Sewage disposal
**Current language and English proficiency	Year building built
**Ancestry	*Year moved into this house
Place of residence 5 years ago	Heating equipment
Activity 5 years ago	Fuels used for home heating, water heating, and cooking
Veteran status and period of service	*Costs of utilities and fuels
*Presence of disability or handicap	*Complete kitchen facilities
Children ever born	Number of bedrooms
Marital history	Number of bathrooms
Employment status last week	Telephone
Hours worked last week	Air conditioning
Place of work	*Number of automobiles
**Travel time to work	**Homeowner shelter costs for real estate taxes, fire and hazard insurance, and mortgage
*Means of transportation to work	
**Persons in car pool	
Year last worked	
Industry	
Occupation	
Class of worker	
*Work in 1979 and weeks looking for work in 1979	
*Amount of income by source in 1979	
*Changed relative to 1970	
**New item for 1980	

of Virginia, in two counties in southwestern Colorado, and in a section of lower Manhattan in New York City—areas representing the different sorts of conditions to be encountered nationally. Efforts were made to keep the testing of new procedural and questionnaire content alternatives to a minimum with the intention of changing only those methodologies or questions that proved problematic. Some procedural and questionnaire content changes did have to be made as a result of the dress rehearsal experiences.

There was an extensive evaluation process for the tests, consisting of formal statistical calculations, time studies, reports based on staff visits to field offices, and reviews at headquarters.

PUBLICITY

The 1980 census promotional campaign was the most creative and effective publicity effort in U.S. census history. Its main focus was to inform the public, whose cooperation is essential to the success of any census, of the importance of census data and of achieving as complete a count as possible. It was aimed at encouraging those living in the United States to fill out their census forms and, in mail-census areas, to mail them back to the census district offices.

The promotional campaign was directed by the Census Promotion Office (CPO), which was established in the summer of 1978. Other bureau units also had census

promotional responsibilities, including the Public Information Office and the Field Division. Broad planning for promotion of the 1980 census began early in the decade, and a number of projects conducted between 1972 and 1978 aided in this, including the pretests and pilot censuses.

The CPO secured the free services of the Advertising Council in directing a major media advertising campaign. The decision to use free "public service" advertising rather than to seek funds from Congress for a paid campaign was controversial: some observers doubted the effectiveness of a free effort. But the Advertising Council's campaign, developed by the firm of Ogilvy & Mather, proved to be a great success. An independent study found that the commercial dollar value of the advertising received by the bureau in the period between January and June 1980 was nearly \$38 million. The bureau's own publicity budget covered such services as photography, filming, and graphic artwork, and a service charge for Advertising Council office and processing operations.

The campaign was conducted in all major media: television, radio, newspaper, transit cards, outdoor billboards, business and trade press, etc. The centerpiece of the promotion effort was the slogan "Answer the Census, We're Counting on You."

A committee of leaders in the broadcasting industry representing all major markets in the country was formed to ensure that the census messages were aired on the radio and television stations in their areas. A number of celebrities, including some well known among minority communities, donated their time to tape public service announcements (some in Spanish and Chinese) or to undertake other efforts endorsing the census and urging audience cooperation.

The advertising campaign was only part of the bureau's 1980 promotional effort. Census information kits were mailed to more than 44,000 magazines and to 22,000 newspapers and television and radio stations. The latter were tailored specifically for the appropriate state and type of media. Special kits were designed for black, Hispanic, American Indian, and Asian and Pacific islander news media. Another kit was given to each member of Congress.

The director of the Census Bureau sent a letter to the chief executive officers of the nation's largest corporations requesting their assistance in supporting the census promotion. As an example of the response, the American Telephone & Telegraph Company included census messages with 90 million telephone bills sent out in March 1980. The director also wrote to 300 national organizations soliciting assistance through their memberships; the Boy Scouts, for instance, delivered 30 million census brochures door-to-door in March 1980. As an example of intergovernmental cooperation, March

1980 social security check mailings also contained census promotional messages.

Kits containing reproducible materials were sent to over 100,000 elementary and secondary schools throughout the country. The goals of this program were to have younger children involve their parents and other family members in the census through take-home assignments and to prepare teenagers in households with language and reading difficulties to assist in filling out the census questionnaires.

During the field enumeration, a 40-person network of public-relations specialists operating out of the regional offices and district offices in major metropolitan areas handled a wide variety of promotional responsibilities: they obtained time for public service announcements on local radio and television stations, advised the census district managers on how to work with the press, achieved the cooperation of local companies in the promotion effort, and served as liaisons with complete-count committees. At the urging of the Census Bureau, more than 4,000 complete-count committees were organized by local jurisdictions throughout the country in an effort to generate local publicity. Census district office managers and community services specialists also played a role in disseminating the census message.

ENUMERATION

Census day was 1 April as it had been in each census since 1930. Prior to that several dates were tried—the first Monday in August was used from 1790 to 1820, 1 June from 1830 to 1900, 15 April in 1910, and 1 January in 1920. The first of April has been deemed the most suitable reference date because of weather conditions and the likelihood that people will be at their usual place of residence—winter weather would impede the enumeration in some areas if census day were held much earlier, and people are more likely to move or be away on vacation in the summer months.

In order to complete the field enumeration before the spring thaw in northern and western Alaska, census day there was 22 January 1980. As part of the agreement with the local government, census day for the Trust Territory of the Pacific Islands was 15 September 1980; this date was chosen in order to facilitate the use of teachers as enumerators. The Northern Mariana Islands were part of the Trust Territory of the Pacific Islands at the time of the census, but were treated separately for purposes of collection, tabulation, and presentation of census data. Their census day was 1 April 1980.

Questionnaires were generally to be completed giving information as of 1 April, even if they were filled out days or weeks later. Several questions referred to a person's activity or condition at a point in time other than 1 April 1980 (e.g., "Where did this person live five years ago (April 1, 1975)?" "Did this person work at any time

last week?” or “During 1979 did this person receive any income from the following sources?”).

Basic census procedures involved the use of the mail-out/mail-back method for areas of the country containing 95.5 percent of the population and the conventional method (i.e., door-to-door canvassing) for the remainder of the country. (See figure 19.2 for mail-census and conventional areas.) This was essentially the same approach as was used in 1970, except that the mail-out/mail-back census procedure was employed more extensively in 1980.

Recruitment and Training

District managers for the centralized district offices were recruited from among Census Bureau headquarters personnel, and most of the RCC staff were persons who had previous experience in the bureau's census or survey work. All other personnel were temporary employees hired only for the census. The manager and key supervisors in the district offices were hired by the RCCs, but other district office staff were hired at the district office level.

The bureau's recruitment objective was to have the

staff in each district office representative of the population of the area it covered. This meant that goals were set for employing certain numbers of women and minorities—blacks, Hispanics, Asians and Pacific islanders, native Americans—or persons with proficiency in certain languages, such as Spanish, Chinese, or Portuguese. It was believed that a representative staff would achieve the best count. Along these same lines, efforts were made to employ enumerators who lived in the enumeration districts they covered.

To meet the bureau's hiring objectives, various sources were contacted, including elected officials, public employment services, unemployment offices, and community-based minority organizations. In addition, free recruitment advertising was obtained from television, radio, and the newspapers; paid advertising was used only when hiring goals could not be met through other means.

Regardless of the recruitment source, all job candidates had to pass a written test and meet a minimum of other qualifications (citizenship was not required) before they could be hired. There were two versions of the test, one for higher-level supervisors and one for

Figure 19.2. 1980 U.S. Census Mail and Non-Mail Areas

lower-level supervisors (such as crew leaders) and non-supervisory employees. The tests were designed to determine whether candidates could perform census-related tasks. A Spanish-language version of the lower-level test was made available in some areas.

In all, 1.2 million persons were tested for census jobs, and about 80 percent of these persons passed. Approximately 460,000 persons were employed at one time or another in the census district offices, with 270,000 working at the peak of activities in April and May 1980. These positions included enumerators, crew leaders, office clerks, and supervisory personnel. The RCCs had about 1,800 people at the peak of activities.

The verbatim training method was used in 1980 as in previous censuses; however, greater use was made of audio-visual materials and learn-by-doing exercises. Training guides, which were to be read aloud word-for-word by the trainer, were prepared in the bureau's Field Division for each census position. Each trainee received various aids and workbooks as supplements to the verbatim instruction. For the most part, each employee was trained by the person who would be his or her supervisor; thus, enumerators were trained by their crew leaders, crew leaders by their supervisors, and so on. After training, employees were to consult procedural manuals for guidance on how to complete specific tasks.

Temporary employees were paid weekly in centralized offices and biweekly in decentralized and conventional offices. The pay rates varied by type of office, with the highest rates in centralized offices and the lowest, in conventional. Enumerators were generally paid on a piece-rate basis, that is, a certain amount per short form completed and a bit more per long form. The piece rates were set so that enumerators could earn a targeted hourly wage of \$4.00-\$4.45. Under certain circumstances, enumerators were paid an hourly wage and received mileage or time-enroute payments. Crew leaders were paid \$4.50-\$5.10 hourly. Pay for office clerks ranged from \$3.55 to \$3.75.

Enumeration in Mail-Census Areas

Offices in mail-census areas officially opened 2 January 1980, though most were open for receipt of the first truckload of supplies in mid or late December 1979. Bureau staff leased nearly 4 million square feet of space. Space for training crews of enumerators, which normally could not be handled in the district office, was obtained rent free in schools, churches, post offices, and other community meeting areas. Much of the activity in the district offices prior to census day was centered around laying out office space and setting up furniture, organizing and inventorying supplies, and hiring staff.

A massive logistics effort—involving the development of specifications, and the purchasing or leasing and distribution of needed items—was required to stock each

office with the equipment and supplies needed to conduct the census. Each office was sent 1½ to 2 tons of supplies. Private contractors printed more than 170 million short- and long-form questionnaires for use in the census mail-out, enumerators' kits, and training. Other contractors stuffed about half of these questionnaires into specially designed envelopes along with the instruction booklet and return envelope. Some 75 million of these packages were machine-labeled for each address known to the bureau prior to the census; additional questionnaires were addressed by hand in the district offices following various mailing-list improvement operations.

Items required in each office included the census questionnaires, address registers, kits containing training materials, procedural manuals, enumerator supplies, and a number of special operational forms. Over 2,500 special forms were designed and printed for the 1980 census, and more than 2 million specially designed kits were assembled at the bureau's processing offices and shipped to the district offices. In addition, each office received typical office supplies and equipment such as filmstrip projectors and cassette players for use in training. All offices were furnished with folding chairs and cardboard tables, desks, and filing bins, and a small amount of more durable furniture for the supervisory staff. Typewriters were rented locally. Telephones were installed as needed, including extra lines to handle calls from respondents needing help in completing census questionnaires and, in inner-city offices, lines for calling respondents who returned incomplete questionnaires. Facsimile machines for transmitting population counts and other information to the regional offices were installed in most district offices.

One of the most important early jobs in the mail-census district offices was improving mailing lists. This was done to ensure that the mailing of questionnaires would be as complete as possible. Each district office received address registers listing addresses for each ED in its area; these had been compiled in late 1979 and early 1980. In city-delivery areas, mailing lists used to compile the registers had been purchased from private companies and had undergone an advance check by the U.S. Postal Service in June of 1979. The lists were checked twice more by the Postal Service after the district office opened, in early March 1980 and at the time of delivery of the questionnaires (28 March). In addition, census enumerators had conducted a further check beginning in mid-February in an operation called the precanvass. Necessary additions, deletions, or corrections of addresses generated by the postal checks and the precanvass were made by clerks in the census offices. For areas where mailing lists could not be purchased from private companies, they were compiled by census enumerators in the spring and summer of 1979 in a "prelist" opera-

tion. Addresses in these areas also underwent the two postal checks in March 1980.

On 28 March 1980, postal carriers delivered an addressed questionnaire mailing package to every housing unit on the bureau's mailing lists. In addition to either a short- or long-form questionnaire, the mailing package included an instruction booklet and a return envelope. Householders were instructed to fill out the form and mail it back to the local census office on 1 April, census day. Return postage was prepaid (the Census Bureau reimbursed the Postal Service for the costs of the mail out and returns). The address of the district office was printed on a label attached to the questionnaire; this label also contained important geographic codes and other information.

To help respondents fill out their forms, the bureau set up telephone assistance lines in each district office; in most cases, these were toll-free numbers. The telephone assistance number for each respective district office was printed on the questionnaire label, published in local newspapers, and announced over television and radio. It was estimated that more than 1.8 million calls were answered. Walk-in assistance centers were set up in some large cities in space donated by local community groups. In addition, the community services specialists and other bureau personnel conducted community workshops on filling census questionnaires in the weeks before census day.

As the questionnaires were returned to a district office, they were sorted by ED and filed in a highly secure part of the office to ensure the confidentiality of census information. Only those census employees who needed to work with a questionnaire were given access. Persons who were not census employees were escorted at all times when inside the office. Such persons were not allowed (even with an escort) in any part of the office where questionnaires were kept or processed. After being sorted by ED, the questionnaires were ready to be matched to the address register for that ED, an operation called check in.

In most cases, the enumeration of special places began on census day, but in some instances it began earlier; for example, if a college recessed around census day, the enumeration started a week or two before. Special places (except for regular housing units within them) were not enumerated by the mail-census method but through various other means—such as direct enumeration and questionnaire drop-off—depending on the nature of the place. The special-places operation collected information on persons living in college dormitories, prisons, hospital chronic wards, some nursing homes, and other group quarters, and, at hotels, motels, missions, and street corners, enumerated travelers who had no one at their usual home to count them, other transients, and persons with no usual place of resi-

dence. As part of the advance work the district offices mailed out posters explaining that the publicity asking persons to mail back their questionnaires did not apply to those living in group quarters.

Two weeks were allowed for the receipt and check-in of mail-return questionnaires; forms were returned to the district offices for about 83.3 percent of all occupied housing units. The first phase of follow-up began on 15 April and lasted six to eight weeks in most district offices, though it took longer to complete in hard-to-enumerate areas. A copy of the address register showing which units had and had not been accounted for was given to enumerators who were to follow up on the non-returns.

The follow-up work load consisted of nonresponse units—housing units for which no questionnaire was received. It was not known whether a nonresponse unit was occupied or vacant until a determination was made by the enumerator. Enumerators went to each nonresponse housing unit and either picked up a questionnaire if the householder had already filled it out or completed a questionnaire if the householder had not. Enumerators also answered the housing questions for vacant units. The enumerator's instructions encouraged maximum self-response or self-enumeration by the respondent. For instance, during an interview, the enumerator was instructed not to answer any item by observation, but to wait for a reply to each question from the respondent.

The enumerators were expected to work during the hours when most people would be at home, but not before 9 a.m. or after 9 p.m. If the enumerator was unable to find anyone at home after four visits, he or she attempted to complete the questionnaire by observation or by talking to neighbors, landlords, and building superintendents—a procedure termed last resort. Every effort was made to obtain at least last-resort information. For population questions, last resort required that the name of each person be collected along with three of the following four characteristics: relationship to the person in column 1 on the questionnaire, sex, race, and marital status. Last resort also required answers to a number of housing questions for both occupied and vacant units.

Crew leaders were responsible for meeting frequently with their enumerators to pick up completed questionnaires, answer questions, and complete administrative forms. They used checklists to review the work of their enumerators. An "assignment control" section in the district office reviewed the enumerator-returned questionnaires for completeness.

The questionnaires returned by mail (and enumerator-returned questionnaires in centralized offices) were edited by district office clerks to make certain that they had been completed in an acceptable manner. To facili-

tate FOSDIC-processing, the clerks also looked at the questionnaires for stray marks or written answers where there should have been filled circles; the clerks transcribed the information from damaged questionnaires onto new ones. This questionnaire-edit operation was conducted by placing a cardboard template over the questionnaires; the template had printed instructions for the clerks to follow and a pattern of openings that allowed answers on the questionnaire to show through. Specific rules, differing by centralized and decentralized offices, were applied to determine whether a questionnaire was within tolerance or failed the edit. A quality-control operation was conducted to ensure the accuracy of the edit.

For questionnaires that failed the edit check, an attempt was made to resolve the problem first by telephoning the household in question. Most of the failed-edit questions were resolved in this way. Respondents had been instructed to write their telephone numbers on the backs of the questionnaires. The telephone follow-up was conducted by clerks in the district offices in centralized areas, or from the enumerators' homes in decentralized areas. In the cases where the problems could not be resolved by telephone, enumerators paid personal visits to the households involved. There was a separate quality-control operation for the telephone follow-up.

At the completion of the first phase of field follow-up and the questionnaire edit, the second phase of field follow-up began. The starting dates varied by district office, depending on when the previous operations were completed. Various kinds of cleanup work were conducted as part of the second follow-up. The cases from the first follow-up, where there was still no questionnaire for a household, were to be completed. The failed-edit questionnaires requiring personal visit were also part of the work load in this operation.

The second follow-up also included one of the census's major coverage-improvement checks, called the vacant and delete check. All housing units classified as vacant by the enumerators in the first follow-up and most addresses deleted from the address registers in earlier operations were checked by different enumerators in the second follow-up to determine whether the units were in fact vacant or should have been deleted. As a result of this check, some units that had been classified as vacant were found to have been occupied, and some addresses deleted from the registers were found to be existing vacant or occupied units. Questionnaires were completed for the persons and housing units found in each case.

Enumeration in Conventional Areas

Conventional offices were officially opened on 28 January 1980. As in mail-census areas, much of the activity prior to census day centered around setting up the

office, organizing supplies, and hiring staff. There were no address-listing operations prior to census day as there were in the mail-census areas. Advance contacts were made with the largest special places, and mailing pieces explaining the upcoming enumeration were sent to those not contacted personally.

Postal carriers delivered unaddressed short-form questionnaires to each known housing unit on 28 March. Householders were instructed to fill out the form and hold it until an enumerator came to pick it up. Beginning on 31 March, the enumerators canvassed their assigned EDs, listing the address of each housing unit, and collecting questionnaires or filling them out, as necessary. At selected households, the enumerator collected information on the long-form questionnaire (the sampling pattern was preprinted in the enumerator's address register).

A supplementary, American Indian questionnaire was completed for every housing unit on Indian reservations that was designated as a short-form housing unit and had at least one American Indian, Eskimo, or Aleut occupant. The supplementary questionnaire was also used in mail-census districts where there were Indian reservations and in parts of Oklahoma that were formerly Indian reservations (but not those in urbanized areas).

A coverage check was conducted as a quality control on the work of the enumerators. In advance of the census, crew leaders made listings of 24 addresses in each ED. After the enumeration was completed, the advance listings were matched to the listing of housing units made by the enumerator to determine whether the enumerator missed any addresses. If no address was missed, the work was considered to be of good quality; if one address was missed, the work was acceptable but the address was added to the address register; if more than one address was missed, the ED was recanvassed. Questionnaires were filled out for households and housing units not previously enumerated.

In addition to the coverage check, the U.S. Postal Service was used to help improve census coverage in conventional areas in an operation called the postenumeration post office check. Enumerators filled out an address card for each housing unit they listed. The cards were delivered to the post offices where carriers reviewed them and noted addresses to which mail was delivered but for which there was no card. These addresses were added to the address registers, if they were not already listed, and the units were later enumerated. The Postal Service also noted instances where there was a card for a nonexistent address; these addresses were deleted from the address registers.

Since all questionnaires were returned to or filled out by an enumerator whose work was in turn checked by a crew leader, it was not necessary to have a full questionnaire-edit operation as in the mail-census offices. As a

quality-control measure, a sample of the questionnaires for each ED was reviewed for completeness by office clerks. If the sample failed the review, the office clerks edited all the questionnaires to identify those with missing information that should be included in the follow-up operation.

Experience from previous censuses and tests indicated that enumerators do not always adhere to the sampling pattern prescribed for collecting information on the long form. Since many of the estimates from census data are based on the additional information obtained from long-form questionnaires, it is important that the sample be accurate and representative of the total population. After the enumeration, office clerks conducted a sample tolerance check to see if the sampling pattern had been properly employed. This was done by comparing the actual population in an ED to an estimate based on the number of people enumerated on the long-form questionnaires for the ED. If the difference was significant, the ED was "resampled" by transcribing some long forms to short forms and vice versa; additional long-form information was collected where necessary.

The follow-up in conventional offices was similar to the second phase of follow-up in mail offices. Enumerators telephoned or visited housing units to obtain the required information on questionnaires that failed edit or for refusal cases from the regular enumeration. EDs that failed the sample tolerance check were resampled as noted above, and EDs that failed the coverage check were recanvassed. New addresses from the postenumeration post office check were visited and enumerated, and, finally, the vacant and delete check was conducted in the same way as in mail-census areas.

Local Review

The Local Review Program was one of several efforts specially designed by the Census Bureau to improve the completeness and accuracy of the 1980 census. It was a part of census operations in both mail and conventional areas. Its purpose was to allow local government officials in some 39,000 jurisdictions the opportunity to review the counts before they became final and while census district offices were open and able to check reported discrepancies. In addition, reviews were conducted at about the same time by bureau staff in the district offices and at headquarters. (After the district offices closed, count complaints were handled by a unit at bureau headquarters.) Local review pinpointed such major problems as clusters of missed housing units, geographic misallocations, and incorrect geographic boundaries.

Field counts tallied in the district offices after the completion of the regular enumeration or first follow-up were sent to local officials who had 10 working days to review the figures. Materials explaining the Local

Review Program had been sent to local officials in the fall of 1979, and census maps had been sent to the localities several weeks prior to mailing out the field counts so that officials could organize their information. The counts, which were provided for EDs and higher-level geography, included total population, the number of persons living in group quarters, and housing unit counts, including the number and percentage of vacant units. At this stage of the census, the housing unit counts were more complete than the population counts, and the officials were asked to concentrate their review on the former.

If the local officials provided sufficient evidence of discrepancies in the census housing unit counts, the district office took several steps to check them, including a review of address registers in the office, a field recanvass of the area in question, or both. After receipt of the local responses to the numbers, the district offices had about four weeks to take action before they closed.

Closing the District Offices

After the completion of all follow-up work, a final manual tally of population and housing counts was made in each district office. The totals, referred to as preliminary counts, were reviewed by headquarters staff in Washington. If the counts were acceptable, the district office was authorized to close.

Most district offices closed four to six weeks behind their scheduled dates, which ranged from 11 July for conventional offices to 8 August for centralized offices. The first district office closed in late July 1980, and about one-fourth of the offices closed in August. By the end of September, over 90 percent of the offices had closed. The last offices to close were in large urban areas, chiefly New York City. The final one was in the Bedford-Stuyvesant area of Brooklyn, where an October fire destroyed most of the completed questionnaires just before the office was to close. A reenumeration of the area was completed in December 1980. Fire had also struck the Framingham, Massachusetts, office near the end of the first phase of follow-up, destroying many of the questionnaires. A partial reenumeration was required, but the office was still among the earliest to close.

In part because the number of persons and housing units significantly exceeded precensus estimates, work related to preparing for and completing the field enumeration exceeded the budgeted amount, forcing budgetary cuts or slowdowns in other phases of the census (processing and publications).

Data Processing

As each district office closed, its questionnaires and address registers were boxed and shipped to one of the three processing centers—Jeffersonville, New Orleans,

or Laguna Niguel. Their mission was to transfer the data from more than 90 million questionnaires—one for each housing unit plus the continuation questionnaires for households with more than seven persons and questionnaires for persons in group quarters—onto computer tapes so that they could be tabulated and cross classified. This work required a great deal of space for storage, temporary clerical staff, and sophisticated electronic equipment. The problems of controlling the flow of questionnaires in one location (Jeffersonville) in 1970 led to the decision to distribute the clerical processing among three sites in 1980.

A Decennial Processing Staff was created to organize and control the clerical and precomputer work; the actual computer processing was done at headquarters. A processing center manager was responsible for the overall direction of the operations in each of the three sites and was aided by assistant managers for administration and for operations. Top supervisors were, for the most part, selected from among the bureau's career staff, and clerical employees were chosen through the civil service system.

Videotaped modules prepared by headquarters staff were the primary training tools rather than the verbatim guides followed in the field district offices, although guides were used in some instances in conjunction with audio-visual presentations.

Each of the three processing centers received millions of questionnaires, thousands of address registers, and vast quantities of other records. To maintain control over these items, an automated inventory and control system was created. As the questionnaires, boxed by ED, arrived at the processing centers, they were checked in and given bar-code labels similar to those seen on American grocery products. Each ED box had a unique bar code. During processing, the labels were electronically scanned as the boxes were checked in and out of each work station. A manual control operation was used as a backup in case of failures in the automated system. Thus, it was possible to tell where the materials for a given ED were at any time.

Another control feature was the questionnaire and address register library where materials were stored when not at a work station. Materials were always checked back into the library from one major operation before being routed to another.

EQUIPMENT

The census questionnaires were specially designed to be read by FOSDIC (film optical sensing device for input to computers). Most answers on the questionnaires were filled circles, and any written responses were translated into filled circles by coding clerks. During processing, the questionnaires were photographed (and simultaneously reduced in size) on 16-mm microfilm by high-

speed camera units; there was an average of 20 camera units at each site. The film was then developed and subjected to various development and density checks.

The negative microfilm, on which the blackened circles on the questionnaires appeared as clear dots, was scanned by FOSDIC. A tiny beam of light examined each frame of microfilm, and where it found a clear dot, the light beam initiated the production of magnetic codes on computer tape. The meaning of the dots, in terms of data, was interpreted by their position on the microfilm. Names of individuals were not coded, and did not appear on computer tapes during data processing. The system was much quicker, cheaper, and more accurate than keying the questionnaire data onto punch cards. In a 24-hour period, one 1980 model FOSDIC machine could transmit the information from 275,000 short-form questionnaires.

In 1970, the microfilm was flown to Suitland for FOSDIC processing, but in 1980 four FOSDIC machines were on site at each processing center. FOSDIC transmitted data by secure electronic means to the main computer unit—the UNIVAC 1140—in Suitland where it was stored on detailed basic-record tapes. The output from these tapes, after further processing, was used to produce all 1980 census products.

DATA PREPARATION AND CODING

Processing of the census questionnaires and the resultant data occurred in two separate phases. The first involved the 100 percent questions found on the short forms and the initial pages of the long forms. The second phase involved the additional questions on the long-form questionnaires and began when most of the work on the 100 percent data was complete.

The 100 Percent Questions

The 100 percent data were given priority because they included the final official state population counts that the Census Bureau was required to provide the president by 1 January 1981. In addition, the 100 percent data had to be processed first in order to provide (1) the analytical tools for evaluating the accuracy of the data and (2) the weighting controls for inflating the sample responses to reflect the total population. The 100 percent processing could be done quicker because it did not involve the time-consuming hand coding required of certain responses on the sample forms.

Materials from the first district offices to close arrived at the processing centers during the first weeks of August 1980, were checked in, and were prepared for filming. The first data were transmitted via FOSDIC to the computer on 7 August. The flow of questionnaires from the district offices was slow at first, then built up through early October. The processing centers had no difficulty keeping up with the flow, though late field

office closings threatened efforts to meet the 1 January deadline for transmitting final state population counts to the president. Materials for the Bedford-Stuyvesant office in New York arrived at Jeffersonville just days before the deadline, but all were processed, and the 100 percent clerical and electronic operations were completed on time.

The Sample Questions

After completion of the clerical processing of the 100 percent data, the long-form (sample) questionnaires were separated from the short forms and readied for hand coding. Some of the census questions (e.g., ancestry, language, industry, occupation, place of work, and income) required a written answer from the respondents, and coding was essential to convert these written answers into a machine-readable form. Most of the questions requiring coding (25 population and 7 housing items) were on the sample pages of the long form; however, two questions on the 100 percent pages of the long form—race and relationship—had to be coded whenever the respondents wrote in an answer rather than filling one of the circles. Where the written entry could be assigned to one of the circles already on the questionnaire (e.g., assigning a written “Caucasian” to “white”), this was done in the district offices. Numerical coding of these write-in entries was done only for sample questionnaires in the processing offices.

The coding operations were conducted by three separate sections of clerks: one section worked solely on the place-of-work, travel-time-to-work, and migration questions; a second on the industry and occupation questions; and the third on all other items. A quality-control operation checked the clerks’ work. Once the sample questionnaires for a group of EDs were completely coded, they were filmed and processed via FOSDIC in the same way as the short-form questionnaires.

Because of budget constraints, a decision was made in February 1981 to reduce the staff, slow down the sample coding operation, and stretch the work out into the next fiscal year (i.e., beyond October 1981). At the same time, it was decided that the place-of-work, travel-time, and migration questions would be coded on only half of the sample questionnaires, thus reducing the sampling rate for these three items. When the budget situation improved in June 1981 with the appropriation of supplemental funds, the bureau stepped up its coding operation by increasing staff; however, the sample reduction for the three items mentioned above was retained. Coding, which had begun at all three sites during January 1981, was completed by the end of October. Filming and FOSDIC transmission was accomplished between July and December. The Laguna Niguel and New Orleans centers and decennial census operations at Jeffersonville closed down in early 1982.

EDITING AND IMPUTATION

After the 100 percent data were put on computer tape, and again after the sample data were entered, the counts for each ED had to pass a set of acceptance tests to ascertain that data scanned by FOSDIC had not been lost or incorrectly recorded on tape, and that potential errors or unusual entries did not exceed established tolerances for population, housing units, and various population and housing characteristics. Essentially, this involved comparing the initial computer counts to the 1980 field counts. The data that failed were summarized and printed out for each ED in a format called a diary. To clear up problems, clerks in the processing centers compared the data on the ED diary to the boxes of questionnaires, the address registers, and the microfilm to make sure all the forms were in good shape (not crumpled, markings sufficiently dark, etc.), properly identified, and that none were missed during the filming process. When necessary, rejected EDs were remicrofilmed and sent through FOSDIC once again.

A series of computer edits was employed to fill in missing data on the questionnaires or to account for inconsistent data. Despite the fact that every effort was made to complete the questionnaires in the field, some questionnaires were returned with items not completed and some corresponded to “unclassified” housing units—addresses for which the occupancy status could not be determined in the field. Responses were edited to eliminate inconsistent information based on data from a given record. For example, if the reference person was a married male and the marital status of the female recorded as his wife was “divorced,” then the latter’s marital status was changed to “married.”

A procedure called allocation was used when missing or inconsistent information could not be supplied or corrected on the basis of other entries on the same record. When this happened, the computer selected a reasonably matched housing unit and imputed (or allocated) its characteristics for the missing or inconsistent information. A similar procedure was used for missing population characteristics: data were imputed by referring back to the previous records for a household or person with characteristics resembling the ones for which data were needed.

In addition to allocation, substitution was sometimes used. This occurred when a person or housing unit was known to be present, but no characteristics were recorded. In this case, data from a previously processed housing unit were selected as a substitute and a full set of characteristics for the housing unit and for each person in the unit was duplicated.

The computer editing procedures were designed to make the census statistics a more useful description of the nation’s population and housing than if “not

reported" categories were added to each tabulation. Certain printed reports and most summary tape files included tables showing the amount of allocation and substitution for certain items.

Following computer editing, the sample data went through a procedure that assigned a weight to each sample person and housing unit. In areas sampled at the rate of 1-in-2, the sample weights were close to two. In areas sampled at the rate of 1-in-6, the weights averaged about six. The weights were assigned in such a fashion that for most large geographic areas the 100 percent census counts and the sample tabulations for total population and total housing units were very close.

In addition to the ED-level data check done in the diary review, the data for larger areas—e.g., states, SMSAs, counties, and MCDs—were checked through elaborate computer programs called analyzers. The purpose of the analyzers was to assure that the statistics for larger areas conformed to their expected levels based on the previous census or intercensal surveys. The analyzers also were used to check the totals for population and housing unit counts and to monitor the allocation rates of various population and housing characteristics.

CONFIDENTIALITY OF CENSUS RECORDS

Once the above processes were completed, edited data about individuals and housing units, together with associated geographic information, were stored on basic record tapes (BRTs). All 100 percent and sample tabulations were made from these tapes. Although the BRTs do not contain names and addresses, they do have detailed geographic codes and household data that could result in the disclosure of data for individuals; therefore, these tapes are confidential and may be used only by bureau employees in preparing statistical products.

The original questionnaires were destroyed and the pulp recycled about the time the processing centers closed, although a small percentage of the questionnaires were retained longer for processing and evaluation purposes. One microfilm copy of the questionnaires was placed in the custody of the National Archives, and another was retained for use in age-search processing at the bureau's Pittsburg, Kansas, facility.

Data Products and Dissemination

Once the data were entered on the basic record tapes, the production of census data could begin. The primary product was a series of five summary tape files (STFs). These computer tapes provided only tabulations or frequency distributions and not the individual records (which were on the basic tapes) and thus could be sold for public use. The STFs were used to produce sets of tabulations that appeared in printed reports and on microfiche. The printed reports served a broader audi-

ence than the STFs, but were more costly to produce and contained only a small portion of the tabulations on the STFs.

Budgetary constraints required that some economies be made in the original data release plans. For instance, one report series—*Block Statistics*—originally intended to be issued as printed reports was issued only on microfiche, a less expensive process. The bureau had planned to produce microfiche of all paper reports, but, in order to save money, the reports were generally issued either in print or on microfiche, but not both. Microfiche copy was issued only for STFs 1A and 3A rather than for several STFs as originally planned, and plans to combine the individual paperbound reports for some of the population and housing series into hardbound volumes were dropped.

The bureau's new policy for correcting the counts contributed to a delay in issuing the 100 percent data products. In 1970, when population and housing count errors—resulting from geographic misallocations or processing operations—were detected, the bureau used errata sheets in the printed volumes to notify users of corrections. While such sheets were still used to some extent in 1980, wherever possible corrections were made in the basic record tapes from which all tabulations were generated.

The first data released in the 1980 census were the preliminary housing unit and population totals provided when the district offices closed. Each locality was sent a mailgram announcing its preliminary counts, and the bureau simultaneously issued these figures in press releases. The announcement of the field counts for some 39,000 local governments was completed in mid-December 1980.

The first computer-generated counts were released at the end of the 100 percent data processing. These were the official state population totals, transmitted by the director of the Census Bureau to the president on 31 December 1980 along with the number of seats to which each state was entitled in the House of Representatives.

The data that the bureau was required to deliver under Public Law 94-171 to state apportionment and redistricting offices by 1 April 1981 were released in February and March on computer tape, microfiche, and eye-readable paper prints from the microfiche. These data files contained figures for total population and provisional figures for persons of Spanish origin and for five race groups: white; black; American Indian, Eskimo, and Aleut; Asian and Pacific islander; and "Other." The data were shown for the lowest geographic areas—blocks, EDs, or election precincts in certain states. Maps were also provided to the states.

SUMMARY TAPES

As mentioned previously, the major portion of the results of the 1980 census were provided in a set of five

summary tape files (STFs) for data users with access to computer facilities. The STFs, which were released on a state-by-state basis, provided data with much greater subject and geographic detail than was feasible or desirable to publish in printed reports.

The first two STFs related to the population and housing subject items collected on a 100 percent basis. STFs 3, 4, and 5 contained subject items collected on a sample basis, and generally included sample data for the 100 percent items for purposes of cross classification.

The first four STFs had varying degrees of small-area data, while the geography in the fifth was limited to states, SMSAs, central cities of SMSAs, and counties and places with 50,000 or more inhabitants. Most of the STF series were divided into files with different geographic structures. For instance, STF 1A provided data down to block group or ED level, but STF 1B gave data for blocks; STF 2A contained tract statistics, but in STF 2B the lowest geographic levels were places of 1,000 or more and county subdivisions. The C files were national in scope, with figures for higher-level entities such as places with 10,000 or more inhabitants and counties.

The first summary tapes were released in August 1981, and all had been released by the end of 1983. For both summary tapes and printed reports, the data for states with smaller populations were generally issued first.

PRINTED REPORTS

The bureau's printed reports appeared in paperback volumes or on microfiche and were released under three subject titles, *1980 Census of Population and Housing*, *1980 Census of Population*, and *1980 Census of Housing*. Each series generally contained a summary report for the United States, and reports for each state, the District of Columbia, Puerto Rico, and each outlying area. These reports are described below. Issue dates are

for the reports for the states and the District of Columbia.

1980 Census of Population and Housing

PHC80-P, *Preliminary Population and Housing Unit Counts*. Produced from district office hand tallies and issued between November 1980 and February 1981. This series shows preliminary population and housing unit counts for the state, counties, county subdivisions, incorporated places, SMSAs, and congressional districts.

PHC80-V, *Final Population and Housing Unit Counts*. Issued between February and April 1981. This series presents official computer-generated population counts, classified by provisional race and Spanish-origin data, and housing unit counts for the state, counties, county subdivisions, incorporated places, and congressional districts.

In the PHC80-P and PHC80-V series, press releases only were issued for the Trust Territory of the Pacific Islands and the Northern Mariana Islands.

PHC80-1, *Block Statistics*. One report for each SMSA showing data for individual blocks on selected 100 percent subjects; issued on microfiche only. The series also includes a report for each state and Puerto Rico presenting block statistics for cities of 10,000 or more people outside SMSAs and for communities outside SMSAs that contracted with the Census Bureau to provide block statistics. These reports were issued between February and November 1982.

PHC80-2, *Census Tracts*. Statistics on most census subjects by tract for each SMSA and for other tracted counties in a remainder-of-state report. These reports were issued between July and October 1983.

PHC80-3, *Summary Characteristics for Governmental Units and Standard Metropolitan Statistical Areas*. Issued between October and December 1982. Selected complete-count and sample population and housing data for SMSAs and each of some 39,000 general-purpose local governments in the United States.

PHC80-4, *Districts of the 98th Congress*. Selected 100 percent and sample population and housing characteristics for congressional districts drawn, as a result of post-1980 census redistricting, for the 1982 elections. Selected data are also presented for counties and places with over 10,000 people. These reports were issued between March and May 1983.

1980 Census of Population

PC80-1-A, *Number of Inhabitants*. Population counts (for the 1980 and previous censuses) for all counties, county subdivisions, places, SCSAs, SMSAs, and urbanized areas, and by urban/rural residence. Issued between October 1981 and May 1982.

PC80-1-B, *General Population Characteristics*. Complete-count data for various geographic levels, from the

Table 19.2 Relation of Selected Printed Reports to the Summary Tape Files

<i>Printed Report</i>		<i>Source</i>
PHC80-1	Block Statistics (Microfiche)	STF 1B
PHC80-2	Census Tracts	STF 2A, 4A
PHC80-3	Summary Characteristics for Governmental Units and SMSAs	STF 1A, 3A
PHC80-4	Districts of the 98th Congress	STF 1D, 3D
PC80-1-A	Number of Inhabitants	STF 1A
PC80-1-B	General Population Characteristics	STF 2B
PC80-1-C	General Social and Economic Characteristics	STF 4B
PC80-1-D	Detailed Population Characteristics	STF 5
HC80-1-A	General Housing Characteristics	STF 2B
HC80-1-B	Detailed Housing Characteristics	STF 4B
HC80-2	Metropolitan Housing Characteristics	STF 5

state down to places of 1,000 or more people; includes cross-tabulations by race and Spanish origin. Issued between April and November 1982.

PC80-1-C, *General Social and Economic Characteristics*. Sample population subjects for places of 2,500 or more inhabitants and higher geographic levels. Issued between July and November 1983.

PC80-1-D, *Detailed Population Characteristics*. Issued on microfiche only. This series shows most sample population subjects, cross classified by age, race, and other characteristics, for states and for SMSAs of 250,000 or more people. The first of these reports was issued in September 1983.

PC80-2, *Subject Reports*. Detailed data on various population characteristics, principally at the national and regional levels.

1980 Census of Housing

HC80-1-A, *General Housing Characteristics*. Data for the complete-count housing items tabulated from the state level down to places of 1,000 inhabitants; includes cross-tabulations by the householders' race or Spanish origin. Issued between July and November 1982.

HC80-1-B, *Detailed Housing Characteristics*. Sample housing items tabulated down to the level of places with 2,500 inhabitants; includes some tabulations by race and Spanish origin of householders. Issued between July and October 1983.

HC80-2, *Metropolitan Housing Characteristics*. This series presents most of the 1980 housing subjects in considerable detail and cross-tabulation, with separate reports for each state as well as each SMSA. Issued between November 1983 and February 1984.

HC80-3, *Subject Reports*. Data on detailed topics at the national and regional level.

HC80-4. Two reports for the Components of Inventory Change (CINCH) Survey. CINCH data were shown for the nation, regions, and size groupings of SMSAs.

HC80-5. Report for the Residential Finance (RF) Survey. RF data were produced for the nation, regions, and size groupings of places.

OTHER PRODUCTS

Several series of supplementary reports were issued in printed form as a means of disseminating selected population and housing data for larger geographic areas in advance of the regular reports. The first supplement issued, in May 1981, was *Age, Sex, Race, and Spanish Origin of the Population by Regions, Divisions, and States: 1980*, PC80-S1-1.

Another of the supplementary reports was *Provisional Estimates of Social Economic, and Housing Characteristics*, PHC80-S2-1. Issued in April 1982, it contained the first sample tabulations from the census, and was produced to compensate for delays in the regular sample data products. The report was based on the

long forms in a sample of about 17,000 EDs, which contained slightly more than 1.5 percent of the housing units and persons in the nation. Data were provided for the nation, the states, the District of Columbia, and the 38 SMSAs with 1 million or more inhabitants.

To further compensate for the late release of sample data, the supplementary reports, *Advance Estimates Of Social, Economic, and Housing Characteristics*, PHC80-S2, were prepared. There was one report for each state, the District of Columbia, Puerto Rico, and each outlying area, in a format and with detail similar to that in PHC80-S1-1, and giving data for the state, counties, and places of 25,000 or more persons. Unlike PHC80-S1-1, this series of reports was based on a full census sample.

A special computer file contained sample data useful in equal employment opportunity and affirmative action planning. The file contained all 503 occupation categories recorded in the census by sex, race, and Spanish origin, for all counties and for cities of 50,000 or more persons, plus certain tabulations relating to educational attainment by age.

While the bureau's STFs contained a wide selection of data tabulations, they could not meet the specialized needs of all data users. Thus, the bureau prepared public-use microdata samples, containing actual census records, to allow users to make their own special tabulations for large areas. The primary consideration in designing these files was to provide as much information as possible while protecting individual confidentiality. No names or addresses were on the files since they were not on the basic record tapes, and each geographic area identified had to have at least 100,000 inhabitants so that individuals could not be identified by the characteristics given. There were three files, one containing 5 percent of the population and two with 1 percent each.

The bureau also had the capacity to do special tabulations on a cost-reimbursable basis. While these were more expensive for users than purchasing public-use microdata files, the bureau did offer several standardized tabulations more cheaply. One of these was issued under the Neighborhood Statistics Program, in which participating localities defined neighborhoods in terms of census geography.

A computerized Master Area Reference File (MARF) was issued for use with STFs and other tape products. The MARF contained numeric codes and names (where appropriate) of geographic areas, and selected population and housing counts.

Census maps for 1980 were made available to users as they were completed. These included five types of detailed maps: county, place, place-and-vicinity (where there were built-up areas around the place), Indian-reservation, and maps for the densely settled portions of metropolitan counties. Those detailed maps that included areas covered in the block statistics program

were published in conjunction with PHC80-1 (Block Statistics). While the Government Printing Office issued the block statistics reports on microfiche, it provided the maps in paper form; the Census Bureau planned to sell the maps on microfiche later. In addition to these, a number of maps were published with the reports. The maps were not necessarily issued at the same time as the reports.

Computer tape products and most maps were priced and sold by the Census Bureau's Data User Services Division. The major series of printed reports were priced and sold by the Government Printing Office. Generally, publications were issued free to Commerce Department field and Census Bureau regional offices, to over 1,300 government and census depository libraries throughout the country, and to state data centers. The state data centers also received summary tape files for their areas. The state data center program is a federal-state cooperative effort in which state agencies and their affiliates receive basic data products and training so they can assist public agencies and private users. The program began in 1977 and by the end of 1983 extended to 49 states, the District of Columbia, Puerto Rico, and the Virgin Islands.

The bureau also established the National Clearinghouse for Census Data Services—a group of private, academic, and public organizations that offer data retrieval and related services to outside customers. The Census Bureau does not, however, regulate or endorse any of the registrants.

Evaluation

Formal evaluation has been an essential component of each census since 1950. As part of the 1980 census, there were two main areas of evaluation (coverage and content), several major experimental programs, and various research projects.

COVERAGE EVALUATION

The first objective of the coverage evaluation program was to develop estimates of coverage in the 1980 census for both population and housing units. The second objective was to evaluate the special procedures and operations designed to improve coverage in the 1980 census.

There were two main programs used to estimate the coverage of the population. The first was demographic analysis, which aimed at providing national estimates of net census error for age, sex, and race groups. This involved combining various types of demographic data from sources essentially independent of the census—such as birth, death, and immigration records—and comparing the resulting estimates with census counts. This method was limited by the lack of acceptable estimates of the illegal alien population.

The second program was the Post-Enumeration Program (PEP). The Census Bureau conducts a Current Population Survey (CPS) each month to collect current labor-force information and socioeconomic data from the civilian noninstitutional population (the monthly unemployment figures are produced from CPS data). The CPS is jointly funded by the Census Bureau and the Bureau of Labor Statistics. The PEP checked 150,000 households surveyed in the April and August 1980 CPSs to see if the persons in these households had been enumerated in the census. Persons in the CPS who were not found in the census were counted as “gross omissions.” This estimate of omissions was inflated because of geographic errors and deflated because of duplicate enumerations. To compensate for these factors a sample of 110,000 households from the census was reinterviewed to see if residents had been included correctly in the census, that is, to see that they had been enumerated only once and in the proper geographic area. Results from the CPS-census matching operation were combined with the results from the reinterview sample to provide dual-system (census and CPS) estimates of the population. The PEP population estimates were compared with census counts to estimate the net census undercount for the nation by certain age, sex, race, and Spanish-origin categories, and for regions, states, and large SMSAs without such demographic detail. The estimates from the PEP are limited by problems in matching cases between the census and the CPS or reinterview.

In addition to demographic analysis and the PEP, which provided estimates of population coverage only, there was a separate study of housing coverage.

Although coverage-improvement techniques had been employed in previous censuses, some new ones were used in 1980 and some old procedures were enhanced. Among those studied in the coverage evaluation program were the vacant and delete check, the matching of census records to driver's license lists, the postenumeration post office check, and the questionnaire assistance centers. The evaluations measured the improvement in coverage resulting from the operations relative to their cost, and determined whether they had been implemented correctly.

CONTENT EVALUATION

Content errors are any errors that result in an incorrect classification of a population or housing characteristic. The two main content evaluations for 1980 were a content reinterview study and a utility-cost record-check evaluation. In the content reinterview, about 12,000 households enumerated on long-form questionnaires in the census were reinterviewed and the answers from the reinterview were compared with those given during the census. The reinterview focused on items that were new or substantially changed for 1980 (e.g., Spanish origin, ancestry, English-language proficiency), and included

more extensive, probing questions to measure the consistency and accuracy of reporting.

The utility-cost record-check study was conducted to evaluate the accuracy of the reporting of average monthly gas and electricity costs (question H22). Experience from the 1970 census and 1980 census tests indicated that respondents tended to report higher than actual expenditures. In this study, a sample of half of the utility customers in eight selected areas received a statement from their utility companies just before census day showing their average payments for the previous 12 months. It was believed that this information could improve reporting of utility costs. The response errors of the individuals who received the information were compared to those of the individuals in these areas who did not. The program also examined the data improvements that could result from supplying utility-cost information to respondents.

EXPERIMENTAL PROGRAMS

A number of experimental programs examined alternative approaches to the 1980 census procedures. Generally, each experiment was implemented in only a fraction of the district offices. The alternative questionnaire experiment, however, employed a national sample and was not limited to specific district offices. The appropriateness of conducting an experiment along with the census was a major consideration in deciding which programs to test for 1980. Several procedures were tested, some dealing with variations in the enumeration process and others with alternative methods of recruiting, training, and motivating enumerators.

The update/list/leave experiment studied alternatives to the delivery of questionnaires by the Postal Service. The telephone follow-up of nonresponse experiment explored the cost-effectiveness of following up nonresponding households by telephone, rather than by personal visit. The alternative questionnaire experiment tested the effect of questionnaire design on mail-return and item-completion rates. The alternative training experiment compared standard enumerator training with an alternative method. The purpose of the job enrichment experiment was to reinforce the individual enumerator's motivation and job knowledge with extra training and experience. The student intern program tested the feasibility of recruiting and employing college students as census takers, particularly in minority areas.

Other research and evaluation projects addressed coding, imputation procedures, quality controls, the publicity program, and various sources of error in coverage and content.

Litigation and Adjustment Issue

The 1980 census may well be the most litigious ever. One of the major suits against the Census Bureau was filed

even before the census began. In 1979 the Federation for American Immigration Reform (FAIR), consisting of more than 100 persons throughout the country, sought to require the Census Bureau to exclude illegal aliens from the total population for state and federal reapportionment purposes. The government argued that it was unconstitutional to exclude from the census any persons living in the United States (except residents of embassies, etc.). Furthermore, the 1980 census questionnaire, which was being printed when the FAIR suit was introduced, did not contain a question that asked whether one was an illegal alien, and the bureau believed that the inclusion of such an item would seriously hamper its efforts to achieve a complete count by making illegal aliens more reluctant than ever to respond to the census. The FAIR suit was dismissed in February 1980 by a lower federal court on the grounds that the plaintiffs had no legal standing to bring the suit. In November 1980 the appellate court affirmed the lower court's decision, and in March 1981 the Supreme Court refused to hear the case. In the meantime, apportionment counts consisting of the entire resident population had been delivered to the president.

By October 1981 about 50 suits had been filed against the bureau by states, counties, cities, an American Indian tribe, a special interest group, and private citizens. Most of the cases concerned one or more of three broad issues: (1) allegations of mismanagement or procedural inadequacy in the field activities; (2) access by the plaintiffs to census materials, such as address registers, that contained confidential information; and (3) the adjustment of census figures for undercount. In January 1981 many of the lawsuits that had not yet had final judgments rendered by a district court were consolidated.

Support for adjustment of the census had been voiced by several sources throughout the 1970s and gained momentum with a study by the National Academy of Science's Panel on Decennial Census Plans in 1978, which concluded that adjustment was feasible. Beginning in the late summer of 1979, the director of the Census Bureau initiated a program designed to help the bureau reach a decision on whether to adjust. The centerpiece of the program was a conference on census undercount, held in February 1980, and attended by more than 140 academic, governmental, business, and legal professionals. Attendees considered alternative approaches for measuring the undercount and assessed the implications of adjustment. The primary task of the conference, and of two bureau internal workshops held in the fall of 1979 and the fall of 1980, was to examine the critical underlying assumptions that would establish a proper framework for deciding whether, when, and how to adjust the counts. Papers from the conference and the workshops were circulated to a wide audience for comments. Throughout this process, the director

indicated his intention not to issue a decision on whether to adjust until late 1980, after the field enumeration was completed and when there might be some indication of the quality of the census and, thus, of the need to adjust.

On 11 December 1980 the director announced that the bureau would not adjust 1980 census population totals at that time unless directed to do so by the courts. This decision was based chiefly on two factors: (1) the quality of the 1980 census (the census counted some 226.5 million persons compared with the official estimate for 1 April 1980 of 221.7 million), and (2) the absence of any accurate measure of the number and distribution of illegal aliens in the country. It was announced, however, that the bureau would continue its research and evaluation aimed at developing statistically defensible measures of undercount, and that if measures could be developed that would clearly improve the population estimates made between census years, future estimates would be adjusted.

Several weeks prior to the director's announcement, a U.S. district court, acting on a suit filed by the city of Detroit, ordered the bureau to adjust census counts, to submit its plans for doing so, and to delay the issuance of counts until they had been adjusted. On 29 December 1980, a similar order was issued by the district court in a case filed on behalf of the city and state of New York. These orders had the potential of delaying the issuance of census data and preventing the bureau from meeting the legal deadline for delivery of apportionment totals to the president. At the last moment, however, the Supreme Court issued stays to the lower court orders allowing the bureau to deliver counts to the president on 31 December 1980.

In June 1981, an appellate court struck down the district court order in the Detroit case on the grounds that the city lacked the standing to sue. The Supreme Court declined to review the appellate ruling in late February 1982, thus making that ruling final. In the New York adjustment case, the appellate court had ruled in June 1981 to send the case back to the district court because the original ruling (in New York's favor) had not protected the interests of other states. In early March 1982 the Supreme Court denied New York's request for a

review of the appellate decision. In a separate case, the Supreme Court ruled in February 1982 that census address registers are confidential, denying plaintiffs access to them.

Costs

The 1980 census cost over \$1 billion, nearly five times that of the 1970 census (\$221.6 million). Several factors contributed to the large increase for 1980: inflation, additional coverage improvement programs, other improvements in the field enumeration structure that indirectly improved coverage, new data needs, enhancements in the geographic and processing operations, population growth, and an increase in the number of households.

A review of the yearly obligations of decennial census funds, presented in table 19.3, shows that 60 percent of the funds were obligated in fiscal year 1980.

Table 19.3 Annual Expenses for 1980 U.S. Census (in thousand US\$)

	<i>Decennial Census Obligations</i>
1974	642
1975	2,204
1976	5,180
TQ	2,568
1977	17,073
1978	29,090
1979	132,472
1980	664,642
1981	135,183
1982	50,606
1983	41,289
1984	18,887
Total	1,099,836

NOTES: Figures through 1982 are actual obligations, while those for 1983 and 1984 are estimated obligations. Fiscal years 1974-76 began in July of the previous year (e.g., fiscal year 1974 was 1 July 1973 to 30 June 1974); fiscal years 1977-84 began in October of the previous year (e.g., fiscal year 1977 was 1 October 1976 to 30 September 1977). The transitional quarter (TQ) is the period between the old and new fiscal-year systems (1 July-30 September 1976).

APPENDIX 1

NOTE: The headings at the bottom of each page distinguish between three types of census questionnaires: a *sample questionnaire* was used for the sampled portion of the population and a *general questionnaire* was used for the balance of the population in countries employing a simultaneous sample survey; a *universal questionnaire* was used for the entire population. Other types of census forms are labeled appropriately.

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IN CONFIDENCE

State	
Div.	
S. Div.	
C.D.	
Rec. No.	

AUSTRALIAN BUREAU OF STATISTICS

Census of Population and Housing Australia 30 June 1981

Householder's Schedule

Dear Householder,

Tuesday, 30 June 1981, is Census Day.

The census is an important statistical collection, which not only counts the number of people throughout Australia, but also measures such things as internal migration, occupation and industry of those in the labour force, and housing conditions. The enclosed pamphlet gives you a more detailed description of the value of the data collected in the census and the uses to which they will be put.

The census is the only way of getting a complete picture of all persons in Australia at the one time.

The Australian Bureau of Statistics is required by law to take a complete census of Australia every five years. The Act under which the census is taken is called the *Census and Statistics Act 1905*. This Act makes it compulsory for you to provide the information requested.

For your protection the same Act guarantees that your answers will be treated in confidence. All staff engaged on the census are required by law to protect the confidentiality of information collected. It would be an offence for any information relating to an identifiable person or household to be released to any other Government Department or agency, or indeed to anyone outside the Statistics Bureau.

If you have difficulties filling out this form, please ask the Collector for help.

Your co-operation in carefully completing the form will contribute greatly to the success of the census.

AUSTRALIAN STATISTICIAN

Signature of Person

Address:

No. and street

Suburb, town or locality

Postcode

Date

HOW TO FILL IN THIS SCHEDULE

What is a Household?

Persons living and eating together as a domestic unit are a household. A person living alone is also a household. If there is more than one household in this dwelling, obtain extra Schedules from the Collector AND FILL IN A SEPARATE SCHEDULE FOR EACH HOUSEHOLD.

Who to Include

List in the top row all persons (including visitors) who spent the night of Tuesday, 30 June 1981, in this household or returned on Wednesday, 1 July 1981, without having been counted elsewhere. **USE ONE COLUMN FOR EACH PERSON.** If there are more than 8 persons in this household, obtain extra Forms from the Collector.

On pages 1-5 give details of *all* persons who spent the night of Tuesday, 30 June 1981, in this household.

Complete particulars of this dwelling on page 5.

When Answering Questions

Please use ink or ball point pen.

Read the questions and instructions carefully; give your answer and then go to the next question.

Most answers can be given simply by placing a tick in an appropriate box.

If you do not know the exact answer, give the best estimate you can.

Privacy

If any person in your household prefers, for privacy reasons, not to be recorded on this Schedule, please ask the Collector for a Personal Form and envelope. The completed Form should be sealed in the envelope and delivered unopened to the Collector.

Please ask for an envelope in which to seal your completed Schedule and/or Personal Form(s), if you wish the Collector not to see them.

Finally

After filling in the Schedule, please sign it and enter the required address on the front page in the space provided.

The Collector will return as soon as possible after Tuesday, 30 June 1981, for the Schedule.

COLLECTOR'S USE ONLY

Males	Females	Persons

Signature of Collector

Please complete one column for each person.

For each person who uses a Personal Form, write only the name, sex and relationship to Person 1 and write "P.F." in the age question on this Schedule.

	PERSON 1	PERSON 2	PERSON 3
1. Name of each person who spent the night of 30 June 1981 in this household: <ul style="list-style-type: none"> Include any person who returned on Wednesday, 1 July 1981, without having been counted elsewhere. Record details for all adults, children and babies (including visitors) who spent the night of Tuesday, 30 June 1981, in this household. Enter the household head or any adult household member as Person 1. 	PERSON 1 Christian or given name Surname	PERSON 2 Christian or given name Surname	PERSON 3 Christian or given name Surname
2. Sex: <ul style="list-style-type: none"> Tick one box for each person (e.g. ☒). 	Male ☐ or Female ☐	Male ☐ or Female ☐	Male ☐ or Female ☐
3. Age: <ul style="list-style-type: none"> In years and completed months. If age is less than one year write "0" years and the number of completed months. 	 years months	 years months	 years months
4. What is each person's relationship to Person 1? <ul style="list-style-type: none"> Examples of other relationships: mother, father, sister, son-in-law, granddaughter, uncle, boarder, visitor, co-tenant, flatmate, commune member, etc.. 	Person 1 	Wife ☐ 1 Husband ☐ 2 Son ☐ 3 Daughter ☐ 4 Other ☐ 5 Please state	Wife ☐ 1 Husband ☐ 2 Son ☐ 3 Daughter ☐ 4 Other ☐ 5 Please state
5. What is each person's present marital status?	Never married ☐ 1 Now married ☐ 2 Separated but not divorced ☐ 3 Divorced ☐ 4 Widowed ☐ 5	Never married ☐ 1 Now married ☐ 2 Separated but not divorced ☐ 3 Divorced ☐ 4 Widowed ☐ 5	Never married ☐ 1 Now married ☐ 2 Separated but not divorced ☐ 3 Divorced ☐ 4 Widowed ☐ 5
Answer questions 6 and 7 for each person now married.			
6. What is the length (in years) of the person's present marriage?	 years	 years	 years
7. Has the person been married more than once?	No, married once only ☐ 1 Yes ☐ 2	No, married once only ☐ 1 Yes ☐ 2	No, married once only ☐ 1 Yes ☐ 2
8. Where does each person usually live? <ul style="list-style-type: none"> "Usual" residence is that address at which a person has lived or intends to live for any period of 6 months or more in 1981. For persons who now have no usual residence, regard this dwelling as their usual residence and tick box 1. If usual residence is overseas, write only name of country. ———→ 	At the address shown on front of this form ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print the usual address. No. and street Suburb, town or locality Name of local council State Postcode Country	At the address shown on front of this form ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print the usual address. No. and street Suburb, town or locality Name of local council State Postcode Country	At the address shown on front of this form ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print the usual address. No. and street Suburb, town or locality Name of local council State Postcode Country
9. Where was each person's usual residence one year ago (i.e. at 30 June 1980)? <ul style="list-style-type: none"> If the person is less than one year old, write "N/A". For persons who had no usual residence on 30 June 1980, give the address at which they were then living. If usual residence was overseas, write only "O/S". ———→ 	Same as in question 8 ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print usual address one year ago. No. and street Suburb, town or locality Name of local council State Postcode	Same as in question 8 ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print usual address one year ago. No. and street Suburb, town or locality Name of local council State Postcode	Same as in question 8 ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print usual address one year ago. No. and street Suburb, town or locality Name of local council State Postcode
10. Where was each person's usual residence five years ago (i.e. at 30 June 1976)? <ul style="list-style-type: none"> If the person is less than five years old, write "N/A". For persons who had no usual residence on 30 June 1976, give the address at which they were then living. If usual residence was overseas, write only "O/S". ———→ 	Same as in question 8 ☐ 1 Same as in question 9 ☐ 2 Elsewhere ☐ 3 If "Elsewhere" please print usual address five years ago. No. and street Suburb, town or locality Name of local council State Postcode	Same as in question 8 ☐ 1 Same as in question 9 ☐ 2 Elsewhere ☐ 3 If "Elsewhere" please print usual address five years ago. No. and street Suburb, town or locality Name of local council State Postcode	Same as in question 8 ☐ 1 Same as in question 9 ☐ 2 Elsewhere ☐ 3 If "Elsewhere" please print usual address five years ago. No. and street Suburb, town or locality Name of local council State Postcode

For a household with more than 8 persons,
please contact the Collector.

PERSON 4	PERSON 5	PERSON 6	PERSON 7	PERSON 8
Christian or given name	Christian or given name	Christian or given name	Christian or given name	Christian or given name
Surname	Surname	Surname	Surname	Surname
Male ☐ or Female ☐	Male ☐ or Female ☐	Male ☐ or Female ☐	Male ☐ or Female ☐	Male ☐ or Female ☐
..... years months	 years months	 years months	 years months	 years months
Wife ☐ 1 Husband ☐ 2 Son ☐ 3 Daughter ☐ 4 Other ☐ 5 Please state	Wife ☐ 1 Husband ☐ 2 Son ☐ 3 Daughter ☐ 4 Other ☐ 5 Please state	Wife ☐ 1 Husband ☐ 2 Son ☐ 3 Daughter ☐ 4 Other ☐ 5 Please state	Wife ☐ 1 Husband ☐ 2 Son ☐ 3 Daughter ☐ 4 Other ☐ 5 Please state	Wife ☐ 1 Husband ☐ 2 Son ☐ 3 Daughter ☐ 4 Other ☐ 5 Please state
Never married ☐ 1 Now married ☐ 2 Separated but not divorced ☐ 3 Divorced ☐ 4 Widowed ☐ 5	Never married ☐ 1 Now married ☐ 2 Separated but not divorced ☐ 3 Divorced ☐ 4 Widowed ☐ 5	Never married ☐ 1 Now married ☐ 2 Separated but not divorced ☐ 3 Divorced ☐ 4 Widowed ☐ 5	Never married ☐ 1 Now married ☐ 2 Separated but not divorced ☐ 3 Divorced ☐ 4 Widowed ☐ 5	Never married ☐ 1 Now married ☐ 2 Separated but not divorced ☐ 3 Divorced ☐ 4 Widowed ☐ 5
..... years	 years	 years	 years	 years
No, married once only ☐ 1 Yes ☐ 2	No, married once only ☐ 1 Yes ☐ 2	No, married once only ☐ 1 Yes ☐ 2	No, married once only ☐ 1 Yes ☐ 2	No, married once only ☐ 1 Yes ☐ 2
At the address shown on front of this form ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print the usual address. No. and street Suburb, town or locality Name of local council State Postcode Country	At the address shown on front of this form ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print the usual address. No. and street Suburb, town or locality Name of local council State Postcode Country	At the address shown on front of this form ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print the usual address. No. and street Suburb, town or locality Name of local council State Postcode Country	At the address shown on front of this form ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print the usual address. No. and street Suburb, town or locality Name of local council State Postcode Country	At the address shown on front of this form ☐ 1 Elsewhere ☐ 2 If "Elsewhere" please print the usual address. No. and street Suburb, town or locality Name of local council State Postcode Country
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Same as in question 8 ☐ 1 Same as in question 9 ☐ 2 Elsewhere ☐ 3 If "Elsewhere" please print usual address five years ago. No. and street Suburb, town or locality Name of local council State Postcode	Same as in question 8 ☐ 1 Same as in question 9 ☐ 2 Elsewhere ☐ 3 If "Elsewhere" please print usual address five years ago. No. and street Suburb, town or locality Name of local council State Postcode	Same as in question 8 ☐ 1 Same as in question 9 ☐ 2 Elsewhere ☐ 3 If "Elsewhere" please print usual address five years ago. No. and street Suburb, town or locality Name of local council State Postcode	Same as in question 8 ☐ 1 Same as in question 9 ☐ 2 Elsewhere ☐ 3 If "Elsewhere" please print usual address five years ago. No. and street Suburb, town or locality Name of local council State Postcode	Same as in question 8 ☐ 1 Same as in question 9 ☐ 2 Elsewhere ☐ 3 If "Elsewhere" please print usual address five years ago. No. and street Suburb, town or locality Name of local council State Postcode

P.T.O. →

Please complete one column for each person.

1. Name of each person who spent the night of 30 June 1981 in this household: <ul style="list-style-type: none"> Include any person who returned on Wednesday, 1 July 1981, without having been counted elsewhere. Record details for all adults, children and babies (including visitors) who spent the night of Tuesday, 30 June 1981, in this household. Enter the household head or any adult household member as Person 1. 	PERSON 1 Christian or given name Surname
2. Sex: Tick one box for each person (e.g. ✓).	Male ☐ or Female ☐
3. Age: In years and completed months. If age is less than one year write "0" years and	years months

11. Where was each person born?	Australia ☐ Overseas ☐ Print country of birth
Answer question 12 for each person born overseas.	
12. When did the person first arrive in Australia?	Year 19
13. What is the country of citizenship of each person? For persons born in Australia, naturalised, registered or granted Australian citizenship, tick box 1.	Australia ☐ Other ☐ Print country of citizenship
14. Where were each person's father and mother born?	Father's country of birth Mother's country of birth
15. Does the person speak a language other than English at home?	No, only speaks English ☐ Yes ☐ How well does this person speak English? Very well ☐ Well ☐ Not well ☐ Not at all ☐
16. Is the person of Aboriginal or Torres Strait Islander origin? For persons of mixed origin, indicate the one to which they consider themselves to belong.	No ☐ Yes, Aboriginal ☐ Yes, Torres Strait Islander ☐
17. What is each person's religious denomination? This question is optional. If no religion write "None".	Religion

Page 2.

Please complete one column for each person.

1. Name of each person who spent the night of 30 June 1981 in this household: <ul style="list-style-type: none"> Include any person who returned on Wednesday, 1 July 1981, without having been counted elsewhere. Record details for all adults, children and babies (including visitors) who spent the night of Tuesday, 30 June 1981, in this household. Enter the household head or any adult household member as Person 1. 	PERSON 1 Christian or given name Surname
2. Sex: Tick one box for each person (e.g. ✓).	Male ☐ or Female ☐
3. Age: In years and completed months. If age is less than one year write "0" years and	years months
Answer the remaining questions for each person 15 years of age or more.	
18. How old was each person when they left school? For persons who are full-time primary or secondary school students, tick box 1. For persons who did not go to school, tick box 2.	Age left school years Still at primary or secondary school ☐ Did not go to school ☐
19. Is the person attending a school or any other educational institution? For persons who are external/correspondence students, indicate whether full-time or part-time.	No ☐ Yes, full-time student ☐ Yes, part-time student ☐
20. Has the person obtained a trade or any other qualification since leaving school? For persons who are full-time primary or secondary school students, tick box 2. Examples of qualification names are: trade certificate, diploma in science, B.A. Examples of institutions are: Sydney Technical College, University of W.A. Examples of fields of study are: plumbing, computing, geography	No ☐ Still at primary or secondary school ☐ Yes ☐ Please print details of highest qualification obtained. Qualification name Name of institution Field of study Year obtained
21. What is the gross income (including pensions and/or allowances) that each person usually receives each week from all sources? If unable to estimate income on a weekly basis, tick the appropriate box to show present income on an annual basis. Count all income, wages, salary, overtime, family allowance (child endowment), pensions, superannuation, tips and gratuities, business or farm income (less expenses of operation), unemployment benefits, etc.. Do not deduct tax, superannuation, health insurance, etc..	No income ☐ Less than \$19 p.wk. ☐ Less than \$1000 p.yr. ☐ \$19 to \$38 p.wk. ☐ \$1000 to \$2000 p.yr. ☐ \$39 to \$58 p.wk. ☐ \$2001 to \$3000 p.yr. ☐ \$59 to \$77 p.wk. ☐ \$3001 to \$4000 p.yr. ☐ \$78 to \$115 p.wk. ☐ \$4001 to \$6000 p.yr. ☐ \$116 to \$154 p.wk. ☐ \$6001 to \$8000 p.yr. ☐ \$155 to \$192 p.wk. ☐ \$8001 to \$10000 p.yr. ☐ \$193 to \$231 p.wk. ☐ \$10001 to \$12000 p.yr. ☐ \$232 to \$288 p.wk. ☐ \$12001 to \$15000 p.yr. ☐ \$289 to \$346 p.wk. ☐ \$15001 to \$18000 p.yr. ☐ \$347 to \$423 p.wk. ☐ \$18001 to \$22000 p.yr. ☐ \$424 to \$500 p.wk. ☐ \$22001 to \$26000 p.yr. ☐ Over \$500 p.wk. ☐ Over \$26000 p.yr. ☐
22. For each woman, how many babies has she ever had? Do not include still-births. If none, write "None".	Now living Not now living Total

Page 3.

Please complete one column for each person.

1. Name of each person who spent the night of 30 June 1981 in this household: <ul style="list-style-type: none"> • Include any person who returned on Wednesday, 1 July 1981, without having been counted elsewhere. • Record details for all adults, children and babies (including visitors) who spent the night of Tuesday, 30 June 1981, in this household. • Enter the household head or any adult household member as Person 1. 	PERSON 1 Christian or given name Surname
2. Sex: <ul style="list-style-type: none"> • Tick one box for each person (e.g. ✓). 	Male ☐ or Female ☐
3. Age: <ul style="list-style-type: none"> • In years and completed months. • If less than one year write "0" under each. 	. . . years . . . months
23. Did the person do any work at all LAST WEEK? <ul style="list-style-type: none"> • For each person ticked in box 1, go to question 26. 	Yes, worked for wages, salary, payment or profit ☐ 1 Yes, but did unpaid work only ☐ 2 No, did not work ☐ 3
24. LAST WEEK, did the person have a full-time or part-time job of any kind, business, profession or farm? (even if on holidays, sick, on strike, temporarily stood down, etc.) <ul style="list-style-type: none"> • Tick one box only. 	Yes, had a paid job, a business, a profession or a farm last week ☐ 1 Yes, helped without pay in a family business ☐ 2 Yes, unpaid job only ☐ 3 No, did not have any job, business, profession or farm last week ☐ 4
25. Did the person look for work LAST WEEK? <ul style="list-style-type: none"> • Looking for work means being registered with the Commonwealth Employment Service, approaching a prospective employer, placing or answering advertisements, writing letters of application or awaiting the results of recent applications. 	No, did not look for work ☐ 1 Yes, looked for work ☐ 2
26. In the main job held LAST WEEK, was the person: <ul style="list-style-type: none"> • Tick one box only. 	A wage or salary earner? ☐ 1 Conducting own business but not employing others? ☐ 2 Conducting own business and employing others? ☐ 3 A helper not receiving wages or salary? ☐ 4
27. In the main job held LAST WEEK, what was the person's occupation? <ul style="list-style-type: none"> • Describe as fully as possible, using two words or more (do not use initials or abbreviations, e.g. builder's labourer, not bld. lab.). • Where possible, include award or government designation. • Members of the Armed Services should state their rank. 	Occupation
28. For the main job held LAST WEEK, what was the employer's trading name and address of workplace? <ul style="list-style-type: none"> • For persons conducting their own business, print name of own business. • For teachers, print name of school. • For government employees, print full name of Department, Division, Branch or Section. • For persons with no fixed place of work last week, e.g. airline pilots, taxi drivers, etc., write "N/A" in "Address of workplace". 	USE BLOCK LETTERS Business or trading name Name of Division, Branch or Section (if any) in which the person worked Address of workplace: No. and street Suburb, town or locality State Postcode
29. What kind of industry, business or service is carried out by your employer at the address given in reply to question 28? <ul style="list-style-type: none"> • Describe as fully as possible, using two words or more (e.g. dairy farming, footwear manufacturing). 	Kind of industry

NOTE: Answer columns repeat for persons 2-8.

Please complete one column for each person.

For each person who uses a Personal Form, write only the name, sex and relationship to Person 1 and write "P.F." in the age question on this Schedule.

	PERSON 1	PERSON 2	PERSON 3
1. Name of each person who spent the night of 30 June 1981 in this household: <ul style="list-style-type: none"> Include any person who returned on Wednesday, 1 July 1981, without having been counted elsewhere. Record details for all adults, children and babies (including visitors) who spent the night of Tuesday, 30 June 1981, in this household. Enter the household head or any adult household member as Person 1. 	Christian or given name Surname	Christian or given name Surname	Christian or given name Surname
2. Sex: <ul style="list-style-type: none"> Tick one box for each person (e.g. ☒). 	Male ☐ or Female ☐	Male ☐ or Female ☐	Male ☐ or Female ☐
3. Age: <ul style="list-style-type: none"> In years and completed months. 	 years months	 years months	 years months
30. In the main job held LAST WEEK, how many hours did the person work?	None ☐ 1 1-14 hours ☐ 2 15-24 hours ☐ 3 25-34 hours ☐ 4 35 or more ☐ 5	None ☐ 1 1-14 hours ☐ 2 15-24 hours ☐ 3 25-34 hours ☐ 4 35 or more ☐ 5	None ☐ 1 1-14 hours ☐ 2 15-24 hours ☐ 3 25-34 hours ☐ 4 35 or more ☐ 5
31. How did the person get to work on Monday, 29 June 1981? <ul style="list-style-type: none"> Tick boxes for each person to show all methods used. 	Train ☐ 1 Bus ☐ 2 Ferry or Tram ☐ 3 Taxi ☐ 4 Car—as driver ☐ 5 Car—as passenger ☐ 6 Motor bike or motor scooter ☐ 7 Bicycle ☐ 8 Worked at home ☐ 9 Did not go to work ☐ 10 Other ☐ 11 Please state	Train ☐ 1 Bus ☐ 2 Ferry or Tram ☐ 3 Taxi ☐ 4 Car—as driver ☐ 5 Car—as passenger ☐ 6 Motor bike or motor scooter ☐ 7 Bicycle ☐ 8 Worked at home ☐ 9 Did not go to work ☐ 10 Other ☐ 11 Please state	Train ☐ 1 Bus ☐ 2 Ferry or Tram ☐ 3 Taxi ☐ 4 Car—as driver ☐ 5 Car—as passenger ☐ 6 Motor bike or motor scooter ☐ 7 Bicycle ☐ 8 Worked at home ☐ 9 Did not go to work ☐ 10 Other ☐ 11 Please state

PLEASE ANSWER QUESTIONS
ON THIS DWELLING.

This *dwelling* is the place (house, flat, etc.) in
which your household spent census night.

H1. How many rooms are there in this dwelling?

- Write the number of each type of room (e.g. Bedroom(s)).
- Count each room once only.
- A room shared with another household should be counted only by the principal householder.
- Do not count toilets, pantries, laundries, storerooms, halls or corridors.

Number Type of Room

Bedroom(s)

Combined lounge/dining room

Lounge room

Dining room

Kitchen

Bathroom

Family room

Study

Other rooms (please specify)

For a household with more than 8 persons,
please contact the Collector.

PERSON 4	PERSON 5	PERSON 6	PERSON 7	PERSON 8
Christian or given name	Christian or given name	Christian or given name	Christian or given name	Christian or given name
Surname	Surname	Surname	Surname	Surname
Male ☐ or Female ☐	Male ☐ or Female ☐	Male ☐ or Female ☐	Male ☐ or Female ☐	Male ☐ or Female ☐
..... years months	 years months	 years months	 years months	 years months
None ☐ 1 1-14 hours ☐ 2 15-24 hours ☐ 3 25-34 hours ☐ 4 35 or more ☐ 5	None ☐ 1 1-14 hours ☐ 2 15-24 hours ☐ 3 25-34 hours ☐ 4 35 or more ☐ 5	None ☐ 1 1-14 hours ☐ 2 15-24 hours ☐ 3 25-34 hours ☐ 4 35 or more ☐ 5	None ☐ 1 1-14 hours ☐ 2 15-24 hours ☐ 3 25-34 hours ☐ 4 35 or more ☐ 5	None ☐ 1 1-14 hours ☐ 2 15-24 hours ☐ 3 25-34 hours ☐ 4 35 or more ☐ 5
Train ☐ 1 Bus ☐ 2 Ferry or Tram ☐ 3 Taxi ☐ 4 Car—as driver ☐ 5 Car—as passenger ☐ 6 Motor bike or motor scooter ☐ 7 Bicycle ☐ 8 Worked at home ☐ 9 Did not go to work ☐ 10 Other ☐ 11 Please state	Train ☐ 1 Bus ☐ 2 Ferry or Tram ☐ 3 Taxi ☐ 4 Car—as driver ☐ 5 Car—as passenger ☐ 6 Motor bike or motor scooter ☐ 7 Bicycle ☐ 8 Worked at home ☐ 9 Did not go to work ☐ 10 Other ☐ 11 Please state	Train ☐ 1 Bus ☐ 2 Ferry or Tram ☐ 3 Taxi ☐ 4 Car—as driver ☐ 5 Car—as passenger ☐ 6 Motor bike or motor scooter ☐ 7 Bicycle ☐ 8 Worked at home ☐ 9 Did not go to work ☐ 10 Other ☐ 11 Please state	Train ☐ 1 Bus ☐ 2 Ferry or Tram ☐ 3 Taxi ☐ 4 Car—as driver ☐ 5 Car—as passenger ☐ 6 Motor bike or motor scooter ☐ 7 Bicycle ☐ 8 Worked at home ☐ 9 Did not go to work ☐ 10 Other ☐ 11 Please state	Train ☐ 1 Bus ☐ 2 Ferry or Tram ☐ 3 Taxi ☐ 4 Car—as driver ☐ 5 Car—as passenger ☐ 6 Motor bike or motor scooter ☐ 7 Bicycle ☐ 8 Worked at home ☐ 9 Did not go to work ☐ 10 Other ☐ 11 Please state

<p>H2. Is this dwelling owned (or being purchased) by you or any usual member of this household?</p> <p>☐ No → Go to question H3. ☐ Yes</p> <p>Is there a mortgage (or contract of sale) on this dwelling?</p> <p>☐ No → Go to question H4. ☐ Yes</p> <p>What monthly payment (or average monthly payment) is made on the total mortgages (or contracts of sale) on this dwelling?</p> <p>\$ per month → Go to question H4.</p>	<p>H4. How many registered motor vehicles owned or used by members of this household were garaged or parked at or near this dwelling for the night of 30 June 1981?</p> <ul style="list-style-type: none"> Exclude motor bikes, motor scooters, tractors. Include company vehicles kept at home. <p>☐ None ☐ 1 motor vehicle ☐ 2 motor vehicles ☐ 3 motor vehicles ☐ 4 or more</p>
<p>H3. Do you or any usual member of this household pay rent for this dwelling?</p> <p>☐ No → Go to question H4. ☐ Yes</p> <p>To whom is the rent paid?</p> <p>1 ☐ Housing Commission 2 ☐ Other Government Agencies 3 ☐ Other</p> <p>What is the weekly rent?</p> <p>\$ c</p> <p>Is this dwelling rented furnished or unfurnished?</p> <p>1 ☐ Furnished → Go to question H4. 2 ☐ Unfurnished</p>	<p>THANK YOU FOR YOUR CO-OPERATION</p> <p>Australian Statistician</p>

COLLECTOR'S USE ONLY		
C1. What type of structure best describes this dwelling?	C2. What is the material of the outer walls of this dwelling?	C3. If dwelling unit is unoccupied, why is it unoccupied?
1 ☐ Separate House	1 ☐ Brick, brick veneer, stone	1 ☐ For sale
2 ☐ Semi-detached House	2 ☐ Concrete, concrete block	2 ☐ To let (other than holiday home)
3 ☐ Row or Terrace House	3 ☐ Timber	3 ☐ Newly completed and awaiting occupancy
4 ☐ Medium Density Housing	4 ☐ Fibro, asbestos	4 ☐ Vacant for repairs or alterations
5 ☐ Flats Over Three Storeys	5 ☐ Other	5 ☐ Holiday home
6 ☐ Caravan, Houseboat, etc.		6 ☐ Condemned or awaiting demolition
7 ☐ Improvised Home		7 ☐ Usual resident temporarily absent
8 ☐ House or Flat Attached to a Shop, Office, etc.		8 ☐ Other Please specify.....

Heading:

Government of the People's Republic of Bangladesh
Census of Bangladesh—1981
Household and Personal Questions

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিকল্পনা মন্ত্রণালয়, পরিসংখ্যান বিভাগ
বাংলাদেশ পরিসংখ্যান ব্যুরো

বাংলাদেশ আদমশুমারী-১৯৮১
খানা এবং ব্যক্তিগত প্রশ্নাবলী

POP-2C

গোপনীয়

1 খানার ক্রমিক নং		2 ঠিকানা		3 ম্যালেরিয়া ঘৃণ নং		4 পূর্ববর্তী খানার অংশ ?	
5 গৃহের ব্যবহার		6 দেওয়ালের উপকরণ		7 ছাদের উপকরণ		8 খাবার পানির সরবরাহ	
9 বাসস্থানের মালিকানা		10 এই খানার নিজের আত্মিক ?		11 পণ্য বিক্রির জন্য প্রস্তুত		12 ইচ্ছা কি উপ-জাতীয় খানা ?	
13 খানা প্রধানের ধর্ম		14 ব্যক্তিগত প্রশ্নাবলী :		15 1 নাম		16 বয়স (বৎসরে)	
17 খানা প্রধানের সহিত সম্পর্ক		18 লিঙ্গ		19 বৈবাহিক অবস্থা		20 লিখিত পত্র পাঠান কি ?	
21 শিক্ষার সর্বোচ্চ পাঠ্য		22 কোন প্রণী পাঠ্য করিয়াছেন ?		23 প্রধান কাজ/পেশা			

NOTE: Questions 15-23 repeat for persons 3-10.

1 Serial number of household	10 What does this household own?	18 Sex
2 Address	Agricultural land	1 Male
3 Malaria house number	1 yes	2 Female
4 Part of the previous household? (yes)	2 no	19 Marital status
5 Use of house	Boat	1 Unmarried
1 Residence	1 yes	2 Married
2 Institution	2 no	3 Widow/Widower
3 Business/Industry	Bullock cart	4 Divorced
4 Without address	1 yes	20 Can this person write a letter?
6 Materials used in walls	2 no	1 yes
1 Hay/Bamboo/Sticks	11 Cottage industry, output for sale	2 no
2 Clay/Clay bricks	1 Dhecki [hand thresher]/Rice mill	21 Does this person attend school?
3 Tin/Wood	2 Loom	1 yes
4 Concrete/Brick	3 Bamboo/Cane	2 no
7 Materials used in roof	4 Pottery	22 Which is the highest class passed?
1 Hay/Bamboo/Sticks	5 Jute/Wood	1 No schooling
2 Ceramic tile	12 Is this a tribal household?	2 First to fifth class
3 Tin/Wood	1 yes	3 Sixth to ninth class
4 Concrete	2 no	4 Secondary/Higher secondary
8 Source of drinking water	13 Religion of household head	5 Graduate or higher
1 Pipeline	1 Islam	23 Main job/Profession
2 Tubewell	2 Hindu	1 Unemployed
3 Pond/Well	3 Buddhist	2 Household work
4 River/Lake	4 Christian	3 Farming
9 Tenure	5 Other	4 Forestry/Fishing
1 Own house	14 Personal questions: Name and age of present household members	5 Working in an industry
2 Rent	15 Name	6 Business
3 Without rent	16 Age (years)	7 Other professions
	17 Relation to head of household	
	1 Head of household	
	2 Wife/Husband	
	3 Child	
	4 Other relative	
	5 Guest/Servant/Other	

TOPPAN MOORE PARAGON MALAYSIA

QUESTIONNAIRE OF THE THIRD NATIONAL POPULATION CENSUS

Household _____ Province, Municipality, Autonomous _____ County, _____ Commune, _____ Production Brigade, _____
 Address _____ Region _____ City, _____ Street Committee _____ Residents' Committee _____

I. Household Type 1. Domestic HH. 2. Collective HH.	II. Serial No. of the household	III. No. of persons in the household. Total _____ male _____ female _____	IV. No. of births in the household in 1981 Total _____ male _____ female _____	V. No. of deaths in the household in 1981 Total _____ male _____ female _____
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Each Person						Persons aged 6 and above
I. Name	II. Relationship to head of household	III. Sex	IV. Age	V. Nationality	VI. Registration status	VII. Educational level
3	1. Head of household 2. Spouse 3. Child 4. Grandchild 5. Parent 6. Grandparent 7. Other relative 8. Non-relative	1. Male 2. Female	Date of birth Year _____ Month _____ Day _____ _____ Years of Age		1. Residing and registered here 2. Residing here over 1 year, but registered elsewhere 3. Residing here less than 1 year, absent from the registration place above 1 year 4. Living here with registration unsettled 5. Used to reside here; is abroad with no registration	1. College graduate 2. Undergraduate 3. Senior middle school 4. Junior middle school 5. Primary school 6. Illiterate or semi-literate
3	2. Spouse 3. Child 4. Grandchild 5. Parent 6. Grandparent 7. Other relative 8. Non-relative	1. Male 2. Female	Date of birth Year _____ Month _____ Day _____ _____ Years of Age		1. Residing and registered here 2. Residing here over 1 year, but registered elsewhere 3. Residing here less than 1 year, absent from the registration place above 1 year 4. Living here with registration unsettled 5. Used to reside here; is abroad with no registration	1. College graduate 2. Undergraduate 3. Senior middle school 4. Junior middle school 5. Primary school 6. Illiterate or semi-literate
3	2. Spouse 3. Child 4. Grandchild 5. Parent 6. Grandparent 7. Other relative 8. Non-relative	1. Male 2. Female	Date of birth Year _____ Month _____ Day _____ _____ Years of Age		1. Residing and registered here 2. Residing here over 1 year, but registered elsewhere 3. Residing here less than 1 year, absent from the registration place above 1 year 4. Living here with registration unsettled 5. Used to reside here; is abroad with no registration	1. College graduate 2. Undergraduate 3. Senior middle school 4. Junior middle school 5. Primary school 6. Illiterate or semi-literate
3	2. Spouse 3. Child 4. Grandchild 5. Parent 6. Grandparent 7. Other relative 8. Non-relative	1. Male 2. Female	Date of birth Year _____ Month _____ Day _____ _____ Years of Age		1. Residing and registered here 2. Residing here over 1 year, but registered elsewhere 3. Residing here less than 1 year, absent from the registration place above 1 year 4. Living here with registration unsettled 5. Used to reside here; is abroad with no registration	1. College graduate 2. Undergraduate 3. Senior middle school 4. Junior middle school 5. Primary school 6. Illiterate or semi-literate
3	2. Spouse 3. Child 4. Grandchild 5. Parent 6. Grandparent 7. Other relative 8. Non-relative	1. Male 2. Female	Date of birth Year _____ Month _____ Day _____ _____ Years of Age		1. Residing and registered here 2. Residing here over 1 year, but registered elsewhere 3. Residing here less than 1 year, absent from the registration place above 1 year 4. Living here with registration unsettled 5. Used to reside here; is abroad with no registration	1. College graduate 2. Undergraduate 3. Senior middle school 4. Junior middle school 5. Primary school 6. Illiterate or semi-literate

Respondent _____ Enumerator _____ Date _____ month _____ day _____

Production Team

Name of Collective

Respondents must provide information honestly

Residents' Group (____ Street, Lane ____ No.) Household _____

Enumerators must record the answers accurately

VI. No. of registered persons absent over one year Total _____ male _____ female _____	Attachment: Registered person absent above one year	name _____ sex _____	name _____ sex _____	Remarks:
		name _____ sex _____	name _____ sex _____	
		name _____ sex _____	name _____ sex _____	

Persons aged 15 and above				Women aged 15 to 64	Women of childbearing age — 15 to 49
VIII. Industry	IX. Occupation	X. Status of non-working person	XI. Marital status	XII. Nos. of children ever borne and now living	VIII. Bore the following in 1981
		1. Student 2. Housekeeping 3. Awaiting school enrollment 4. Awaiting state employment 5. Awaiting job assignment in city/town 6. Retired or resigned 7. Other	1. Never married 2. Married 3. Widowed 4. Divorced	Children borne alive _____ Children living at present _____	0. No birth 1. First child 2. Second 3. Third 4. Fourth 5. Fifth or more
		1. Student 2. Housekeeping 3. Awaiting school enrollment 4. Awaiting state employment 5. Awaiting job assignment in city/town 6. Retired or resigned 7. Other	1. Never married 2. Married 3. Widowed 4. Divorced	Children borne alive _____ Children living at present _____	0. No birth 1. First child 2. Second 3. Third 4. Fourth 5. Fifth or more
		1. Student 2. Housekeeping 3. Awaiting school enrollment 4. Awaiting state employment 5. Awaiting job assignment in city/town 6. Retired or resigned 7. Other	1. Never married 2. Married 3. Widowed 4. Divorced	Children borne alive _____ Children living at present _____	0. No birth 1. First child 2. Second 3. Third 4. Fourth 5. Fifth or more
		1. Student 2. Housekeeping 3. Awaiting school enrollment 4. Awaiting state employment 5. Awaiting job assignment in city/town 6. Retired or resigned 7. Other	1. Never married 2. Married 3. Widowed 4. Divorced	Children borne alive _____ Children living at present _____	0. No birth 1. First child 2. Second 3. Third 4. Fourth 5. Fifth or more
		1. Student 2. Housekeeping 3. Awaiting school enrollment 4. Awaiting state employment 5. Awaiting job assignment in city/town 6. Retired or resigned 7. Other	1. Never married 2. Married 3. Widowed 4. Divorced	Children borne alive _____ Children living at present _____	0. No birth 1. First child 2. Second 3. Third 4. Fourth 5. Fifth or more

Head of Household _____ Total Pages _____, Page No. _____, Page in the Booklet _____

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R/U	FU
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CENSUS OF POPULATION – FIJI

13 SEPTEMBER, 1976

A 1. Name of Island _____ 2. Province _____ 3. Tikina _____ 4. Enumerator's Area No. _____	5. Name of <div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle; font-size: 2em;">{</div> <div style="display: inline-block; vertical-align: middle; text-align: left;"> Town Village Settlement Locality </div> </div> 6. Street and House No. _____ 7. Schedule No. _____
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C Number of Persons in Household		
Male	Female	Total

FOR ALL PERSONS

CONFIDENTIAL

B QUESTIONS		Person 1	Person 2	Person 9	Person 10
1 NAME	Write full name in block capitals. Fijians, surname/family name first. Indians, personal name first plus father's name. Others, surname/family name first.				
2 RELATIONSHIP	to Head of Household: for example, wife, son, visitor etc.				
3 SEX	Write M for males or F for females.				
4 DATE OF BIRTH	Write day/month/year. If date unknown estimate year of birth and write year only.	Day Month Year	Day Month Year	Day Month Year	Day Month Year
5 ETHNIC ORIGIN	Is this person Chinese or Part-Chinese, European, Fijian, Indian, Part-European, Rotuman, Tongan, etc.?				
6 PLACE OF BIRTH	If born outside Fiji write country. If born in Fiji write name of province and town, village or settlement. If born in hospital state locality where mother lived at time of birth.				
7 PREVIOUS RESIDENCE	Where was person living when Fiji became independent in October 1970? If outside Fiji write country. If in Fiji write name of province and town, village or settlement. If not born write NB.				
8 REAL FATHER	Is this person's real father still alive? Write Alive or Dead				
9 REAL MOTHER	(a) Is this person's real mother still alive? Write Alive or Dead. (b) Is she present? If present in household write person number. If alive but not present write N.P.				
10 EDUCATION	State highest level of education attained. Write class, form or full time post-secondary courses completed. State if attending school this year. Write Yes or No.				
11 RELIGION	Write exact denomination or sect.				

FOR ALL PERSONS BORN IN 1962 AND BEFORE

12 TYPE OF ACTIVITY LAST WEEK	State whether person was — working last week — normally working but sick, holiday, etc. — unemployed looking for work (exp/inexp). — other, specify housewife, student, disabled etc.				
13 OCCUPATION LAST WEEK	State kind of work done, giving job title if in employment.				
14 INDUSTRY LAST WEEK	State kind of business, industry or service. Write name of company, firm or organisation if person is employed. If large company or government department state branch or section. Write 'self' if own business or farm.				
15 EMPLOYMENT STATUS LAST WEEK	State whether employer, self employed, government wage or salary, private wage or salary, unpaid family worker or other.				
16 MARITAL STATUS	(a) Has this person ever been married? Write Yes or No. (b) If yes is he/she now married (M), widowed (W), or divorced or separated (D)? (c) Has he/she been married more than once? Write Yes or No. (d) Is his/her first husband/wife still alive? Write Yes or No.				

FOR ALL WOMEN BORN IN 1962 AND BEFORE

17 HOW MANY CHILDREN HAS THIS WOMAN BORN ALIVE?	Write number of boys and girls. If none, write 0.	Boys	Girls	Boys	Girls	Boys	Girls
18 HOW MANY OF THE CHILDREN SHE HAS BORN ARE STILL ALIVE?	Write number of boys and girls. If none, write 0.						
19 HOW OLD WAS SHE WHEN SHE BORE HER FIRST CHILD?	Write age in years.						

FORM A

CONFIDENTIAL

1981 LAND CENSUS

TPU SB EB LQ HH Sheet No. Page

Result of Final Visit: No. of HH: Type of Living Quarter: (a) Usual (b) No. of mem- (c) No. of mem- Ref. Night (a)-(b)+(c)

1-EN HH
2-VAC LQ
3-DEM LQ/CIP LQ
4-ABS HH IN NE LQ
5-ABS HH IN NE LQ
6-NC LQ
7-ABS HH IN PE LQ
8-NC HH IN PE LQ

HH Ref. Night:
Address:
Tel. No.:
Enumerator No.:

Do not forget to list babies, old persons, members of the household who were out on night work, boarders and visitors who spent the Ref. Night in the household.

Person Serial No.	Name	Relationship to Head	Sex	Date of Birth		IND/FU	FE	CHK	CE	DS	Male	Female	Total
				Month	Year								
0 0 1		Head	1=M 2=F										
0 0 2													
0 0 3													
0 0 4													
0 0 5													
0 0 6													
0 0 7													
0 0 8													
0 0 9													
0 1 0													

FORM B

CONFIDENTIAL

1981 LAND CENSUS

Codes for Results of Final Visit

1-EN HH
2-VAC LQ
3-DEM LQ/CIP LQ
4-ABS HH IN NE LQ
5-ABS HH IN NE LQ
6-NC LQ
7-ABS HH IN PE LQ
8-NC HH IN PE LQ

HH Ref. Night:
Address:
Tel. No.:
Enumerator No.:

TPU SB EB LQ HH Sample Sheet No. Total Page

Result of Final Visit: No. of HH: Type of Living Quarter: (a) Usual (b) No. of mem- (c) No. of mem- Ref. Night (a)-(b)+(c)

1-EN HH
2-VAC LQ
3-DEM LQ/CIP LQ
4-ABS HH IN NE LQ
5-ABS HH IN NE LQ
6-NC LQ
7-ABS HH IN PE LQ
8-NC HH IN PE LQ

HH Ref. Night:
Address:
Tel. No.:
Enumerator No.:

Person Serial No. & Name	Relationship to Head	Sex	Date of Birth		Place of Birth	Place of Origin	Present Address (i.e. March 1981) Record country if outside H.K.	If in Hong Kong		If outside Hong Kong		No. of Children Ever Born	Marital Status
			Month	Year				Usually live here?	If yes, moved in last 5 years?	Stayed/If yes, moved in last 5 months?	If yes, Year of arrival?		
0 0 1							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 0 2							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 0 3							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 0 4							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 0 5							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 0 6							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 0 7							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 0 8							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 0 9							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			
0 1 0							Same/H.K./outside H.K. No. Street	Y. N. →	Y. N.	Y. → N.			

DCS 193

FORM B

Codes for Results of Final Visit

1=EN HH
2=AC LG
3=AC LG
4=ND LG
5=ASS HH IN NE LG
6=ASS HH IN NE LG
7=NC LG
8=NC LG
9=NC LG
10=NC LG

Codes for Activity Status

01=Outworker
02=Employee (Govt.)
03=Employee (Private)
04=Paid family worker
05=Unpaid family worker
06=Other unpaid worker
07=Self-employed (Hawking)
08=Self-employed (Others)
09=Employer

11=On leave
12=On industrial dispute
13=Just commencing work
14=Temporarily laid off

21=First time job seeker
22=Job seeker (Prev. employed)
23=Waiting to start work due to temporary sickness/injury (with/without previous employment)
24-25=Not seeking work because believed work not available (with/without previous employment)
26-27=Not seeking work because believed work not available (with/without previous employment)

31=Home-maker
32=Full-time student
33=Of indpt. means
34=Retired
35=Inmates
36=Other inactive
37=N.A.

Result of Final Visit	No. of HH	Type of Living Quarter	Type of HH
			1=D 2=C

Economic Characteristics Section: N.A. for Children Born in or after March, 1969

Person Series No. & Name	Relation-ship to Head	Sex	Date of Birth Month Year	Educational Attainment	Field of Education	Economic Characteristics Section: N.A. for Children Born in or after March, 1969											Disability (Show present card)																																																																																																																																																																																																																																																																																																																																																				
						1A Whether working or doing odd jobs during the last 7 days?	1B Any regular job?	1C Whether seeking regular work during the last 30 days?	1D If not, reasons for not seeking work	1E Previously fulltime employed?	1F Reasons for not working last 78 hrs.	1 Activity Status	2 Hours of work per week, etc. (18-50 hrs. S18-50) (51-60 hrs. S18-50)	3 Occupation	4 Industry	5 Secondary Occupation (with/without previous employment)		6 Seeking More Work	7 Earnings: Main Employment	8 Earnings: Secondary/Other Employment	9 Other Cash Income																																																																																																																																																																																																																																																																																																																																																
0 0 1				SF/SP/C/NC Counsel/where			Y+Q1 N+Q1B	Y+Q1E N+Q1C	Y+Q1F N+Q1D	Y+Q1G N+Q1H	Y+Q1I N+Q1J	Y+Q1K N+Q1L	Y+Q1M N+Q1N	Y+Q1O N+Q1P	Y+Q1Q N+Q1R	Y+Q1S N+Q1T	Y+Q1U N+Q1V	Y+Q1W N+Q1X	Y+Q1Y N+Q1Z	Y+Q1AA N+Q1AB	Y+Q1AC N+Q1AD	Y+Q1AE N+Q1AF	Y+Q1AG N+Q1AH	Y+Q1AI N+Q1AJ	Y+Q1AK N+Q1AL	Y+Q1AM N+Q1AN	Y+Q1AO N+Q1AP	Y+Q1AQ N+Q1AR	Y+Q1AS N+Q1AT	Y+Q1AU N+Q1AV	Y+Q1AW N+Q1AX	Y+Q1AY N+Q1AZ	Y+Q1BA N+Q1BB	Y+Q1BC N+Q1BD	Y+Q1BE N+Q1BF	Y+Q1BG N+Q1BH	Y+Q1BI N+Q1BJ	Y+Q1BK N+Q1BL	Y+Q1BM N+Q1BN	Y+Q1BO N+Q1BP	Y+Q1BQ N+Q1BR	Y+Q1BS N+Q1BT	Y+Q1BU N+Q1BV	Y+Q1BW N+Q1BX	Y+Q1BY N+Q1BZ	Y+Q1CA N+Q1CB	Y+Q1CC N+Q1CD	Y+Q1CE N+Q1CF	Y+Q1CG N+Q1CH	Y+Q1CI N+Q1CJ	Y+Q1CK N+Q1CL	Y+Q1CM N+Q1CN	Y+Q1CO N+Q1CP	Y+Q1CQ N+Q1CR	Y+Q1CS N+Q1CT	Y+Q1CU N+Q1CV	Y+Q1CW N+Q1CX	Y+Q1CY N+Q1CZ	Y+Q1DA N+Q1DB	Y+Q1DC N+Q1DD	Y+Q1DE N+Q1DF	Y+Q1DG N+Q1DH	Y+Q1DI N+Q1DJ	Y+Q1DK N+Q1DL	Y+Q1DM N+Q1DN	Y+Q1DO N+Q1DP	Y+Q1DQ N+Q1DR	Y+Q1DS N+Q1DT	Y+Q1DU N+Q1DV	Y+Q1DW N+Q1DX	Y+Q1DY N+Q1DZ	Y+Q1EA N+Q1EB	Y+Q1EC N+Q1ED	Y+Q1EE N+Q1EF	Y+Q1EG N+Q1EH	Y+Q1EI N+Q1EJ	Y+Q1EK N+Q1EL	Y+Q1EM N+Q1EN	Y+Q1EO N+Q1EP	Y+Q1EQ N+Q1ER	Y+Q1ES N+Q1ET	Y+Q1EU N+Q1EV	Y+Q1EW N+Q1EX	Y+Q1EY N+Q1EZ	Y+Q1FA N+Q1FB	Y+Q1FC N+Q1FD	Y+Q1FE N+Q1FF	Y+Q1FG N+Q1FH	Y+Q1FI N+Q1FJ	Y+Q1FK N+Q1FL	Y+Q1FM N+Q1FN	Y+Q1FO N+Q1FP	Y+Q1FQ N+Q1FR	Y+Q1FS N+Q1FT	Y+Q1FU N+Q1FV	Y+Q1FW N+Q1FX	Y+Q1FY N+Q1FZ	Y+Q1GA N+Q1GB	Y+Q1GC N+Q1GD	Y+Q1GE N+Q1GF	Y+Q1GG N+Q1GH	Y+Q1GI N+Q1GJ	Y+Q1GK N+Q1GL	Y+Q1GM N+Q1GN	Y+Q1GO N+Q1GP	Y+Q1GQ N+Q1GR	Y+Q1GS N+Q1GT	Y+Q1GU N+Q1GV	Y+Q1GW N+Q1GX	Y+Q1GY N+Q1GZ	Y+Q1HA N+Q1HB	Y+Q1HC N+Q1HD	Y+Q1HE N+Q1HF	Y+Q1HG N+Q1HH	Y+Q1HI N+Q1HJ	Y+Q1HK N+Q1HL	Y+Q1HM N+Q1HN	Y+Q1HO N+Q1HP	Y+Q1HQ N+Q1HR	Y+Q1HS N+Q1HT	Y+Q1HU N+Q1HV	Y+Q1HW N+Q1HX	Y+Q1HY N+Q1HZ	Y+Q1IA N+Q1IB	Y+Q1IC N+Q1ID	Y+Q1IE N+Q1IF	Y+Q1IG N+Q1IH	Y+Q1II N+Q1IJ	Y+Q1IK N+Q1IL	Y+Q1IM N+Q1IN	Y+Q1IO N+Q1IP	Y+Q1IQ N+Q1IR	Y+Q1IS N+Q1IT	Y+Q1IU N+Q1IV	Y+Q1IW N+Q1IX	Y+Q1IY N+Q1IZ	Y+Q1JA N+Q1JB	Y+Q1JC N+Q1JD	Y+Q1JE N+Q1JF	Y+Q1JG N+Q1JH	Y+Q1JI N+Q1JJ	Y+Q1JK N+Q1JL	Y+Q1JM N+Q1JN	Y+Q1JO N+Q1JP	Y+Q1JQ N+Q1JR	Y+Q1JS N+Q1JT	Y+Q1JU N+Q1JV	Y+Q1JW N+Q1JX	Y+Q1JY N+Q1JZ	Y+Q1KA N+Q1KB	Y+Q1KC N+Q1KD	Y+Q1KE N+Q1KE	Y+Q1KG N+Q1KH	Y+Q1KI N+Q1KJ	Y+Q1KK N+Q1KL	Y+Q1KM N+Q1KN	Y+Q1KO N+Q1KP	Y+Q1KQ N+Q1KR	Y+Q1KS N+Q1KT	Y+Q1KU N+Q1KV	Y+Q1KW N+Q1KX	Y+Q1KY N+Q1KZ	Y+Q1LA N+Q1LB	Y+Q1LC N+Q1LD	Y+Q1LE N+Q1LE	Y+Q1LG N+Q1LH	Y+Q1LI N+Q1LJ	Y+Q1LK N+Q1LL	Y+Q1LM N+Q1LN	Y+Q1LO N+Q1LP	Y+Q1LQ N+Q1LR	Y+Q1LS N+Q1LT	Y+Q1LU N+Q1LV	Y+Q1LW N+Q1LX	Y+Q1LY N+Q1LZ	Y+Q1MA N+Q1MB	Y+Q1MC N+Q1MD	Y+Q1ME N+Q1ME	Y+Q1MG N+Q1MH	Y+Q1MI N+Q1MJ	Y+Q1MK N+Q1ML	Y+Q1MM N+Q1MN	Y+Q1MO N+Q1MP	Y+Q1MQ N+Q1MR	Y+Q1MS N+Q1MT	Y+Q1MU N+Q1MV	Y+Q1MW N+Q1MX	Y+Q1MY N+Q1MZ	Y+Q1NA N+Q1NB	Y+Q1NC N+Q1NC	Y+Q1NE N+Q1NE	Y+Q1NG N+Q1NH	Y+Q1NI N+Q1NI	Y+Q1NK N+Q1NL	Y+Q1NM N+Q1NM	Y+Q1NO N+Q1NO	Y+Q1NQ N+Q1NQ	Y+Q1NS N+Q1NS	Y+Q1NU N+Q1NU	Y+Q1NW N+Q1NW	Y+Q1NY N+Q1NY	Y+Q1OA N+Q1OB	Y+Q1OC N+Q1OC	Y+Q1OE N+Q1OE	Y+Q1OG N+Q1OG	Y+Q1OI N+Q1OI	Y+Q1OK N+Q1OK	Y+Q1OM N+Q1OM	Y+Q1OO N+Q1OO	Y+Q1OQ N+Q1OQ	Y+Q1OS N+Q1OS	Y+Q1OU N+Q1OU	Y+Q1OW N+Q1OW	Y+Q1OY N+Q1OY	Y+Q1PA N+Q1PB	Y+Q1PC N+Q1PC	Y+Q1PE N+Q1PE	Y+Q1PG N+Q1PG	Y+Q1PI N+Q1PI	Y+Q1PK N+Q1PK	Y+Q1PM N+Q1PM	Y+Q1PO N+Q1PO	Y+Q1PQ N+Q1PQ	Y+Q1PS N+Q1PS	Y+Q1PU N+Q1PU	Y+Q1PW N+Q1PW	Y+Q1PY N+Q1PY	Y+Q1QA N+Q1QB	Y+Q1QC N+Q1QC	Y+Q1QE N+Q1QE	Y+Q1QG N+Q1QG	Y+Q1QI N+Q1QI	Y+Q1QK N+Q1QK	Y+Q1QM N+Q1QM	Y+Q1QO N+Q1QO	Y+Q1QQ N+Q1QQ	Y+Q1QS N+Q1QS	Y+Q1QU N+Q1QU	Y+Q1QW N+Q1QW	Y+Q1QY N+Q1QY	Y+Q1RA N+Q1RB	Y+Q1RC N+Q1RC	Y+Q1RE N+Q1RE	Y+Q1RG N+Q1RG	Y+Q1RI N+Q1RI	Y+Q1RK N+Q1RK	Y+Q1RM N+Q1RM	Y+Q1RO N+Q1RO	Y+Q1RQ N+Q1RQ	Y+Q1RS N+Q1RS	Y+Q1RU N+Q1RU	Y+Q1RW N+Q1RW	Y+Q1RY N+Q1RY	Y+Q1SA N+Q1SB	Y+Q1SC N+Q1SC	Y+Q1SE N+Q1SE	Y+Q1SG N+Q1SG	Y+Q1SI N+Q1SI	Y+Q1SK N+Q1SK	Y+Q1SM N+Q1SM	Y+Q1SO N+Q1SO	Y+Q1SQ N+Q1SQ	Y+Q1SS N+Q1SS	Y+Q1SU N+Q1SU	Y+Q1SW N+Q1SW	Y+Q1SY N+Q1SY	Y+Q1TA N+Q1TB	Y+Q1TC N+Q1TC	Y+Q1TE N+Q1TE	Y+Q1TG N+Q1TG	Y+Q1TI N+Q1TI	Y+Q1TK N+Q1TK	Y+Q1TM N+Q1TM	Y+Q1TO N+Q1TO	Y+Q1TQ N+Q1TQ	Y+Q1TS N+Q1TS	Y+Q1TU N+Q1TU	Y+Q1TW N+Q1TW	Y+Q1TY N+Q1TY	Y+Q1UA N+Q1UB	Y+Q1UC N+Q1UC	Y+Q1UE N+Q1UE	Y+Q1UG N+Q1UG	Y+Q1UI N+Q1UI	Y+Q1UK N+Q1UK	Y+Q1UM N+Q1UM	Y+Q1UO N+Q1UO	Y+Q1UQ N+Q1UQ	Y+Q1US N+Q1US	Y+Q1UU N+Q1UU	Y+Q1UW N+Q1UW	Y+Q1UY N+Q1UY	Y+Q1VA N+Q1VB	Y+Q1VC N+Q1VC	Y+Q1VE N+Q1VE	Y+Q1VG N+Q1VG	Y+Q1VI N+Q1VI	Y+Q1VK N+Q1VK	Y+Q1VM N+Q1VM	Y+Q1VO N+Q1VO	Y+Q1VQ N+Q1VQ	Y+Q1VS N+Q1VS	Y+Q1VU N+Q1VU	Y+Q1VW N+Q1VW	Y+Q1VY N+Q1VY	Y+Q1WA N+Q1WB	Y+Q1WC N+Q1WC	Y+Q1WE N+Q1WE	Y+Q1WG N+Q1WG	Y+Q1WI N+Q1WI	Y+Q1WK N+Q1WK	Y+Q1WM N+Q1WM	Y+Q1WO N+Q1WO	Y+Q1WQ N+Q1WQ	Y+Q1WS N+Q1WS	Y+Q1WU N+Q1WU	Y+Q1WW N+Q1WW	Y+Q1WY N+Q1WY	Y+Q1XA N+Q1XB	Y+Q1XC N+Q1XC	Y+Q1XE N+Q1XE	Y+Q1XG N+Q1XG	Y+Q1XI N+Q1XI	Y+Q1XK N+Q1XK	Y+Q1XM N+Q1XM	Y+Q1XO N+Q1XO	Y+Q1XQ N+Q1XQ	Y+Q1XS N+Q1XS	Y+Q1XU N+Q1XU	Y+Q1XW N+Q1XW	Y+Q1XY N+Q1XY	Y+Q1YA N+Q1YB	Y+Q1YC N+Q1YC	Y+Q1YE N+Q1YE	Y+Q1YG N+Q1YG	Y+Q1YI N+Q1YI	Y+Q1YK N+Q1YK	Y+Q1YM N+Q1YM	Y+Q1YO N+Q1YO	Y+Q1YQ N+Q1YQ	Y+Q1YS N+Q1YS	Y+Q1YU N+Q1YU	Y+Q1YW N+Q1YW	Y+Q1YY N+Q1YY	Y+Q1ZA N+Q1ZB	Y+Q1ZC N+Q1ZC	Y+Q1ZE N+Q1ZE	Y+Q1ZG N+Q1ZG	Y+Q1ZI N+Q1ZI	Y+Q1ZK N+Q1ZK	Y+Q1ZM N+Q1ZM	Y+Q1ZO N+Q1ZO	Y+Q1ZQ N+Q1ZQ	Y+Q1ZS N+Q1ZS	Y+Q1ZU N+Q1ZU	Y+Q1ZW N+Q1ZW	Y+Q1ZY N+Q1ZY

IND/FU FE CHK CE DS

**CENSUS OF INDIA 1981
HOUSELIST**

Page No.

Name of State/Union Territory..... Code No. Name of Village/Town..... Code No.
Name of District..... Code No. Name or No. of Ward/Mohalla/Hamlet..... Code No.
Name of Tehsil/Taluka/P.S./Dev. Block/Circle etc..... Code No. Enumerator's Block No.

Line No.	Building No. (Municipal or local authority or census No.)	Census house No.	Purpose for which census house is used (if wholly or partly non-residential, fill Enterprise List).	Household No.	Name of the head of household	Is the household engaged in an enterprise outside this census house and without premises? If yes, fill Enterprise List	Number of persons normally residing in census household			Is there a physically handicapped person in the household? If so, indicate number of those who are totally			Remarks
							Males	Females	Total	Blind	Crippled	Dumb	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1													
2													
3													
4													
5													
6													
7													
8													
9													
0													
Total	X X	(a)	X X X	(a)	X X X	X X							X X X

Signature of Enumerator..... Date..... Signature of office Compiler..... Date..... Signature of field Supervisor..... Date.....
Note : (a) Count No. of entries and give total. Spike total for each of the columns 8 to 13.

**CENSUS OF INDIA 1981
(ECONOMIC CENSUS)
ENTERPRISE LIST**

Page No.

1. State/Union Territory..... Code No. 5. Name or No. of Ward/Mohalla/Hamlet..... Code No.
2. District..... Code No. 6. Enumerator's Block No.
3. Tehsil/Taluka/P.S./Dev. Block/Circle etc..... Code No. 7. C. D. Block..... Code No.
4. Village/Town..... Code No. 8. Rural/Urban..... Code No.

Line number of Houselist (Col. 1 of HL)	Census house No. (Col. 3 of HL)	BL No. of enterprise		Description of activity of enterprise	Code	Classification of enterprise (agri-1 non agri-2)	Nature of operation (personal-1, seasonal-2)	Type of ownership *	Social group of owner (SC-1, ST-2, others-3)	Power/fuel used for activity **	Number of persons usually working daily								Remarks
		Non-agricultural enterprises (C 3a 2 in col. 5)									Agricultural enterprises (Code 1 in col.5)								
		Total (including unpaid workers)											Hired						
		Males	Females										Total	Males	Females	Total			
																	Total (including unpaid workers)	Hired	
1	1 (i)	2	3	4	4 (i)	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Signature of Enumerator..... Date.....
Signature of Supervisor..... Date.....
(a) Count number of entries and give total.
(b) Count number of entries with code 1 and give total.
(c) Count number of entries and give total in the brackets.

* Type of ownership — private-1, cooperative-2, central govt-3, state govt -4, local body-5, others-6
** Power/fuel used — without power-1, electricity-2, coal/soft c...erwood-3, petrol/diesel-4, gas-5, animal power-6, others-7

CENSUS OF INDIA 1981 INDIVIDUAL SLIP (Universal) CONFIDENTIAL

Location Code () Sl. No. of Household { } Pad No. Slip No.

1 Name

2 Relationship to head

3 Male (1)/Female (2)

4 Age

5 Marital status

6 Mother tongue

7 Two other languages known

8 Nationality

9 Religion

10 Whether S.C. (1) or S.T. (2)

11 Name of caste/tribe

12A Literate (1)/Illiterate (2)

12B Educational attainment

13 Attending school/college, Yes (1)/No (2)

14A Worked any time at all last year? Yes (1)/No (2) (H/ST/D/R/B/O)

14B If yes in 14A, did you work for major part of last year? Yes (1)/No (2)

15A Main activity last year? Yes in 14B (C/AL/HHI/OW) No in 14B (H/ST/D/R/B/O)

If HHI/OW in 15A

(i) Name of establishment

(ii) Description of work

(iii) Nature of industry, trade or service

(iv) Class of worker

14B Yes—Any other work any time last year? Yes (C/AL/HHI/OW)/No

14B No—Work done any time last year? (C/AL/HHI/OW)

If HHI/OW in 15B

(i) Name of establishment

(ii) Description of work

(iii) Nature of industry, trade or service

(iv) Class of worker

15 If No in 14A or 14B seeking/available for work? Yes (1)/No (2)

CENSUS OF INDIA 1981 INDIVIDUAL SLIP (Sample) CONFIDENTIAL

1 Birth place

(a) Place of birth

(b) Rural (1)/Urban (2)

(c) District

(d) State/Country

2 Last residence

(a) Place of last residence

(b) Rural (1)/Urban (2)

(c) District

(d) State/Country

3 Reasons for migration from place of last residence (Code)*

4 Duration of residence at the village or town of enumeration

5 For all ever-married women only

(a) Age at marriage

(b) Number of children surviving at present

6 For currently married women only

Any child born alive during last one year

*Employment (1) Education (2) Family moved (3) Marriage (4) others (5)

CENSUS OF INDIA 1981

HOUSEHOLD SCHEDULE

Book No. CONFIDENTIAL

Part I: Household Particulars

Location Code Serial number of household (Col. 7 of abridged household) Type of household, whether institutional or houseless*

1. Name of head of household

2. Religion of the head of household

3. Whether head of household belongs to S.C. or S.T. If scheduled caste write (1)/If scheduled tribe write (2)

4. Name of caste/tribe of head of household

5. Language mainly spoken in the household

6. Does the household live in owned house? Yes (1)/No (2)

7. If 'No' in 6 does the household own a house or house site in the village or town of enumeration? Yes (1)/No (2)

8. Predominant construction material of the house occupied by household:

(a) WALL Grass, leaves, reeds of bamboo (1) Mud (2) Unburnt bricks (3) Wood (4) Burnt bricks (5) G.I. sheets or other metal sheets (6) Stone (7) Cement concrete (8) Kers (9) Others (0)

(b) ROOF Grass, leaves, reeds, thatch, wood, mud, unburnt bricks or bamboo (1) Tiles, slate or shingle (2) Corrugated iron, zinc or other metal sheets (3) Asbestos cement sheets (4) Brick, stone and lime (5) Stone (6) Concrete R.B.C., R.C.C. (7) Others (8)

(c) FLOOR Mud (1) Wood/planks (2) Bamboo or logs (3) Brick, stone and lime (4) Cement (5) Mosaic/tiles (6) Others (7)

9. FACILITIES AVAILABLE TO THE HOUSEHOLD:

(a) Drinking water supply (i) Source: Well (1) Tap (2) Hand pump/tube well (3) River/canal (4) Tank (5) Others (6)

(ii) Within premises (1)/Outside premises (2)

(b) Electricity: Yes (1)/No (2)

(c) Toilet (for Urban areas only) Yes (1)/No (2)

10. Number of living rooms in occupation of household

11. Number of married couples usually living in the household

12. Does the household cultivate land? Yes (1)/No (2)

13. If 'Yes' in 12, category Owned (1) Rented (2) Owned and rented (3)

14. If Rented, enter local name of tenancy

15. Total population of the household (Total of Col. 2 of part II Population Record)

*For institutional write 'I', for houseless write 'O'.

** Consult list supplied to you. If not belonging to S.C./S.T., put cross (x) in the box.

M A L E													
Serial No.	Name	Relationship to head (Indicate Serial No. of mother within brackets if present in the household for each member)	Sex		Age	Marital status	Name of Schedule Caste/Tnbe, if any		Literacy		Entry in 14. A		
			Male	Female			Caste	Tribe	Literate	Illiterate	Yes	No	
1	2	3	4	5	6	7	8	9	10	11	12	13	

NOTE: Lines for total of 10 persons here.

Total	(a)	X X X			X	X	(a)	(a)				
-------	-----	-------	--	--	---	---	-----	-----	--	--	--	--

Checked with reference to individual slip

(a) Enter total after counting number of entries

Compiler

Record

CONFIDENTIAL

M A L E									F E M A L E													
Serial No.	Entry in 14 B		Entry in 15 A				Whether seeking/available for work		Name of Scheduled Caste/Tribe, if any		Literacy		Entry in 14 A		Entry in 14 B		Entry in 15 A				Whether seeking/available for work	
	Yes	No	C	AL	HMI	OW	Yes	No	Caste	Tribe	Literate	Illiterate	Yes	No	Yes	No	C	AL	HMI	OW	Yes	No
1	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35

NOTE: Lines for total of 10 persons here.

									(a)	(a)												
--	--	--	--	--	--	--	--	--	-----	-----	--	--	--	--	--	--	--	--	--	--	--	--

Checked and found correct

Supervisor

(a) Enter total after counting number of entries

Signature of Enumerator

IMPORTANT INSTRUCTIONS

- (i) Record location code on each schedule and form etc.
- (ii) Do not leave any household or person uncovered in your block.
- (iii) Do not forget to enter columns 1 to 7 of population record
- (iv) Do not forget to make repeated enquiries about young children, newly born babies and visitors not enumerated elsewhere.
- (v) Enter serial number of mother if present in the household against her son and daughter.
- (vi) While making entries for names of Scheduled Castes/ Scheduled Tribes, check names of scheduled castes/ scheduled tribes with list supplied to you by your supervisor.
- (vii) Write legibly.
- (viii) Do not do overwriting.
- (ix) Do not hesitate to ask your supervisor if you have doubt on any matter.
- (x) Do not allow your work of filling up of entries in population record to accumulate. It should be completed for enumeration done at the end of each day's work.
- (xi) Do not misplace or lose any of your forms or papers while performing duties as census enumerator.
- (xii) During revisional round, fill in fresh slips for newly born babies and update the population record.
- (xiii) Cover households which have shifted to your block after your first visit but before sunrise of 1st March, 1981, if not enumerated already in some other block.
- (xiv) In case of any death in your block before sunrise of 1st March, 1981, cancel slip of that person if enumerated by you and make necessary corrections in population record also.
- (xv) While ticking for information in columns 8 to 35 in the household schedule, make sure that columns 8 to 21 refer to males and columns 22 to 35 to females.
- (xvi) Check totals of columns in population record before posting in working sheets for enumerator's abstract.

[illegible]

COMPLETE ENUMERATION

Confidential

I. LOCATION IDENTIFICATION		CODE
1. Province		
2. Regency/Municipality *)		
3. Sub-Regency/Sub-District		
4. Island		
5. Village		
6. Area	Urban/Rural *)	
7. Enumeration Area Number		
8. Census Block Number		
II. ENUMERATION PARTICULARS		
1. Name of Enumerator		
2. Date of Enumeration		
3. Enumerator's Signature		
4. Name of Supervisor		
5. Date of Supervision		
6. Supervisor's Signature		

*) Cross out category not used.

[illegible]

*) Total of this page

***) Cumulative total of the previous pages

***) Cumulative total to this page

SP 80 • L II

INFORMATION ON HOUSEHOLDS & INDIVIDUALS

REPUBLIC OF INDONESIA
CENTRAL BUREAU OF STATISTICS

1980 CENSUS OF POPULATION

COMPLETE ENUMERATION

Confidential

I. LOCATION IDENTIFICATION		CODE
1. Province		
2. Regency/Municipality *)		
3. Sub-Regency/Sub-District		
4. Island		
5. Village		
6. Area	Urban/Rural *)	
7. Enumeration Area Number		
8. Census Block Number		
9. Building Number		
10. Census Building Number		
11. Serial No. of Household		
12. Household	Private/Institutional Household *)	
13. Number of household members		

II. ENUMERATION PARTICULARS	
1. Name of Enumerator	
2. Date of Enumeration	
3. Enumerator's Signature	
4. Name of supervisor	
5. Date of Supervision	
6. Supervisor's Signature	

*) Cross out category not used.

METHOD FOR COMPLETING COLUMNS (1) - (20) : USE "1" FOR ALL COLUMNS EXCEPT COLUMNS (2),(3),(8), AND (17)

III. MEMBER OF HOUSEHOLD INFORMATION																				
Serial Number	Names of all persons living in this household	Relationship to head of household	Sex		Marital status		Age (in years)	Citizenship			Religion					Other than columns (12) up to (15b)	Persons aged 7 - 12			
			Male	Female	Single	Marr-ied/ Ever marr-ied		Indo-nesia	Chinese (PRC, Taiwan, or State less)	Other	Mus lim	Catho-lic	Other Chris tian	Hindu	Bud dhist		Check after name (✓)	School attendance		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15a)	(15b)	(16)	(17)	(18)	(19)	(20)
01																				
02																				
03																				
04																				
05																				
06																				
07																				
08																				
09																				
10																				
11																				
12																				
13																				
14																				
15																				
TOTAL																				

CHECK THAT : 1. The last number in column (1) = The sum of columns (4) + (5) = Columns (6) + (7) = Columns (9) + (10) + (11) = Columns (12) + (13) + (14) + (15) + (16). 2. The total of the check signs (✓) in columns (17) is smaller than the last number in column (1). 3. The total of the check signs (✓) in column (17) = The sum of columns (18) + (19) + (20).																			
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

1

2

METHOD FOR COMPLETING COLUMNS (22) - (31) : USE A CHECK (Y)
FOR ALL COLUMNS EXCEPT COLUMNS (30) AND (31)

3

4

6

ORIGINAL ONLY

SP 80-S
HOUSEHOLD SCHEDULE

REPUBLIC OF INDONESIA
CENTRAL BUREAU OF STATISTICS

1980 CENSUS OF POPULATION

SAMPLE CENSUS

CONFIDENTIAL

I. LOCATION IDENTIFICATION:		CODE
1. Province		1 <input type="text"/>
2. Regency/Municipality		3 <input type="text"/>
3. Sub-Regency/Sub-District		5 <input type="text"/>
4. Island		
5. Village		7 <input type="text"/>
6. Area	Urban/Rural*)	10 <input type="text"/>
7. Enumeration Area No.		
8. C.B. No.		
9. Sample Code		11 <input type="text"/>
10. Physical Building No.		14 <input type="text"/>
11. Census Building No.		17 <input type="text"/>
12. Household Serial No.		20 <input type="text"/>
13. Household	Private/Institutional Household *)	23 <input type="text"/>
14. Number of household members		24 <input type="text"/>

II. ENUMERATION PARTICULARS	
1. Name of Enumerator	
2. Date of Enumeration	
3. Enumerator's Signature	
4. Name of Supervisor	
5. Date of Supervision	
6. Supervisor's Signature	

*) Cross out category not used

INSTRUCTIONS

A. Recording answer

1. Circle appropriate code

Example : Wrong ③ Right ②

2. Write response; handwriting must be clear and legible.

Example : wrong *AMIN* Right *AMIN*

3. Write numbers; these must also be clear and legible.

Example : Wrong *10* Right *10*

B. Method for completing the questionnaire

1. Before the interview, the enumerator must fill in the information on the cover of this questionnaire. This information must be the same as that in form SP 80 - SL I : Copying Form of SP 80 - L I.

2. The interview must begin with page 1, and continue with subsequent pages.

3. For all other questions, follow the sequence, and arrow or "go to" instructions.

4. Check for inconsistency between responses. Any inconsistency must be checked with the respondent, and corrected.

HOUSEHOLD COMPOSITION

III. LIST OF HOUSEHOLD MEMBERS		
NO	NAME	RELATIONSHIP TO HEAD OF HOUSEHOLD
(1)	(2)	(3)
01		HEAD OF HOUSEHOLD
02		
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		
13		
14		
15		
NOTES		
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		

HOUSEHOLD INFORMATION

IV. LIVING QUARTER		12. SOURCE OF WATER FOR BATHING WASHING	
1. TYPE OF PHYSICAL BUILDING 1. Independent building with single dwelling unit 2. Independent building with two dwelling units 3. Independent building with more than two dwelling units	27 ☐ 2 ☐	1. Pipe 2. Pump 3. Well	4. Spring 5. River 6. Rain 7. Other
2. NUMBER OF CENSUS BUILDINGS IN THIS PHYSICAL BUILDING Census buildings	28 ☐	13. BATHING FACILITY 1. Private 2. Shared (private)	3. Public 4. Other
3. NUMBER OF HOUSEHOLDS IN THIS CENSUS BUILDING Households	29 ☐	14. TOILET FACILITY 1. Private, with septic tank 2. Private, without septic tank 3. Shared/public/other	45 ☐
4. STATUS OF OWNERSHIP 1. Self-owned 2. Rent (Contract/long term basis) 3. Rent (monthly basis) 4. Installment purchase 5. Provided by employer 6. Other	30 ☐	15. DOES THIS HOUSEHOLD OWN: a. Buffer (side board)? b. Stove? c. Bicycle? d. Radio/cassette recorder? e. T.V. set?	1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No
5. PRIMARY CONSTRUCTION MATERIAL OF ROOF 1. Concrete 2. Wood 3. Corrugated metal 4. Tile 5. Sugar palm fiber 6. Leaves 7. Other	31 ☐	V. AGRICULTURAL LAND TENURE	
6. PRIMARY CONSTRUCTION MATERIAL OF WALL 1. Brick 2. Wood 3. Bamboo 4. Other	32 ☐	16. SELF OWNED Ha	51 ☐ ☐ ☐
7. PRIMARY CONSTRUCTION MATERIAL OF FLOOR 1. Tile 2. Concrete/brick 3. Wood 4. Bamboo 5. Earth 6. Other	33 ☐	17. OBTAINED FROM OTHERS Ha	52 ☐ ☐ ☐
8. FLOOR AREA m ²	34 ☐	18. OPERATED BY OTHERS Ha	53 ☐ ☐ ☐
9. TYPE OF LIGHTING 1. Electric 2. Pumped lamp 3. Kerosene lamp 4. Other	35 ☐	19. (Q.16 - Q.17-Q.18) Ha	54 ☐ ☐ ☐
10. TYPE OF COOKING FUEL 1. Electric 2. Gas 3. Kerosene 4. Wood 5. Charcoal 6. Other	36 ☐	VI. LIVESTOCK/POULTRY RAISED BY HOUSEHOLD	
11. SOURCE OF DRINKING WATER 1. Pipe 2. Pump 3. Well 4. Spring 5. River 6. Rain 7. Other	37 ☐	20. DAIRY COW Unit	55 ☐ ☐ ☐
	38 ☐	21. COW Unit	56 ☐ ☐ ☐
	39 ☐	22. BUFFALO Unit	57 ☐ ☐ ☐
	40 ☐	23. HORSE Unit	58 ☐ ☐ ☐
	41 ☐	24. GOAT, SHEEP Unit	59 ☐ ☐ ☐
	42 ☐	25. PIG Unit	60 ☐ ☐ ☐
		26. CHICKEN (IMPORTED VARIETY) Unit	61 ☐ ☐ ☐
		27. CHICKEN (LOCAL VARIETY) Unit	62 ☐ ☐ ☐
		28. DUCK Unit	63 ☐ ☐ ☐

ALL PERSONS

VII. CHARACTERISTICS OF INDIVIDUAL HOUSEHOLD MEMBERS			
Name: _____ No. 27 ☐ 28 ☐	16. MEDICAL SERVICE USED 1. General Practitioner 6. Traditional doctor 2. Hospital 7. Self-treated 3. Public Health Center 8. Not treated 4. Polyclinic 5. Health service extension worker		
1. RELATIONSHIP TO HEAD OF HOUSEHOLD 1. Head of household 6. Parent or parent-in-law 2. Wife 7. Other relative 3. Son or daughter 8. Servant 4. Son or daughter-in-law 9. Other 5. Grandchild	30 ☐		
2. SEX 1. Male 2. Female	31 ☐		
3. OWN MOTHER LIVING IN THIS HOUSEHOLD? 1. Yes 2. No	32 ☐		
4. SERIAL NUMBER: _____	33 ☐		
5. AGE _____ years	35 ☐		
6. MONTH AND YEAR OF BIRTH KNOWN? 1. Yes 2. No	37 ☐		
7. MONTH AND YEAR OF BIRTH Month _____ Year 19 ..	38 ☐		
8. MARITAL STATUS 1. Single (not yet married) 3. Widowed 2. Married 4. Divorced	42 ☐		
9. RELIGION 1. Muslim 4. Hindu 2. Protestant/Other Christian 5. Buddhist 3. Catholic 6. Other	43 ☐		
10. CITIZENSHIP 1. Indonesian 2. Chinese (People's Rep. of China, Taiwan, Stateless) 3. Other foreigner	44 ☐		
11. PLACE OF BIRTH Province: _____	45 ☐		
12. DURATION OF RESIDENCE IN PRESENT PROVINCE _____ years	47 ☐		
13. PLACE OF PREVIOUS RESIDENCE Province: _____	49 ☐		
14. PLACE OF RESIDENCE 5 YEARS AGO Province: _____	51 ☐		
15. HAVE YOU FELT UNWELL DURING THE PAST WEEK? 1. Yes 2. No (Go to Q 17)	53 ☐		
17. HANDICAPPED? 1. Yes 2. No (Go to Q 19)		55 ☐	
18. TYPE OF HANDICAP 1. Blind 4. Physical 2. Deaf/Mute 8. Mental		56 ☐	
19. SCHOOL ATTENDANCE 1. Does not attend school or has not started school (Go to Q 24) 2. Attending school 3. Previously attended, but does not attend school anymore		57 ☐	
20. TYPE OF HIGHEST SCHOOL ATTENDED OR CURRENTLY ATTENDING 1. Kindergarten 6. Vocational JHS 2. Primary school 7. Vocational SHS (3 years) 3. Primary school 8. Academy (6 years) 4. General JHS 9. University 5. General SHS		58 ☐	
21. HIGHEST GRADE ATTENDED/ATTENDING 0 1 2 3 4 5 6 7 8 (completed)		59 ☐	
22. HIGHEST LEVEL OF EDUCATION COMPLETED 1. Not completed 5. Vocational JHS primary school 6. Vocational SHS 2. Primary school 7. Academy 3. General JHS 8. University 4. General SHS		60 ☐	
23. FIELD OF STUDY (Specify) _____		FILLED IN BY CBS 61 ☐	
24. LANGUAGE USED AT HOME 1. Indonesian (Go to Q 26) 2. Local Language (Specify) _____ 3. Foreign language _____		64 ☐	
25. ABLE TO SPEAK INDONESIAN? 1. Yes 2. No		66 ☐	
26. ABLE TO READ AND WRITE? 1. Learn alphabet 3. Unable 2. Other alphabet _____		67 ☐	

PERSONS 10 YEARS AND ABOVE

VIII. ACTIVITIES OF PERSONS 10 YEARS AND ABOVE		39. DID YOU LOOK FOR WORK DURING THE PREVIOUS WEEK?	
27. PRIMARY ACTIVITY DURING THE PREVIOUS WEEK 1. Working 2. Attending school 3. Housekeeping 4. Other	68 ☐	1. Yes (Go to Q 41) 2. No	85 ☐
28. IN ADDITION TO 2, 3, 4 ALSO WORKED FOR AT LEAST ONE HOUR DURING THE PREVIOUS WEEK? 1. Yes (Go to Q 31) 2. No	69 ☐	40. PRIMARY REASON FOR NOT SEEKING FOR WORK DURING THE PREVIOUS WEEK 1. Did not need work 2. Waiting for outcome of application 3. Gave up trying 4. Attending school 5. Housekeeping 6. Not able to work 7. Other	86 ☐
29. HOLDS A JOB BUT ABSENT DURING THE PREVIOUS WEEK? 1. Yes (Go to Q 34) 2. No	70 ☐	41. DID YOU WORK DURING THE PREVIOUS YEAR? 1. Yes 2. No (Go to Block IX)	87 ☐
30. HAVE YOU EVER WORKED? 1. Yes 2. No (Go to Q 39)	71 ☐	42. IN WHAT TYPE OF INDUSTRY DID YOU WORK DURING THE PREVIOUS YEAR (Specify)?	FILLED IN BY CBS 88 ☐
31. NUMBER OF DAYS WORKED DURING THE PREVIOUS WEEK _____ days	72 ☐	IX. EVER MARRIED WOMAN	
32. NUMBER OF HOURS WORKED DURING THE PREVIOUS WEEK _____ hours	73 ☐	43. MONTH AND YEAR OF FIRST MARRIAGE Month _____ Year 19 ..	
33. NUMBER OF HOURS WORKED IN PRIMARY ACTIVITY DURING THE PREVIOUS WEEK _____ hours	75 ☐	44. AGE AT FIRST MARRIAGE _____ years	
34. SPECIFY YOUR PRIMARY OCCUPATION DURING THE PREVIOUS WEEK	FILLED IN BY CBS 77 ☐	45. NUMBER OF MARRIAGES _____ times	
35. TYPE OF INDUSTRY IN WHICH PRIMARY ACTIVITY OF THE PREVIOUS WEEK WAS CARRIED OUT	FILLED IN BY CBS 80 ☐	46. NUMBER OF LIVING CHILDREN a. Total children b. Living at home children c. Living away children	
36. EMPLOYMENT STATUS IN PRIMARY ACTIVITY DURING THE PREVIOUS WEEK 1. Self employed 2. Self employed assisted by family member/temporary help 3. Employer 4. Employee 5. Family worker	82 ☐	47. NUMBER OF DEAD CHILDREN _____ children	
37. DID YOU HAVE AN ADDITIONAL JOB DURING THE PREVIOUS WEEK? 1. Yes 2. No (Go to Q 39)	83 ☐	48. MONTH AND YEAR OF BIRTH OF LAST CHILD Month _____ Year 19 ..	
38. TYPE OF INDUSTRY OF ADDITIONAL JOB DURING THE PREVIOUS WEEK 1. Agriculture 6. Trade 2. Mining or quarrying 7. Transport and Communication 3. Manufacturing 4. Electricity, gas 5. Construction 9. Services 10. Other	84 ☐	49. IS YOUR LAST CHILD STILL ALIVE? 1. Yes 2. No	
		X. CURRENTLY MARRIED WOMAN UNDER 50 YEARS OF AGE	
		50. CONTRACEPTIVE METHOD(S) EVER USED 1. Pill 4. Condom 8. Never used 2. IUD 0. Other	
		51. CONTRACEPTIVE METHOD(S) CURRENTLY BEING USED 1. Pill 4. Condom 8. Not using 2. IUD 0. Other	

- 1 -

SP 80 - PODES
VILLAGE CHARACTERISTICS

REPUBLIC OF INDONESIA
CENTRAL BUREAU OF STATISTICS

1980 POPULATION CENSUS
VILLAGE POTENTIALS

Location Identification

1. Province : _____
2. Regency / Municipality : _____
3. Sub - Regency : _____
4. Island : _____
5. Village : _____
6. Urban / Rural : Urban 1) Rural 2)

ENUMERATOR'S PARTICULARS

1. Name : _____
2. Date of recording : _____
3. Signature : _____
4. Name of staff at
Regency/Municipality
Statistics office : _____

Date, 1980

Village Headman

Name : _____

Signature : _____

Stamp : _____

- 2 -

III. LOCATION AND GEOGRAPHICAL CONDITIONS

1. This village is located on (name of island)
2. This village is on the coast -1 not on the coast -2
3. This village is on lowlands -1
in the mountains/hills -2
4. Rain fell during the following months last year (circle months in which rain fell for at least 15 days).

January	- 01	May	- 05	September	- 09
February	- 02	June	- 06	October	- 10
March	- 03	July	- 07	November	- 11
April	- 04	August	- 08	December	- 12
5. Were there natural disasters during the last five years ?
These have occurred repeatedly and may occur in the future.
They exclude epidemics and pest or plant / disease

Drought	Yes -1	No -2	
Flood	Yes -1	No -2	
Earthquake	Yes -1	No -2	
Other	Yes -1	No -2	(-----) Specify

IV. GENERAL VILLAGE INFORMATION

1. What is the name of the smallest grouping of households within this village. (e.g. Rukun Tetangga, Kampung, Lorong, Dukuh).
2. How many such groupings are there in this village ?
3. The area of this village is km or hectares.
4. The total number of households is
5. The total number of inhabitants is
6. Distance from the village Headman's office to Sub-Regency/Sub-District office : km (in round figure).
7. a) Are there street lights Yes -1 No -2
b) If "yes", are they : electric -1 or kerosene -2
If both are used, circle 1
8. Is there a village office Yes -1 No -2
Is there a village hall Yes -1 No -2
9. Is there
A village Headman or Vice/Deputy
village Headman Yes -1 No -2
A secretary Yes -1 No -2
A security officer Yes -1 No -2
An irrigation officer Yes -1 No -2
An officer for economic affairs Yes -1 No -2
Other officers (specify) Yes -1 No -2

V. EDUCATION FACILITIES.

- 1 a. Give the number of school buildings which are :
 - in good condition :
 - need repairs :
 - need to be rebuilt or replaced :
- b. The total number of classrooms in all of these schools :
- 2 a. The number of kindergarten and elementary school (public, private or religious) buildings is :
 - Kindergartens :
 - Public elementary schools :
 - Inpres " " (built with special national funds) :
 - Religious elementary schools :
 - Private " " :
- b. The number of classrooms in all of these schools with the exception of kindergarten classrooms :
3. The number of schools and teachers

	Schools	Teachers
a. Kindergarten		
b. Public elementary schools		
Inpres " "		
Religious " "		
Private " "		
c. Junior high schools		
d. Senior " "		
e. Academies		
f. Universities		
4. Are there other educational facilities ?
 - a. Muslim seminary Yes -1 No -2
 - b. Special schools (e.g. for handicapped persons) Yes -1 No -2
 - c. Seminaries Yes -1 No -2

VI. HEALTH FACILITIES

1. Number of
 - a. Polyclinics :
 - Average number of visitors per day during the previous month : persons.
 - b. Public Health Centers :
 - Average number of visitors per day during the previous month : persons.
 - c. Maternity hospitals/Mother and Child Health Centers :
 - Average number of visitors per day during the previous month : persons.
 - d. Are there doctors in general practice in this village Yes -1 No -2
 - e. Number of contraceptive distribution Centers :
2. a. The majority of the village people get water for drinking/cooking from :

Pipe	-1	Well	-3	River	-5	Other	-7
Pump	-2	Spring	-4	Lake	-6		
- b. The majority of the village people get water for bathing/washing from :

Pipe	-1	Well	-3	River	-5	Other	-7
Pump	-2	Spring	-4	Lake	-6		
3. The majority of the village people dispose of their garbage by :
 - Dumping it in a hole , and then burying it -1
 - " " " " " , " " burning it -2
 - " " anywhere within the yard -3
 - " " in the river -4
 - Storing it in a temporary area, and then transporting it -5
 - Other (specify :) -6
4. The majority of the toilet facilities are :

Private	-1	Shared	-2	Public	-3	Other	-4
---------	----	--------	----	--------	----	-------	----
5. a. Are there public latrines ? Yes -1 No -2
 - If "yes" how many are
 - Inpres public latrines :
 - Non-Inpres public latrines :
- b. Are there Inpres family latrines? Yes -1 No -2
 - If "yes" how many are there? :

- 5 -

VII. RECREATION

Is/Are there

1. Movie house (cinema)	Yes	-1	No	-2
2. Permanent places for cultural shows	Yes	-1	No	-2
3. Permanent soccer fields	Yes	-1	No	-2
4. Other permanent sports fields/facilities (tennis, badminton, volleyball, etc.)	Yes	-1	No	-2
5. Recreation Parks (regardless of whether or not visitors must pay a fee to enter the park). If there is a cinema or theater in the park they also must be recorded in items 1 and 2.	Yes	-1	No	-2

VIII. PLACES OF WORSHIP

The number of

1. Mosques	.....
2. Other (smaller) Muslim places of worship	.....
3. Churches	.....
4. Pura (Hindu temples)	.....
5. Vihara (Buddhist temples)	.....

IX. SOCIAL ORGANIZATIONS

List 3 (three) main activities of the following organizations

1. Boy & girl scouts at the village level :	units
Main activities	a.
	b.
	c.
2. Sports :	units
Main activities	a.
	b.
	c.
3. Arts/culture :	units
Main activities	a.
	b.
	c.
4. Is there a Karang Taruna (Youth Center) available ? Yes -1 No -2
(Karang Taruna is an organization for youth under the guidance/supervision of the village officers. Their activities cover sports, culture, social, etc.)	
Main activities	a.
	b.
	c.
5. Is there a Lembaga Sosial Desa/Lembaga Ketahanan Masyarakat Desa
(Village Social Association/Village Community Association) available?
Yes -1 No -2	
Main activities	a.
	b.
	c.

- 6 -

6. Is there a Pembinaan Kesejahteraan Keluarga (PKK = Family Welfare Group) available ? Yes -1 No -2
(This is a social organization coordinated by village headman with the main objective of enhancing the welfare of the family through the improvement of the nutrition and the health of children under 5, and promotion of the planting of high - nutrient vegetables or fruits in the garden).

Main activities

a. _____

b. _____

c. _____

7. Is there a Taman Gizi (Nutrition Group) available ? Yes -1 No -2
(This is a social organization coordinated by the village headman with the primary aim of improving children's health, especially children under 5, by keeping notes on the children's weight, giving them nutritious food and vitamins).

If "yes", what is the number of members who are under 5 years old :

8. Are there special homes for example for orphans, the elderly, the disabled, etc.) available ?

Specify type = = (number)

9. Is there an association of farmers using the village irrigation system available ? Yes -1 No -2
(This is a group of farmers who collectively make arrangements for the distribution of irrigation water).

If "yes" number of members :

10. Is there a special intensification program ? (This is a program which organizes groups of farmers who practise PANCA USAHA, the use of good seeds, fertilizer, pesticide, irrigation and agricultural techniques).
Yes -1 No -2

If "yes" number of members :

X. LAND OWNED BY THE VILLAGE.

1. Land used to compensate the village headman or other village officers (Land which these officers operate while they are in office).

Wet paddy land	.....	Ha
Dry land	.....	Ha

2. Village owned land

Wet paddy land	.....	Ha
Dry land	.....	Ha

3. Other land (specify :

Wet paddy land	.....	Ha
Dry land	.....	Ha

4. Total (1 + 2 + 3) Ha

- 7 -

XI. LAND UTILIZATION.

1. Dry land		
a. For growing foodcrops	.....	Ha
b. For growing cash crops	.....	Ha
c. For buildings (including yards around the house)	.....	Ha
d. For pastures	.....	Ha
e. For freshwater/brackish water fisheries	.....	Ha
f. Swamps and other land	.....	Ha
Total (1)	.....	Ha
2. Wet paddy land by type of irrigation		
a. Technical irrigation	.....	Ha
b. Semi - technical irrigation	.....	Ha
c. Simple irrigation	.....	Ha
d. Not - irrigated (eg. naturally irrigated during certain seasons)	.....	Ha
Total (2)	.....	Ha
3. State - owned forest	.....	Ha
4. Estates (state or privately owned)	.....	Ha
5. Others	.....	Ha
Total (1+2+3+4+5)	.....	Ha

XII. HARVESTED AREA LAST YEAR

Harvested area is the gross area successfully harvested, including the dikes in wet rice fields. A harvest is considered successful if the crops are harvested at their right age.

Include areas in which the harvest exceeded eleven percent of the total expected crop. Areas which yielded less than eleven percent of the expected crop should not be included.

1. Rice	.....	hectares
2. Corn	.....	hectares
3. Cassava	.....	hectares
4. Sweet potatoes	.....	hectares
5. Peanuts	.....	hectares
6. Soybeans		hectares
7. Mungbeans		hectares
8. Sorghum		hectares
9.		hectares
10.		hectares

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XIII. HOUSEHOLD ENTERPRISES

- Number of households in which members are engaged in
 - Growing foodcrops households
 - Fisheries/raising livestock households
 - Marine fisheries households
 - Home industries with
 - 1 - 4 employees households
 - 5 or more employees households
 - Trade households
 - Transportation households
- a. In addition to the above enterprises, are there factories in this village ? Yes -1 No -2
 - If "yes", specify the name of factory and its main activity/product.

Name	Activity
-----	-----
-----	-----
-----	-----

XIV. SMALL HOLDER ESTATES

Record this information for the five most cultivated crops on small-holder estates (these are estate lands operated by the people for the growing of commercial crops such as rubber, coffee, tobacco, tea, quinine, cocoa, eucalyptus, agave, clove, kapok, sugarcane, nutmeg, pepper cinnamon, and vanilla). The area of such estates is generally less than 25 hectares.

The planted area should be recorded if the distance between trees is normal and regular. For mixed crops, two or more crops on the same piece of land, the area is estimated on the basis of the area on which each of the crops is planted. Therefore if two crops are planted in the same area, this land must be counted twice.

If the distance between trees exceeds 3 times of the normal distance in both directions, record the number of trees.

- Type of crop :
 - Planted area : hectares
 - Number of trees :
- Type of crop :
 - Planted area : hectares
 - Number of trees :
- Type of crop :
 - Planted area : hectares
 - Number of trees :
- Type of crop :
 - Planted area : hectares
 - Number of trees :

- 9 -

5. Type of crop :
 Planted area : hectares
 Number of trees :

XV. ANIMAL HUSBANDRY AND FISHERIES

(Record all livestock raised in this village even though the owner or person who raises them lives outside this village.)

A household is said to be engaged in fisheries or in raising livestock if any member of the household raises livestock or fish for the household or raises them on a share-produce basis, or any other type of arrangement.

The number of

1. a. Cows
- b. Dairy cows
- c. Water buffaloes
- d. Horses
- e. Goats/sheep
- f. Pigs
- g.
- h.
2. The number of households engaged in raising
 - a. Chickens (imported variety)
 - b. Ducks
 - c. Milk fish
 - d. Shrimp
 - e. Freshwater fish
 - f. Other (specify)

XVI. AGRICULTURAL EQUIPMENT

Portable agricultural equipment are recorded on the basis of ownership, not the location of that equipment.

For buildings (rice mill, smoke house, etc) recorded on the basis of location, not ownership.

1. The number of machines used for tilling
 - a. Two - wheeled tractors
 - b. Four - wheeled tractors
2. The number of tools/machines used for pest control (e.g. hand sprayer, hand duster, kapsock, motor sprayer/mist blower, skid motor sprayer, swig fog, micro mister) :
3. The number of water pumps used to irrigate rice fields or fresh/brackish-water fishponds :
4. The number of rice processors

a. Thresher	b. Dryer
c. Cleaner	d. Huller

- 10 -

5. The number of corn processors
 - a. :
 - b. Processer/Grinder :
 - c. Mills :
6. The number of cassava processors
 - a. Machine used to produce tapioca powder from wet cassava :
 - b. Other (specify :) :
7. The number of smokehouses :
8. The number of fishing boats/ships
 - a. With motor engines
 - b. Without motor engines

XVII. MARKETING, STORAGE AND DRYING FACILITIES

1. The number of :
 - a. Markets with permanent structures, with or without walls, regardless of whether or not they are used daily :
 - b. Markets without permanent structures (the sellers put their commodities on a table or on the ground) :
 - c. Animal markets/auctions :
 - d. Fish auction locations :
 - e. Places where fishermen land Yes -1 No -2
 - f. Kiosks/stores which sells fertilizer, pesticide, or other agricultural materials.
 - g. Village cooperative storage structures : (number)
 Capacity : tons
 Other storage structures : (number)
 Capacity : tons
 - h. Nursery/hatchery for

Rice seedling :	(number)
Other food crops :	(")
Fish :	(")
2. Are there groups of shops (shopping centers Yes -1 No -2 outside the market with at least 10 stores) ?
3. The number of places for drying rice that can be rented by the public
 Total capacity : tons

- 11 -

XVIII. CREDIT FACILITY

1. The number of :
 - a. Banks :
 - b. Badan Usaha Unit Desa (BUUD) and/or Koperasi Unit Desa (KUD)
 - 1 st class : (number)
 - 2 nd class : (")
 - 3 rd class : (")
 - c. ^{Are} Cooperative Service Centers (Pusat Pelayanan Koperasi = PPK) available? Yes -1 No -2
If "yes", how many Village Cooperative Units does it serve ?
 - d. Other cooperatives :
 - e. Village barn :
 - f. Seed barn :
 - g. Private creditor : persons
2. The type of credit/loan facilities available in this village
 - a. B i m a s Yes -1 No -2
 - b. Kredit Investasi Kecil (KIK) Yes -1 No -2
 - c. Kredit Modal Kerja Permanen (KMKP) Yes -1 No -2
 - d. Kredit Candak Kulak (KCK) Yes -1 NO -2

KIK and KMKP are loans given to Indonesian (non-Chinese) small-scale entrepreneurs to finance rehabilitation or extension of production units.

Priority is given to the following sectors : agriculture, fishery, animal, husbandry, small holder estate, and home industry.

The KIK loan is at the most Rp. 10,000,000,- with an annual interest of 12 percent for a maximum period of 5 years.

The KMKP loan is at the most Rp. 10,000,000,- with an annual interest of 15 percent for a maximum period of 3 years.

The KCK loan ranges from Rp. 3,000,- to Rp. 15,000,- and especially provided for petty traders. A monthly interest of 1 percent is incurred for a maximum period of 3 months.

XIX. TRANSPORTATION

1. a. Most transport is by :
Land -1 Water -2
- b. If by land, the majority of the roads in this village are :
asphalt -1 paved -2 dirt -3
- c. Can the main road be used by four-wheeled vehicles throughout the year? Yes -1 No -2
- d. Does the main road cross a river? Yes -1 No -2
If "yes" what is the type of bridge?

- 12 -

2. The number of public transport units in this village :

Carts	:
Boats with outboard motor	:
Boats without outboard motor	:
Motorcycles	:
Three-or four-wheeled vehicles	:

XX. COMMUNICATION

1. The number of
 - a. TV sets :
 - b. Radios :
 - c. Telephones :
2. Is there a Post office or supplementary post office ?
Yes -1 No -2
3. Does anybody subscribe to a newspaper/magazine ? Yes -1 No -2

XXI. ELECTRICITY

1. Is electricity (generated by the electric company or others) available in this village ?
Yes -1 (go to item number 2)
No -2 (go to Section XXII)
2. a. If "yes", most of the electricity is operated by

Electric company	-1
Cooperative	-2
Private persons	-3
Others/village collective	-6
- b. Percentage of households using electricity : %

XXII. VILLAGE FINANCE (1979/80 FISCAL YEAR)

1. Income

Routine	Rp.
Development	Rp.
2. Expenditure

Routine	Rp.
Development	Rp.

Record the total income during the 1979/80 Fiscal year (April 1, 1979 through March 31, 1980). Routine income includes various taxes (on land owned, market places, etc.), contributions for natural disasters, income from village enterprises, etc. Development income includes assistance from the central government, from the province or district authorities, income received from the conduct of fund-raising bazaars, or from the village people's voluntary contributions, etc.

Record the total expenditure during the 1979/80 Fiscal year (April 1, 1979 through March 31, 1980). Routine expenditures include salaries of village officials, expenses for stationary, etc. Development expenditures include construction of schools, public health centers, bridges, roads, mosques, etc.

XXIII. VILLAGE DEVELOPMENT (1979/80).

1. In the 1979/80 Fiscal year, was there any physical development funded through the President's Instruction, provincial annual budget, district annual budget, village contribution, or people's voluntary contribution?

Yes -1 No -2

2. If "yes"

a. Completed

Type of construction	Source (record as completely as possible)	Period of construction (months)	Value (Rp. 1000,-)
(1)	(2)	(3)	(4)

b. Under construction

Type of construction	Source (record as completely as possible)	Period of construction (months)	Percent Completed	Value (Rp. 1000,-)
(1)	(2)	(3)	(4)	(5)

Your answers are to be used only for statistical purposes in compliance with the law.

Please answer the questions to the best of your knowledge.

- Do not stain, fold or bend, as this form is read by an electronic computer.
- Use a black pencil to answer the questions. If you have by mistake marked the wrong answer, erase the mark completely by eraser.
- When the answer is to be given by marking a box, mark a dash in the box like ☐. Otherwise, write the answer in the space partitioned by broken lines.

For all members of your household

Do not stain, fold or bend

	1	2	3	4
(Use a black pencil. Use an eraser, if you mark a wrong answer.) 1. Name and sex Write the names of all the persons who usually live in your household.	Male ☐	Female ☐		
2. Relationship to the head of household "Grandchild" and "Brother or sister" include him/her spouse. "Parent", "Grandparent" and "Brother or sister" include "Parent", "Grandparent" and "Brother or sister" of spouse respectively.	Head of household ☐ Spouse of head ☐ Child ☐ Spouse of child ☐ Grandparent ☐ Other relative ☐ Domestic servant ☐ Employee ☐ Other ☐			
3. Year and month of birth Mark the appropriate era and write year and month of birth.	Heiji Taisho Showa ☐ ☐ ☐ Year Month			
4. Marital status Write the actual status regardless of the official record.	Never married ☐ Now married ☐ Widowed ☐ Divorced ☐			
5. Nationality If alien, mark "Foreign country" and write the name of the country.	Japan ☐ Foreign country ☐ Name of country			
6. Time moved into the present house If a person has continuously resided in this house since the time of his/her birth, mark "Since the time of birth."	Oct., 1979 or after Jan. 1970 - Sept. 1979 1965 - 1969 Before 1964 or earlier Since the time of birth ☐ ☐ ☐ ☐ ☐ ☐ (Skip to B) (To next question)			
7. Previous address Mark the appropriate answer, according to the previous address where a person had resided before (he/she) moved into the present house. If "Other shi, machi, mura" is marked, write the previous address, i.e., the name of the prefecture, and shi, ku, machi or mura. Do not omit the name of ku, if the previous address was in the 11 major cities, i.e., Kuarea of Tokyo-to, Sapporo-shi, Yokohama-shi, Kawasaki-shi, Nagoya-shi, Kyoto-shi, Osaka-shi, Kobe-shi, Hiroshima-shi, Kitakyushu-shi, and Fukuoka-shi.	Same shi, machi, mura ☐ Other shi, machi, mura ☐ Foreign country ☐ (Skip B) (Write the previous address) Name of prefecture Name of shi, gun or shicho Name of ku, machi or mura			
8. Education Mark "Attending school", "Graduated from school" or "Never attended school", and enter appropriate marks following the arrows. If "Attending school", mark the kind of the school attending now. If "Graduated from school", mark the kind of the last school completed. Non-regular schools such as a preparatory school, a dress-making school, etc., should not be considered as "school" in the context of this question.	Attending school ☐ Graduated from school ☐ Never attended school ☐ Kindergarten Elementary school Junior high school Senior high school Vocational training school College University or graduate school Junior college High school Night school Maiden's school Navy/Others			

Number of household members. Write the number of all household member. Total Male Female <div style="border: 1px solid black; width: 100px; height: 20px; margin-top: 5px;"></div>		Telephone No. <div style="border: 1px solid black; width: 100px; height: 20px; margin-top: 5px;"></div>		Please turn over <div style="border: 1px solid black; width: 100px; height: 20px; margin-top: 5px;"></div>	
Year and month of birth, nationality Year Month 1 2 3 4 5 6 7 8 9 10 11 12 Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.		2nd figure 1st figure 0 1 2 3 4 5 6 7 8 9		Foreign country 1 2 3 4	
Previous address 1 2 3 4		Prefecture 1st figure 0 1 2 3 4 5 6 7 8 9 2nd figure 0 1 2 3 4 5 6 7 8 9 1st figure 0 1 2 3 4 5 6 7 8 9		shi, ku, machi, mura 200 100 000	
Type of building and number of stories Detached House Tenement House Apartment or flat Others ☐ ☐ ☐ ☐		Household number 1st figure 0 1 2 3 4 5 6 7 8 9 2nd figure 0 1 2 3 4 5 6 7 8 9 1st figure 0 1 2 3 4 5 6 7 8 9		Serial number of questionnaire 200 100 000	
Type of household Ordinary household One-person household Group of students in school Group of students in dormitory Group of students in school or dormitory Group of students in school or dormitory Group of students in school or dormitory		1st figure 0 1 2 3 4 5 6 7 8 9 2nd figure 0 1 2 3 4 5 6 7 8 9 1st figure 0 1 2 3 4 5 6 7 8 9		Serial number of questionnaire for this household out of	

For all members of your household		Only for employed persons and persons attending school	
<p>9. Did the person work at any time during the week from 24th to 30th of September?</p> <p>"Work" means any work for pay or profit. It includes work in a family business or a farm without pay, as well as home handicraft and part-time work.</p> <p>"School" includes a non-regular school such as a preparatory school, a dress-making school, etc.</p> <p>For the person who worked For the person who did not work at all</p>	<p>10. Place of work or location of school</p> <p>If a person is working and also attending school, give the person's place of work.</p> <p>If "Other sch. incl. muni. sch." is marked, write the address of the place of work or the location of school. I.e., the name of prefecture and sch., mu, muni or muni. Do not omit the name of mu, if the address is in the 10 major cities. (See Ques. 7)</p>	<p>11. Journey to work or to attend school</p> <p>Skip this question, if "At home" is marked for the question 10.</p> <p>For the person who used two or more means of transport, mark all applicable ones.</p>	<p>12. Employment status</p> <p>"Self-employed" includes proprietors of unincorporated business and persons working on own account.</p>
<p>13. Name and kind of business of employer or of a self-employed person's business</p> <p>Write the name of office, factory or shop where a person worked and the kind of business performed there. When he worked in the public agency, write also the name of the division or section he belonged to. See the filled-in examples on another sheet.</p>	<p>14. Kind of work</p> <p>Describe clearly the kind of work this person did. See the filled-in examples on another sheet.</p>	<p>15. Kind of work</p> <p>Describe clearly the kind of work this person did. See the filled-in examples on another sheet.</p>	

For your household		(Only for one-person household or ordinary household)		To be completed by enumerator	
(1) Source of household income Answer the source of income that supports the living of your household.		Other income	☐	Preference 1	2nd figure 1st figure
- Main source of income (do not only one) - All other sources of income		Rent income	☐	2	2nd figure 1st figure
(2) Type and nature of dwelling		Livelihood and income	☐	3	2nd figure 1st figure
		Employment insurance benefit	☐	4	2nd figure 1st figure
		Pensions	☐		
		Diversified work or activities	☐		
		Rent of house and/or land	☐		
		Home handicraft job	☐		
		Own non-farm business	☐		
		Own farm	☐		
		Wages and salary	☐		
		Others	☐		
		Bureaucracy	☐		
		Unpaid room	☐		
		Joined house (Company's house, gov't, employee's house, etc.)	☐		
		Housed house or flat owned by local government	☐		
		Housed house or flat owned by public corporation	☐		
		Housed house or flat owned by local government	☐		
		Owned house or flat	☐		
(3) Number of dwelling units Do not count a building, a kitchen, a bathroom, a room used for business and a room occupied by another household. Count a single-story house as 1 dwelling unit.		Number of dwelling units	☐		
(4) Area of floor Give the area of floor under dwelling rooms in terms of the number of tatami. Per room not filled with tatami, estimate the area by using the ratio of 3.2 square meters per ten tatami units.		Area of floor	☐		
		Occupation	☐		
		Industry	☐		
		For Statistics Bureau's use only	☐		

'80 센서스
시식 제20-1호

Questionnaire for 100% of population : Census of Korea, 1980

지정 통계 제 1 호 및 제 2 호

1980년 인구 및 주택 센서스

(전수조사구용)

15 & more

인구에 관한 사항

시	도	구	시	군	동	읍	면	통리 (이화리)	번지

가구에 관한 사항

도시주택번호	거처번호	가구번호	주택번호

주택에 관한 사항

가구	가구	가구	가구
구분	구분	구분	구분

모든 사람 All persons		5 세 이상 15 & more		실신 Disability		모든 가구 Household		주택의 주거 Housing	
이름	성별	나이	교육 정도	혼인상태	장애	모든 가구	주택의 주거		
현재 이택에 살고 계신 분들의 이름을 빠짐없이 말하여 주십시오. 닉에서 함께 생활하시는 분이거나 정부, 점원이나 친척같은 분도 포함됩니다.	이분은 가구주와 어떠한 관계에 있습니까?	이분은 남자입니까? 여자입니까?	이분은 몇살입니까?	이분은 몇살입니까?	이분은 몇살입니까?	이택에 사는 어떤 종류의 집에서 살고 있습니까?	이택의 외벽재료는 주로 무엇으로 되어 있습니까?		
1. Name of Each person in household	2. Relationship to household head	3. Sex	4. Age	5. Year of birth	6. Date of birth	7. Type of living quarters	8. Construction material of outer wall		
01	남	살	년도	월	일	1. 단독주택	1. 나		
02	여	살	년도	월	일	2. 아파트	2. 벽돌		
03	남	살	년도	월	일	3. 연립주택	3. 시멘트제품		
04	여	살	년도	월	일	4. 비거주용건물내의주택	4. 기타 (돌막, 판자집등)		
05	남	살	년도	월	일	5. 여관등 숙박업소	5. 기		
06	여	살	년도	월	일	6. 기숙사, 특수사회시설	6. 기		
07	남	살	년도	월	일	7. 임시막사	7. 기		
						8. 기타 (돌막, 판자집등)	8. 기		

1. 조사해야 할 사람
가. 친지 방문이나 사업상 잠시 출타한 사람
나. 병원에 입원한 환자나 보호자
다. 선박, 항공기 등 탑승 중무인
라. 영외 거주 직업 군인
마. 일정한 기간 없이 행상으로 돌아다니는 사람

2. 조사해서는 아니 될 사람
가. 가족 중 영내 거주 군인 및 전투 경찰
나. 가족 중 취업, 학업 등으로 외지에서 상주하고 있는 사람
다. 가족 중 요양소 등에서 정양중인 사람
라. 가족 중 교도소, 소년원에 재소 중인 사람
마. 가족 중 외국자, 사회시설 등에 들어 있는 사람

응답자 성명

조사자 성명

경제기획원 조사통계국

인구에
관한 사항

이	은	금	리	의	비
					(인)

Questionnaire for sample of population: Census of Korea, 1980
지정 통계 제 1 호 및 제 2 호

1980년 인구 및 주택 센서스 (표본조사구용)

Population		모든 사람 All persons							5 years and over				12 years and over			
이름	가구주와의 관계	성	나이	이			출생지	1년전거주지	5년전거주지	교육정도		통근여부	직업또는학업	주요교통수단		
현재 이택에 살고 계시는 분들의 이름을 핵심없이 말해주어 주십시오	이분은 가구주와 어떠한 관계에 있습니까?	이분은 남자입니까? 여자입니까?	이분은 세나 이모로 살입니까?	몇연도 살았습니까?	현재로서는 생일입니까?	생년월일	어느 곳에서 태어났습니까?	지금으로부터 1년전 (1979. 11. 1)에는 어디에서 사셨습니까?	그런데 지금으로부터 5년전 (1975. 11. 1)에는 어디에서 사셨습니까?	학교를 어디까지 다녔습니까?	최종학력 또는 본인이 배우고 있는 학업은 무엇입니까?	직업 하거나 학교에 다니고 있습니까?	하고 있다면 학업 또는 직업은 어느 곳에 있습니까?	주로 통학 통근에 이용하는 교통수단은 무엇입니까?		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
Name of each person in household	Relationship to household head	Sex	Age	Year of birth	Date of birth		Place of birth	Place of residence 1 year ago	Place of residence 5 years ago	Education status		Major field of study	Commuting status	Means of transportation		
01	1 남	남	생	연도	월 일		1 같은 구, 시, 군 2 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 한 다녔음 2 국 별 5 열표 3 중 학 6 개 4 인문고 7 대 학	1 졸업 2 재학 3 중퇴	1 한 다	1 같은 통, 읍, 면 2 다른 통, 읍, 면 구지군 통읍면	1 시내버스 5 승용차 2 철 도 6 자전거 3 통근버스 7 도 보 4 택 시 8 기 타		
02	1 남	남	생	연도	월 일		1 같은 구, 시, 군 2 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 한 다녔음 2 국 별 5 열표 3 중 학 6 개 4 인문고 7 대 학	1 졸업 2 재학 3 중퇴	1 한 다	1 같은 통, 읍, 면 2 다른 통, 읍, 면 구지군 통읍면	1 시내버스 5 승용차 2 철 도 6 자전거 3 통근버스 7 도 보 4 택 시 8 기 타		
03	1 남	남	생	연도	월 일		1 같은 구, 시, 군 2 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 한 다녔음 2 국 별 5 열표 3 중 학 6 개 4 인문고 7 대 학	1 졸업 2 재학 3 중퇴	1 한 다	1 같은 통, 읍, 면 2 다른 통, 읍, 면 구지군 통읍면	1 시내버스 5 승용차 2 철 도 6 자전거 3 통근버스 7 도 보 4 택 시 8 기 타		
04	1 남	남	생	연도	월 일		1 같은 구, 시, 군 2 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 한 다녔음 2 국 별 5 열표 3 중 학 6 개 4 인문고 7 대 학	1 졸업 2 재학 3 중퇴	1 한 다	1 같은 통, 읍, 면 2 다른 통, 읍, 면 구지군 통읍면	1 시내버스 5 승용차 2 철 도 6 자전거 3 통근버스 7 도 보 4 택 시 8 기 타		
05	1 남	남	생	연도	월 일		1 같은 구, 시, 군 2 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 한 다녔음 2 국 별 5 열표 3 중 학 6 개 4 인문고 7 대 학	1 졸업 2 재학 3 중퇴	1 한 다	1 같은 통, 읍, 면 2 다른 통, 읍, 면 구지군 통읍면	1 시내버스 5 승용차 2 철 도 6 자전거 3 통근버스 7 도 보 4 택 시 8 기 타		
06	1 남	남	생	연도	월 일		1 같은 구, 시, 군 2 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 한 다녔음 2 국 별 5 열표 3 중 학 6 개 4 인문고 7 대 학	1 졸업 2 재학 3 중퇴	1 한 다	1 같은 통, 읍, 면 2 다른 통, 읍, 면 구지군 통읍면	1 시내버스 5 승용차 2 철 도 6 자전거 3 통근버스 7 도 보 4 택 시 8 기 타		
07	1 남	남	생	연도	월 일		1 같은 구, 시, 군 2 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 같은 읍, 리, 동 2 같은 구, 시, 군 3 다른 구, 시, 군 구지군	1 한 다녔음 2 국 별 5 열표 3 중 학 6 개 4 인문고 7 대 학	1 졸업 2 재학 3 중퇴	1 한 다	1 같은 통, 읍, 면 2 다른 통, 읍, 면 구지군 통읍면	1 시내버스 5 승용차 2 철 도 6 자전거 3 통근버스 7 도 보 4 택 시 8 기 타		

2. 조사해서는 아니될 사람
- 가. 가족 중 열매 지극운이 및 한동경씨
나. 가족 중 최현, 취학 등으로 외국에서 상주하고 있는 사람
다. 가족 중 조양산 등에서 찾아 못한 사람
라. 가족 중 교도소, 소년원에 계속 중인 사람
며. 가족 중 가족이 사회시설 등에 들어 있는 사람

[illegible][illegible]

LIVING QUARTERS			START INTERVIEW HERE	
1. State:			Living Quarters Number	
2. Administrative District:			10. Ethnic Group, Community or Dialect of Head of Household	
3. Census District:			TYPE OF LIVING QUARTERS	
4. Circle Number:			CONSTRUCTION MATERIAL OF ROOF	
5. Enumeration Block Number:			LIGHTING	
6. Address/Locality (Sabah & Sarawak):			TOILET FACILITIES	
7. Number of Households in this Living Quarters (See column 6 of the House-Listing Book):			BATHING FACILITIES	
8. Number of Persons in this Living Quarters (See column 8 of the House-Listing Book):			COOKING FACILITIES	
9. Mark the appropriate boxes below:			ROOM	
10. Mark number of Households here (Question 7):			YR. OF CONS.	
11. Mark Total Persons here (Question 8):			BUILDER (Only for House, Flat or Apartment)	
12. Was this L.Q. built by:			40. Was this L.Q. built by:	

HOUSEHOLD

Each of these forms is to be filled in for one Household.

START INTERVIEW HERE	4. Living Quarters Number											
	<div style="display: flex; justify-content: space-around;"> H I N </div>			<div style="display: flex; justify-content: space-between;"> h 0<input type="text"/>1<input type="text"/>2<input type="text"/>3<input type="text"/>4<input type="text"/>5<input type="text"/>6<input type="text"/>7<input type="text"/>8<input type="text"/>9 </div> <div style="display: flex; justify-content: space-between;"> i 0<input type="text"/>1<input type="text"/>2<input type="text"/>3<input type="text"/>4<input type="text"/>5<input type="text"/>6<input type="text"/>7<input type="text"/>8<input type="text"/>9 </div> <div style="display: flex; justify-content: space-between;"> n 0<input type="text"/>1<input type="text"/>2<input type="text"/>3<input type="text"/>4<input type="text"/>5<input type="text"/>6<input type="text"/>7<input type="text"/>8<input type="text"/>9 </div>								
	1st sheet ☐											
2+ sheet ☐	5. Household Number											
			<div style="display: flex; justify-content: space-between;"> 0<input type="text"/>1<input type="text"/>2<input type="text"/>3<input type="text"/>4<input type="text"/>5<input type="text"/>6<input type="text"/>7<input type="text"/>8<input type="text"/>9 </div>									

[illegible]

12. List the names of any friends or other persons who slept here on Census Night.		13. Sex	14. Person Number	OFFICE USE ONLY	
				h	0 1 2 3 4 5 6 7 8 9
				t	0 1 2 3 4 5 6 7 8 9
				u	0 1 2 3 4 5 6 7 8 9
				19. Does your household have any of the following items?	
				Motor car	1 2 3 4+
				Land rover/van	1 2 3 4+
				Motor cycle/scooter	1 2 3 4+
				Bicycle	1 2 3 4+
15. Total visitors from 13 + 14	Males	Females	Total	radio	sewing machine
				b/w, T.V.	news-paper
				electric fan	refrigerator
				colour T.V.	air conditioner
				electric iron	water heater
16. GRAND TOTAL (11 + 15)	Males	Females	Total		piano/organ

Household Members Listing Order

- Head of household
- Spouse of head
- Unmarried children of head
- Married children of head and their families
- Mother/father of head or of spouse of head
- Brother/sister of head or of spouse of head
- Other relatives of head
- Servants, lodgers, boarders and other persons not related to head

17. GRAND TOTAL

h	0	1	2	3	4	5	6	7	8	9
t	0	1	2	3	4	5	6	7	8	9
u	0	1	2	3	4	5	6	7	8	9

18. (a) Do you pay rent for your accommodation?

Yes ☐ No ☐
(skip to 19)

(b) Does this Household own this Housing Unit?

Yes ☐ No ☐

19. Which income class below best describes the monthly income of your household? Please include the income of all earners of this household. (Show Income Class Card and read instructions to respondent).

	clock	boat with motor	road without motor	none of the above
	☐	☐	☐	☐

Below \$30
 \$30 - \$99
 \$100 - \$149
 \$150 - \$299
 \$300 - \$599
 \$600 - \$999
 \$1,000 - \$1,999
 \$2,000 - \$4,999
 \$5,000 and above

(This question is to be asked after all persons forms for the household have been completed)

21. L. Q's Code

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

For: 4a.

Write ethnic code in the boxes provided and write the ethnic group along the line provided.

	<i>I</i>	<i>II</i>
--	----------	-----------

<i>State</i>
<i>Administrative District</i>
<i>Census District</i>
<i>Circle Number</i>
<i>Enumeration Block</i>
<i>Locality (Subah/Serawak)</i>
START INTERVIEW
<i>Living Quarters No.</i>
<i>Household Number</i>
<i>Person Number</i>

7. To what ethnic group, community or dialect group do you belong?

1	0	1	2	3					
u	0	1	2	3	4	5	6	7	8

8. What is your religion?

Islam	Chris.	Hind.	Buddh.	Conf./Tan.	Trihal/	No
				U.T.C.R.	Folk Rrl.	Other Religion

9. What citizenship do you have?

under 12 yrs of age	Malay. sta	Shnga. sta	Indo neds	Phil. spines	Thai. land	Other. For.	Un- known

(skip to 11)

10. What is the colour of your Malaysian Identity Card?

none	blue	red	green	others
------	------	-----	-------	--------

11. Have you ever been to School? (excluding Adult Education & Kindergarten)

currently attending	completed	no
		(skip to 14)

12. What was/is the highest level of schooling you completed/are currently attending?

Primary	std. 1	std. 2	std. 3	std. 4	std. 5	std. 6
removal	F. 1	F. 2	F. 3	F. 4	F. 5	lower 6
Secondary						upper 6
Vocational	F. 4	F. 5				university/ college
						Tertiary

[illegible]

23. Did you work for pay or profit, at least 1 day during the last 7 days?

yes (skip to 31) no

24. Did you help in a family farm or business at least 1 day during the last 7 days?

yes (skip to 28) no (skip to 28)

27. How many hours per day did you work?

3 hrs. or less (skip to 29) more than 3 hours (skip to 31)

28. Do you have any employment, work on farm, enterprise or other family enterprise to return to?

yes (skip to 31) no

29. Were you looking for a job or work during the last 7 days?

yes (skip to 31) no

30. Why were you not seeking work during the last 7 days?

01	02	03	04
05	06	07	08
09	10	11	12
13	14		

(skip to 33e)

35a. What did you do most of the time during the last 12 months?

o.c.		u.p.		w.		f.w.		look		for house		studen		oth	
e've	e've	e've	e've	e've	e've	e've	e've	e've	e've	e've	e've	e've	e've	e've	e've
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

(skip to 36)

35b. Usual industry?

nodi		basic		fish		rubber		other art	
manu/	const.	commerce	commerce	port/	communi.	services	other	culture	other
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

36. Can you converse in any of the following languages?

Fuent		Elementary		English		Chinese		Tamil	
R.M.	R.M.	R.M.	R.M.	R.M.	R.M.	R.M.	R.M.	R.M.	R.M.
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

37. Can you read a newspaper or letter?

yes		no	
☐	☐	☐	☐

(skip to 40)

24. Do you have any physical handicap? ☐ none ☐ blind ☐ deaf/blind ☐ others

I. Q. No.			U. H. No.	Person No.			Occupation		
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

31. What is your employment status?

emp/	emp/	own a/c.
var	var	work
unpaid	looking	
f.w.	1st job	
☐	☐	

(skip to 35a)

32. What is your principal occupation?
(Describe the nature of your work in two or more words)

38. Can you write a simple letter?	yes ☐	no ☐ (skip to 40)
39. In what languages can you write? Bahasa Malayale English Chinese Tamil then Kadasan/Dusun Bnayu O. languages	☐	☐
40. Are you never married (END)	currently married ☐	divorced/ permanently separated ☐
41. Is this your first marriage?	yes ☐	no ☐
42. How old were you when you first got married?	☐	☐

Industry				Town/Kompiung	District
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8

14. What are the main activities/products of this establishment?

1	0	1	2	3	4	5	6	7	8	9
u	0	1	2	3	4	5	6	7	8	9

FOR EVER-MARRIED WOMEN

43. Have you given birth to any child yet

44a. How many children in total have ever been born alive to you?

$\begin{array}{|c|c|c|c|} \hline 0 & 9 & 9 & 9 \\ \hline \end{array}$
 $\begin{array}{|c|c|c|} \hline 0 & 9 & 9 \\ \hline \end{array}$
 $\begin{array}{|c|c|c|} \hline 0 & 9 & 9 \\ \hline \end{array}$

$\begin{array}{|c|c|c|} \hline 0 & 1 & 2 \\ \hline 0 & 1 & 2 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 3 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 4 \\ \hline \end{array}$
 $\begin{array}{|c|c|} \hline 5 & 6 \\ \hline \end{array}$
 $\begin{array}{|c|c|} \hline 7 & 8 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 9 \\ \hline \end{array}$

$\begin{array}{|c|c|c|} \hline 0 & 1 & 2 \\ \hline 0 & 1 & 2 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 3 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 4 \\ \hline \end{array}$
 $\begin{array}{|c|c|} \hline 5 & 6 \\ \hline \end{array}$
 $\begin{array}{|c|c|} \hline 7 & 8 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 9 \\ \hline \end{array}$

☐ _____

☒ *no* (F)

	(excluding still births) _____	
ND)	44h. How many are still living? _____	

1981 CENSUS OF NEPAL
HOUSEHOLD FORM

Zone _____ District _____ Panchayat _____ Ward No. _____ Enumerator's Name _____

Enumeration Date _____ Supervisor's Signature & Date _____ Page _____ of _____

Note: (A) Tick the box in front of the appropriate number (like this ☒) for columns 12, 13, 16, 17, and 20. Marking should not lie in two boxes.
(B) If you must give a description of two or more persons--e.g., 2 or more persons absent (cols. 8-11), 2 or more persons dead (14-15), 2 or more persons physically or mentally disabled (16-18)--use different lines. After that write next family serial no. on next line.

House- hold Serial Number	Family		Head of family, name, and caste Write the name and caste of the person running the family	Total number present in family			Description of absentees in family (absentees means persons absent for more than 6 months)						
	Serial Number	Size		Members absent for less than 6 months should be con- sidered present in the family. Servants or cooks staying in the house for more than six months should also be considered members of the family.				Number of absentees				Place where absentee has gone	Reason for moving
					Total	Male	Female	Total	Male	Female	Age		
1	2	3	4	5	6	7	8	9	10	11	12	13	
											1. Same district 2. Other district (specify) 3. Foreign (specify) 4. Unstated	1. Business 2. Agriculture 3. Service 4. Study/Training 5. Marriage 6. Other (specify)	

Report of deaths		Description of physically and mentally handicapped (weak)			Number of radios	Agriculture and cottage industry		Respondent's signature
If any male died within the last year, write his complete age in col. 14. If female, write her age in col. 15. If the person who died was less than one year of age, write zero.		If any member of the family is physically or mentally handicapped, the description should be written in this column. If male, tick the appropriate box of col. 16 and write his age in col. 18. If female, write accordingly in cols. 17 and 18.			Write the total number of radios in use.	If engaged in an agricultural occupation, tick 1; if engaged in cottage industry, tick 2; if engaged in both, tick 3. If engaged in something else, tick 4 and specify.	In this column write the serial no. of the agricultural families. If the family marked 1 or 3 of col. 20, give the serial number like 1, 2, 3, ... 10.	
Age of male	Age of female	Male	Female	Age				
14	15	16	17	18	19	20	21	22
		1. Blind 2. Deaf 3. Dumb 4. Mentally deficient 5. Loss of leg 6. Loss of hands	1. Blind 2. Deaf 3. Dumb 4. Mentally deficient 5. Loss of leg 6. Loss of hands			1. Agriculture 2. Cottage industry 3. Agric. and cottage industry 4. Other (specify)		

1981 CENSUS OF NEPAL
INDIVIDUAL FORM

Zone _____ District _____ Town/Panchayat _____ Ward No. _____ House No. _____
Family Serial No. _____ Enumerator's Name _____ Enumeration Date _____ Supervisor's Signature _____

At the time of enumeration, each household member present and members gone for less than six months (examples: gone for religious tour, for medical treatment, for study or training) are to be enumerated with the same family. Members gone for more than six months should not be enumerated with the household but should be enumerated at the places where they have gone. On asking the following questions, the enumerator is to tick mark the box for the appropriate answer like this ☒. The tick mark should not cross two boxes. If the answer is "other," enumerator must specify the category.

Description of each member of the household

Serial number	Name and caste of the family member	Mother's serial number	Relationship	Sex	Age	Place of birth	If birthplace not in district	
							Duration in this district	Reason for staying in district
	The head of household should be written first. New born babies should also be enumerated. "Family" means running the household with the same kitchen and same income. If the cook and servant are staying for more than 6 months, they must also be considered in the same family.	For children under 15 years, if mother is staying in same family, then write mother's serial no. in this col.	Member's relation to head of household.	Put tick mark in appropriate box.	Put person's complete age in this col. (e.g., if member is 21 years and some months, write only 21 yrs.). For children below 1 yr., write zero.	Write place of birth in this col. If member was born in same district, tick box no. 1; if born in a district within Nepal other than enumerated area, tick box no. 2; if born outside Nepal, tick box no. 3. Specify name of country (if box 3 ticked) or name of district (if box 2 ticked).	Example: If person has stayed in this district for 3 years and 4 months, write 3 yrs. For under 1 yr., write zero.	Tick appropriate box for reason for staying in this district
1	2	3	4	5	6	7	8	9
			1. Head of household 2. Husband 3. Wife 4. Son 5. Daughter 6. Daughter-in-law 7. Other (specify)	1. Male 2. Female		1. Same district 2. Other district (specify) 3. Foreign (specify)		1. Business 2. Agriculture 3. Service 4. Study/Training 5. Marriage 6. Other (specify)

Description of each member of the household (continued)			Description of persons six years and above			Description of persons ten years and above			
Citizenship	Mother tongue	Religion	Literacy	Qualification		Marital status	Maternity		
				Answer only for married women					
Tick appropriate box for citizenship.	Mother tongue is first language spoken in childhood. If person is dumb, mother tongue is language spoken in family. Tick appropriate box.	Tick appropriate box for religion.	Tick in appropriate box whether literate or illiterate.	Specify the highest qualification attained. If from class 1 to 10, specify number. If greater, specify IA, BA, MA, IS, BS, MS, Ph.D.	If member has done more than SLC, mark specific subject in appropriate box.	Tick as appropriate.	Write number of all children born (living or not). For sons, specify no. in box 1; For daughters, specify in box 2. If both, mark in both boxes and specify separately.	Write the number of children living. For sons, specify no. in box 1; for daughters, specify in box 2. If both, mark in both boxes and specify separately.	Write number of living children given birth to in the last Nepalese year (mid April 1980 to mid April 1981). For sons, specify number in box 1; for daughters, specify in box 2. If both, mark in both boxes & specify separately.
				Level of examination passed	Main subject				
10	11	12	13	14	15	16	17	18	19
1. Nepali 2. Indian 3. Chinese 4. Other (specify)	1. Nepali 2. Maithali 3. Bhojpuri 4. Newari 5. Gurung 6. Other (specify)	1. Hinduism 2. Buddhism 3. Jain 4. Muslim (Islam) 5. Christian 6. Other (specify)	1. Yes, literate 2. No, illit.		1. Arts/Commerce 2. Science 3. Medicine 4. Engineering 5. Agriculture 6. Other (specify)	1. Unmarried 2. Married 3. Widowed 4. Divorced	1. Son 2. Daughter	1. Son 2. Daughter	1. Son 2. Daughter

Description of persons ten years and above (continued)							
Economic Involvement			Reason for not being economically active (i.e., for not earning income)	Answer for those who marked 1 in col. 22 (economically active for 8 mos. last year)			
Last week	If not economically active	Last year		Occupation	Industry	Status of work	
Was person involved in economic activity last week or not?	If not economically active last week, was person in search of a job? If yes, mark 1; if no, 2. (Ask only those persons marking no. 2 in col. 20)	Was person economically active for 8 months during last Nepali year (mid April 1980 to 1981). If yes, mark 1, if no, 2.	If person is not economically active, mark appropriate box for reason why. (Only for those who marked no. 2 in col. 22)	Occupation is defined as what the person actually does.	Industry is defined as where the person works.	Of the following four categories, mark the one that is most suitable	1. Enumeration area within KTM? 2. No. of family members on top of page. 3. Continuation mark.
20	21	22	23	24	25	26	
1. Was (specify number of days) 2. Was not	1. Was 2. Was not	1. Was (specify no. of months) 2. Was not	1. Household job 2. Student 3. Old age 4. Chronic disease 5. Physically unfit 6. Mentally defective 7. Jail or orphanage 8. Pension or allowance 9. In search of job 10. Other (specify)			1. Giving orders to others 2. Working for others 3. Self-employed 4. Helping only

District No	Subdistrict No	Mesh block No	Questionnaire No	For Officer Use Only
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LS 000 J:

DEPARTMENT OF STATISTICS

NEW ZEALAND CENSUS OF POPULATION AND DWELLINGS

Tuesday, 24 March 1981

PERSONAL QUESTIONNAIRE

This Census is taken under the authority of section 23 (1) of the Statistics Act 1975.

Under this Act, a Personal Questionnaire must be completed by or for EVERY man, woman, and child (including baby) who is alive and is in New Zealand at midnight on the night of Tuesday, 24 March 1981.

It is an offence under section 43 (1) of the Statistics Act 1975, to neglect or refuse to supply Census information, or to make false statements on this questionnaire or to Census officers.

CONFIDENTIALITY

It is recognised that much of the information in the completed questionnaire is private. The confidentiality of the information you supply is safeguarded both by legislation and by Census procedures.

No information given in this questionnaire will be made available by the Department of Statistics to any organisation (including any other government department), or to any person (other than an employee of the Department of Statistics), in any form which would allow identification with the individual.

J.H. DARWIN
Government Statistician

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

A tick or other appropriate answer must be made in:

- every question from 1 to 12 (inclusive) for every person, and in
- every question from 13 to 29 (inclusive) if this questionnaire refers to a person aged 15 years or over (except in the case of certain visitors to New Zealand—see note following Question 12).

1. FULL NAME(*):
Surname or Family Name Christian or First Names (Write 'Baby' for a child not yet named)

2. SEX: TICK BOX WHICH APPLIES: Male ☐ 1 Female ☐ 2

3. DATE OF BIRTHDAY: Day of Month Month of Year

4. YEAR BORN, OR AGE LAST BIRTHDAY:
SPECIFY EITHER YEAR BORN: OR AGE LAST BIRTHDAY: (years).

5. RELATIONSHIP TO OCCUPIER OR TO PERSON IN CHARGE OF DWELLING ON CENSUS NIGHT(*):
EITHER (A) IF IN A PRIVATE DWELLING (e.g. house, flat) ON CENSUS NIGHT, TICK BOX WHICH APPLIES

Occupier ☐ 1	Spouse (husband or wife) of occupier ☐ 2	Daughter or son (including adopted or step) of occupier ☐ 3	Flatmate ☐ 12	Guest or visitor ☐ 13
Boarder ☐ 14	Grandchild of occupier ☐ 7	Father, mother, father-in-law, or mother-in-law of occupier ☐ 5	Brother or sister of occupier ☐ 8	Nephew, niece or cousin of occupier ☐ 10

Other ☐ SPECIFY (e.g. son-in-law, lodger, foster child):

OR (B) IF IN A NON-PRIVATE DWELLING (e.g., hotel, motel, hospital, hostel, camp, ship) ON CENSUS NIGHT, TICK BOX WHICH APPLIES:

Person in charge of a non-private dwelling ☐ 19	Member of family of, or non-paying guest of, person in charge ☐ 20	Resident staff in non-private dwelling ☐ 21	Paying guest, patient, other resident or inmate of a non-private dwelling ☐ 22
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6. FULL ADDRESS ON CENSUS NIGHT: (DO NOT GIVE P.O. BOX OR RURAL DELIVERY NUMBERS.)
Number in street, and name of street, road, etc Name of suburb or rural locality (if any) Name of city, town, or county

7. USUAL RESIDENTIAL ADDRESS(*): TICK BOX WHICH APPLIES

Same as address given in Question 6 above ☐	N.Z. resident with no fixed residential address in N.Z. ☐	Usually resident overseas (see Census Guide) ☐
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Other fixed residential address in N.Z. ☐ SPECIFY: (i) Number in street, and name of street, road, etc.
(ii) Name of suburb or rural locality (if any)
(iii) Name of city, town, or county

* SEE CENSUS GUIDE

Continue on next page

PAGE TWO

8. USUAL RESIDENTIAL ADDRESS ONE YEAR AGO (24 MARCH 1980): TICK BOX WHICH APPLIES:

Same as address in Question 7 on Page One ☐	Not applicable (born since 24 March 1980) ☐	Living in an overseas country on 24 March 1980 ☐
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Name of Country:

Other ☐ SPECIFY: (i) Number in street, and name of street, road, etc.
(ii) Name of suburb or rural locality (if any)
(iii) Name of city, town, or county

9. USUAL RESIDENTIAL ADDRESS AT PREVIOUS CENSUS (23 MARCH 1976): TICK BOX WHICH APPLIES:

Same as address in Question 7 on Page One ☐	Same as address written in Question 8 above ☐	Not applicable (born since 23 March 1976) ☐	Living in an overseas country on 23 March 1976 ☐
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Name of Country:

Other ☐ SPECIFY: (i) Number in street, and name of street, road, etc.
(ii) Name of suburb or rural locality (if any)
(iii) Name of city, town, or county

10. COUNTRY OF BIRTH(*): TICK BOX WHICH APPLIES:

New Zealand ☐ Other country ☐ SPECIFY: (A) Present name of country AND (B) Number of years in N.Z.:
(If under 1 year, write '0')

11. RELIGIOUS DENOMINATION(*):
SPECIFY: There is a statutory right to object to stating religious denomination, providing the word "OBJECT" is entered.

12. ETHNIC ORIGIN(*):
EITHER (A) IF OF ONLY ONE (FULL) ORIGIN, TICK BOX WHICH APPLIES:

Full European, or Full Caucasian ☐	Full N.Z. Maori ☐	Full Samoan ☐	Full Cook Is. Maori ☐	Full Chinese ☐	Full Indian ☐
Full Maori ☐	Full Tongan ☐	Other full origin ☐	SPECIFY: (e.g. Tokelauan, Japanese, Vietnamese)		

OR (B) IF OF MORE THAN ONE ORIGIN, GIVE PARTICULARS:
(e.g. 1/2 European + 1/2 N.Z. Maori; 1/2 N.Z. Maori + 1/2 Maori; 1/2 Chinese + 1/2 European + 1/2 Samoan)

CONTINUE BELOW if this questionnaire refers to a person who is aged 15 years or over and is either (a) a resident of New Zealand, or (b) a visitor to New Zealand who is, has been, or will be working while visiting New Zealand, or (c) a member of the family of an overseas resident who is working while visiting New Zealand.

If this questionnaire refers to a visitor to New Zealand who will not have worked in New Zealand between his or her date of arrival and date of departure, and he or she is not a member of the family of an overseas resident who is, has been, or will be working while visiting New Zealand, then no further questions need be answered, but this questionnaire must be signed in the space provided on Page Four.

For those under 15 years of age (i.e. those born on or since 25 March 1966), no further questions need be answered, but this questionnaire must be signed in the space provided on Page Four. A parent or guardian should sign the questionnaire of a young child.

13. CIGARETTE SMOKING: TICK THE BOX WHICH BEST DESCRIBES YOUR CURRENT CIGARETTE SMOKING:

Never smoked cigarettes at all, or never smoked them regularly ☐ 0	Do not smoke cigarettes now, but used to smoke them regularly (1 or more per day) ☐ 1	Currently smoke cigarettes regularly (1 or more per day) ☐ 2
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Specify number smoked yesterday: (if none write '0')

14. PRESENT MARITAL STATUS: (A) TICK BOX WHICH APPLIES:

Never married ☐ 1	Married ☐ 2	Married but permanently separated ☐ 3	Widowed ☐ 4	Divorced ☐ 5
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(B) IF LIVING IN A DE FACTO RELATIONSHIP (as husband/wife), TICK BOX: ☐

15. NUMBER OF CHILDREN BORN:
IF A FEMALE, SPECIFY NUMBER OF CHILDREN BORN ALIVE TO YOU, INCLUDING ANY WHO HAVE SINCE DIED, BUT DO NOT INCLUDE STEP CHILDREN OR ADOPTED CHILDREN:
(If none, write '0')

IF A MALE, TICK BOX: ☐

* SEE CENSUS GUIDE

Continue on next page

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16. HOURS WORKED PER WEEK(*):

- This question refers to usual hours at present worked for wages, salary, other financial reward, or as an unpaid relative assisting in business (farm, shop, etc.), including part-time and overtime hours.
- Except for hours worked as an unpaid relative assisting in business (farm, shop, etc.), no hours worked in unpaid jobs are to be included in your answer(s) to this question.

SPECIFY: (A) Number of hours worked PER WEEK in main job: OR IF NONE (i.e. not working), TICK BOX ☐

(B) Number of hours worked PER WEEK in second job (if any): TICK BOX ☐

(C) Number of hours worked PER WEEK in any other jobs: TICK BOX ☐

(D) TOTAL NUMBER OF HOURS WORKED PER WEEK IN ALL JOBS: TICK BOX ☐

17. EMPLOYMENT STATUS(*):

IF YOUR ANSWER TO QUESTION 16(D) WAS 20 HOURS OR MORE, TICK BOX WHICH APPLIES TO YOUR (MAIN) JOB

Employer of labour in own business or profession ☐ Working on own account and not employing labour ☐ Working for wages or salary ☐ Relative assisting in business (farm, shop, etc.) and NOT receiving wages ☐

OTHERWISE, TICK BOX WHICH APPLIES:

Unemployed and seeking work ☐ Retired ☐ Full-time student ☐ Household duties (unpaid) ☐ Other ☐ SPECIFY: (e.g. invalid):

18. OCCUPATION(*): Job, profession, trade or type of work in which you now work full-time or part-time for financial reward, or as an unpaid relative assisting. State fully, e.g. sheep farmer, auto-electrician, builder's labourer, dental nurse, wages clerk. If unemployed, state previous occupation. Otherwise, write NIL.

19. NAME OF EMPLOYING ORGANISATION(*): (If Unemployed give name of previous employer.)

SPECIFY: OR IF NOT APPLICABLE, TICK BOX: ☐

20. ADDRESS OF WORKPLACE(*):

EITHER (A) SPECIFY: (i) Number in street, and name of street, road, etc.: (ii) Name of suburb or rural locality (if any): (iii) Name of city, town or county: OR (B) IF NOT APPLICABLE, TICK BOX: ☐

21. TYPE OF WORK CARRIED OUT BY EMPLOYING ORGANISATION(*): (If unemployed give type of work of previous employer.)

SPECIFY: OR IF NOT APPLICABLE, TICK BOX: ☐

22. MAIN MEANS OF TRAVEL TO WORK(*): TICK BOX WHICH APPLIES:

Public bus ☐ Train ☐ Passenger in car, truck, van, or firm's bus ☐ Drive car, truck, or van ☐ Motor cycle, power cycle ☐ Bicycle ☐ Walk ☐ Other means ☐ Work at home ☐ Not applicable ☐

23. SOCIAL SECURITY BENEFITS (including National Superannuation, Family Benefit, and War Pensions)(*):

- Indicate below the types of Social Security benefit and war pension received during the year ending 31 March 1981, including benefits and war pensions received for only part of that year.
- Benefits received by one family member on behalf of other family members (e.g. mother receiving Family Benefit, husband receiving benefit for couple and children) should be reported on one questionnaire only, that of the recipient.

TICK BOX OR BOXES WHICH APPLY:

None ☐ Family Benefit ☐ National Superannuation ☐ Unemployment Benefit ☐ Sickness Benefit ☐ Domestic Purposes Benefit ☐ Widow's Benefit ☐ Invalid's Benefit ☐ War Pension ☐ Migrants Benefit ☐ Orphans Benefit ☐ Other benefit ☐ SPECIFY:

24. INCOME FROM SOCIAL SECURITY BENEFITS (including National Superannuation, Family Benefit, and War Pensions)(*):

- Tick the box below which represents your estimated income, for the year ending 31 March 1981, from ALL Social Security benefits and war pensions (including any benefit that was received for only part of that year).
- If receiving a benefit which is taxed before you get it, include the before tax amount in your estimate.
- Benefit income received by one family member on behalf of other family members (e.g. mother receiving Family Benefit, husband receiving benefit for couple and children) should be reported on one questionnaire only, that of the recipient.

TICK BOX WHICH APPLIES:

NIL ☐ \$1 to \$499 ☐ \$500 to \$999 ☐ \$1,000 to \$1,999 ☐ \$2,000 to \$2,999 ☐ \$3,000 to \$3,999 ☐ \$4,000 to \$4,999 ☐ \$5,000 to \$5,999 ☐ \$6,000 or over ☐

* SEE CENSUS GUIDE

Please turn over for rest of questions

PAGE FOUR

25. INCOME FROM OTHER SOURCES(*):

- Tick the box below which represents your estimated gross income, for the year ending 31 March 1981, from all sources EXCEPT Social Security benefits and war pensions.
- Include interest, wages, salary, piecework income, dividends, Accident Compensation weekly payments, Standard Tertiary Bursary income (including any supplement), and net income before tax from own business (including farming), rents, commissions, etc.
- Include the assessed value of housing, board, and goods or services where supplied free by an employer.

TICK BOX WHICH APPLIES:

NIL ☐ \$1 to \$499 ☐ \$500 to \$999 ☐ \$1,000 to \$1,999 ☐ \$2,000 to \$2,999 ☐ \$3,000 to \$3,999 ☐ \$4,000 to \$4,999 ☐ \$5,000 to \$5,999 ☐ \$6,000 or over ☐

26. HIGHEST LEVEL ATTENDED AT SCHOOL(*): TICK BOX WHICH APPLIES:

No Primary or Secondary Schooling ☐ Primary or Intermediate School (Standard 6 or below) ☐ SECONDARY SCHOOL ☐ Form 3 ☐ Form 4 ☐ Form 5 ☐ Form 6 ☐ Form 7 ☐

27. HIGHEST SCHOOL QUALIFICATION GAINED(*):

IF YOU HAVE TICKED ONE OF THE BOXES NUMBERED 1 TO 4 IN QUESTION 26 ABOVE, TICK BOX: ☐ THEN GO TO QUESTION 28.

OTHERWISE, TICK BOX BELOW WHICH APPLIES:

No school qualification ☐ University Scholarship or "A" or "B" Bursary ☐ Higher School Certificate, Higher Leaving Certificate ☐ University Entrance Matriculation ☐ Endorsed School Certificate, Sixth Form Certificate in 4 or more subjects ☐ Sixth Form Certificate in 1, 2 or 3 subjects ☐ School Certificate or 3 or more subject passes in School Certificate ☐ 1 or 2 subject passes in School Certificate ☐ Other ☐ SPECIFY:

28. OTHER PLACES OF EDUCATION ATTENDED OR AT WHICH ENROLLED(*):

IF STILL ATTENDING PRIMARY OR SECONDARY SCHOOL, TICK BOX ☐ THEN GO TO QUESTION 29.

OTHERWISE ANSWER PARTS (A) and (B) BELOW BY TICKING BOX OR BOXES WHICH APPLY:

(A) Past Attendance - None ☐ University ☐ Teachers College ☐ Polytechnic or Technical Institute ☐ Other ☐ SPECIFY: (e.g. Business College, Nursing School)

(B) Current Attendance - None ☐ University ☐ Teachers College ☐ Polytechnic or Technical Institute ☐ Other ☐ SPECIFY: (e.g. Pharmacy School, Community College)

29. ACADEMIC, VOCATIONAL, OR PROFESSIONAL QUALIFICATIONS GAINED SINCE LEAVING SCHOOL(*):

EITHER (A) TICK BOX WHICH APPLIES: No qualifications or no relevant qualifications ☐ Still at school ☐ OR (B) Specify academic, vocational, or professional qualifications gained through prescribed courses of study since leaving school, starting with the most recently gained. If more than one qualification in a particular field or subject, give only the highest qualification in that field or subject.

- Also give field or subject associated with each qualification, and year qualification gained.
- Do not use abbreviations, and do not give recreational qualifications, qualifications not yet fully gained, or courses of study which did not produce a qualification.

NAME OF QUALIFICATION **FIELD OR SUBJECT** **YEAR GAINED**

Qualification 1:
Qualification 2:
Qualification 3:
Qualification 4:

SIGNATURE: I CERTIFY THAT THE ABOVE PARTICULARS ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF: Signature

When you have completed this questionnaire, please check that all relevant questions have been answered, and that the questionnaire has been signed. Please note that failure to answer all relevant questions will result in further inquiries being made by the Sub-enumerator or other Census officers.

Give the questionnaire to the occupier or person in charge of the dwelling. Where additional privacy is desired, you may hand the completed questionnaire in a sealed envelope to the occupier or person in charge, provided you write on the outside of the envelope your name and the District, Sub-district, Mesh block, and Questionnaire Numbers shown at the top of the front page of this questionnaire.

It is illegal for an envelope so sealed and endorsed to be opened by the occupier, person in charge, or Sub-enumerator. However, the use of an envelope does not release you from your responsibilities under the Statistics Act 1975. Any omissions will result in further inquiries being made by Census officers.

Additional information is contained in the accompanying Census Guide. If you have any queries, please contact your Enumerator, whose telephone number has been advertised in your local newspaper, or is obtainable from your local Post Office.

Thank you for your co-operation.

* SEE CENSUS GUIDE

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NEW ZEALAND CENSUS OF POPULATION AND DWELLINGS, 24 MARCH 1981

CENSUS GUIDE FOR PERSONAL QUESTIONNAIRE

NOTES: (1) This Census Guide contains further advice on answering Questions 1, 5, 7, 10-12, 16-23, and 25-29 of the Personal Questionnaire.

(2) After the Census, this Census Guide may be destroyed. It will not be collected by the Census Sub-enumerator. ("Sub-enumerator" is the title given to persons who deliver Census questionnaires to dwellings, and who collect them after Census date.)

1. FULL NAME:

The name of the person to whom a questionnaire refers must, by law, be asked in the Census. Names, however, are not recorded in the processing of Census statistics, and they are not put on computer.

Two of the main reasons why names are required to be asked in the Census are:

- One of the legal duties of a Sub-enumerator is to obtain any information that may be missing from a questionnaire when (s)he collects it after Census night. Without knowing the name of the person to whom a questionnaire refers, it would not be possible for the Sub-enumerator to carry out this duty without divulging information more personal than name in an effort to identify the person concerned.
- During the processing operation after the Census, names are used to allocate individual household members to family groupings. This enables statistics on families to be prepared from Census data, and family statistics are a very useful and important product of the Census.

5. RELATIONSHIP TO OCCUPIER OR TO PERSON IN CHARGE OF DWELLING ON CENSUS NIGHT:

The following notes for guidance apply:

- The occupier of a private dwelling (e.g. house, flat) is the person present in the dwelling on Census night who signs the Dwelling Questionnaire for the dwelling. This person should be the head (if any) of the household, or some other adult present in the dwelling on Census night.
- The person in charge of a non-private dwelling (hotel, motel, hospital, school hostel, camp, boarding house, ship, etc.) is the proprietor, superintendent, or other person designated in charge on Census night. Unlike the occupier of a private dwelling, the person in charge of a non-private dwelling need not be residing in the dwelling on Census night.
- For the purposes of this question, "Spouse (husband or wife) of occupier" includes a *de facto* spouse of the occupier. Children of the *de facto* spouse of an occupier should be regarded as children of the occupier.

7. USUAL RESIDENTIAL ADDRESS:

The following notes for guidance apply:

- A boarding-school pupil, or student living in a hostel, who usually returns home at the end of each term should give parents' or guardian's usual residential address.
- A person in an institution (e.g. a hospital patient) should give usual residential address if total length of stay in institution is likely to be less than six months. Otherwise, give address of institution.
- A person living in a work-camp should give the address of the work-camp if normally resident in that camp. However, if living in a work-camp temporarily (less than six months), then give usual home address.

(continued in next column)

7. USUAL RESIDENTIAL ADDRESS (continued)

- A person whose work requires extensive travel (e.g. a sales representative) should give usual home address.
- A visitor to New Zealand who is, or will be, working in New Zealand should tick the appropriate box for the usual residential address in New Zealand, as should any dependent members of his or her family (even if such members will not be working in New Zealand).
- Any other visitor to New Zealand who is not, or will not be, working in New Zealand should tick the "Usually resident overseas" box, and give name of country.
- Any other person with more than one residential address in New Zealand should indicate the address at which the greatest proportion of time is spent.

Like names, addresses are not recorded in the processing of Census statistics, and they are not put on computer. Under the Electoral Act 1956, the Government Statistician is required to calculate the number of persons in each electoral district who are temporarily resident in certain non-private institutions at Census time. The Census-night address and usual residential address of persons are required for this purpose.

10. COUNTRY OF BIRTH:

The following notes for guidance apply:

- If born overseas, specify present name of country in which birthplace is situated, and give number of years lived in New Zealand, disregarding any temporary absences.
- If born in British Isles, specify England, Northern Ireland, Republic of Ireland, Scotland, Wales, etc., as appropriate.

11. RELIGIOUS DENOMINATION:

The following additional notes for guidance apply:

- Specify religious denomination or sect (e.g. Anglican, Methodist, Presbyterian, Rastana, Roman Catholic).
- For a child, specify the religious denomination or sect in which (s)he is being brought up.
- If no religious denomination or sect applies, then an answer such as Christian, Hindu, Islam, nil, atheist, or agnostic may be given.

12. ETHNIC ORIGIN:

The following notes for guidance apply:

- This question refers to the blood mixture of races within a person. To calculate this mixture, add one-half of mother's ethnic origin to one-half of father's ethnic origin. The following examples may help you to correctly calculate ethnic origin:

Example 1: Mother = Full European
Father = Full European
Children = $\frac{1}{2}$ (Full European) + $\frac{1}{2}$ (Full European)
= Full European

Example 2: Mother = Full Japanese
Father = $\frac{1}{2}$ Chinese + $\frac{1}{2}$ Fijian
Children = $\frac{1}{4}$ (Full Japanese) + $\frac{1}{4}$ (Chinese)
+ $\frac{1}{4}$ (Fijian)

Example 3: Mother = $\frac{1}{2}$ N.Z. Maori + $\frac{1}{2}$ European
Father = $\frac{1}{2}$ N.Z. Maori + $\frac{1}{2}$ European + $\frac{1}{2}$ Samoan
Children = $\frac{1}{4}$ (N.Z. Maori) + $\frac{1}{4}$ (N.Z. Maori) + $\frac{1}{4}$ (European)
+ $\frac{1}{4}$ (Samoan)
= $\frac{1}{2}$ N.Z. Maori + $\frac{1}{4}$ European + $\frac{1}{4}$ Samoan

(continued overleaf)

12. ETHNIC ORIGIN (continued)

- Note that the fractions of each person's ethnic origin always add up to 1 (e.g. in Example 3 on previous page, $\frac{1}{2} + \frac{1}{4} + \frac{1}{4} = 1$).
- The term "Caucasian" in the description of the first box means "member of the 'white' or light-skinned division of mankind". It therefore includes the more common term "European".

16. HOURS WORKED PER WEEK:

The following additional notes for guidance apply:

- Exclude hours spent on unpaid household duties, and hours spent on unpaid charitable work.
- Those who are unemployed but not seeking work (e.g. those between jobs) should answer Questions 16-19 and 21 as if still employed in previous job.
- If the box in row (A) applies, leave the dotted lines in rows (B), (C), and (D) blank.
- If working in paid employment (or as an unpaid relative assisting in business), then answer part (A), part (B) if it applies, and part (C) if it applies. Add up the answers to parts (A), (B), and (C), then write the sum total of these answers on the dotted line in (D).

17. EMPLOYMENT STATUS:

The following notes for guidance apply:

- If you ticked the box in row (A) of Question 16, then tick the appropriate box in the second or third row of Question 17.
- A company manager should tick the box numbered 2.
- A partner in a business should tick the box numbered 0 if labour is employed, or the box numbered 1 if labour is not employed.
- Only those who are unemployed and actually seeking work should tick the box numbered 5.
- If more than one employment status applies, indicate principal status.

18. OCCUPATION:

The following additional notes for guidance apply:

- If working in more than one job, give details of your main job in this question and in Questions 19-22.
- If not applicable, write "Nil" on dotted line, then tick the "Not applicable" box in Questions 19, 20, 21, and 22.

Further examples of the type of answer required are:

Dispatch clerk	Poultry farmer	General nurse
Accounts clerk	Dairy farmer	General nurse trainee
Office clerk (general)	Sharemilker	Community nurse
Bank teller	Dairyhand	Industrial nurse
	Market gardener	
Shop assistant	Hospital aid	Light-truck driver
Warehouse salesman	Kitchenmaid	Heavy-truck driver
Commercial traveller	Housemaid	
Storeman	Shorthand-typist	Chartered accountant
Slaughterman	Secretary-typist	General accountant
Freezing worker	General typist	Lend surveyor
Waterside worker		General practitioner
		Specialist physician
State secondary school teacher	Road maintenance labourer	
Private primary school teacher	Well-drilling labourer	
Teachers College student (primary)	Drainlayers labourer	
	Sawmill hand	
	Dairy-factory hand	
Motor vehicle mechanic (diesel)	Construction foreman	
Motor vehicle mechanic (not diesel)	Wool scourer	
	Bread baker	
	Tailor	
Retail-shop manager	Sewing machinist	
Wholesale-warehouse manager	Precision woodworking machinist	
Working proprietor	Tool maker	
General manager	Machinery fitter (general)	
Managing director	Automotive electrician	
	Solid plasterer	
Civil engineer	Carpenter	
Civil engineering technician	Book-keeping machine operator	
Civil engineering draughtsman	Telephone switchboard operator	

19. NAME OF EMPLOYING ORGANISATION:

The following additional notes for guidance apply:

- Please give the name of the organisation (company, firm, government department, council, etc.) that you are working for.
- If an employer, or if working on own account, give name under which you trade. If no such trade name, write "SELF".
- This question is asked solely to assist in the statistical classification of address of workplace (Question 20) and type of work carried out by employing organisation (Question 21), and to classify workers by sector of employment (central government, local government, private, etc.).

20. ADDRESS OF WORKPLACE:

The following notes for guidance apply:

- If working regularly from or at a fixed address, specify the address.
- Commercial travellers, sales representatives, shearers, and other persons not working regularly from or at a fixed address, should write "NO FIXED ADDRESS".
- A person whose work entails daily travel from a fixed call, reporting, or assembly point should give the address of the call, reporting, or assembly point.
- A seaman on board ship should give the port at which berthed on Census night, or next port of call.
- If attending a work-related course away from normal workplace on Census night, give address of normal workplace.
- If unemployed, tick the "Not applicable" box in (B).

21. TYPE OF WORK CARRIED OUT BY EMPLOYING ORGANISATION:

The following additional notes for guidance apply:

- Please give a full description of the type of work carried out by the organisation (company, firm, government department, council, etc.) that you are working for.
- If in a manufacturing firm, give major product made or commodity dealt with (see examples below). Do not give trade names.

Examples of the type of answer required are:

Dairy farming	Retail butchery	Motor vehicle assembly
Mixed farming	Retail grocery	Meat export works
75% sheep, 25% beef	Retail builders hardware	Dairy factory
Pip-fruit orchard	Retail furnishing	Vegetable canning
Forest nursery	Retail computer	Bread baking
	Retail chemist	Beer brewing
Logging	Retail motor vehicles	Knitting mill
Agricultural fencing	Retail bookstall	Wire working
Sawmilling	Department store	Newspaper publishing
Sheep shearing	Service station	
Road freight transport	Unlicensed restaurant	Building contracting
Private bus services	Licensed hotel	Electrical contracting
Sea transport	Taverns	Fibrous plastering
		Earth moving
Wholesale builders hardware	State primary education	
Wholesale beer, wines and spirits	Private secondary education	
Wholesale industrial machinery	University education	
Wholesale general merchandise		
Stock and station agents	Legal services	
	Accountancy	
Manufacture of biscuits	Architecture	
Manufacture of ice cream	Religious activities	
Manufacture of footwear	Motor vehicle repair garage	
Manufacture of men's outerwear	Trading bank	
Manufacture of furniture	Hairdressing	
Manufacture of paint	Veterinary services	
Manufacture of concrete products	Recreational training	
Manufacture of tyres	Commercial cleaning	
Manufacture of pulp and paper	Drycleaning	
Manufacture of industrial machinery	Television broadcasting	
	Post Office communications	
Public hospital	Local government administration	
Private medical practice	Central Government administration	
Private dental practice

DEPARTMENT OF STATISTICS
NEW ZEALAND CENSUS OF POPULATION AND DWELLINGS
Tuesday, 24 March 1981
DWELLING QUESTIONNAIRE

District No.	Sub-district No.	Mesh block No.	Questionnaire No.
			For Office Use Only

CONFIDENTIALITY

It is recognised that much of the information in the completed questionnaire is private. The confidentiality of the information you supply is safeguarded both by legislation and by Census procedures.

No information given in this questionnaire will be made available by the Department of Statistics to any organisation (including any other government department), or to any person (other than an employee of the Department of Statistics), in any form which would allow identification with the dwelling or its occupier or person in charge and other occupants.

All employees of the Department of Statistics are legally bound, under section 40(c) of the Statistics Act 1975, to keep secret any individual information collected.

J.H. DARWIN,
Government Statistician

DEFINITION OF DWELLING

The term 'dwelling' is defined in the Statistics Act 1975. In effect, a dwelling is any accommodation unit which is self-contained at least in respect of sleeping, cooking, and dining facilities. Where a building is occupied by two or more households in separate flats, or has a self-contained flat or detached house contained in any group living quarters, each such flat or house is a separate dwelling for Census purposes. Houses, self-contained flats, bachelors' quarters, and other similar forms of accommodation are each examples of separate dwellings for Census purposes.

NOTE: Answer Questions 1, 2(A), 2(B), and 3, then continue overleaf.

1. NAME OF OCCUPIER OR PERSON IN CHARGE OF DWELLING ON CENSUS NIGHT:

- The occupier of a private dwelling (house, flat, etc.) is the person present in the dwelling on Census night who signs the Dwelling Questionnaire for the dwelling. This person should be the head (if any) of the household, or some adult present in the dwelling on Census night.
- The person in charge of a non-private dwelling (hotel, motel, hospital, camp, boarding house, ship, etc.) is the proprietor, superintendent or other person designated in charge on Census night.

SPECIFY: Surname or family name Christian or first name

2. FULL ADDRESS OF DWELLING: (DO NOT GIVE P.O. BOX OR RURAL DELIVERY NUMBERS.)

(A) SPECIFY: Number in street, and name of street, road, etc. Name of city, town, or county

(B) IF THIS ADDRESS IS IN A CITY, BOROUGH, COMMUNITY, OR TOWN DISTRICT, OR IN THE HEATHCOTE OR WAIMAIRI COUNTY, TICK BOX: ☐

IF NOT, SPECIFY: (i) Name of nearest Post Office: (ii) Distance from dwelling to nearest Post Office by usual route: kilometres OR miles.

3. NUMBER OF OCCUPANTS ON CENSUS NIGHT:

- Specify number of males, number of females, and total persons present in this dwelling on Census night.
- Include persons who arrive or return here before noon on 25 March 1981 who were in New Zealand at midnight on the night of Tuesday, 24 March 1981, but who did not complete a Census Personal Questionnaire elsewhere.
- Include any babies in this dwelling on Census night.
- Do not include persons who are temporarily absent on Census night but who otherwise usually reside here. Such persons are to be listed in Question 18 on Page Four of this questionnaire.

SPECIFY: Males Females Total persons:

Continue overleaf

27. HIGHEST SCHOOL QUALIFICATION GAINED:

- The following notes for guidance apply:
 - Indicate highest school qualification gained in Form 5, Form 6, or Form 7 as a child or adult student.
 - If highest school qualification was gained at an overseas school, indicate the New Zealand equivalent of that qualification. To help you to do this, the chart below sets out:
 - (i) the range of New Zealand school qualifications, in descending order from the highest (University Scholarship) to the lowest (1 or 2 subject passes in School Certificate);
 - (ii) the box number in Question 27 that applies to the qualification; and
 - (iii) the school, form (or class) in which each qualification is obtainable;
 - (iv) the usual age of a pupil when (s)he obtains the qualification; and
 - (v) after how many years of schooling (from and including age 5) each qualification is usually obtainable.

New Zealand School Qualification	Box No. in Q. 27	School (years)	Age (years)	Years of Schooling
University Scholarship	1	7	17	13
University A or B Bursary	1	7	17	13
High School Leaving Certificate	2	7	17	13
University Entrance	3	6	16	12
Matriculation	3	6	16	12
Endorsed School Certificate	4	6	16	12
School Certificate in 4 or more subjects	4	6	16	12
Sixth Form Certificate in 1, 2, or 3 subjects	5	6	16	12
School Certificate in 3 or more subject passes in 1 or 2 subject passes in School Certificate	6	5	15	11
1 or 2 subject passes in School Certificate	7	5	15	11

28. OTHER PLACES OF EDUCATION ATTENDED OR AT WHICH ENROLLED:

- The following notes for guidance apply:
 - "Other places of education" means places other than primary school, intermediate school, and secondary school.
 - "Past attendance" and "current attendance" refer only to attendance, as a pupil or student, for the purpose of gaining a general education and/or any job qualification. Do not count short-term or occasional courses, or attendance at courses for personal interest or development.
 - A person whose further education (after formal schooling) was by correspondence should answer as if (s)he had attended the relevant place of education.
 - If past attendance was at an overseas place of education, indicate the New Zealand equivalent of that place. If no known New Zealand equivalent, specify only the subject studied.
 - In addition to the places of education mentioned under the dotted lines, some further examples are Regular Force Cadet School, Police College, Theological College or Seminary, Library School, Occupational Therapy School, Hairdressing School.

29. ACADEMIC, VOCATIONAL, OR PROFESSIONAL QUALIFICATIONS GAINED SINCE LEAVING SCHOOL:

- Some examples of the type of answer required are:
 - N.Z. Trades Certificate
 - N.Z. Certificate in Engineering
 - Trade Teachers Certificate
 - Trade Certificate Board Grade 8
 - Apprenticeship Completion Certificate
 - Certificate of Proficiency
 - Diploma in Accounting
 - Bachelor of Arts
 - Bachelor of Science (Hons.)
 - Fellow of the Royal Australasian College of Physicians
 - Cardiology

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41857G—3,000,000/1/80M

22. MAIN MEANS OF TRAVEL TO WORK:

- The following notes for guidance apply:
 - Indicate the main means of travel used in going from home to usual workplace.
 - If more than one form is used, indicate the form that is most often used for the longest part of the distance covered.
 - A person who has no fixed place of work should indicate the means of transport most often used to travel to work.
 - If unemployed, tick the "Not applicable" box.

23. SOCIAL SECURITY BENEFITS:

The following additional notes for guidance apply:

- If you received EMERGENCY UNEMPLOYMENT BENEFIT at any time in the year ending 31 March 1981, then tick the Unemployment Benefit box.
- If you received EMERGENCY SICKNESS BENEFIT at any time in the year ending 31 March 1981, then tick the Sickness Benefit box.
- If you received EMERGENCY MAINTENANCE ALLOWANCE at any time in the year ending 31 March 1981, then tick the Domestic Purpose Benefit box.
- If you received a WAR-RELATED PENSION OR ALLOWANCE (War Service Pension, War Disablement Pension, War Veterans Allowance, Economic War Pension, War Service-men's Dependents Allowance, or Dependents War Pension) at any time in the year ending 31 March 1981, then tick the War Pension box.
- Tick the FAMILY BENEFIT box if any money was paid to you, at any time in the year ending 31 March 1981, by way of regular payments of Family Benefit, or by way of partial capitalisation of Family Benefit, or by way of an advance on Family Benefit. All money that was paid to you in these ways is to be included in your answer to Question 24.
- If you received ADDITIONAL BENEFIT at any time in the year ending 31 March 1981, then tick the box of the benefit that the Additional Benefit was paid with or attached to.
- If receiving a SOCIAL SECURITY PENSION FROM OVERSEAS, tick the "Other benefit" box, and write "Overseas Pension" on the dotted line. In Question 24, include the total amount received from the pension in the year ending 31 March 1981, converted to New Zealand currency.

25. INCOME FROM OTHER SOURCES:

- The following additional notes for guidance apply:
 - Do not deduct taxes, superannuation contributions, life insurance premiums, or any other payments made from gross income.
 - Exclude any lump-sum amounts received from Accident Compensation, superannuation funds, or insurances.
 - Exclude any allowances (such as a housekeeping allowance or pocket money) received as a wife, child, or other dependant.

26. HIGHEST LEVEL ATTENDED AT SCHOOL:

- The following notes for guidance apply:
 - A person whose school education was by correspondence should answer as if (s)he had attended school.
 - If currently attending school, indicate level being attended.
 - Include any attendance as an adult student in Forms 3 to 7.
 - If highest school level attended was at an overseas school, indicate the New Zealand equivalent of that level. The following chart may help you to do this:

New Zealand School Level	Box No. in Q. 26	Age Range (years)	Usual Number of Years of Schooling
Primary or Intermediate	2	5-12	1-8
Secondary — Form 3	3	13	9
" — Form 4	4	14	10
" — Form 5	5	15	11
" — Form 6	6	16	12
" — Form 7	7	17	13

PAGE TWO

NOTE: Answer whichever of Questions 4 and 5 apply, then each of Questions 6, 7, and 8.

4. TYPE OF PRIVATE DWELLING(*):

- The typical private dwelling is a house, flat, or apartment. Other private accommodation (such as bed-sitting room) constitutes a separate private dwelling if self-contained at least in respect of sleeping, cooking, and dining facilities.
- An outbuilding or caravan on the same section as a private dwelling is a separate dwelling if self-contained in respect of sleeping, cooking, and dining facilities. If such a dwelling is occupied on Census night, then a separate Dwelling Questionnaire should be completed for it.

(A) TICK THE BOX WHICH BEST DESCRIBES THE DWELLING YOU OCCUPY ON CENSUS NIGHT:

Separate house (one household) not attached to any other dwelling	House or flat attached to shop, offices, hotel, or other business premises	House or flat whose cooking facilities are shared by 2 or more households who otherwise live separately in the house or flat
House (one household) with 1 or more flats or other private dwellings attached	Self-contained flat or apartment	Town house, row house, villa unit
Back, crib or hut (not in work camp)	Movable home (e.g. caravan, houseboat)	Other, including temporary or improvised (e.g. shed, tent)

(B) IF YOU TICKED A BOX ABOVE WITH 1 ATTACHED, PLEASE ANSWER PARTS (i) AND (ii) BELOW:

(i) How many other houses, flats, or apartments are attached to or linked to this dwelling? *Tick box which applies:*

None	One	Two	Three or more
0	1	2	3

(ii) How many storeys are there in the building that contains this dwelling? *Tick box which applies:*

One	Two	Three or more
1	2	3

5. TYPE OF DWELLING IF OTHER THAN A PRIVATE DWELLING:

- Examples of the types of dwelling to which this question refers are hotels, motels, hospitals, school hostels, camps, boarding houses, ships and trains.
- Houses and self-contained flats situated in the grounds of an institution or permanent camp are to be regarded as separate private dwellings, and not as part of the institution or camp.

(A) TYPE OF DWELLING. Tick box which applies:

Hotel, motel, motor inn, private hotel, guest house	Boarding house, rooming house	Educational institution, or hostel attached to such	Religious institution
Hospital (public or private), convalescent home	Home for the elderly	Work camp, construction camp	Motor camp
Other	SPECIFY: (e.g. Armed Forces camp or station, ship, shamen quarters, nurses home)		

(B) NAME OF INSTITUTION, CAMP, SHIP, HOTEL, MOTEL, ETC.: (If none, write NIL.)

6. PRINCIPAL MEANS OF COOKING: TICK BOX WHICH APPLIES:

Electric	Gas (main)	Wood, coke, or coal	Other or nil
1	2	3	4

SPECIFY: (e.g. oil-fired, NIL)

7. TYPE OF HOT WATER SUPPLY(*): TICK BOX OR BOXES WHICH APPLY:

Electric	Gas (main)	Wood, coke, or coal	Solar	Other or nil
1	2	3	4	5

SPECIFY: (e.g. oil-fired, NIL)

8. HEATING OF DWELLING:

TICK BOXES WHICH APPLY TO THE HEATING APPLIANCES USED TO HEAT THIS DWELLING DURING THE LAST TWELVE MONTHS:

ELECTRIC HEATER:	Portable bar, fan, etc. type	Non-portable bar, fan, etc. type	Wall-mounted panel or strip	Off-peak or night storage	In-floor cables or wires
GAS HEATER:	Portable type using bottled gas or mains gas	Non-portable radiator or open type	Non-portable console or convector type		Under floor furnace using vents or ducts
WOOD, COKE, OR COAL FIRE:	Open	Slow combustion	Oil console or convector type		Wood or coal range
KEROSENE-BURNING OR OIL-FIRED HEATER:	Portable kerosene type				Other oil fired heating system using vents, ducts, or hot-water pipes
OTHER HEATING APPLIANCE:	SPECIFY (e.g. Thermal bone radiator, solar heat)				
NO HEATING APPLIANCE USED IN THE LAST TWELVE MONTHS:					

Continue on next page if this questionnaire refers to a private dwelling. If other than a private dwelling, no further questions need to be answered, but this questionnaire must be signed in the space provided on Page Four.

(*) See Census Guide.

PAGE THREE

NOTE: Answer Question 9, Question 10(A, B, and C) if applicable, then each of Questions 11, 12, 13, 14(A) and 14(B).

9. TENURE OF DWELLING:

- This question refers to whether the household that lives in this dwelling owns it, rents or leases it, or is provided it free. Do not include the tenure of the land on which the dwelling is situated.

TICK BOX WHICH APPLIES:

Owned with mortgage	Rented or leased, but NOT from employer of tenant	Provided free, but NOT with job
Owned without mortgage	Rented or leased from employer of tenant	Provided free with job
1	2	3
4	5	6

10. RENT:

- If this dwelling is rented or leased, answer (A), (B), and (C) below. Otherwise, omit this question.
- In part (A) below, give weekly rent paid. Where rent is paid on other than a weekly basis, give the weekly equivalent of rent paid.

(A) WEEKLY RENT PAYABLE \$..... PER WEEK. If this amount includes lease payments for an attached farm or business, tick box: ()

(B) BASIS ON WHICH THIS DWELLING IS RENTED OR LEASED. Tick box which applies:

Unfurnished	Partly or fully furnished
1	2

(C) FROM WHOM IS THIS DWELLING RENTED OR LEASED. Tick box which applies:

Housing Corporation	Other department, corporation, or agency of government (see note below)	Individual person, company, partnership, solicitor, land agency
1	2	3
Local authority (see note below)	Other	SPECIFY: (e.g. city council, borough council, county council, electric power board, and harbour board)
3	4	

11. ROOF MATERIAL: TICK BOX WHICH APPLIES TO THE EXTERIOR ROOF MATERIAL OF THIS DWELLING:

Not applicable (another storey above)	Galvanised iron, or "tin"	Aluminium	Pressed metal tiles with protective coating	Tiles (clay or concrete)
0	1	2	3	4
Asbestos cement or other asbestos material	Other	SPECIFY: (e.g. natural stone)		
5	6			

12. MATERIAL OF OUTER WALLS(*):

- Give surface materials, but not materials used in the framing of the walls or in gables or foundations.

EITHER (A) IF ALL EXTERNAL WALLS ARE OF THE SAME MATERIAL, TICK BOX WHICH APPLIES:

Timber or wood (not particle board or other sheet wallboard)	Brick (clay)	Concrete block	Poured concrete
0	1	2	3
Exterior wallboard (wood or asbestos sheet), with or without decorative brick or stone blocks attached	Artificial stone block	Galvanised iron	Aluminium
4	5	6	7
Other	SPECIFY (e.g. natural stone):		

OR (B) IF ALL EXTERNAL WALLS ARE NOT OF THE SAME MATERIAL, SPECIFY ALL MATERIALS, GIVING MAIN TYPE FIRST:

(e.g. concrete and brick)

13. NUMBER OF ROOMS(*):

SPECIFY NUMBER OF EACH ROOM TYPE IN DWELLING. (If none of a particular type, write "0" on relevant line.)

Number of bedrooms (including spare bedrooms):	Number of lounges or living rooms:	Number of dining rooms:	Number of kitchens:
.....			
Sum total of pantries, bath-rooms, laundries, separate shower rooms, separate toilets:	Sum total of any other rooms not already counted:	SPECIFY TYPES (e.g. nursery room, pool room, study)	
.....			

14. HEAT INSULATION(*):

(A) DOES ANY PART OF THE CEILING CONTAIN SPECIAL HEAT-INSULATION MATERIAL? Tick box which applies:

Yes	No	Not known	Not applicable (another storey above)
1	2	3	4

(B) DO ANY OF THE OUTER WALLS CONTAIN SPECIAL HEAT-INSULATION MATERIAL? Tick box which applies:

Yes	No	Not known
1	2	3

(*) See Census Guide.

Please turn over for rest of questions

PAGE FOUR

NOTE: Answer each of Questions 15, 16, 17(A) and 17(B), and Question 18 if it applies.

15. AMENITIES PRESENT IN DWELLING(*): TICK BOX OR BOXES WHICH APPLY:

Telephone ☐	Electric clothes dryer ☐	Fully automatic clothes washing machine ☐	Clothes washing machine (not fully automatic) ☐
Colour television ☐	Black and white television ☐	Deep freeze of 56 litres (2 cu. ft.) or greater capacity ☐	None of the 7 amenities mentioned ☐

16. HOLIDAY RESIDENCE:
DO ANY OF THE PERSONS WHO USUALLY RESIDE IN THIS DWELLING OWN OR PARTLY OWN A HOLIDAY RESIDENCE? Tick box which applies:

Yes ☐ SPECIFY LOCATION OF HOLIDAY RESIDENCE: (i) Name of street, road, etc.:
(ii) Name of city, town, or rural locality:
(iii) If in a rural locality, give name of county:

No ☐

17. NUMBER OF VEHICLES, CARAVANS, AND BOATS(*):

Specify the numbers of vehicles, caravans, and boats that are in the care of household members (i.e. persons in this dwelling on Census night) and available for use.

Include vehicles, caravans, and boats owned by household members, no matter where they are being kept on Census night, unless they are in the care of someone else on that night. For example, include an owned boat moored at a lake or marina, but do not include an owned caravan that has been loaned to someone else and is in the care of that person on Census night.

Include vehicles, caravans, and boats in the care of household members and which have been hired (e.g. rental car), borrowed (e.g. company car, business van, borrowed caravan), or leased by them for private or business use.

(A) SPECIFY: (If none of a particular type of vehicle, write "0" on relevant line)

Total number of privately owned cars, station wagons, vans:	Total number of cars, station wagons, or vans owned by company, business, firm, etc.:	Number of motor cycles or motor scooters:	Number of bicycles or power cycles:	Number of caravans or camper-trailers:
---	---	---	---	--

(B) IF THERE ARE NO PLEASURE BOATS IN THE CARE OF HOUSEHOLD MEMBERS, TICK BOX: ☐ OTHERWISE SPECIFY:

Number of jet-powered pleasure boats:	Number of other inboard-motor-powered pleasure boats (including motor sailers):	Number of outboard-motor-powered pleasure boats:	Number of sail-powered pleasure boats:	Number of human-powered pleasure boats:
---	---	--	--	---

18. PERSONS ABSENT ON CENSUS NIGHT:

List below details of any persons who are temporarily absent on Census night but who usually reside here.

Include mother and baby in maternity home, children away at boarding school, child living as a student in hostel, persons away on business, persons temporarily overseas, etc.

Persons listed below should not be counted in your reply to Question 3 of this questionnaire.

	PERSON 1	PERSON 2	PERSON 3	PERSON 4
(i) Surname or Family Name:				
(ii) Christian or First Names:				
(iii) Sex:				
(iv) Age (in years):				
(v) Marital status:				
(vi) Relationship to occupier:				
(vii) Address or location (if known):				

SIGNATURE: I CERTIFY THAT THE ABOVE PARTICULARS ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF:

Signature of occupier or person in charge

AFTER COMPLETING THIS QUESTIONNAIRE

- Please check that all relevant questions have been answered, and that the questionnaire has been signed.
- Collect the Personal Questionnaires of all occupants of this dwelling, including any Personal Questionnaires in sealed envelopes. Please note that a sealed envelope containing a Personal Questionnaire must not be opened by the occupier or person in charge of the dwelling (see note at bottom of Page Four of Personal Questionnaire).
- Check that all relevant questions have been answered on each Personal Questionnaire not in a sealed envelope. If any relevant questions have not been answered, please arrange for the missing information to be entered. Failure to answer all relevant questions will result in further inquiries being made by the Sub-enumerator or other Census officers.
- Place the completed Personal Questionnaires, and any sealed envelopes containing Personal Questionnaires, inside this Dwelling Questionnaire.
- Hold all questionnaires in safe custody ready for collection by the Sub-enumerator. The questionnaires will be collected as soon as possible after Census night, but this may not happen for several days in some cases.
- If any completed questionnaires are still in your possession on 10 April 1981, please contact the Postmaster or Postmistress at your local Post Office so that arrangements can be made for their collection. Thank you for your co-operation.

(*) See Census Guide

418589-1,700,000/1/80 MK

DEPARTMENT OF STATISTICS

CS/00/09

NEW ZEALAND CENSUS OF POPULATION AND DWELLINGS,
24 MARCH 1981

CENSUS GUIDE FOR DWELLING QUESTIONNAIRE

NOTES: (1) This Census Guide contains further advice on answering Questions 4, 7, 12-15, and 17 of the Dwelling Questionnaire.

(2) It also contains some general information about the Census. Please read this information, because it provides answers to many of the questions that people have asked in previous Censuses.

(3) After the Census, this Census Guide may be destroyed. It will not be collected by the Sub-enumerator.

PART 1: ADVICE ON ANSWERING QUESTIONS

4. TYPE OF PRIVATE DWELLING:

The following additional notes for guidance apply:

- A private dwelling is any dwelling which is lived in by a private household.
- A private household consists of all persons who live together and who usually have one or more meals together daily. PLUS any temporary guests who spend Census night with such persons. PLUS any other persons who usually have at least one daily meal prepared from the same cooking facilities, but it does not include any persons who are in a non-private dwelling (hotel, motel, hospital, school hostel, camp, boarding house, ship, etc.).
- The typical private household is one family with or without other relatives, temporary guests, boarders, etc.

7. TYPE OF HOT WATER SUPPLY:

- This question refers to a hot water supply available from a piped system or from a tap fitted to a water heater (including all types of gas calorifier).
- Do not include electric jugs or kettles.

12. MATERIAL OF OUTER WALLS:

If your dwelling is part of a building containing other dwellings, include only the material applying to the outer walls of your dwelling.

13. NUMBER OF ROOMS:

The following notes for guidance apply:

- If dwelling is built in the open-living or split-level style, count room equivalents.
- A detached bedroom (including a caravan used as such) adjacent to a private dwelling should be counted as a bedroom of the dwelling.
- If dwelling does not contain a separate kitchen (or the equivalent of a separate kitchen if home is built in the open-living style), but instead contains a small kitchenette, then count the kitchenette as a kitchen only if some meals are eaten there. Otherwise, include the kitchenette in your answer to "Sum total of pantries, bathrooms, laundries, separate shower rooms, separate toilets".
- Do not count entrance halls, hallways, garages, or work-shops in garages.
- "Sum total" means add up the number of relevant room types, and write the answer on the line provided. For example, if a dwelling contains 1 pantry, 2 bedrooms, 1 laundry, 0 separate shower rooms, and 2 separate toilets, then the answer to "Sum total of pantries, bathrooms, laundries, separate shower rooms, separate toilets" would be "6", and not "1, 2, 1, 0, 2".

14. HEAT INSULATION:

- "Special heat-insulation material" is material specially installed for heat-insulation purposes. There are two main types: (1) fill insulation such as fibreglass pads and loose fill, and (2) reflective material such as aluminium foil.
- Exclude normal building materials such as building paper, malthoid, polythene, and solid timber walling and roofing.

15. AMENITIES PRESENT IN DWELLING:

The following notes for guidance apply:

- Indicate amenities present within the dwelling, whether or not they are in regular use.
- If there is a combination refrigerator-deep freeze unit in the dwelling, and if the deep-freeze compartment has a capacity of 56 litres (2 cu. ft.) or more, then tick the box numbered 7.

17. NUMBER OF VEHICLES, CARAVANS, AND BOATS:

"Total number" means sum total. For example, if 1 privately owned car, 0 privately owned station wagons, and 1 privately owned van are in the care of persons in the dwelling on Census night and are available for use, then the answer for the first dotted line would be "2", and not "1, 0, 1".

PART 2: GENERAL CENSUS INFORMATION

- Census questionnaires should not be completed before 24 March.
- Except in exceptional circumstances (such as if visiting a remote area on Census night), questionnaires delivered to a particular dwelling should not be taken to and completed at another location. If, on Census night, you will not be staying at the address where this Census Guide was delivered, then you should be given (or you should obtain) appropriate questionnaires at the address where you are staying on that night.
- Extra Personal and Dwelling Questionnaires can be obtained from any permanent Post Office, or may be delivered to your address if you contact your local Post Office and ask that this be done.
- A person who is temporarily staying with relatives or friends on Census night should complete a Personal Questionnaire at the address where staying on that night. Attention is drawn to the use of sealed envelopes to provide additional privacy in such circumstances (see notes at end of Personal Questionnaire). A Dwelling Questionnaire is not to be completed by the visitor for his or her usual residence while staying with relatives or friends.
- A person who is in New Zealand, but is not in a dwelling at midnight on the night of 24 March (e.g. a night-shift worker, or an overnight traveller) must complete a Personal Questionnaire at the dwelling where staying on 25 March, unless one had been completed at another dwelling before then.
- Any person may complete, or assist in completing, another person's Personal Questionnaire, provided that (s)he is authorised to do so. Wherever possible, the person to whom the questionnaire refers should sign it to certify that the particulars recorded are correct. Otherwise, the authorised person must sign it.
- If the dwelling to which this Census Guide has been delivered will be (or was) unoccupied at all times between midnight on the night of 24 March and noon on 25 March, the Dwelling Questionnaire and Personal Questionnaires delivered here should be returned, uncompleted, to the nearest Post Office.
- Census statistics are essential for purposes such as (1) the planning of community services (e.g. schools, hospitals, drainage schemes, shopping centres) to best serve community needs, (2) setting electoral boundaries, and (3) developing and reviewing public economic and social policy. The Census, therefore, benefits the whole community.
- If you have any queries, please contact your Census Enumerator, whose telephone number has been advertised in your local newspaper or is obtainable from your local Post Office.

418589-1,700,000/1/80 MK

PAKISTAN
HOUSING AND POPULATION CENSUS 1980-81
List of Housing Units
(Household & collective living quarters, rural areas)

Confidential
Form 1-A

Page No. _____ Hadbast No. in Case of Mauza/Deh _____ Block Name/No. _____

Area name	Serial no. of building	Name (head of household/ institution)	Serial no. of the household	Number of persons		To be completed during Population Census	
Name of M/D (Revenue state and its parts)	Write serial no. of any completely or partly residential building (includes tent, boat, hut, etc.)	Write name of head of each household living in the building on a separate line. For collective living quarter, write name of institution.	Write serial number of each household. Write "X" if building vacant, and write "0" for building under construction.	Persons usually living in the same household	Persons previously living in the household but presently staying abroad for employment/ education	Date of completion for Population Census	If "X" or "0" is given in col. 4, but at present this housing unit is occupied, then write the name of the head of the household at the end of col. 3 and the serial no. of the head of the household in col. 4. If the housing unit is occupied by a new household, write the name of the head of the present household. If it is found vacant, write "X" in this col.
1	2	3	4	5	6	7	8

PAKISTAN
HOUSING AND POPULATION CENSUS, 1980-81
List of Buildings and Housing Units
(For urban areas)

Confidential
Form 1-B

Page No. _____ Block No. _____

Area name	Serial no. of building	Function of each unit of the building	Serial no. of the household	Name (head of household/ institution)	Number of persons		To be completed during Population Census	
Write name of street, Mohalla, or road	Write serial no. of any completely or partly residential building (includes tent, boat, hut, etc.)	Enter each unit of the building separately and specify whether household, collective living quarter, office, business center, shop, factory, school, college, etc.	For each unit entered in column 3, ask whether anyone living there. If yes, write serial number of the household. If no, write "X" for vacant and "0" for under construction. However, do not write anything for other cases.	Write name of head of each household living in the building on a separate line. For collective living quarter, write name of institution.	Persons usually living in the same household	Persons previously living in the household but presently staying abroad for employment/ education	Date of completion for Population Census	If "X" or "0" is given in col. 4, but at present this housing unit is occupied, then write the name of the head of the household at the end of col. 5 and the serial no. of the head of the household in col. 4. If the housing unit is occupied by a new household, write the name of the head of the present household. If it is found vacant, write "X" in this col.
1	2	3	4	5	6	7	8	9

Name of Block _____ Block Code _____ Form No. 2

(In case of rural areas, write also Hadbast Number of Mauza/Deh)

FOR HOUSING UNITS ONLY. ONE HOUSING UNIT WILL BE THE PREMISES/PLACE OCCUPIED BY ONE HOUSEHOLD.

Enter in each row the serial number given in col. 4 of listing form	Number of rooms occupied by this housing unit. Exclude kitchen, bathroom, store, verandah, staircase, hall, balcony, etc.	Tenure Owned, rented, or rent free	Period of initial construction Less than 5 years; 5 to 10 years; More than 10 years, but after independence; Before independence	Construction material of:	
				Outer walls	Roofs
				Cement finished (concrete, baked bricks or stone); Mud finished (baked bricks or stone); Sun dried bricks or mud; Wood, bamboo, thatch; Other	Lintel (RCC/RBC); Wood; Wood/girder and baked bricks; Thatch; Other
1	2	3	4	5	6

Housing facilities					
Source of water	Source of lighting	Cooking fuel	For urban areas only		
			Kitchen	Bathroom	Latrine
Inside piped hand pump/well; Outside piped hand pump/well; Pond; Spring/river/stream karez	Electricity; Kerosene oil; Mustard; Rapeseed oil; Gas; Other	Wood; Coal/charcoal; Kerosene oil; Piped gas; Gas in cylinder; Electricity; Dung; Other	Separate kitchen; Kitchen shared with other housing unit; No kitchen	Separate bathroom; Bathroom shared with other housing unit; No bathroom	Inside flush system; No flush system Shared with other housing unit flush system; No flush system None
7	8	9	10	11	12

POPULATION AND HOUSING CENSUS 1980-81

POPULATION CENSUS (SHORT) FORM

Confidential
Form No. 3

Name of Block _____ (In case of rural areas write also Hadbasi Number of Mawra/Deh)		Block Code _____							
All persons									
Name	Relationship to head of household	Residence status	Sex	Age	Marital status	Religion	For persons 5 years and above		
Give name of every member of your household, whether present or temporarily absent on down of first March, 1981. Include guests and visitors.	1. Head 2. Spouse 3. Son/Daughter 4. Other relatives 5. Non relative	1. Household member present 2. Household member temporarily absent 3. Visitor or guest	1. Male 2. Female	In completed years (i.e., age on last birthday (in two digits e.g., 02, 34, 99) Put '00' for infants less than one year	1. Never Married 2. Married 3. Widowed 4. Divorced	1. Muslim 2. Ahmadi 3. Christian 4. Hindu 5. Parsi 6. Sikh 7. Budh 8. Other	If Muslim can read the Holy Quran? 1. Yes 2. Learning 3. No	Can read newspaper etc. and write a simple letter? 1. Yes 2. No	If yes in Col. 9, what is his/her highest educational level passed/completed? 0. Primary 1. Middle 2. Matric 3. Intermediate 4. Certificate/Diploma (undergraduate) 5. B.A./B. Sc. 6. MA/M c and above 7. BSc. and above (Engineering) 8. MBBS/BDS 9. LLB and above 10. Others
1	2	3	4	5	6	7	8	9	10
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11.									
12.									

After listing all the stated names, read them and ask - Are there any other persons usually living or staying here on down of first March, 1981, who are not yet included, such as, babies, women elderly persons, non-relative household member (servants lodgers etc.). If yes, enter their names in Column 1 and other particulars also.

POPULATION AND HOUSING CENSUS--1980-81
POPULATION CENSUS (LONG) FORM

Confidential

Form No. 4

Name of Block		(In case of rural areas, write also Hadbast Number of Mauza/Dch)		Block Code						
Name	Relationship to head of household	Residence status	Sex	Age	Marital status	Religion	Migration	For persons 5 years and above		
Give name of every member of your household, whether present or temporarily absent on dawn of first March, 1981. Include guest and visitors	1. Head 2. Spouse 3. Son/Daughter 4. Other relatives 5. Non relatives	1. Household member present 2. Household member temporarily absent 3. Visitor or guest	1. Male 2. Female	Incompleted years, i.e. age on last birthday (in two digit e.g., 02-34, 79) Put "00" for infants less than one year.	1. Never married 2. Married 3. Widowed 4. Divorced	1. Muslim 2. Ahmadi 3. Christian 4. Hindu 5. Parsi 6. Sikh 7. Budh 8. Other	For how many years is living continuously in this district? 1. Always 2. Less than 5 years 3. 5 years but less than 10 years 4. 10 years or above	If codes 2 to 4 in col. 8 in which district (if in Pakistan) with urban and rural indication country was... last living before coming here?	If Muslim... Can read the Holy Quran? 1. Yes. 2. Learning 3. No.	School/College/University Attending 1. Now attending enrolled 2. Attended earlier 3. Never attended
1	2	3	4	5	6	7	8	9	10	11
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										

For persons 5 years and above		For persons 10 years and above		For ever-married women		Disability	
Educational Attainment	Literacy	Economic characteristics	What does—usually do?	What is the main job, profession, trade or what kind of work does usually do?	What is the working status or capacity in which working?	How many children were born alive to...?	How many of these children are now living?
Level completed, passed 0. Primary 1. Middle 2. Matric 3. Intermediate 4. Certificate Diploma (Under graduate) 5. BA/BSc. 6. MA/MSc. & above 7. BSc. and above (Engineering) 8. MBBS/BDS above 9. LLB & above 10. Other	Field of study 1. General Education 2. Technical/Engineering 3. Medicine 4. Health 5. Commerce/Business 6. Teacher's training 7. Agriculture Forestry/Animal husbandry 8. Law 9. Other	If code 3 in col. 11, can read newspaper, etc. and write a simple letter? 1. Yes 2. No	What does—usually do? 1. Works Ask (col. 16 to 18) 2. Does not work but is looking for work (Ask col. 16) 3. Housewife 4. Student 5. Other	What is the main job, profession, trade or what kind of work does usually do?	What is the working status or capacity in which working? 1. Self employed 2. Employee Govt. 3. Employee Private 4. Employer 5. Unpaid family help	How many children were born alive to...?	How many of these children are now living?
12	13	14	15	16	17	18	19
							20
							21
							22

After listing all reported, names, read them and ask—Are there any other persons usually living or staying here on dawn of first March, 1981, who are not yet included, such as babies, elderly persons, women, non-relative household members, servants, lodgers, etc. If yes, enter their names in column 1 and other particulars also.

Has any member of your household migrated abroad during the last ten years and still living there? if yes, their number:

DISTRICT

CENSUS UNIT NUMBER

CENSUS UNIT NAME

OFFICE USE ONLY	HOUSEHOLD NUMBER	CONT	TOTAL PERSONS
	<div><div></div><div></div><div></div></div>	<div><div></div></div>	<div><div></div><div></div></div>

[illegible]

IF 'OUT' IN Q. 3, END OF QUESTIONS FOR THIS PERSON

4	SEX <i>Write 'M' for male, 'F' for female</i>																																							
5	WHAT IS YOUR DATE OF BIRTH? <i>If date of birth unknown, estimate age in years</i>	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year	Day	Month	Year			
		Years			Years			Years			Years			Years			Years			Years			Years			Years			Years			Years			Years			Years		
6	WHAT IS YOUR CITIZENSHIP? <i>Write name of country, e.g. PNG, AUST, NZ, UK</i>																																							
7	IN WHICH PROVINCE AND DISTRICT (SUB-PROVINCE) WERE YOU BORN? <i>For example: E.H.P. Lulu, N.I.P. Kavieng. If born outside Papua New Guinea, write country of birth.</i>	PROVINCE																																						
		DISTRICT (SUB-DISTRICT) or C.G.																																						
8	WHAT IS THE HIGHEST GRADE YOU FINISHED AT SCHOOL? <i>Write number of grades or 'NIL'</i>																																							
9	DO YOU GO TO COMMUNITY OR HIGH SCHOOL NOW? <i>Write 'YES' or 'NO'</i>																																							
10	LAST WEEK, WHAT DID YOU DO MOST OF THE TIME? <i>See codes below</i>																																							

CODES FOR QUESTION 10

01. *Worked at a wage job.*
02. *On leave or temporarily absent from work.*
03. *Big or small-scale business (including unpaid helper).*
04. *Farming or fishing for food and money.*
05. *Farming or fishing, subsistence only.*
06. *Full-time student (incl. student on holiday).*
07. *Working in the house (e.g. housewife).*
08. *Too old or too young to work, or handicapped*
09. *Other activities and looking for work.*
10. *Other activities and not looking for work.*

11	DOES ANYONE IN THIS HOUSEHOLD (Not for a wage job)	Write 'YES' or 'NO'
	Grow coffee?	
	Grow tea?	
	Grow coconuts?	
	Grow rubber?	
	Grow spices?	
	Raise pigs?	
	Raise cattle?	

12	IN THE LAST 12 MONTHS, DID THIS HOUSE HOLD GET ANY MONEY FROM (Not from a wage job)	Write 'YES' or 'NO'
	Selling things they made (Art/facts)?	
	Selling coconuts or copra?	
	Selling food crops?	
	Selling fish?	
	Running a Store?	
	Running a PMV?	
	Running a boat/canoe?	
	Any other activity (describe)?	

TOTAL THIS PAGE		THIS IS PAGE NUMBER	<input type="text"/>
MALES	<input type="text"/>		
FEMALES	<input type="text"/>		
TOTAL		OF	<input type="text"/>
		TOTAL PAGES FOR THIS HOUSEHOLD	<input type="text"/>

AGES CHECKED

INTERVIEWERS INITIALS

CHECKED _____
SUPERVISOR

PROVINCE
DISTRICT/TOWN
CENSUS DIVISION
CENSUS UNIT NUMBER
CENSUS UNIT NAME

SECTION
 LOT NUMBER
 BUILDING NUMBER
 TYPE OF HOUSE
 FURTHER
 IDENTIFICATION

Govt. Print.—A1517/20 000 Pads.—80

OFFICE USE ONLY	HOUSEHOLD NUMBER	CONT	V/H	TOTAL PERSONS	HOUSE TYPE
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

RESIDENTS										VISITORS LAST NIGHT										
Start a new page for each household										Govt. Print —A1517/20,000 Pads—										
List in this order: Head, Wife of head, Never-married children (by age), others										Do not forget babies and old people										
PERSON NUMBER										Exclude those from other villages										
										01	02	03	04	05	06	07	08	09	10	
A	WHAT ARE THE NAMES OF THE PEOPLE WHO ARE LIVING HERE?																			
1	DID YOU HAVE ANY VISITORS WHO STAYED HERE LAST NIGHT?																			
B	Write down names																			
2	WRITE DOWN THE RELATIONSHIP OF EACH PERSON TO THE HEAD OF THE HOUSEHOLD/ FAMILY Wife, Son, Daughter, Adopted Son, etc.																			
	HEAD																			
3	A. If YES, write "IN" If stayed elsewhere else, write "OUT"																			
	B. If stayed in this house, etc. write "IN" If stayed in this village or another village, write "IN" If stayed in town or non-village, write "OUT"																			
	DID YOU STAY HERE LAST NIGHT?																			

IF 'OUT' IN Q. 3. END OF QUESTIONS FOR THIS PERSON

[illegible]

FOR ALL FEMALES 15 YEARS OF AGE AND OLDER (BORN IN 1965 OR BEFORE)

[illegible]

FOR ALL PERSONS 10 YEARS OF AGE AND OLDER (BORN IN 1970 OR BEFORE)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	IJ	JK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LL	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TT	TU	<th>TW</th> <th>TX</th> <th>TY</th> <th>TZ</th> <th>UA</th> <th>UB</th> <th>UC</th> <th>UD</th> <th>UE</th> <th>UF</th> <th>UG</th> <th>UH</th> <th>UI</th> <th>UJ</th> <th>UK</th> <th>UL</th> <th>UM</th> <th>UN</th> <th>UO</th> <th>UP</th> <th>UQ</th> <th>UR</th> <th>US</th> <th>UT</th> <th>UU</th> <th>UV</th> <th>UW</th> <th>UX</th> <th>UY</th> <th>UZ</th> <th>VA</th> <th>VB</th> <th>VC</th> <th>VD</th> <th>VE</th> <th>VF</th> <th>VG</th> <th>VH</th> <th>VI</th> <th>VJ</th> <th>VK</th> <th>VL</th> <th>VM</th> <th>VN</th> <th>VO</th> <th>VP</th> <th>VQ</th> <th>VR</th> <th>VS</th> <th>VT</th> <th>VU</th> <th>VV</th> <th>VW</th> <th>VX</th> <th>VY</th> <th>VZ</th> <th>WA</th> <th>WB</th> <th>WC</th> <th>WD</th> <th>WE</th> <th>WF</th> <th>WG</th> <th>WH</th> <th>WI</th> <th>WJ</th> <th>WK</th> <th>WL</th> <th>WM</th> <th>WN</th> <th>WO</th> <th>WP</th> <th>WQ</th> <th>WR</th> <th>WS</th> <th>WT</th> <th>WU</th> <th>WV</th> <th>WW</th> <th>WX</th> <th>WY</th> <th>WZ</th> <th>XA</th> <th>XB</th> <th>XC</th> <th>XD</th> <th>XE</th> <th>XF</th> <th>XG</th> <th>XH</th> <th>XI</th> <th>XJ</th> <th>XK</th> <th>XL</th> <th>XM</th> <th>XN</th> <th>XO</th> <th>XP</th> <th>XQ</th> <th>XR</th> <th>XS</th> <th>XT</th> <th>XU</th> <th>XV</th> <th>XW</th> <th>XX</th> <th>XY</th> <th>XZ</th> <th>YA</th> <th>YB</th> <th>YC</th> <th>YD</th> <th>YE</th> <th>YF</th> <th>YG</th> <th>YH</th> <th>YI</th> <th>YJ</th> <th>YK</th> <th>YL</th> <th>YM</th> <th>YN</th> <th>YO</th> <th>YP</th> <th>YQ</th> <th>YR</th> <th>YS</th> <th>YT</th> <th>YU</th> <th>YV</th> <th>YW</th> <th>YX</th> <th>YY</th> <th>YZ</th> <th>ZA</th> <th>ZB</th> <th>ZC</th> <th>ZD</th> <th>ZE</th> <th>ZF</th> <th>ZG</th> <th>ZH</th> <th>ZI</th> <th>ZJ</th> <th>ZK</th> <th>ZL</th> <th>ZM</th> <th>ZN</th> <th>ZO</th> <th>ZP</th> <th>ZQ</th> <th>ZR</th> <th>ZS</th> <th>ZT</th> <th>ZU</th> <th>ZV</th> <th>ZW</th> <th>ZX</th> <th>ZY</th> <th>ZZ</th> <th>AA</th> <th>AB</th> <th>AC</</th>	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YY	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX	ZY	ZZ	AA	AB	AC</
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IF CODE 01, 02, 03 or 04 IN Q. 19, ASK Q. 20, 21, 22

[illegible]

• CODES FOR QUESTION 19

- 01 Worked at a wage job
- 02 On leave or temporarily absent from work
- 03 Big or small-scale business (including unpaid helper), e.g. PMV betel nut seller
- 04 Farming or fishing for food and money
- 05 Farming or fishing, subsistence only
- 06 Full-time student (incl. student on holiday)
- 07 Working in the house (e.g. housewife)
- 08 Too old or too young to work or handicapped
- 09 Other activities and looking for work
- 10 Other activities and not looking for work

INTERVIEWER'S INITIALS _____

CHECKED _____ SUPERVISOR _____

23	DOES ANYONE IN THIS HOUSEHOLD (Not for a wage job)	Write YES or NO
	Grow coffee?	
	Grow tea?	
	Grow cocoa?	
	Grow rubber?	
	Grow spices? (Use up of names)	
	Raise pigs?	
	Raise cattle?	

24	IN THE LAST 12 MONTHS DID THIS HOUSE HOLD GET ANY MONEY FROM		Write YES or NO
	(Not from a wage job)		
	Selling things they made? (Use list of interests)		
	Selling coconuts or copra?		
	Selling food crops?		
	Selling fish?		
	Running a Store?		
	Running a P.M.V?		
Running a boat canoe?			
Any other activity (describe)?			

25	URBAN AREAS ONLY	THIS IS PAGE NUMBER
DO YOU RENT OR OWN THIS HOUSE? <i>(Tick Box)</i>		OF
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> ☐ Rent </div> <div style="text-align: center;"> ☐ Own </div> <div style="text-align: center;"> ☐ </div> </div>		TOTAL PAGES FOR THIS HOUSEHOLD
<i>If rented:</i> WHO DO YOU RENT IT FROM?		
1. Housing Commission ☐		
2. Semi-Govt (e.g. P.N.G.B.C. Etc.) ☐		
3. Other Govt (e.g. Local Govt. D.U.M.) ☐		
4. Other (Private e.g. B.P.S.) ☐		

URBAN AREAS ONLY

SECTION A — RETURN VISITS

Interviewer

- Fill in table below for EACH VISIT if no one is home, or interview not complete.
- Put in the day and the approximate time of call, e.g. Mon. late afternoon.

Visit No.	1	2	3	4	5
Day and Time of Call (approx.)					
<i>If interview not complete best time to come back Check with neighbour</i>					

SECTION B – INTERVIEWS NOT COMPLETED

Interviewer

- Complete this Section only if you DONT COMPLETE AN INTERVIEW.
- Tick (✓) ONE BOX only.

• Non Contact — Dwelling lived in during the census period but not able to interview the people after 5 visits	1
Give details	____
• Full or part refusal	2
Who refused and why	____
• Interpreter needed	3
Give language	____
• Recent death or illness	4
Call back later	____
• Vacant dwelling — people usually live here but away during Census period, e.g. on leave.	____
} 5
— no one lives here	____
Information obtained from	
• Other: includes buildings under construction or demolished	6
Give details	____

SECTION C — SUPERVISOR CHECK ON SECTION B

Supervisor:

- Check that interviewer has ticked correct box in Section B.
- Check that interviewer has given details.

Tick box (✓)
if O.K.

7

SECTION D – QUERIES

**Quality Controller
and Supervisor**

- Record any queries about the form that you have.
- Ensure queries are brought to interviewer's notice.

[illegible]

Republic of the Philippines
National Economic and Development Authority
NATIONAL CENSUS AND STATISTICS OFFICE
Manila

1980 CENSUS OF POPULATION AND HOUSING

LIST OF HOUSEHOLDS

Province _____

City/Mun./Mun. Dist. _____

Barangay _____

Enumeration Area

LA Suffix No.

Urban/Rural

Date(s) Enumerated _____ 1980

Random start _____

[illegible]**Col. 2 – Type of Building/House****TOTAL**

1 Single House	6 Other housing unit; natural shelter, boat, etc.
2 Duplex	7 Hotel, lodging house, dormitory, etc.
3 Apartment/Accessoria/Condominium/
Row house/etc.	8 Institutional (hospital, convent, school
dormitory, penal institution, etc.)
4 Improvised (barong-barong)	9 Other collective living quarters (refugee
camp, logging camp, military camp, etc.)
5 Commercial/Industrial/Agricultural	

Listed by: _____

ENUMERATOR

PH Form 3 May 1, 1980	SERIAL NO. (from PH Form 1)			P-0 What language/dialect is generally spoken in this household? (Encircle code) 12 22 35 42 66 74 75 88 82 22 23 (See codes below.)		Republic of the Philippines National Economic and Development Authority NATIONAL CENSUS AND STATISTICS OFFICE Manila 1980 CENSUS OF POPULATION AND HOUSING SAMPLE PRIVATE HOUSEHOLD QUESTIONNAIRE (Encircle Code or Enter Code if Required.)					
	BLDG	DU	HH								
	5	12	21								
L I N E N U M B E R		ALL PERSONS								5 YEARS OLD AND OVER	
		Name	Relationship to Head of Household	Line No. of Mother	Sex	Age		Marital Status	Citizenship	Mother's Usual Residence at Person's Birth	Residence in 1975
		Who is the head of this household? Who are the other members of this household? <i>List in this order (family name first):</i> Head Spouse of Head Never-married children of head/ spouse (oldest to youngest) Ever-married children of head/ spouse and their families (old- est to youngest) Other relatives of head Non-relatives of head (Be sure to include babies and elderly persons and members of the household temporarily away on vocation, on business, in the hospital, etc.) ENCIRCLE LINE NO. OF RES- PONDENT (P-1)	What is _____'s relationship to the head of this house- hold? 1 Head 2 Spouse 3 Son 4 Daughter 5 Son-in-law 6 Daughter- in-law 7 Grandson 8 Grand- daughter 9 Other relative 0 Non- relative (P-2)	Who is _____' mother? (Enter line no. of mother. If moth- er is not a member of this house- hold or already dead, enter 00.) (P-3)	M F (M) (F) (P-4)	Date of Birth (Enter month in word and year of birth.) (P-5)	Age on last birth- day before May 1, 1980 (See codes below for 100 yrs. and over.) (P-6)	1 Single 2 Married 3 Widow 4 Sepa- rated/ Di- vorced 5 Un- known (P-7)	What country is _____ a citizen of? (P-8)	At the time of _____s birth, where was his mother's usual residence? (P-9)	What city/muni- cipality and pro- vince was _____s residence on May 1, 1975? (P-10)
			88 Same mun./city 89 Another mun./city, same province If another province, specify.								
24-25		26	27-28	29	30-31	32	33-34	35-36	37-38		
01	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
02	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
03	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
04	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
05	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
06	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
07	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
08	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
09	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
10	1 2 3 4 5 6 7 8 9 0	1 M 2 F			1 2 3 4 5	01 02 03 04 05 06 07	88 89	88 89			
Codes for P-0 Language/Dialect Spoken in Household 12 Bicol 74 Pampango 22 Cebuano 75 Pangasinan 35 Hilgaynon 88 Tagalog (Ifongo) 82 Waray 42 Ilocano (Samar-Leyte) 66 Maranao Other - specify		Codes for P-6 Ages 100 Years & Over 100 yrs. - X0 105 yrs. - X5 110 yrs. - Y0 115 yrs. - Y5 101 - X1 106 - X6 111 - Y1 116 - Y6 102 - X2 107 - X7 112 - Y2 117 - Y7 103 - X3 108 - X8 113 - Y3 118 - Y8 104 - X4 109 - X9 114 - Y4 119 & over - Y9				Codes for P-8 Citizenship 01 Philippines 05 Japan 02 China 06 Spain 03 India 07 U.S.A. 04 Indonesia Other-specify					

Province _____

City/Mun./Mun. Dist. _____

Barangay _____

Enumeration Area _____

EA Suffix No. _____

6 YEARS OLD AND OVER					15 YEARS OLD AND OVER		Place of Schooling/Work	EVER-MARRIED FEMALES 10 YEARS OLD AND OVER						
Languages		School Attendance	Highest Grade Completed	Literacy	Usual Occupation and Industry			Fertility						
Is _____ able to speak Pilipino or Tagalog?	Is _____ able to speak English?	Did _____ attend school at any time from June 1979 to March 1980?	What is the highest grade/year that _____ has completed? (If Bachelor's or higher degree holder, specify degree and field.) (See codes below.)	(If Grade 4 and above encircle 1-Yes; otherwise ask this question) Can _____ read and write a simple message? 1 Yes 2 No	What is _____'s usual occupation? (Specify occupation. Examples: Farmer, Fisherman, Teacher, Acctg. Clerk, Housewife, Student, Retiree, etc.)	In what kind of business or industry? (Specify business/industry.) Examples: Palay farm, Fishpond, Elementary School, Treasurer's Office, Private Dental Clinic, etc.)	(If Yes in P-13 and/or with gainful occupation in P-16) In what city/mun. and province did _____ attend school/work? (If in this city/mun., enter "same".)	How many children have been born alive to _____?	How many of these children are still alive?	How many children were born alive to _____ from May 1, 1979 to April 30, 1980?	Was _____ married only once? 1 Yes 2 No (If No, end interview for this person.)	(If Yes in (P-24) What was _____'s age at marriage?)		
(P-11)	(P-12)	(P-13)	(P-14)	(P-15)	(P-16)	(P-17)	(P-18)	(P-19)	(P-20)	(P-21)	(P-22)	(P-23)	(P-24)	(P-25)
39	40	41	42-44	45	46-47	48-49	50-53	54-55	56-57	58-59	60-61	62	63	64-65
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	
1 Y 2 N	1 Y 2 N	1 Y 2 N	☐ ☐ ☐	1 Y 2 N	☐ ☐	☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	0 1 2 3 4	1 Y 2 N	

Codes for P-14 Highest Grade Completed

Elementary	High School	College Undergrad.
000- No grade completed	210 - 1st Year	310 - 1st Year
110 - Grade 1	220 - 2nd Year	320 - 2nd Year
120 - Grade 2	230 - 3rd Year	330 - 3rd Year
130 - Grade 3	240 - 4th Year	340 - 4th Year
140 - Grade 4		350 - 5th Year and over
150 - Grade 5		
160 - Grade 6 & 7		

REMARKS:

SERIAL NO. (from PH Form 1)	
Bldg	DU HH
6	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> </div>
12	21
H-1 to H-4 are to be asked only of the first sample	
<p>H-1 What type is this building/house?</p> <p>22</p> <ol style="list-style-type: none"> 1 Single House 2 Duplex 3 Apartment/Accessoria/Condominium/Row house/etc. 4 Improvised (barong-barong) 5 Commercial/Industrial/Agricultural 6 Other housing unit: natural shelter, boat, etc. 7 Hotel, lodging house, dormitory, etc. 8 Institutional (hospital/convent/school dormitory/penal institution) 9 Other collective living quarters (refugee camp, logging camp, military camp, etc.) 	<p>H-2 What construction material is the roof made of?</p> <p>23</p> <ol style="list-style-type: none"> 1 Galvanized iron/Aluminum 2 Tile/Concrete/Brick/Stone 3 Asbestos 4 Cogon/Nipa 5 Makeshift/Salvaged Materials 6 Other (anahaw, etc.)
H-5 and H-6 are to be asked of the sample household in the dwelling	
<p>H-5 How many rooms are in this dwelling unit (excluding bathroom, toilet, storeroom, passageway)?</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>26</p> <ol style="list-style-type: none"> 1 Room 2 Rooms 3 Rooms 4 Rooms 5 Rooms </div> <div style="width: 45%;"> <ol style="list-style-type: none"> 6 Rooms 7 Rooms 8 Rooms or more </div> </div>	
H-7 to H-13 should be	
<p>H-7 How does this household occupy this dwelling unit?</p> <p>28</p> <ol style="list-style-type: none"> 1 Owner 2 Tenant/Lessee 3 Sub-tenant/sublessee 4 Rent-free 	<p>H-8 (If household owns this dwelling unit) What is your tenure with respect to the land?</p> <p>29</p> <ol style="list-style-type: none"> 1 Owner 2 Lessee or sublessee 3 Farm lessee/agricultural tenant of landowner 4 Other legal tenure 5 No tenure (squatter, etc.) 6 Not applicable
<p>H-11 What kind of fuel do you use most of the time for cooking?</p> <p>37</p> <ol style="list-style-type: none"> 1 Electricity 2 Kerosene 3 Liquefied Petroleum Gas (LPG) 4 Wood, charcoal 5 Other 	<p>H-12 What kind of toilet facilities do you use?</p> <p>38</p> <ol style="list-style-type: none"> 1 Water-sealed, sewer/septic tank, used exclusively by household 2 Water-sealed, sewer/septic tank, shared with other households 3 Water-sealed, other depository, used exclusively by the household 4 Water-sealed, other depository, shared with other households 5 Closed pit (antipolo, etc.) 6 Open pit 7 Other (pail system, etc.) 8 None

HOUSING CENSUS QUESTIONS

(Encircle Code or Enter Appropriate Code If Required.)

household in every building (Repeat entries for other sample households in this building.)

<p>H-3 What construction material are the outer walls made of?</p> <p>24</p> <ol style="list-style-type: none"> 1 Galvanized Iron/Aluminum 2 Tile/Concrete/Brick/Stone 3 Wood/Plywood 4 Mixed Tile/Concrete/Brick/Stone and Wood/Plywood 5 Asbestos 6 Bamboo/Sawali 7 Cogon/Nipa 8 Makeshift/Salvaged Materials 9 Other (anahaw, etc.) 	<p>H-4 When was this building/house built?</p> <p>25</p> <ol style="list-style-type: none"> 1 1980 2 1979 3 1978 4 1977 5 1976 6 1971 - 1975 7 1961 - 1970 8 1951 - 1960 9 1942 - 1950 0 1941 or earlier
---	--

Transcribe encircled codes here.

H-1		22
H-2		23
H-3		24
H-4		25

unit. (Repeat entries for other sample households in this dwelling unit.)

H-6 What is the floor area of this dwelling unit in square meters?

<p>27</p> <ol style="list-style-type: none"> 1 Less than 30 sq. meter Specify: _____ sq. m. 2 30-49 sq. meters 3 50-69 sq. meters 4 70-99 sq. meters 5 100-149 sq. meters 	<ol style="list-style-type: none"> 6 150-199 sq. meters 7 200-249 sq. meters 8 250-299 sq. meters 9 300 sq. meters & over Specify: _____ sq. m.
---	---

H-5		26
H-6		27

answered by all sample households.

<p>H-9 What kind of lighting do you use?</p> <p>30</p> <ol style="list-style-type: none"> 1 Electricity 2 Kerosene 3 Liquefied Petroleum Gas (LPG) 4 Oil (vegetable, animal) 5 Other 	<p>H-10 What is the main source of your water supply - (Encircle only one for each use.)</p> <table border="1"> <thead> <tr> <th></th> <th>For Drinking?</th> <th>For Kitchen Use?</th> <th>For Washing Clothes?</th> <th>Source of Water Supply</th> </tr> </thead> <tbody> <tr> <td></td> <td>31</td> <td>...</td> <td>36</td> <td></td> </tr> <tr> <td>01</td> <td>01</td> <td>01</td> <td></td> <td>Faucet inside house/yard, Community Water System</td> </tr> <tr> <td>02</td> <td>02</td> <td>02</td> <td></td> <td>Faucet, Public, Community Water System</td> </tr> <tr> <td>03</td> <td>03</td> <td>03</td> <td></td> <td>Faucet, Other, Community Water System</td> </tr> <tr> <td>04</td> <td>04</td> <td>04</td> <td></td> <td>Tubed/piped deep well, Own Use</td> </tr> <tr> <td>05</td> <td>05</td> <td>05</td> <td></td> <td>Tubed/piped deep well, Public</td> </tr> <tr> <td>06</td> <td>06</td> <td>06</td> <td></td> <td>Tubed/piped deep well, Other</td> </tr> <tr> <td>07</td> <td>07</td> <td>07</td> <td></td> <td>Tubed/piped shallow well, Own Use</td> </tr> <tr> <td>08</td> <td>08</td> <td>08</td> <td></td> <td>Tubed/piped shallow well, Public</td> </tr> <tr> <td>09</td> <td>09</td> <td>09</td> <td></td> <td>Tubed/piped shallow well, Other</td> </tr> <tr> <td>10</td> <td>10</td> <td>10</td> <td></td> <td>Dug well, improved (covered and no seepage from side)</td> </tr> <tr> <td>11</td> <td>11</td> <td>11</td> <td></td> <td>Dug well, Other</td> </tr> <tr> <td>12</td> <td>12</td> <td>12</td> <td></td> <td>Spring, improved (with tube/pipe outlet)</td> </tr> <tr> <td>13</td> <td>13</td> <td>13</td> <td></td> <td>Spring, Other</td> </tr> <tr> <td>14</td> <td>14</td> <td>14</td> <td></td> <td>Rain</td> </tr> <tr> <td>15</td> <td>15</td> <td>15</td> <td></td> <td>Lake, river, stream, irrigation, etc.</td> </tr> </tbody> </table>					For Drinking?	For Kitchen Use?	For Washing Clothes?	Source of Water Supply		31	...	36		01	01	01		Faucet inside house/yard, Community Water System	02	02	02		Faucet, Public, Community Water System	03	03	03		Faucet, Other, Community Water System	04	04	04		Tubed/piped deep well, Own Use	05	05	05		Tubed/piped deep well, Public	06	06	06		Tubed/piped deep well, Other	07	07	07		Tubed/piped shallow well, Own Use	08	08	08		Tubed/piped shallow well, Public	09	09	09		Tubed/piped shallow well, Other	10	10	10		Dug well, improved (covered and no seepage from side)	11	11	11		Dug well, Other	12	12	12		Spring, improved (with tube/pipe outlet)	13	13	13		Spring, Other	14	14	14		Rain	15	15	15		Lake, river, stream, irrigation, etc.
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14	14	14		Rain																																																																																					
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H-7		28
H-8		29
H-9		30
H-10		31-32
		33-34
		35-36
H-11		37
H-12		38
H-13		39
		40
		41

H-13 Do you have these appliances in working condition?

	YES	NO	
39	1	2	a. Radio
40	1	2	b. TV
41	1	2	c. Refrigerator/Freezer

328 PHILIPPINES • GENERAL QUESTIONNAIRE

PH Form 4 May 1, 1980	SERIAL NO. (From PH Form 1)			Republic of the Philippines National Economic and Development Authority NATIONAL CENSUS AND STATISTICS OFFICE Manila		Sheet 22 of 27 Sheets
	BLDG	DU	HH	Province _____ City/Mun./Man. Dist. _____ Barangay _____ Enumeration Area _____ EA Subdiv. No. _____ Name of Collective Household _____		
	7	0	0			
	12 21					
1980 CENSUS OF POPULATION AND HOUSING COLLECTIVE HOUSEHOLD QUESTIONNAIRE (ENCIRCLE CODE OR ENTER CODE IF REQUIRED.)						

	Name	Relationship to Institution or Residence Status	Sex	Age		Marital Status		Name	Relationship to Institution or Residence Status	Sex	Age		Marital Status	
				Date of Birth	Age on last birthday before May 1, 1980						Date of Birth	Age on last birthday before May 1, 1980		
L I N E N U M B E R	<i>List the names (family name first) of all members of the collective household in the order listed in P-2. However, for convents, seminaries and nunneries or Armed Forces camps, list the priests/seminarians/nuns or officers/enlisted men ahead of civilian employees.</i> (Read instructions at the back on whom to list.)	1 Manager, director, in-charge 2 Staff member/employee, including physicians and nurses 3 Officer or enlisted man, trainee (AFP including cadets) 4 Officer or crew member in merchant vessel 5 Priest/seminarian/nun 6 Lodge/boarder (hotel, dorm, etc.) 7 Patient (Hospital, Sanatorium, etc.) 8 Inmate/ward (Home for the Aged, orphanage and other welfare inst.) 9 Prisoner/detainee 0 Others	Do not fill. 1 M 2 F	(Enter month in word and year of birth.) (See codes below for 100 yrs. and over.)	1 Single 2 Married 3 Widowed 4 Separated/Divorced 5 Unknown			Do not fill. 1 M 2 F	(Enter month in word and year of birth.) (See codes below for 100 yrs. and over.)	1 Single 2 Married 3 Widowed 4 Separated/Divorced 5 Unknown				
	(P-1)	(P-2)	(P-3)	(P-4)	(P-5)	(P-6)		(P-1)	(P-2)	(P-3)	(P-4)	(P-5)	(P-6)	(P-7)
01	28 36	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		11	28 36	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
02	37 45	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		12	37 45	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
03	46 54	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		13	46 54	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
04	55 63	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		14	55 63	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
05	64 72	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		15	64 72	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
06	73 81	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		16	73 81	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
07	82 90	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		17	82 90	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
08	91 99	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		18	91 99	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
09	100 108	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		19	100 108	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5
10	109 117	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5		20	109 117	1 2 3 4 5 6 7 8 9 0	00	1 M		1 2 3 4 5

CODES FOR P-6 - AGES 100 YEARS AND OVER

100 yrs. - X0	105 yrs. - X5	110 yrs. - Y0	115 yrs. - Y5
101 - X1	106 - X6	111 - Y1	116 - Y6
102 - X2	107 - X7	112 - Y2	117 - Y7
103 - X3	108 - X8	113 - Y3	118 - Y8
104 - X4	109 - X9	114 - Y4	119 & over - Y9

CERTIFICATION

I HEREBY CERTIFY that the data set forth in this form were personally obtained by me in accordance with the rules and regulations promulgated by the National Census and Statistics Office.

Name of person accomplishing this form
 (Printed Name & Sign) _____
 Title _____
 Date _____ 1980

PERSONS TO BE ENUMERATED AS MEMBERS OF COLLECTIVE HOUSEHOLDS

1. HOTELS, LODGING HOUSES, DORMITORIES, ETC.

- a. Proprietor, manager and employees living in the establishment, except those living therein with their own families and those who usually go home to their respective families at least once a week.
- b. Permanent lodgers/boarders (those who have stayed or expect to stay for one year or longer) and those temporary lodgers/boarders who have stayed for six months or longer as of May 1, 1980 or have been away from their own families for the same period. However, exclude those who usually go home at least once a week.
- c. Lodgers/boarders who are not residents of the Philippines and who have been in the Philippines for one year or longer as of May 1, 1980, or expect to stay in the Philippines for one year or longer. However, exclude those who have temporary place of residence elsewhere in the Philippines to where they usually go home. Exclude also diplomatic representatives or UN, ILO or USAID officials who, like diplomatic representatives, are subject to reassignment to other countries after their tour of duty in the Philippines, and members of their families.

2. HOSPITALS AND NURSES' HOMES

- a. All patients, including those just confined, in mental hospitals, leprosaria or leper colonies, pavilions of tuberculosis sanatoria where patients stay more or less permanently, and rehabilitation centers for drug addicts.
- b. Patients who have been confined for six months or longer as of May 1, 1980 in other kinds of hospitals and in wards for temporary confinement in tuberculosis sanatoria.
- c. Nurses in nurses' homes who do not usually go home at least once a week.
- d. Staff members and employees living in hospitals/nurses' homes, except those living therein with their families and those who usually go home at least once a week.

3. WELFARE INSTITUTIONS (Homes for the Aged and Infirm, Orphanage, Boys' Town, etc.)

- a. All inmates or wards, including those just confined.
- b. Staff members and employees living in the institutions, except those living therein with their families and those who usually go home at least once a week.

4. CORRECTIVE AND PENAL INSTITUTIONS

- a. All prisoners in national prisons and reformatories (welfareville).
- b. Prisoners and detainees in provincial or city/municipal jails who have been continuously confined for six months or longer, including confinement elsewhere, as of May 1, 1980, or those whose sentence is for six months or longer even if the sentence is on appeal.
- c. Staff members and employees living in the institutions except those living therein with their own families and those who usually go home at least once a week.

5. CONVENTS, NUNNERIES, SEMINARIES, AND BOARDING SCHOOLS

- a. Monks, priests, ministers, nuns, seminarians etc. However, priests or ministers of sects other than the Roman Catholic Church who live in the convent or house close to church or chapel with their own families are to be excluded (private households).
- b. Students in boarding schools (schools where students are required to stay in the school campus).
- c. Staff members, employees and helpers living in the premises, except those living therein with their own families and those who usually go home at least once a week.

6. MILITARY CAMPS AND STATIONS (PC, Army, Air Force and Navy); PMA

- a. Officers and enlisted men/draftees, except those who live in the premises with their own families and those who usually sleep most nights with private households or in hotels, lodging places or dormitories. Include those belonging to the unit in the camp or station who are away on military operation or mission or aboard naval vessels, except those whose families are living in the camp or station (their own families will report them).
- b. PMA cadets and trainees whose training is for six months or longer.
- c. Detainees who have been continuously confined for six months or longer, including confinement elsewhere, as of May 1, 1980.
- d. Civilian employees living in the camp or station, except those living therein with their own families and those who usually go home at least once a week.

7. LOGGING, MINING AND CONSTRUCTION/PUBLIC WORKS CAMPS; PLANTATIONS AND AGRICULTURAL/FISHERIES EXPERIMENTAL OR BREEDING STATIONS, ETC.

- a. Proprietor, manager, contractor and employees who do not live with their families in the premises and are supplied lodging (beddings, etc.) and/or meals by the company, firm, contractor or agency, except those who usually go home at least once a week.

8. OCEAN-GOING AND INTERISLAND/COASTAL VESSELS OR DEEP-SEA FISHING VESSELS

- a. Filipino crew members of ocean-going vessels (whose own families live in the Philippines) at port as of 12:01 A.M. May 1, 1980, except those who usually go home to their own families in the Philippines at least once every six months.
- b. Any crew member of interisland/coastal vessel or deep-sea fishing vessel at port on any day during the enumeration, if the crew member has no home other than the vessel.

9. REFUGEE CAMPS

- a. Filipino citizens working and living inside the camps.

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CP 1

CENSUS OF POPULATION, 1980, SINGAPORE ENUMERATION SCHEDULE B										CONFIDENTIAL	
Census District		Reticulated Unit		Census House No		Census Household No					
Postal District		Type of Census House		Tenancy		Type of Census Household					
1 Name		17 Address of workplace		1 Name		17 Address of workplace					
2 Relationship to Head				2 Relationship to Head							
3 Sex		18 Usual mode of transport to workplace		3 Sex		18 Usual mode of transport to workplace					
4 Ethnic/Dialect group		19 Income from work		4 Ethnic/Dialect group		19 Income from work					
5 Date of birth		a) Gross monthly earnings		5 Date of birth		a) Gross monthly earnings					
6 Marital status		b) Bonus received last 12 months		6 Marital status		b) Bonus received last 12 months					
7 Birthplace		20 Name and Location of school		7 Birthplace		20 Name and Location of school					
8 Year of first arrival				8 Year of first arrival							
9 Citizenship		21 Usual mode of transport to school		9 Citizenship		21 Usual mode of transport to school					
10 Residential status				10 Residential status							
11 Language(s) literate in		22 Language or Dialect most frequently used at home when speaking to		11 Language(s) literate in		22 Language or Dialect most frequently used at home when speaking to					
12 Activity/Occupational status		a) Grandparents		12 Activity/Occupational status		a) Grandparents					
		b) Parents				b) Parents					
13 Level of formal education attending		c) Brothers and Sisters		13 Level of formal education attending		c) Brothers and Sisters					
		d) Spouse				d) Spouse					
14 Highest level/qualification attained		e) Children		14 Highest level/qualification attained		e) Children					
		f) Grandchildren				f) Grandchildren					
FOR WORKING PERSON		23 Religion		FOR WORKING PERSON		23 Religion					
15 Occupation				15 Occupation							
16 Employer/Firm		FOR EVER MARRIED FEMALE		16 Employer/Firm		FOR EVER MARRIED FEMALE					
a) Name		24 Year of first marriage		a) Name		24 Year of first marriage					
b) Activity				b) Activity							
		25 No of children born alive				25 No of children born alive					
Name of Informant		Total No of Persons in Household				Sheet No					

CENSUS OF POPULATION, 1980, SINGAPORE SUPPLEMENTARY ENUMERATION SCHEDULE C (For Absentee Members*)		CONFIDENTIAL
Census District: 	Census House No: 	
Reticulated Unit: 	Census Household No: 	
1 Name	1 Name	
2 Relationship to Head	2 Relationship to Head	
3 Sex	3 Sex	
4 Ethnic/Dialect group	4 Ethnic/Dialect group	
5 Date of birth	5 Date of birth	
Day Month Year	Day Month Year	
6 Marital status	6 Marital status	
7 Birthplace	7 Birthplace	
8 Citizenship	8 Citizenship	
9 Country currently present in	9 Country currently present in	
10 Date of leaving Singapore	10 Date of leaving Singapore	
11 Expected date of return	11 Expected date of return	
FOR PERSON 10 YEARS AND OVER	FOR PERSON 10 YEARS AND OVER	
12 Highest qualification attained	12 Highest qualification attained	
13 Purpose of staying outside Singapore	13 Purpose of staying outside Singapore	
14 Usual activity status	14 Usual activity status	
☐ Working ☐ Student ☐ Others	☐ Working ☐ Student ☐ Others	
FOR WORKING PERSON	FOR WORKING PERSON	
15 Occupation	15 Occupation	
16 Employer/Firm	16 Employer/Firm	
a) Name	a) Name	
b) Activity	b) Activity	

* Particulars to be obtained from the head of household or any responsible respondent after completion of enumeration of the household.

CENSUS OF POPULATION, 1980, SINGAPORE

ENUMERATION SCHEDULE F
(For Persons in Transit on Ocean-going Vessels)

The following is a correct statement of the number of persons (including passengers and crew) in transit on board the on Tuesday, 0000 hour, 24th June 1980.

Name of Master of Vessel Signature and Name
of Agent or Owner
of Vessel:

Date of Enumeration:

ETHNIC GROUP	CREW		PASSENGERS		TOTAL	
	Male	Female	Male	Female	Male	Female
Malays						
Indonesians						
Chinese						
Indians, Pakistanis, Sri Lankan and Bangladeshi						
Europeans						
Others						
TOTAL						

Explanatory Notes

- Enumeration Schedule F is to be completed by the Agent of the ocean-going vessel for all crew members and passengers who are in transit on board the vessel at the port of Singapore at 0000 hour, 24th June 1980.
- For census purposes, a person in transit is defined to be a person who does not have a place of residence in Singapore but is found on board an ocean-going vessel at the port of Singapore at 0000 hour, 24th June 1980.
- Ocean-going vessels which arrive at the port of Singapore after 0000 hour, 24th June 1980 and ocean-going vessels which leave the port of Singapore before 0000 hour, 24th June 1980 would not be enumerated.
- An enumerator will call on the agent on 24th June 1980 to collect the completed Schedules.

CENSUS OF POPULATION, 1980, SINGAPORE
SUPPLEMENTARY ENUMERATION SCHEDULE D
 (For Tourists residing in Hotels
 on the night of 23/6/80)

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Census District: Reticulated Unit:

Name of Hotel:

Census House No <input type="text"/>	Census Household No <input type="text"/>	Postal District <input type="text"/>	Type of Census House <input type="text"/>
1 Name <input type="text"/>	1 Name <input type="text"/>	1 Name <input type="text"/>	1 Name <input type="text"/>
2 Sex <input type="text"/>	2 Sex <input type="text"/>	2 Sex <input type="text"/>	2 Sex <input type="text"/>
3 Ethnic group <input type="text"/>	3 Ethnic group <input type="text"/>	3 Ethnic group <input type="text"/>	3 Ethnic group <input type="text"/>
4 Date of birth <div style="display: flex; justify-content: space-between;"> <div>Day <input type="text"/></div> <div>Month <input type="text"/></div> <div>Year <input type="text"/></div> </div>	4 Date of birth <div style="display: flex; justify-content: space-between;"> <div>Day <input type="text"/></div> <div>Month <input type="text"/></div> <div>Year <input type="text"/></div> </div>	4 Date of birth <div style="display: flex; justify-content: space-between;"> <div>Day <input type="text"/></div> <div>Month <input type="text"/></div> <div>Year <input type="text"/></div> </div>	4 Date of birth <div style="display: flex; justify-content: space-between;"> <div>Day <input type="text"/></div> <div>Month <input type="text"/></div> <div>Year <input type="text"/></div> </div>
5 Marital status <input type="text"/>	5 Marital status <input type="text"/>	5 Marital status <input type="text"/>	5 Marital status <input type="text"/>
6 Birthplace <input type="text"/>	6 Birthplace <input type="text"/>	6 Birthplace <input type="text"/>	6 Birthplace <input type="text"/>
7 Citizenship <input type="text"/>	7 Citizenship <input type="text"/>	7 Citizenship <input type="text"/>	7 Citizenship <input type="text"/>
8 Country of usual residence <input type="text"/>	8 Country of usual residence <input type="text"/>	8 Country of usual residence <input type="text"/>	8 Country of usual residence <input type="text"/>
Name of Informant:			Sheet No:

RETICULATED UNIT :			
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[illegible]

Occupied Houses	Unoccupied Houses	Households		Enumeration Schedules Required	
		Private	Institutional	Type	No.

Name of Enumerator:

Sheet No:

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Every person is bound by the Census Ordinance to furnish this information. The information is accorded confidential treatment and will not be used for taxation or other administrative purposes. It will be used only for preparation of statistical tables.

POPULATION SCHEDULE (GENERAL)

CENSUS OF POPULATION AND HOUSING, SRI LANKA - 1981

FORM
F 11

CENSUS NUMBER OF UNIT.....

DEPARTMENT OF CENSUS AND STATISTICS

A1-District	A2-A.G.A. Division	A3-Electorate	A4-Sector Urban/Rural/Estate	A5-M.C./U.C./T.C./ G.S. Division	A6-Ward/Village/Estate	A7-Census Block Number	A8-Serial Number Of Unit
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PERSON FOR P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11	P1	HOUSEHOLD NUMBER WITHIN UNIT					
	P2	SERIAL NO. OF PERSON IN THE CENSUS BLOCK					
	P3	NAME : Enter the names of all persons usually living in the unit. Start with the Head. If a child has not been named enter as 'Baby'					
	P4	RELATIONSHIP TO HEAD OF HOUSEHOLD : 1-Head of household 2-Wife/Husband 3-Son/daughter 4-Other relative 5-Non-relative 6-Visitor	1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.	1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.	1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.	1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.	1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.
	P5	SEX	1-Male 2-Female	1-Male 2-Female	1-Male 2-Female	1-Male 2-Female	1-Male 2-Female
	P6	RELIGION : 1-Buddhist 2-Hindu 3-Muslim 4-Roman Catholic 5-Other Christians 6-Other	1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other	1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other	1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other	1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other	1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other
	P7	ETHNIC GROUP : 1-Low Country Sinhalese 2-Kandyan Sinhalese 3-Sri Lanka Tamil 4-Indian Tamil 5-Sri Lanka Moor 6-Burgher 7-Malay 8-Other	1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other	1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other	1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other	1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other	1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other
	P8	CITIZENSHIP : Indicate country of present citizenship. If other than Sri Lanka or India state name of country and enter its code.	31-Sri Lanka 32-India country	31-Sri Lanka 32-India country	31-Sri Lanka 32-India country	31-Sri Lanka 32-India country	31-Sri Lanka 32-India country
	P9	PHYSICAL INFIRMITY : If totally blind, deaf or dumb or has any disability in an arm or leg circle 1, otherwise circle 2	1-Disabled 2-Not Disabled	1-Disabled 2-Not Disabled	1-Disabled 2-Not Disabled	1-Disabled 2-Not Disabled	1-Disabled 2-Not Disabled
	P10	DATE OF BIRTH AND AGE : Enter age in completed years as on Final Census date. e.g. If 27 years 10 months enter age as 27. If under 1 year as '00'	Year.....Mo.....day..... Years	Year.....Mo.....day..... Years	Year.....Mo.....day..... Years	Year.....Mo.....day..... Years	Year.....Mo.....day..... Years
	P11	MARITAL STATUS : Indicate the current marital status 1-Never Married 2-Married (Registered) 3-Married (Customary) 4-Widowed 5-Divorced 6-Legally Separated	1-Nov. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.	1-Nov. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.	1-Nov. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.	1-Nov. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.	1-Nov. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.

P12	AGES 5-29	ATTENDANCE AT SCHOOL OR OTHER EDUCATIONAL INSTITUTION DURING THE LAST 30 DAYS : 1-Attended School 2-Attended other educational institution 3-Did not attend	1-School 2-Other Inst. 3-Did not attend	1-School 2-Other Inst. 3-Did not attend	1-School 2-Other Inst. 3-Did not attend	1-School 2-Other Inst. 3-Did not attend	1-School 2-Other Inst. 3-Did not attend	1-School 2-Other Inst. 3-Did not attend
P13		EDUCATIONAL ATTAINMENT: Enter the highest qualification obtained or examination passed. If passed grade 9 or below enter as 09, 04, etc. If no schooling enter 98	Highest Qualifications <input type="text"/> <input type="text"/> grade	Highest Qualifications <input type="text"/> <input type="text"/> grade	Highest Qualifications <input type="text"/> <input type="text"/> grade	Highest Qualifications <input type="text"/> <input type="text"/> grade	Highest Qualifications <input type="text"/> <input type="text"/> grade	Highest Qualifications <input type="text"/> <input type="text"/> grade
P14		LITERACY: Indicate language/s the person can read and write Circle 1-Yes or 2-No for each language.	Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No	Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No	Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No	Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No	Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No	Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No
P15		PRINCIPAL ACTIVITY DURING THE LAST 30 DAYS: 1-Employed 2-Student 3-Retired/unable to Work 4-Own House work 5-Other	1-Emp. → go to P19 2-Stud. → go to P22 3-Ret./Un. Wk. → End 4-O.H.W. interview 5-Other	1-Emp. → go to P19 2-Stud. → go to P22 3-Ret./Un. Wk. → End 4-O.H.W. interview 5-Other	1-Emp. → go to P19 2-Stud. → go to P22 3-Ret./Un. Wk. → End 4-O.H.W. interview 5-Other	1-Emp. → go to P19 2-Stud. → go to P22 3-Ret./Un. Wk. → End 4-O.H.W. interview 5-Other	1-Emp. → go to P19 2-Stud. → go to P22 3-Ret./Un. Wk. → End 4-O.H.W. interview 5-Other	1-Emp. → go to P19 2-Stud. → go to P22 3-Ret./Un. Wk. → End 4-O.H.W. interview 5-Other
P16		DID HE/SHE SEEK WORK DURING THE LAST 30 DAYS?	1-Yes 2-No → go to P18	1-Yes 2-No → go to P18	1-Yes 2-No → go to P18	1-Yes 2-No → go to P18	1-Yes 2-No → go to P18	1-Yes 2-No → go to P18
P17		PERIOD OF SEARCH FOR WORK : Ignore fractions of a year. Enter, under 1 year as 0, 9 years or more as 9.	<input type="text"/> Years → End interview	<input type="text"/> Years → End interview	<input type="text"/> Years → End interview	<input type="text"/> Years → End interview	<input type="text"/> Years → End interview	<input type="text"/> Years → End interview
P18		REASON FOR NOT SEEKING WORK : 1-Has private income 2-Does not want to work 3-Thinks work not available 4-Other	1-Pr. In 2-D.N.W. 3-W.N.A. → End interview 4-Other	1-Pr. In 2-D.N.W. 3-W.N.A. → End interview 4-Other	1-Pr. In 2-D.N.W. 3-W.N.A. → End interview 4-Other	1-Pr. In 2-D.N.W. 3-W.N.A. → End interview 4-Other	1-Pr. In 2-D.N.W. 3-W.N.A. → End interview 4-Other	1-Pr. In 2-D.N.W. 3-W.N.A. → End interview 4-Other
P19		PRINCIPAL OCCUPATION OR KIND OF WORK State clearly exact occupation or kind of work done during the last 30 days. e.g. Mechanical engineer, Paddy cultivator, Tea plucker, Accounts Clerk, Vegetable seller, etc.						
P20		KIND OF INDUSTRY, BUSINESS OR SERVICE State clearly, the type of industry, nature of business, or service carried on in the work place e.g. tea estate, grocery shop, Health Department, Paddy cultivation.						
P21		EMPLOYMENT STATUS : 1-Govt. Employee 2-Semi-Govt. Employee 3-Other Employee 4-Emp. 5-Own Account Worker 6-Unpaid Family Worker	1-Govt. Emp. 2-Semi-Govt. 3-O. Emp. 4-Emp. 5-O.A.W. 6-U.F.W.	1-Govt. Emp. 2-Semi-Govt. 3-O. Emp. 4-Emp. 5-O.A.W. 6-U.F.W.	1-Govt. Emp. 2-Semi-Govt. 3-O. Emp. 4-Emp. 5-O.A.W. 6-U.F.W.	1-Govt. Emp. 2-Semi-Govt. 3-O. Emp. 4-Emp. 5-O.A.W. 6-U.F.W.	1-Govt. Emp. 2-Semi-Govt. 3-O. Emp. 4-Emp. 5-O.A.W. 6-U.F.W.	1-Govt. Emp. 2-Semi-Govt. 3-O. Emp. 4-Emp. 5-O.A.W. 6-U.F.W.
P22		DISTANCE FROM USUAL RESIDENCE TO PLACE OF WORK OR SCHOOL : Enter in miles ignoring fractions as 01, 04, 17, etc. If under 1 mile enter '00'. If no fixed work place write 98	Distance to place of work/school. <input type="text"/> <input type="text"/> Miles	Distance to place of work/school. <input type="text"/> <input type="text"/> Miles	Distance to place of work/school. <input type="text"/> <input type="text"/> Miles	Distance to place of work/school. <input type="text"/> <input type="text"/> Miles	Distance to place of work/school. <input type="text"/> <input type="text"/> Miles	Distance to place of work/school. <input type="text"/> <input type="text"/> Miles
P23	EMPLOYED & STUDENTS	PRINCIPAL MODE OF TRAVEL TO PLACE OF WORK OR SCHOOL : 1-Walking 2-Bicycle 3-Motor cycle 4-Car 5-Train 6-Bus 7-Train & Bus 8-Other/not applicable	1-Walk 5-Tr. 2-Bio. 6-Bus 3-Mo. Cyc. 7-Tr. & Bus 4-Car 8-Other not appl.	1-Walk 5-Tr. 2-Bio. 6-Bus 3-Mo. Cyc. 7-Tr. & Bus 4-Car 8-Other not appl.	1-Walk 5-Tr. 2-Bio. 6-Bus 3-Mo. Cyc. 7-Tr. & Bus 4-Car 8-Other not appl.	1-Walk 5-Tr. 2-Bio. 6-Bus 3-Mo. Cyc. 7-Tr. & Bus 4-Car 8-Other not appl.	1-Walk 5-Tr. 2-Bio. 6-Bus 3-Mo. Cyc. 7-Tr. & Bus 4-Car 8-Other not appl.	1-Walk 5-Tr. 2-Bio. 6-Bus 3-Mo. Cyc. 7-Tr. & Bus 4-Car 8-Other not appl.

CENSUS OF POPULATION AND HOUSING, SRI LANKA - 1981

CONFIDENTIAL
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CENSUS NUMBER OF UNIT.....

DEPARTMENT OF CENSUS AND STATISTICS

A1-District		A2-A.G.A. Division		A3-Electorate		A4-Sector Urban/Rural/Estate		A5-M.C./U.C./T.C./G.S. Division		A6-Ward/Village/Estate		A7-Census Block Number		A8-Serial Number of Unit	
[][]		[][]		[][]		[][]		[][]		[][]		[][]		[][]	
P1	FOR ALL PERSONS	HOUSEHOLD NUMBER WITHIN UNIT				[][]		[][]		[][]		[][]		[][]	
P2		SERIAL NO. OF PERSON IN THE CENSUS BLOCK				[][][]		[][][]		[][][]		[][][]		[][][]	
P3		NAME: Enter the names of all persons usually living in the unit. Start with the Head. If a child has not been named, enter as 'Baby'													
P4		RELATIONSHIP TO HEAD OF HOUSEHOLD: 1-Head of household 2-Wife/Husband 3-Son/Daughter 4-Other relative 5-Non-relative 6-Visitor				1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.		1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.		1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.		1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.		1-Head 4-O. rel 2-Wif./Hus. 5-N. rel 3-Son/Dau. 6-Vis.	
P5		SEX				1-Male 2-Female		1-Male 2-Female		1-Male 2-Female		1-Male 2-Female		1-Male 2-Female	
P6		RELIGION: 1-Buddhist 2-Hindu 3-Muslim 4-Roman Catholic 5-Non-Christian 6-Other				1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other		1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other		1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other		1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other		1-Bud. 4-R.O. 2-Hin. 5-O. Chr. 3-Mus. 6-Other	
P7		ETHNIC GROUP: 1-Low Country Sinhalese 2-Kandyan Sinhalese 3-Sri Lanka Tamil 4-Indian Tamil 5-Sri Lanka Moor 6-Burgher 7-Mal. 8-Other				1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other		1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other		1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other		1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other		1-L.C.S. 5-S.L.M. 2-K.S. 6-Bur. 3-S.L. Tam. 7-Mal. 4-In. Tam. 8-Other	
P8		CITIZENSHIP: Indicate country of present citizenship. If other than Sri Lanka or India state name of country and enter its code.				31-Sri Lanka 32-India [][] country		31-Sri Lanka 32-India [][] country		31-Sri Lanka 32-India [][] country		31-Sri Lanka 32-India [][] country		31-Sri Lanka 32-India [][] country	
P9		PHYSICAL INFIRMITY: If totally blind, deaf or dumb or has any disability in an arm or leg circle 1, otherwise circle 2				1-Disabled 2-Not Disabled		1-Disabled 2-Not Disabled		1-Disabled 2-Not Disabled		1-Disabled 2-Not Disabled		1-Disabled 2-Not Disabled	
P10		DATE OF BIRTH AND AGE: Enter age in completed years as on Final Census date. e.g. If 27 years 10 months enter age as 27. If under 1 year as '00'				Year.....Mo..... day..... [][] Years		Year.....Mo..... day..... [][] Years		Year.....Mo..... day..... [][] Years		Year.....Mo..... day..... [][] Years		Year.....Mo..... day..... [][] Years	
P11	MARITAL STATUS: Indicate the current marital status 1-Never Married 2-Married (Registered) 3-Married (Customary) 4-Widowed 5-Divorced 6-Legally Separated				1-Nev. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.		1-Nev. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.		1-Nev. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.		1-Nev. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.		1-Nev. Mar. 4-Wid. 2-Mar. (Reg.) 5-Div. 3-Mar. (Cus.) 6-Leg. Sep.		
P12	AGES 5-29	ATTENDANCE AT SCHOOL OR OTHER EDUCATIONAL INSTITUTION DURING THE LAST 30 DAYS: 1-Attended School 2-Attended other educational institution 3-Did not attend				1-School 2-Other Inst. 3-Did not attend		1-School 2-Other Inst. 3-Did not attend		1-School 2-Other Inst. 3-Did not attend		1-School 2-Other Inst. 3-Did not attend		1-School 2-Other Inst. 3-Did not attend	
P13		EDUCATIONAL ATTAINMENT: Enter the highest qualification obtained or examination passed. If passed grade 9 or below enter as 09, 04, etc. If no schooling enter 98				Highest Qualification [][] grade		Highest Qualification [][] grade		Highest Qualification [][] grade		Highest Qualification [][] grade		Highest Qualification [][] grade	
P14		LITERACY: Indicate language/s the person can read and write Circle 1-Yes or 2-No for each language.				Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No		Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No		Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No		Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No		Sinhala: 1-Yes 2-No Tamil: 1-Yes 2-No English: 1-Yes 2-No	
P15		PRINCIPAL ACTIVITY DURING THE LAST 30 DAYS: 1-Employed 2-Student 3-Retired/unable to Work 4-Own House work 5-Other				1-Emp.->go to P19 2-Stud.->go to P22 3-Ret./Un. Wk.->go to P24 4-O.H.W. 5-Other		1-Emp.->go to P19 2-Stud.->go to P22 3-Ret./Un. Wk.->go to P24 4-O.H.W. 5-Other		1-Emp.->go to P19 2-Stud.->go to P22 3-Ret./Un. Wk.->go to P24 4-O.H.W. 5-Other		1-Emp.->go to P19 2-Stud.->go to P22 3-Ret./Un. Wk.->go to P24 4-O.H.W. 5-Other		1-Emp.->go to P19 2-Stud.->go to P22 3-Ret./Un. Wk.->go to P24 4-O.H.W. 5-Other	
P16	0 AND OVER	DID HE/SHE SEEK WORK DURING THE LAST 30 DAYS?				1-Yes 2-No->go to P18		1-Yes 2-No->go to P18		1-Yes 2-No->go to P18		1-Yes 2-No->go to P18		1-Yes 2-No->go to P18	

P17	FOR PERSONS AGE 10 AND OVER	PERIOD OF SEARCH FOR WORK : Ignore fractions of a year. Enter, under 1 year as 0, 9 years or more as 9.	☐ Years → go to P24	☐ Years → go to P24	☐ Years → go to P24	☐ Years → go to P24	☐ Years → go to P24	☐ Years → go to P24
P18		REASON FOR NOT SEEKING WORK : 1-Has private income 2-Does not want to work 3-Thinks work not available 4-Other	1-Pr. In 2-D.N.W. 3-W.N.A. 4-Other	→ go to P24	→ go to P24	→ go to P24	→ go to P24	→ go to P24
P19		PRINCIPAL OCCUPATION OR KIND OF WORK State clearly exact occupation or kind of work done during the last 30 days. e.g. Mechanical engineer, Paddy cultivator, Tea picker, Accounts Clerk, Vegetable seller, etc.						
P20		KIND OF INDUSTRY, BUSINESS OR SERVICE State clearly, the type of industry, nature of business, or service carried on in the work place e.g. tea estate, grocery shop, Health Department, Paddy cultivation, etc.						
P21		EMPLOYMENT STATUS : 1-Govt. Employee 2-Semi-Govt. Employee 3-Other Employee 4-Employer 5-Own Account Worker 6-Unpaid Family Worker	1-Govt. Emp. 4-Empr. 2-Semi-Govt. 5-O.A.W. 3-O. Emp. 6-U.F.W.					
P22	EMPLOYED & STUDENTS	DISTANCE FROM USUAL RESIDENCE TO PLACE OF WORK OR SCHOOL : Enter in miles ignoring fractions as 01, 04, 17, etc. If under 1 mile enter '00'. If no fixed work place write 98	☐ Miles	☐ Miles	☐ Miles	☐ Miles	☐ Miles	☐ Miles
P23		PRINCIPAL MODE OF TRAVEL TO PLACE OF WORK OR SCHOOL : 1-Walking 2-Bicycle 3-Motor cycle 4-Car 5-Train 6-Bus 7-Train & Bus 8-Other/not applicable	1-Walk 5-Tr. 2-Bic. 6-Bus 3-Mo. Cyc. 7-Tr. & Bus 4-Car 8-Other/not appl.					
P24	FOR ALL PERSONS	PLACE OF BIRTH : 91-Born in this district If any other place then state the District/Country and enter its code.	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country
P25		PLACE OF USUAL RESIDENCE : 91-This Town/Village 92-Outside this Town/Village but within the district If another district/country state the district/country and enter its code.	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country
P26		PERIOD OF STAY IN THE TOWN OR VILLAGE OF USUAL RESIDENCE : Enter the number of years ignoring fractions. If less than one year enter '00'. If living since birth circle 91 and end interview	☐ Years → go to P27	☐ Years → go to P27	☐ Years → go to P27	☐ Years → go to P27	☐ Years → go to P27	☐ Years → go to P27
P27		DISTRICT OF PREVIOUS RESIDENCE : (Immediately before coming to live in this Town/Village) If previous residence was also in the same district circle 91. Otherwise write the district/country and enter its code.	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country	☐ Dis./Country

If continued into next page mark X in this circle.

H1. DESCRIPTION OF UNIT 1-Housing unit 2-Living quarters other than housing unit. Specify	H2. TYPE OF STRUCTURE 1-Single house 2-Flat/annexe/attached house 3-Line room/tenement 4-Hut/shanty 5-Other (specify)	H3. NUMBER OF HOUSEHOLDS IN THE UNIT ☐	H4. NUMBER OF USUAL OCCUPANTS If occupied enter number of usual occupants ☐ If vacant enter 00 and end interview	H5. YEAR OF COMPLETION 1-1970 or before 2-1971-75 3-1976 4-1977 5-1978 6-1979 7-1980 8-1981	H6. PRINCIPAL MATERIALS OF CONSTRUCTION (a) WALLS 1-Cement blocks/stone 2-Brick or Cobwork 3-Mud 4-Wood 5-Cadjan/ 6-Other (specify) (b) ROOF 1-Tile 2-Asbestos sheets 3-Metal sheets 4-Cadjan/ 5-Palm/raha/ 6-Other (specify) (c) FLOOR 1-Cement/ 2-Wood 3-Mud 4-Other (specify)	H7. NUMBER OF ROOMS Include living rooms, dining rooms, servant's rooms. But exclude kitchens, Bathrooms & Store rooms. No. of rooms ☐	H8. MAIN SOURCE OF DRINKING WATER 1-Piped water inside unit or within premises 2-Piped water outside premises e.g. street tap 3-Protected well within premises 4-Protected well outside premises 5-Unprotected well 6-River, tank, stream or other	H9. TOILET FACILITIES FOR THE UNIT (a) TYPE 1-Flush toilet 2-water seal 3-Pit 4-Bucket type 5-None (b) WHETHER FOR EXCLUSIVE USE 1-Exclusive use 2-Shared 3-Not applicable	H10. PRINCIPAL TYPE OF LIGHTING 1-Electricity 2-Kerosene 3-Other 4-None	H11. PRINCIPAL COOKING FUEL 1-Firewood 2-Kerosene 3-Electricity 4-Gas 5-Other (specify)	H12. TENURE OF UNIT 1-Owned 2-Rented or leased 3-Rent free 4-Other (specify)
--	--	--	--	---	---	---	--	--	---	--	--

CONFIDENTIAL
Every person is bound by the Census Ordinance to furnish this information. The information is accorded confidential treatment and will not be used for taxation or other administrative purposes. It will be used only for preparation of statistical tables.

PHYSICAL INFIRMITY SCHEDULE
CENSUS OF POPULATION AND HOUSING, SRI LANKA - 1981
Department of Census and Statistics

FORM F9

[illegible]

I.9	(a) Disability in legs:	1 - loss of one leg 2 - paralysis of one leg 3 - loss of both legs 4 - paralysis of both legs	1 - loss of one leg 2 - paralysis of one leg 3 - loss of both legs 4 - paralysis of both legs	1 - loss of one leg 2 - paralysis of one leg 3 - loss of both legs 4 - paralysis of both legs	1 - loss of one leg 2 - paralysis of one leg 3 - loss of both legs 4 - paralysis of both legs	1 - loss of one leg 2 - paralysis of one leg 3 - loss of both legs 4 - paralysis of both legs	1 - loss of one leg 2 - paralysis of one leg 3 - loss of both legs 4 - paralysis of both legs
	(b) Age at which disability in legs occurred:	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years
	(c) Cause of disability in legs: If the disability did not exist at birth but occurred afterwards state the cause	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>
I.10	(a) Other disability: Describe	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	(b) Age at which other disability occurred:	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years	98 - at birth <input type="text"/> years
	(c) Cause of other disability: If the disability did not exist at birth but occurred afterwards state the cause.	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>	1 - since birth <input type="text"/>
I.11	Means of livelihood:	1 - employment 2 - supported by family or relations 3 - supported by an institution or an organization 4 - begging 5 - other, specify -----	1 - employment 2 - supported by family or relations 3 - supported by an institution or an organization 4 - begging 5 - other, specify -----	1 - employment 2 - supported by family or relations 3 - supported by an institution or an organization 4 - begging 5 - other, specify -----	1 - employment 2 - supported by family or relations 3 - supported by an institution or an organization 4 - begging 5 - other, specify -----	1 - employment 2 - supported by family or relations 3 - supported by an institution or an organization 4 - begging 5 - other, specify -----	1 - employment 2 - supported by family or relations 3 - supported by an institution or an organization 4 - begging 5 - other, specify -----
I.12	Whether living in an Institution:	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No	1 - Yes 2 - No
I.13	Occupation: If code 1 is circled in cage I.11 describe occupation						

Printed By: Printing Division, Dept. of Census & Statistics, P.O. Box 563, Colombo 7.

(For this block/village)
(สำหรับกลุ่มหมู่บ้าน)

เล่มนี้ประกอบด้วยสาระสำคัญ พ.ศ. 2523

a. Chaparral.....b. Asphires.....

ก. จักรวรรดิ จ. ชำนาญ

๓. ตำบล.....ด.สต.

U.S. Non-M.A. Village no.

ส.ป.ค.1 FORM 1

แบบบัญชี Listing form

Blook number:

2. Board of sanitary district

ภาษา...1

2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible]

The 1980 Population and Housing Census

Form 2

Sheet number.....of.....sheets for this household

(Enumeration form)

Part I Identification of household

Changwat	Amphur	Tambon
1		6

a. Address

b. E.D. No.

c. Block number

7	8

d. Village No.Name of village

9	10

e. This house is in Municipal Area☐ Name of M.A.

Sanitary District.....☐ Name of S.D.

Outside M.A. or S.D.☐

11

f. Household No.

12		14

g. Type of household

Private household1

Institution household

Wat2

Jail3

Welfare Lodging4

Hospital5

Boarding School6

Military7

Other collective household

Hotel8

Boarding house and others

15

h. Number of persons in household

Totalpersons

Malepersons

Femalepersons

16		19

5 (0)

[illegible]

FOR EVERY PERSON

THAILAND • SAMPLE QUESTIONNAIRE 345

Grade of
school
attended
(as of
January 1,
1980 for
those 5-30
years old)

Enter grade
attended
as of
January
1980

Can read and
write in any
language ?

Enter in ☐

1 - yes

2 - No

TYPE OF MIGRATION			
IF LESS THAN 5 YEARS IN L(18)			
How Long has been living in this village or Municipality consecutively	Previous Changwat of residence Enter Changwat If moved within the same changwat enter Amphur	For those who moved within Thailand, moved from village or municipality? -1 village -2 municipality	Reason for moving -To study -Move with spouse -Move with head of household -Looking for job -Job -transfer -Return home -Marriage -Enter priesthood etc.

L(16)	L(17)	L(18)	L(19)	L(20)	L(21)

FOR PERSON 11 YEARS AND OLDER OR THOSE WHO WERE BORN BEFORE AND
IN THE YEAR 2511 (MONKEY YEAR)
1968

FOR EVER-MARRIED WOMEN				FOR CURRENTLY MARRIED WOMEN IN L(9) AND 50 YEARS OF AGE AND LOWER		Occupation last week (25-31 March 1980) "What was..... working during last week?" Specify kind of work i.e. - typist - school teacher - accountant - farmer etc.	If "not work" in col. 28 Reason for not working Example :- - Looking for work - Student - Aged, disability - Waiting for farm season - homemaker - Retired Official etc.	For office use only	
Age at first marriage	CHILDREN EVER BORN ALIVE			"Do you or your husband practice contraception" 1 yes 2 no	If yes in col. 26 "What method is used" 1 oral pills 2 IUD 3 Injection 4 female sterilization 5 male sterilization 6 other methods used.				
	Number of everborn children living in this household	Number of everborn children living elsewhere	Number of everborn children who had died			Line Number			
L(22)	L(23)	L(24)	L(25)	L(26)	L(27)	L(28)	L(29)		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		

PART 3. HOUSING QUESTIONS (FOR PRIVATE HOUSEHOLD)

CIRCLE ONLY ONE CODE NUMBER IN EACH QUESTION																																										
NUMBER H 1. AND H 2. BY OBSERVATION OF HOUSE																																										
H 1. Type of structure Detached.....1 Duplex.....2 Row house.....3 Apartment.....4 Room.....5 Mobile.....6 Others (specify)	H 8. Ownership of land If owner or buy on installment in H.4 Owner of land.....1 Buy on installment...2 Rent.....3 Rent free.....4 Other (specify)	H 14. Lighting Electricity.....1 Pressure lamp.....2 Oil lamp.....3 Other (specify)																																								
H 2. Type of construction materials Cement or brick.....1 Wood, cement or brick (mixed).....2 Wood.....3 Local materials.....4 Reused materials.....5	H 9. Owner of land If rent or rent free in No. H.8 Government, government enterprise.....1 Government property....2 Private.....3 Other (specify)	H 15. Toilet Facilities Flush toilet Exclusive.....1 Shared.....2 Moulded bucket latrine Exclusive.....3 Shared.....4 Pit.....5 Other or none.....6																																								
H 3. Is this house also used for commercial purposes? Yes.....1 No.....2	H 10. Number of rooms used for sleeping Bedrooms.....1 Other rooms used for sleeping.....2	H 16. Place for cooking Kitchen Exclusive.....1 Shared.....2 Terrace, veranda.....3 Other (specify)																																								
H 4. Tenure of household living quarter (excluding land) Owner.....1 Buy on installment.....2 Rent.....3 Rent free for service.....4 others.....5	H 11. Drinking water Pipe/water, inside.....1 Pipe/water, outside.....2 Public well.....3 Private well.....4 Rain water.....5 River, canal, stream, waterfall.....6 Other (specify)	H 17. Cooking fuel <table border="1"> <thead> <tr> <th></th> <th>1st</th> <th>2nd</th> </tr> </thead> <tbody> <tr> <td>Charcoal.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>Wood.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>Gas.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>Electricity...</td> <td>1</td> <td>2</td> </tr> <tr> <td>None</td> <td></td> <td></td> </tr> </tbody> </table>			1 st	2 nd	Charcoal.....	1	2	Wood.....	1	2	Gas.....	1	2	Electricity...	1	2	None																							
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Wood.....	1	2																																								
Gas.....	1	2																																								
Electricity...	1	2																																								
None																																										
H 5. (If rent in No. H.4) Advance payment Yes.....1 No.....2	H 12. Water supply system Pipe/water, inside.....1 Pipe/water, outside.....2 Public well.....3 Private well.....4 Rain water.....5 River, canal, stream, waterfall.....6 Other (specify)	H 18. Household appliance <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No.</th> </tr> </thead> <tbody> <tr> <td>Radio</td> <td>1</td> <td>2</td> </tr> <tr> <td>Television</td> <td>1</td> <td>2</td> </tr> <tr> <td>Telephone</td> <td>1</td> <td>2</td> </tr> <tr> <td>Refrigerator</td> <td>1</td> <td>2</td> </tr> <tr> <td>Electric fan</td> <td>1</td> <td>2</td> </tr> <tr> <td>Air-conditioner</td> <td>1</td> <td>2</td> </tr> <tr> <td>Bicycle</td> <td>1</td> <td>2</td> </tr> <tr> <td>Motorcycle</td> <td>1</td> <td>2</td> </tr> <tr> <td>Motorcar</td> <td>1</td> <td>2</td> </tr> <tr> <td>Motorboat</td> <td>1</td> <td>2</td> </tr> <tr> <td>Water pump for agriculture use</td> <td>1</td> <td>2</td> </tr> <tr> <td>Tractor</td> <td>1</td> <td>2</td> </tr> </tbody> </table>			Yes	No.	Radio	1	2	Television	1	2	Telephone	1	2	Refrigerator	1	2	Electric fan	1	2	Air-conditioner	1	2	Bicycle	1	2	Motorcycle	1	2	Motorcar	1	2	Motorboat	1	2	Water pump for agriculture use	1	2	Tractor	1	2
	Yes	No.																																								
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Air-conditioner	1	2																																								
Bicycle	1	2																																								
Motorcycle	1	2																																								
Motorcar	1	2																																								
Motorboat	1	2																																								
Water pump for agriculture use	1	2																																								
Tractor	1	2																																								
H 6. Rent per month Baht.....	H 13. Bathroom Exclusive bathroom.....1 Shared bathroom.....2 Terrace, veranda.....3 Well, river, canal.....4 Other (specify)																																									
H 7. If rent or rent free in No. H.4 who is owner of house Government, government enterprise.....1 Private.....2 Other (specify).....3																																										

Please fill out this
official Census Form
and mail it back on
Census Day,
Tuesday, April 1, 1980

1980 Census of the United States

If the address shown below has the wrong apartment identification, please write the correct apartment number or location here.

(10)	A1	A2	A3	A4	A5	A6

Your answers are confidential

By law (title 13, U.S. Code), census employees are subject to fine and/or imprisonment for any disclosure of your answers. Only after 72 years does your information become available to other government agencies or the public. The same law requires that you answer the questions to the best of your knowledge.

Para personas de habla hispana

(For Spanish-speaking persons)
SI USTED DESEA UN CUESTIONARIO DEL CENSO EN ESPAÑOL llame a la oficina del censo. El número de teléfono se encuentra en el encabezado de la dirección.

☐ Si prefiere, marque esta casilla ☐ y devuelva el cuestionario por correo en el sobre que se le incluye.

U.S. Department of Commerce
Bureau of the Census
Form D-2

A message from the Director, Bureau of the Census . . .

We must, from time to time, take stock of ourselves as a people if our Nation is to meet successfully the many national and local challenges we face. This is the purpose of the 1980 census.

The essential need for a population census was recognized almost 200 years ago when our Constitution was written. As provided by article I, the first census was conducted in 1790 and one has been taken every 10 years since then.

The law under which the census is taken protects the confidentiality of your answers. For the next 72 years — or until April 1, 2052 — only sworn census workers have access to the individual records, and no one else may see them.

Your answers, when combined with the answers from other people, will provide the statistical figures needed by public and private groups, schools, business and industry, and Federal, State, and local governments across the country. These figures will help all sectors of American society understand how our population and housing are changing. In this way, we can deal more effectively with today's problems and work toward a better future for all of us.

The census is a vitally important national activity. Please do your part by filling out this census form accurately and completely. If you mail it back promptly in the enclosed postage-paid envelope, it will save the expense and inconvenience of a census taker having to visit you.

Thank you for your cooperation.

Form Approved
OMB No. 41-578006

Please continue →

How to fill out your Census Form

Page 1

See the filled-out example in the yellow instruction guide. This guide will help with any problems you may have.

If you need more help, call the Census Office. The telephone number of the local office is shown at the bottom of the address box on the front cover.

Use a black pencil to answer the questions. Black pencil is better to use than ballpoint or other pens.

Fill circles "O" completely, like this ●

When you write in an answer, print or write clearly.

Make sure that answers are provided for everyone here.

See page 4 of the guide if a roomer or someone else in the household does not want to give you all the information for the form.

Answer the questions on pages 1 through 5, and then starting with pages 6 and 7, fill a pair of pages for each person in the household.

Check your answers. Then write your name, the date, and telephone number on page 20.

Mail back this form on Tuesday, April 1, or as soon afterward as you can. Use the enclosed envelope; no stamp is needed.

Please start by answering Question 1 below.

Question 1

List in Question 1

- Family members living here, including babies still in the hospital.
- Relatives living here.
- Lodgers or boarders living here.
- Other persons living here.
- College students who stay here while attending college, even if their parents live elsewhere.
- Persons who usually live here but are temporarily away (including children in boarding school below the college level).
- Persons with a home elsewhere but who stay here most of the week while working.

Do Not List in Question 1

- Any person away from here in the Armed Forces.
- Any college student who stays somewhere else while attending college.
- Any person who usually stays somewhere else most of the week while working there.
- Any person away from here in an institution such as a home for the aged or mental hospital.
- Any person staying or visiting here who has a usual home elsewhere.

Note

If everyone here is staying only temporarily and has a usual home elsewhere, please mark this box ☐.

Then please

- answer the questions on pages 2 through 5 only, and
- enter the address of your usual home on page 20.

Please continue →

Here are the QUESTIONS ↓	These are the columns for ANSWERS → Please fill one column for each person listed in Question 1.	PERSON in column 1	PERSON in column 2	PERSON in column 3	PERSON in column 4
		Last name First name Middle initial	Last name First name Middle initial	Last name First name Middle initial	Last name First name Middle initial
2. How is this person related to the person in column 1? Fill one circle. If "Other relative" of person in column 1, give exact relationship, such as mother-in-law, niece, grandson, etc.		START in this column with the household member (or one of the members) in whose name the home is owned or rented. If there is no such person, start in this column with any adult household member. ☐ Husband/wife ☐ Son/daughter ☐ Brother/sister ☐ Father/mother ☐ Other relative ☐ Roomer, boarder ☐ Partner, roommate ☐ Paid employee ☐ Other nonrelative	If relative of person in column 1: ☐ Husband/wife ☐ Son/daughter ☐ Brother/sister ☐ Father/mother ☐ Other relative ☐ Roomer, boarder ☐ Partner, roommate ☐ Paid employee ☐ Other nonrelative	If relative of person in column 1: ☐ Husband/wife ☐ Son/daughter ☐ Brother/sister ☐ Father/mother ☐ Other relative ☐ Roomer, boarder ☐ Partner, roommate ☐ Paid employee ☐ Other nonrelative	If relative of person in column 1: ☐ Husband/wife ☐ Son/daughter ☐ Brother/sister ☐ Father/mother ☐ Other relative ☐ Roomer, boarder ☐ Partner, roommate ☐ Paid employee ☐ Other nonrelative
3. Sex Fill one circle.		☐ Male ☐ Female	☐ Male ☐ Female	☐ Male ☐ Female	☐ Male ☐ Female
4. Is this person — Fill one circle.		☐ White ☐ Black or Negro ☐ Japanese ☐ Chinese ☐ Filipino ☐ Korean ☐ Vietnamese ☐ Indian (Amer.) ☐ Asian Indian ☐ Hawaiian ☐ Guamanian ☐ Samoan ☐ Eskimo ☐ Aleut ☐ Other — Specify _____ Print tribe _____	☐ White ☐ Black or Negro ☐ Japanese ☐ Chinese ☐ Filipino ☐ Korean ☐ Vietnamese ☐ Indian (Amer.) ☐ Asian Indian ☐ Hawaiian ☐ Guamanian ☐ Samoan ☐ Eskimo ☐ Aleut ☐ Other — Specify _____ Print tribe _____	☐ White ☐ Black or Negro ☐ Japanese ☐ Chinese ☐ Filipino ☐ Korean ☐ Vietnamese ☐ Indian (Amer.) ☐ Asian Indian ☐ Hawaiian ☐ Guamanian ☐ Samoan ☐ Eskimo ☐ Aleut ☐ Other — Specify _____ Print tribe _____	☐ White ☐ Black or Negro ☐ Japanese ☐ Chinese ☐ Filipino ☐ Korean ☐ Vietnamese ☐ Indian (Amer.) ☐ Asian Indian ☐ Hawaiian ☐ Guamanian ☐ Samoan ☐ Eskimo ☐ Aleut ☐ Other — Specify _____ Print tribe _____
5. Age, and month and year of birth a. Print age at last birthday. b. Print month and fill one circle. c. Print year in the spaces, and fill one circle below each number.		a. Age at last birthday _____ b. Month of birth _____ c. Year of birth _____	a. Age at last birthday _____ b. Month of birth _____ c. Year of birth _____	a. Age at last birthday _____ b. Month of birth _____ c. Year of birth _____	a. Age at last birthday _____ b. Month of birth _____ c. Year of birth _____
6. Marital status Fill one circle.		☐ Now married ☐ Widowed ☐ Divorced ☐ Separated ☐ Never married	☐ Now married ☐ Widowed ☐ Divorced ☐ Separated ☐ Never married	☐ Now married ☐ Widowed ☐ Divorced ☐ Separated ☐ Never married	☐ Now married ☐ Widowed ☐ Divorced ☐ Separated ☐ Never married
7. Is this person of Spanish/Hispanic origin or descent? Fill one circle.		☐ No (not Spanish/Hispanic) ☐ Yes, Mexican, Mexican-Amer., Chicano ☐ Yes, Puerto Rican ☐ Yes, Cuban ☐ Yes, other Spanish/Hispanic	☐ No (not Spanish/Hispanic) ☐ Yes, Mexican, Mexican-Amer., Chicano ☐ Yes, Puerto Rican ☐ Yes, Cuban ☐ Yes, other Spanish/Hispanic	☐ No (not Spanish/Hispanic) ☐ Yes, Mexican, Mexican-Amer., Chicano ☐ Yes, Puerto Rican ☐ Yes, Cuban ☐ Yes, other Spanish/Hispanic	☐ No (not Spanish/Hispanic) ☐ Yes, Mexican, Mexican-Amer., Chicano ☐ Yes, Puerto Rican ☐ Yes, Cuban ☐ Yes, other Spanish/Hispanic
8. Since February 1, 1980, has this person attended regular school or college at any time? Fill one circle. Count nursery school, kindergarten, elementary school, and schooling which leads to a high school diploma or college degree.		☐ No, has not attended since February 1 ☐ Yes, public school, public college ☐ Yes, private, church-related ☐ Yes, private, not church-related	☐ No, has not attended since February 1 ☐ Yes, public school, public college ☐ Yes, private, church-related ☐ Yes, private, not church-related	☐ No, has not attended since February 1 ☐ Yes, public school, public college ☐ Yes, private, church-related ☐ Yes, private, not church-related	☐ No, has not attended since February 1 ☐ Yes, public school, public college ☐ Yes, private, church-related ☐ Yes, private, not church-related
9. What is the highest grade (or year) of regular school this person has ever attended? Fill one circle. If now attending school, mark grade person is in. If high school was finished by equivalency test (GED), mark "12."		Highest grade attended: ☐ Nursery school ☐ Kindergarten ☐ Elementary through high school (grade or year) 1 2 3 4 5 6 7 8 9 10 11 12 ☐ College (academic year) 1 2 3 4 5 6 7 8 or more ☐ Never attended school — Skip question 10	Highest grade attended: ☐ Nursery school ☐ Kindergarten ☐ Elementary through high school (grade or year) 1 2 3 4 5 6 7 8 9 10 11 12 ☐ College (academic year) 1 2 3 4 5 6 7 8 or more ☐ Never attended school — Skip question 10	Highest grade attended: ☐ Nursery school ☐ Kindergarten ☐ Elementary through high school (grade or year) 1 2 3 4 5 6 7 8 9 10 11 12 ☐ College (academic year) 1 2 3 4 5 6 7 8 or more ☐ Never attended school — Skip question 10	Highest grade attended: ☐ Nursery school ☐ Kindergarten ☐ Elementary through high school (grade or year) 1 2 3 4 5 6 7 8 9 10 11 12 ☐ College (academic year) 1 2 3 4 5 6 7 8 or more ☐ Never attended school — Skip question 10
10. Did this person finish the highest grade (or year) attended? Fill one circle.		☐ Now attending this grade (or year) ☐ Finished this grade (or year) ☐ Did not finish this grade (or year)	☐ Now attending this grade (or year) ☐ Finished this grade (or year) ☐ Did not finish this grade (or year)	☐ Now attending this grade (or year) ☐ Finished this grade (or year) ☐ Did not finish this grade (or year)	☐ Now attending this grade (or year) ☐ Finished this grade (or year) ☐ Did not finish this grade (or year)
		CENSUS USE ONLY A. ☐ I ☐ N ☐	CENSUS USE ONLY A. ☐ I ☐ N ☐	CENSUS USE ONLY A. ☐ I ☐ N ☐	CENSUS USE ONLY A. ☐ I ☐ N ☐

NOTE: Questions 1-7 and H1-H12 asked of all households. Questions 8-33 and H13-H32 asked of sample households only.

PERSON in column 5		PERSON in column 6	
Last name	First name Middle initial	Last name	First name Middle initial
If relative of person in column 1:		If relative of person in column 1:	
☐ Husband/wife ☐ Son/daughter ☐ Brother/sister		☐ Father/mother ☐ Son/daughter ☐ Other relative	
If not related to person in column 1:		If not related to person in column 1:	
☐ Roomer, boarder ☐ Partner, roommate ☐ Paid employee		☐ Other nonrelative ☐ Roomer, boarder ☐ Partner, roommate ☐ Paid employee	
☐ Male ☐ Female		☐ Male ☐ Female	
☐ White ☐ Black or Negro ☐ Japanese ☐ Chinese ☐ Filipino ☐ Korean ☐ Vietnamese ☐ Indian (Amer.) ☐ Other — Specify		☐ Asian Indian ☐ Hawaiian ☐ Guamanian ☐ Samoan ☐ Eskimo ☐ Aleut ☐ Vietnamese ☐ Indian (Amer.) ☐ Other — Specify	
a. Age at last birthday b. Month of birth ☐ Jan—Mar ☐ Apr—June ☐ July—Sept ☐ Oct—Dec		a. Age at last birthday b. Month of birth ☐ Jan—Mar ☐ Apr—June ☐ July—Sept ☐ Oct—Dec	
☐ Now married ☐ Widowed ☐ Divorced		☐ Now married ☐ Widowed ☐ Divorced	
☐ No (not Spanish/Hispanic) ☐ Yes, Mexican, Mexican Amer., Chicano ☐ Yes, Puerto Rican ☐ Yes, Cuban ☐ Yes, other Spanish/Hispanic		☐ No (not Spanish/Hispanic) ☐ Yes, Mexican, Mexican Amer., Chicano ☐ Yes, Puerto Rican ☐ Yes, Cuban ☐ Yes, other Spanish/Hispanic	
☐ No, has not attended since February 1 ☐ Yes, public school, public college ☐ Yes, private, church-related ☐ Yes, private, not church-related		☐ No, has not attended since February 1 ☐ Yes, public school, public college ☐ Yes, private, church-related ☐ Yes, private, not church-related	
Highest grade attended: Nursery school Kindergarten Elementary through high school (grade or year) College (academic year) Never attended school—Skip question 10		Highest grade attended: Nursery school Kindergarten Elementary through high school (grade or year) College (academic year) Never attended school—Skip question 10	
☐ Now attending this grade (or year) ☐ Finished this grade (or year) ☐ Did not finish this grade (or year)		☐ Now attending this grade (or year) ☐ Finished this grade (or year) ☐ Did not finish this grade (or year)	
CENSUS USE ONLY		CENSUS USE ONLY	

PERSON in column 7	
Last name	First name Middle initial
If relative of person in column 1:	
☐ Husband/wife ☐ Son/daughter ☐ Brother/sister	
If not related to person in column 1:	
☐ Roomer, boarder ☐ Partner, roommate ☐ Paid employee	
☐ Male ☐ Female	
☐ White ☐ Black or Negro ☐ Japanese ☐ Chinese ☐ Filipino ☐ Korean ☐ Vietnamese ☐ Indian (Amer.) ☐ Other — Specify	
a. Age at last birthday b. Month of birth ☐ Jan—Mar ☐ Apr—June ☐ July—Sept ☐ Oct—Dec	
☐ Now married ☐ Widowed ☐ Divorced	
☐ No (not Spanish/Hispanic) ☐ Yes, Mexican, Mexican Amer., Chicano ☐ Yes, Puerto Rican ☐ Yes, Cuban ☐ Yes, other Spanish/Hispanic	
☐ No, has not attended since February 1 ☐ Yes, public school, public college ☐ Yes, private, church-related ☐ Yes, private, not church-related	
Highest grade attended: Nursery school Kindergarten Elementary through high school (grade or year) College (academic year) Never attended school—Skip question 10	
☐ Now attending this grade (or year) ☐ Finished this grade (or year) ☐ Did not finish this grade (or year)	
CENSUS USE ONLY	

If you listed more than 7 persons in Question 1, please see note on page 20.

H1. Did you leave anyone out of Question 1 because you were not sure if the person should be listed — for example, a new baby still in the hospital, a lodger who also has another home, or a person who stays here once in a while and has no other home?

☐ Yes — On page 20 give name(s) and reason left out.
☐ No

H2. Did you list anyone in Question 1 who is away from home now — for example, on a vacation or in a hospital?

☐ Yes — On page 20 give name(s) and reason person is away.
☐ No

H3. Is anyone visiting here who is not already listed?

☐ Yes — On page 20 give name of each visitor for whom there is no one at the home address to report the person to a census taker.
☐ No

H4. How many living quarters, occupied and vacant, are at this address?

☐ One
☐ 2 apartments or living quarters
☐ 3 apartments or living quarters
☐ 4 apartments or living quarters
☐ 5 apartments or living quarters
☐ 6 apartments or living quarters
☐ 7 apartments or living quarters
☐ 8 apartments or living quarters
☐ 9 apartments or living quarters
☐ 10 or more apartments or living quarters

☐ This is a mobile home or trailer

H5. Do you enter your living quarters —

☐ Directly from the outside or through a common or public hall?
☐ Through someone else's living quarters?

H6. Do you have complete plumbing facilities in your living quarters, that is, hot and cold piped water, a flush toilet, and a bathtub or shower?

☐ Yes, for this household only
☐ Yes, but also used by another household
☐ No, have some but not all plumbing facilities
☐ No plumbing facilities in living quarters

H7. How many rooms do you have in your living quarters?

Do not count bathrooms, porches, balconies, foyers, halls, or half-rooms.

☐ 1 room ☐ 2 rooms ☐ 3 rooms ☐ 4 rooms ☐ 5 rooms ☐ 6 rooms ☐ 7 rooms ☐ 8 rooms ☐ 9 or more rooms

H8. Are your living quarters —

☐ Owned or being bought by you or by someone else in this household?
☐ Rented for cash rent?
☐ Occupied without payment of cash rent?

H9. Is this apartment (house) part of a condominium?

☐ No
☐ Yes, a condominium

H10. If this is a one-family house —

a. Is the house on a property of 10 or more acres?
☐ Yes ☐ No

b. Is any part of the property used as a commercial establishment or medical office?
☐ Yes ☐ No

H11. If you live in a one-family house or a condominium unit which you own or are buying —

What is the value of this property (house and lot or condominium unit) would sell for if it were for sale?

Do not answer this question if this is —

- A mobile home or trailer
- A house on 10 or more acres
- A house with a commercial establishment or medical office on the property

☐ Less than \$10,000	☐ \$50,000 to \$54,999
☐ \$10,000 to \$14,999	☐ \$55,000 to \$59,999
☐ \$15,000 to \$19,999	☐ \$60,000 to \$64,999
☐ \$20,000 to \$24,999	☐ \$65,000 to \$69,999
☐ \$25,000 to \$29,999	☐ \$70,000 to \$74,999
☐ \$30,000 to \$34,999	☐ \$75,000 to \$79,999
☐ \$35,000 to \$39,999	☐ \$80,000 to \$84,999
☐ \$40,000 to \$44,999	☐ \$85,000 to \$89,999
☐ \$45,000 to \$49,999	☐ \$90,000 to \$94,999
☐ \$50,000 to \$54,999	☐ \$95,000 to \$99,999
☐ \$55,000 to \$59,999	☐ \$100,000 to \$124,999
☐ \$60,000 to \$64,999	☐ \$125,000 to \$149,999
☐ \$65,000 to \$69,999	☐ \$150,000 to \$199,999
☐ \$70,000 to \$74,999	☐ \$200,000 or more

H12. If you pay rent for your living quarters —

What is the monthly rent?

If rent is not paid by the month, see the instruction guide on how to figure a monthly rent.

☐ Less than \$50	☐ \$160 to \$169
☐ \$50 to \$59	☐ \$170 to \$179
☐ \$60 to \$69	☐ \$180 to \$189
☐ \$70 to \$79	☐ \$190 to \$199
☐ \$80 to \$89	☐ \$200 to \$224
☐ \$90 to \$99	☐ \$225 to \$249
☐ \$100 to \$109	☐ \$250 to \$274
☐ \$110 to \$119	☐ \$275 to \$299
☐ \$120 to \$129	☐ \$300 to \$349
☐ \$130 to \$139	☐ \$350 to \$399
☐ \$140 to \$149	☐ \$400 to \$499
☐ \$150 to \$159	☐ \$500 or more

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A4. Block number	A5. Serial number	B. Type of unit or quarters	C1. Is this unit for —	D. Months vacant
Occupied	First form	Continuation	Year round use	Less than 1 month
Vacant	Regular	Usual home elsewhere	Seasonal/Mig. — Skip C2, C3, and D.	1 up to 2 months
Group quarters	First form	Continuation	C2. Vacancy status	2 up to 6 months
			For rent	6 up to 12 months
			Rented or sold, not occupied	1 year up to 2 years
			Held for occasional use	2 or more years
			Other vacant	
			C3. Is this unit boarded up?	E. Indicators
			Yes	1. Mail return
			No	2. Pop / F

Page 4

H13. Which best describes this building?
 Include all apartments, flats, rooming houses, etc.

☐ A mobile home or trailer
☐ A one-family house detached from any other house
☐ A one-family house attached to one or more houses
☐ A building for 2 families
☐ A building for 3 or 4 families
☐ A building for 5 to 9 families
☐ A building for 10 to 49 families
☐ A building for 50 or more families
☐ A boat, tent, van, etc.

H14a. How many stories (floors) are in this building?
 Count an attic or basement as a story if it has any finished room for living purposes.
 1 to 3 — ☐ 4 to 6 — ☐ 7 to 12 — ☐ 13 or more stories — ☐

b. Is there a passenger elevator in this building?
 Yes ☐ No ☐

H15a. Is this building —
 On a city or town plot or on a place of less than 1 acre? — *Step to H16*
 On a city or town plot of 1 to 9 acres? — ☐
 On a place of 10 or more acres? — ☐

b. Last year, 1979, did sales of crops, livestock, and other farm products from this place amount to —
 Less than \$50 (or None) ☐ \$50 to \$249 ☐ \$250 to \$599 ☐ \$1,000 to \$2,499 ☐ \$2,500 or more ☐

H16. Do you get water from —
 A public system (city, water department, etc.) or private company? ☐
 An individual drilled well? ☐
 Some other source (a spring, creek, river, cistern, etc.)? ☐

H17. Is this building connected to a public sewer?
 Yes, connected to public sewer ☐
 No, connected to septic tank or cesspool ☐
 No, use other means ☐

H18. About when was this building originally built? Mark when the building was first constructed, not when it was remodeled, added to, or converted.
 1975 or 1980 ☐ 1960 to 1969 ☐ 1940 to 1949 ☐
 1975 to 1978 ☐ 1950 to 1959 ☐ 1939 or earlier ☐
 1970 to 1974 ☐

H19. When did the person listed in column 1 move into this house (or apartment)?
 1975 or 1980 ☐ 1950 to 1959 ☐
 1975 to 1978 ☐ 1949 or earlier ☐
 1970 to 1974 ☐ Always lived here ☐
 1960 to 1969 ☐

H20. How are your living quarters heated?
 Fill out circle for the kind of heat used most.
 Steam or hot water system ☐
 Central warm air furnace with ducts to the individual rooms ☐
 Room heaters with fuel or vent, burning gas oil or kerosene ☐
 Electric heat pumps ☐
 Other built-in electric units (permanently installed in wall, ceiling, or baseboard) ☐
 Floor, wall, or fireplace furnace ☐
 Room heaters with fuel or vent, burning gas oil or kerosene ☐
 Room heaters without fuel or vent, burning gas oil or kerosene (not portable) ☐
 Fireplace, stoves, or portable room heaters of any kind ☐
 No heating equipment ☐

FOR YOUR HOUSEHOLD

Page 5

Please answer H30-H32 if you live in a one-family house which you own or are buying, unless this is —

☐ A mobile home or trailer
☐ A house on 10 or more acres
☐ A condominium unit
☐ A house with a commercial establishment or medical office on the property

H30. What were the real estate taxes on this property last year?
 \$ 00 OR None

c. How much is your total regular monthly payment to the lender?
 Also include payments on a contract to purchase and to lender holding second or junior mortgages on this property.
 \$ 00 OR No regular payment required — *Step to page 6*

H31. What is the annual premium for fire and hazard insurance on this property?
 \$ 00 OR None

d. Does your regular monthly payment (amount entered in H32c) include payments for real estate taxes on this property?
 Yes, taxes included in payment ☐
 No, taxes paid separately or taxes not required ☐

H32a. Do you have a mortgage, deed of trust, contract to purchase, or similar debt on this property?
☐ Yes, mortgage, deed of trust, or similar debt
☐ Yes, contract to purchase
☐ No — *Step to page 6*

b. Do you have a second or junior mortgage on this property?
☐ Yes ☐ No

Please turn to page 6

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1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67		68		69		70		71		72		73		74		75		76		77		78		79		80		81		82		83		84		85		86		87		88		89		90		91		92		93		94		95		96		97		98		99		100	
1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67		68		69		70		71		72		73		74		75		76		77		78		79		80		81		82		83		84		85		86		87		88		89		90		91		92		93		94		95		96		97		98		99		100	

Page 6

Name of Person 1 on page 2

Last name First name Middle initial

11. In what State or foreign country was this person born?
 Print the State where this person's mother was living when this person was born. Do not give the location of the hospital unless the mother's home and the hospital were in the same State.

Name of State or foreign country, or Puerto Rico, Guam, etc.

12. If this person was born in a foreign country —
 a. Is this person a naturalized citizen of the United States?
 Yes, a naturalized citizen
 No, not a citizen
 Born abroad of American parents

b. When did this person come to the United States to stay?
 1975 to 1980 1965 to 1969 1950 to 1959
 1970 to 1974 1960 to 1964 Before 1950

13a. Does this person speak a language other than English at home?
 Yes No, only speaks English — Skip to 24

b. What is this language?
 (For example — Chinese, Italian, Spanish, etc.)

c. How well does this person speak English?
 Very well Not well
 Well Not at all

14. What is this person's ancestry? If uncertain about how to report ancestry, see instruction guide.
 (For example: Afro-American, English, French, German, Hungarian, Hungarian, Irish, Italian, Jamaican, Korean, Lebanese, Mexican, Nigerian, Polish, Ukrainian, Venezuelan, etc.)

15a. Did this person live in this house five years ago (April 1, 1975)?
 If in college or Armed Forces in April 1975, report place of residence there.
 Born April 1975 or later — Turn to next page for next person
 Yes, this house — Skip to 16
 No, different house

b. Where did this person live five years ago (April 1, 1975)?
 (1) State, foreign country, Puerto Rico, Guam, etc.
 (2) County.
 (3) City, town, village, etc.
 (4) Inside the incorporated (legal) limits of that city, town, village, etc.
 Yes No, in unincorporated area

16. When was this person born?
 Born before April 1965 — Please go on with questions 17-33
 Born April 1965 or later — Turn to next page for next person

17. In April 1975 (five years ago) was this person —
 a. On active duty in the Armed Forces?
 Yes No
 b. Attending college?
 Yes No
 c. Working at a job or business?
 Yes, full time No
 Yes, part time

18a. Is this person a veteran of active-duty military service in the Armed Forces of the United States?
 If service was in National Guard or Reserves only, see instruction guide.
 Yes No — Skip to 19

b. Was active-duty military service during —
 Fill a circle for each period in which this person served.
 May 1975 or later
 Vietnam era (August 1964–April 1975)
 February 1955–July 1964
 Korean conflict (June 1950–January 1955)
 World War II (September 1940–July 1947)
 World War I (April 1917–November 1918)
 Any other time

19. Does this person have a physical, mental, or other health condition which has lasted for 6 or more months and which —
 Yes No
 a. Limits the kind or amount of work this person can do at a job?
 b. Prevents this person from working at a job?
 c. Limits or prevents this person from using public transportation?

20. If this person is a female —
 None 1 2 3 4 5 6
 How many babies has she ever had, not counting stillbirths?
 Do not count her stepchildren or children she has adopted.
 7 8 9 10 11 12 or more

21. If this person has ever been married —
 a. Has this person been married more than once?
 Once More than once
 b. Month and year of marriage?
 (Month) (Year) (Month) (Year)
 c. If married more than once — Did the first marriage end because of the death of the husband (or wife)?
 Yes No

ANSWER THESE QUESTIONS FOR PERSON 1 ON PAGE 2

22a. Did this person work at any time last week?
 Yes — Fill this circle if this person worked full time or part time. (Count part-time work such as delivering papers, or helping without pay in a family business or farm. Also count active duty in the Armed Forces.)
 No — Fill this circle if this person did not work, or did only own housework, school work, or volunteer work.
 Skip to 25

b. How many hours did this person work last week (at all jobs)?
 Subtract any time off, add overtime or extra hours worked.
 Hours

23. At what location did this person work last week?
 If this person worked at more than one location, print where he or she worked most last week.
 If one location cannot be specified, see instruction guide.
 a. Address (Number and street)
 If street address is not known, enter the building name, shopping center, or other physical location description
 b. Name of city, town, village, borough, etc.
 c. Is the place of work inside the incorporated (legal) limits of that city, town, village, borough, etc.?
 Yes No, in unincorporated area
 d. County
 e. State ZIP Code

24a. Last week, how long did it usually take this person to get from home to work (one way)?
 Minutes
 b. How did this person usually get to work last week?
 If this person used more than one method, give the one usually used for most of the distance.
 Car Truck Taxicab
 Motorcycle
 Van Bicycle
 Bus or streetcar Walked only
 Railroad Worked at home
 Subway or elevated Other — Specify

PERSON 1 ON PAGE 2

c. When going to work last week, did this person usually —
 Drive alone — Skip to 28
 Drive others only
 Share driving
 Ride as passenger only

d. How many people, including this person, usually rode to work in the car, truck, or van last week?
 2 4 6 7 or more
 After answering 24d, skip to 28

25. Was this person temporarily absent or on layoff from a job or business last week?
 Yes, on layoff
 Yes, on vacation, temporary illness, labor dispute, etc.
 No

26a. Has this person been looking for work during the last 4 weeks?
 Yes No — Skip to 27

b. Could this person have taken a job last week?
 No, already has a job
 No, temporarily ill
 No, other reasons (in school, etc.)
 Yes, could have taken a job

27. When did this person last work, even for a few days?
 1980 1978 1970 to 1974
 1979 1975 to 1977 1969 or earlier
 Never worked
 Skip to 31d

28–30. Current or most recent job activity.
 Describe clearly this person's chief job activity or business last week.
 If this person had more than one job, describe the one at which this person worked the most hours.
 If this person had no job or business last week, give information for last job or business since 1975.

28. Industry
 a. For whom did this person work? If now on active duty in the Armed Forces, print "AF" and skip to question 31.
 (Name of company, business, organization, or other employer)
 b. What kind of business or industry was this?
 Describe the activity at location where employed.
 (For example: Hospital, newspaper publishing, mail order house, auto engine manufacturing, breakfast cereal manufacturing)
 c. Is this mainly — (Fill one circle)
 Manufacturing Retail trade
 Wholesale trade Other — (agriculture, construction, service, government, etc.)

29. Occupation
 a. What kind of work was this person doing?
 Describe clearly this person's chief job activity or business last week.
 (For example: Registered nurse, personnel manager, supervisor of order department, gasoline engine assembler, grinder operator)
 b. What were this person's most important activities or duties?
 (For example: Patient care, directing hiring policies, supervising order clerks, assembling engines, operating grinding mill)

30. Was this person — (Fill one circle)
 Employee of private company, business, or individual, for wages, salary, or commissions
 Federal government employee
 State government employee
 Local government employee (city, county, etc.)
 Self-employed in own business, professional practice, or farm —
 Own business not incorporated
 Own business incorporated
 Working without pay in family business or farm

CENSUS USE ONLY

21b. I II III IV 22b. I II III 28. A B C D E F G H J K L M N P Q R S T U V W X Y Z

Page 7

31a. Last year (1979), did this person work, even for a few days, at a paid job or in a business or farm?
 Yes No — Skip to 31d

b. How many weeks did this person work in 1979?
 Count paid vacation, paid sick leave, and military service.
 Weeks

c. During the weeks worked in 1979, how many hours did this person usually work each week?
 Hours

d. Of the weeks not worked in 1979 (if any), how many weeks was this person looking for work or on layoff from a job?
 Weeks

32. Income in 1979 —
 Fill circles and print dollar amounts.
 If net income was a loss, write "Loss" above the dollar amount.
 If exact amount is not known, give best estimate. For income received jointly by household members, see instruction guide.
 During 1979 did this person receive any income from the following sources?
 If "Yes" to any of the sources below — How much did this person receive for the entire year?
 a. Wages, salary, commissions, bonuses, or tips from all jobs — Report amount before deductions for taxes, bonds, dues, or other items.
 Yes — \$ 00
 No (Annual amount — Dollars)
 b. Own nonfarm business, partnership, or professional practice — Report net income after business expenses.
 Yes — \$ 00
 No (Annual amount — Dollars)
 c. Own farm — Report net income after operating expenses. Include earnings as a tenant farmer or sharecropper.
 Yes — \$ 00
 No (Annual amount — Dollars)
 d. Interest, dividends, royalties, or net rental income — Report even small amounts credited to an account.
 Yes — \$ 00
 No (Annual amount — Dollars)
 e. Social Security or Railroad Retirement —
 Yes — \$ 00
 No (Annual amount — Dollars)
 f. Supplemental Security (SSI), Aid to Families with Dependent Children (AFDC), or other public assistance or public welfare payments —
 Yes — \$ 00
 No (Annual amount — Dollars)
 g. Unemployment compensation, veterans' payments, pensions, alimony or child support, or any other sources of income received regularly — Exclude lump-sum payments such as money from an inheritance or the sale of a home.
 Yes — \$ 00
 No (Annual amount — Dollars)

33. What was this person's total income in 1979?
 Add entries in questions 32a through g, subtract any losses.
 \$ 00
 If total amount was a loss, write "Loss" above amount. OR None

Please turn to the next page and answer the questions for Person 2 on page 2

NOTE: Questions 11–33 repeat on pages 8–19 of the questionnaire for other persons in the household.

Please Make Sure You Have Filled This Form Completely

For persons who answered in Question 1 that they are staying here only temporarily and have a usual home elsewhere, enter the address of usual home here:

House number	Street or road	Apartment number or location
City	County	
State	ZIP Code	

For Answers to Questions H1, H2, and H3:

H1. Name of person(s) left out and reason:

H2. Name of person(s) away from home and reason away:

H3. Name of visitor(s) for whom there is no one at the home address to report the person to a Census Taker:

NOTE

If you have listed more than 7 persons in Question 1, please make sure that you have filled the form for the first 7 people. Then mail back this form. A Census Taker will call to obtain the information for the other people.

1 Check to be certain you have:

- Answered Question 1 on page 1.
- Answered Questions 2 through 10 for each person you listed at the top of pages 2 and 3.
- Answered Questions H1 through H32 on pages 3, 4, and 5.
- Filled a pair of pages for each person listed on pages 2 and 3. That is, pages 6 and 7 should be filled for the Person in column 1; pages 8 and 9 for the Person in column 2, etc.

Please notice we need answers to questions 17 through 33 for every person born before April 1965 even though they may not seem to apply to the particular person.

For example, you may have forgotten to fill all the necessary circles on work or on income for a teenager going to school, or a retired person. To avoid our having to check with you to make sure of the answer, please be certain you have given all the necessary answers.

2 Write here the name of the person who filled the form, the date the form was completed, and the telephone number on which the people in this household can be called.

Name _____

Date _____

Telephone Number _____

3 Then fold the form the way it was sent to you. Mail it back in the enclosed envelope. The address of the U.S. Census Office appears on the front cover of this questionnaire. Please be sure that before you seal the envelope the address shows through the window. No stamp is required.

Thank you very much

APPENDIX 2

Contents of Appendix 2

Hong Kong	PEC Questionnaire	357	Korea	PES Questionnaire for Individuals	370
India	PEC Questionnaires	359		PES Questionnaire for Households	374
	Census Evaluation Study		Singapore	PES Questionnaire	376
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CONFIDENTIAL
1981 LAND CENSUS

**POST-ENUMERATION CHECK
QUESTIONNAIRE**

District : _____
ACSO : _____
PEC Sample No. : _____
Form Type : _____ Form

Part A : REFERENCE (To be copied from Enumerator's Record Book)

1. Enumerator Control No. : _____
2. Reference No. : _____

TPU SB EB LQ HH

(Insert HH No. for new households)
3. Address : _____

Tel.No.: _____
- *4. Number of Households: Original _____ Verified _____
- *5. Surname of Household Head : _____
- *6. Reference Night used in Land Census : _____ Mar 81
- *7. Household Size recorded in Land Census: _____ persons
- *8. Result of Final Visit recorded in Land Census: _____

* Not applicable for new households

Part B : RESULT OF CHECK (Circle the appropriate answer)

- Original HH re-interviewed :
1. enumerated
 2. absent on reference night
 3. part of another HH
 4. vacant on reference night
 5. non-domestic
- Original HH not re-interviewed :
6. not identified
 7. moved away
 8. non-contacted
 9. demolished
- New HH identified :
10. newly moved in
 11. omitted in Land Census
 12. merged with another HH in Land Census
- Others :
13. specify : _____

Part C : HOUSEHOLD CHARACTERISTICS SECTION

Questions	PEC Result	Census Result
1. Type of Living Quarter	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>
2. Type of Household	1 = D 2 = C	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>
3. Usual Household Size	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>
4. No. of members absent	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>
5. No. of friends/relatives present	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>
6. Ref. Night Household Size	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px;"></div>
$\frac{(3)}{(3)} - \frac{(4)}{(4)} + \frac{(5)}{(5)}$		

Part D : PERSON CHARACTERISTICS SECTION (To be completed for each person who spent the reference night in the household)

Person Serial No.	Questions	PEC Result	Census Result
1	Name		
	Sex		
	Month/Year of Birth		
2	Name		
	Sex		
	Month/Year of Birth		
3	Name		
	Sex		
	Month/Year of Birth		
4	Name		
	Sex		
	Month/Year of Birth		
5	Name		
	Sex		
	Month/Year of Birth		
6	Name		
	Sex		
	Month/Year of Birth		
7	Name		
	Sex		
	Month/Year of Birth		

SPECIMEN

Form 1

CENSUS OF INDIA 1981
POST ENUMERATION CHECK
SECTION I : Identification Particulars

Page No. _____

Name of State/Union Territory _____
 Name of District _____
 Name of Taluka/Taluka/Anchal/P.S./Dev. Block/Circle etc. _____

Code No. _____
 Code No. _____
 Code No. _____

Name of Village/Town _____
 Name or No. of Ward/Mohalla/Hamlet _____
 Enumerator's Block No. _____

Code No. _____
 Code No. _____

SECTION II : Listing, matching with AHL and field reconciliation

Sl. No.	Building No.	Census house No.	Purpose for which Census house is used	Name of the head of household	Does the house No. match ? Yes-1 (go to Col. 7) No-2	If '1' in Col. 6		If code '2' in Col. 7 use recorded in AHL in full	Name of the head of household	Field Reconciliation				Remarks
						Is the use R/PR in both the records ? Yes-1 (go to Col. 8); In one record only-2 (go to Col. 9) use Not R/PR in either-3	If '1' in Col. 7 does the name(s) of the head of household agree ? Yes-1 No-2 (go to Col. 10)			If '2' in Col. 6, reasons for no match in house No. (in codes) (If '2' and R/PR go to Col. 14)	If '2' in Col. 7 reasons for change in use of the house (in codes) (If '2' go to Col. 14)	If '2' in Col. 8 reasons for no match in head of household (in codes) (If '2' and '3' go to Col. 14)	Has the household been enumerated ? Yes-1, No-2, Not known-3	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1														
2														
3														
4														
5														
6														
7														
8														
9														
0														

Codes for Col. 11 :

- (a) Constructed after the sunrise of 1.3.81
 (b) Existed at the time of Census but missed in Census
 (c) Wrongly included in this block by PEC Enumerator
 (d) Others (specify in remarks col.)

Codes for Col. 12 :

- (a) Change in use after enumeration in Census
 (b) R/PR in Census also, but wrongly recorded as non-residential in Census
 (c) Wrongly recorded R/PR in the PEC
 (d) Others (specify in remarks col.)

Codes for Col. 13 :

- (a) Same household but head of household has changed or been differently reported
 (b) Household living here at the time of Census also, but not enumerated in this house
 (c) Household has moved in after the sunrise of 1.3.81
 (d) Others (specify in remarks col.)

Signature (with date) _____

	Listing	Desk Match	Field Reconciliation
Enumerator			
Supervisor			

Form I

CENSUS OF INDIA 1981
POST ENUMERATION CHECK

Page No. _____

SECTION I : Identification Particulars

Name of State/Union Territory _____ Code No. _____ Name of Village/Town _____ Code No. _____
 Name of District _____ Code No. _____ Name or No. of Ward/Mohalla/Hamlet _____ Code No. _____
 Name of Tehsil/Taluka/Anchal/ _____
 P.S./ Dev. Block/Circle etc. _____ Code No. _____ Enumerator's Block No. _____

SECTION III : Houses and Households found in AHL but not in PEC

Sl. No.	Desk Match					Field Reconciliation		Remark
	Building No.	Census house No.	Use to which the Census house is put	If R/PR in Col. 4		Reasons for no match (in codes)	If '1' or '2' in Col. 7 whether duplicated Yes-1, No-2	
				Household No.	Name of the head of household			
1	2	3	4	5	6	7	8	9
1								
2								
3								
4								
5								
6								
7								
8								
9								
0								

Codes for Col. 7 :

- (a) House does not belong to the block and has been wrongly included in Census in this block. — 1
 (b) House seems to have been duplicated in AHL by mistake — 2
 (c) House has been omitted by PEC enumerator. — 3
 (d) While the Census enumerator has recorded it as separate Census house
 PEC enumerator did not consider it as separate Census house. — 4
 (e) House demolished after Census or merged with another Census house. — 5

Signature (with date) _____

	Desk Match	Field Reconciliation
Enumerator	<input type="text"/>	<input type="text"/>
Supervisor	<input type="text"/>	<input type="text"/>

CENSUS OF INDIA 1981
POST ENUMERATION CHECK

SECTION I : Identification Particulars

Name of State/Union Territory _____ Page No. _____

Name of District _____ Code No. _____

Name of Tehsil/Taluka/Anchal/P.S./Dev. Block/Circle etc. _____ Code No. _____

Name of Village/Town _____ Code No. _____

Name or No. of Ward/Mohalla/Hamlet _____ Code No. _____

Enumerator's Block No. _____

SECTION IV : Address of place from where out-migrated (for households with code 3 in Column 14 of Section II of PEC Form I)

Sl. No.	Building No.	Census house No.	Name of the head of household	Related Sl. No. in Section II of Form I	Name of place	Address of place from where out-migrated				District	State
						Name of the head of household, house No., locality, street No., and name of post office	Rural/Urban	Tehsil/P.S./Town			
1	2	3	4	5	6	7	8	9	10	11	
1											
2											
3											
4											
5											
6											
7											
8											
9											
0											

Signature (with date) _____

Listing

Field Reconciliation

Enumerator

Supervisor

Form II

CENSUS OF INDIA 1981
POST ENUMERATION CHECK
SECTION I : Identification Particulars

Page No. _____

Name of State/Union Territory _____
 Name of District _____
 Name of Tehsil/Taluka/Anchal/P.S./Dev. Block/Circle etc. _____
 Name of the head of household _____
 House No. _____ Household No. _____

Code No. _____ Name of Village/Town _____
 Code No. _____ Name or No. of Ward/Mohalla/Hamlet _____
 Code No. _____ Enumerator's Block No. _____

Code No. _____

Code No. _____

Was he/she the head at the time of Census ? Yes-1, No-2 ☐ If 'No' relation to former head _____

SECTION II : Listing of members of the household, Desk Match with Population Record and Field Reconciliation

Sl. No.	Listing											Desk Match			Field Reconciliation		Remarks
	Name	Membership type during survey (code)	Relationship to head	Sex	Age	Marital status	Literate—1 Illiterate—2	Residential status during Census enumeration period (codes) If '3' go to Col. 10 (code)	If '3' in Col. 9 period of journey	For codes 2 & 3 in Col. 9 whether enumerated elsewhere Yes-1, No-2, Not known-3	For '3' in Col. 11 and persons in substitute household, Sl. No. in Section III	Whether agreement regarding			Match-1 No Match-2	Sl. No. of related entry in Section IV	
												Name Yes-1 (go to Col. 14) No-2	Relationship to head Yes-1 (go to Col. 15) No-2	Marital status Yes-1 No-2			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
0																	

Codes for Col. 3 :

(a) N.R. on date of survey & Census — 1.

(b) N.R. out-migrated/died after sunrise of 1.3.81 — 2.

(c) N.R. out-migrated during Census enumeration period — 3.

(d) N.R. dead during Census enumeration period — 4.

(e) N.R. born /in-migrated after the sunrise of 1.3.81 — 5.

Codes for Col. 9 :

(a) Present throughout the Census enumeration period — 1.

(b) Absent throughout the Census enumeration period — 2.

(c) Present for part of Census enumeration period — 3.

Codes for Col. 10 :

(a) Left the normal place before 9 Feb. 1981, but returned before the sunrise of 1.3.1981 — 1.

(b) Left the normal place of residence after 9 Feb. 1981 — 2.

(c) Not known — 3.

Signature (with date) _____

	Listing	Desk Match	Field Reconciliation
Enumerator	<input type="text"/>	<input type="text"/>	<input type="text"/>
Supervisor	<input type="text"/>	<input type="text"/>	<input type="text"/>

Form II

CENSUS OF INDIA 1981
POST ENUMERATION CHECK
SECTION I : Identification Particulars

Page No. _____

Name of State/Union Territory _____

Code No. _____

Name of Village/Town _____

Code No. _____

Name of District _____

Code No. _____

Name or No. of Ward/Mohalla/Hamlet _____

Code No. _____

Name of Tehsil/Taluka/Anchal/P.S./Dev. Block/Circle etc. _____

Code No. _____

Enumerator's Block No. _____

SECTION III : Addresses of places of visit during Census enumeration period

- (a) For persons with code 3 in Column 11 of Section II
 (b) For persons in substitute households from Section II
 (c) For persons with code 3 in Column 11 of Section IV

Sl. No.	Census house No.	Household No.	Name of the person	Sex	Age	Residential status during Census enumeration period	Related Sl. No. in		Address of place (s) visited during Census enumeration period					
							Section II	Section IV	Name of place visited	Name of the head of household, house No., locality or street No. and name of post office	Rural/Urban	Tehsil/P.S./Town	District	State
1	2	3	4	5	6	7	8 (a)	8 (b)	9	10	11	12	13	14
1														
2														
3														
4														
5														
6														
7														
8														
9														
0														

Signature (with date) _____

Enumerator

Supervisor

Listing

Field Reconciliation

Form II

Page No. _____

CENSUS OF INDIA 1981
POST ENUMERATION CHECK

SECTION I : Identification Particulars

Name of State/Union Territory _____ Code No. _____ Name of Village/Town _____ Code No. _____
 Name of District _____ Code No. _____ Name or No. of Ward/Mohalla/Hamlet _____ Code No. _____
 Name of Tehsil/Taluka/Anchal/P.S./ Dev. Block/Circle etc. _____ Code No. _____ Enumerator's Block No. _____
 Name of the head of household _____
 Household No. _____

SECTION IV : Persons listed in Population Record who have not been fully 'Matched' in PEC

Sl. No.	To be filled during Desk Match						Field Reconciliation					Remarks
	Name	Relationship to head	Sex	Age	Marital Status	Literate-1 Illiterate-2	Sl. No. of related entry in Section II	Normal Resident or Visitor	Residential status during Census enumeration period (in codes)	If '2' or '3' in Col. 10 whether enumerated elsewhere ? Yes-1, No-2, Not known-3	If '3' in Col. 11 Sl. No. of related entry in Section III	
1	2	3	4	5	6	7	8	9	10	11	12	13
1												
2												
3												
4												
5												
6												
7												
8												
9												
0												

Codes for Col. 10 :

- (a) Present throughout Census enumeration period — 1.
 (b) Absent throughout Census enumeration period — 2.
 (c) Present for part of Census enumeration period — 3.
 (d) Normal resident but died before sunrise of 1.3.81 — 4.

Signature (with date) _____

Desk Match

Field Reconciliation

Enumerator

Supervisor

CENSUS OF INDIA 1981

POST ENUMERATION CHECK

SECTION I : Identification Particulars

Name of State/Union Territory _____ Code No. _____ Name of Village/Town _____ Code No. _____

Name of District _____ Code No. _____ Name or No. of Ward/Mohalla/Hamlet _____ Code No. _____

Name of Tehsil/Taluka/Anchal/
P.S./Dev. Block/Circle etc. _____ Code No. _____ Enumerator's Block No. _____

Name of the head of household _____ Was he/she the head at the time of Census? Yes-1, No-2 _____ If 'No' relation to former head _____

House No. _____ Household No. _____

SECTION II : Particulars of persons recorded in Section II of Form II

Sl. No.	Name	Sex	Marital Status	Stage of Operation	Age		Literate-1 Illiterate-2	Worked anytime at all last year? Yes-1 No-2	If 'Yes' in Col. 9 did you work for major part of last year? Yes-1 No-2	Main activity C, AL, HHI, OW	Remarks
					Age completed	Reliability of age : Reliable-1 Not Reliable-2					
1	2	3	4	5	6	7	8	9	10	11	12
1				PEC							
				CEN		—					
				FR		—					
2				PEC							
				CEN		—					
				FR		—					
3				PEC							
				CEN		—					
				FR		—					
4				PEC							
				CEN		—					
				FR		—					
5				PEC							
				CEN		—					
				FR		—					
6				PEC							
				CEN		—					
				FR		—					
7				PEC							
				CEN		—					
				FR		—					
8				PEC							
				CEN		—					
				FR		—					
9				PEC							
				CEN		—					
				FR		—					
0				PEC							
				CEN		—					
				FR		—					

Signature (with date) _____

	Listing	Desk Match	Field Reconciliation
Enumerator			
Supervisor			

CENSUS OF INDIA 1981
CENSUS EVALUATION STUDY USING SRS RECORDS
Household Matching Form

Page No. _____

Name of State/Union Territory _____

Name of Village/Town _____

Name of District _____

Name or No. of Ward/Mohalla/Hamlet _____

Name of Tehsil/Taluka/Anchal/P.S./Dev. Block/Circle etc. _____

Enumerator's Block(s) No. _____ SRS Code No. _____

Sample Registration System				Census (AHL)				
House No.	Household No.	Name of the head of household	Remarks@	Census enumeration block No.	Census house No.	Name of the head of household	Sl. No. of household	Remarks
1	2	3	4	5	6	7	8	9
1								
2								
3								
4								
5								
6								
7								
8								
9								
0								

@ If in some households the head has changed after 1.1.1976 this fact must be noted in this column.

Note :-Cols. 1-4 to be filled from the SRS houselist.

Signature _____
(with date)

CES Form 1

CENSUS OF INDIA 1981
CENSUS EVALUATION STUDY USING SRS RECORDS

Page No. _____

Name of State/Union Territory _____ Name of Village/Town _____ Period
From 1.1.1976 to _____

Name of District _____ Name or No. of Ward/Mohalla/Hamlet _____ Location codes of _____ 1.
Census blocks falling _____ 2.
in the SRS Unit _____ 3.

Name of Tehsil/Taluka/Anchal/P.S./Dev. Block/Circle etc. _____ SRS sample code No. _____ 4.
5.
6.

SECTION 1 : Copying from SRS Form 10 (A), Matching with Census Household Schedule (Part II, Population Record) and Field Reconciliation

Sl. No.	Census block No.	Census house No.	Fill from SRS Form 10 (A)				Desk Match				Field Reconciliation								Remarks			
			SRS household No.	Name of the head of household	Mother's name	Mother's relation to head	Particulars of the child			Whether agreement regarding				Match-1 No Match-2	Age in Population Record	Present-1 Not Present-2 in the household	If '2' in Col. 18 whether out-migration temporary-1 out-migration permanent-2 Dead-3	If '2' or '3' in Col. 19 After 1.3.81-1 During 9.2.81 to 1.3.81-2 Before 9.2.81-3		Residential Status (in codes)	Enumerated elsewhere Yes-1, No-2, Not known-3	
							Date of birth (Derive age as on Census and write in brackets)	Sex	Relationship to head	Name of the head of household Yes-1 (go to Col. 12) No-2	Relationship to head & Sex Yes-1 (go to Col. 13) No-2	Age-1 Yes-1 No-2	Match-1 No Match-2 Partial Match-3									Sl. No. of entry in Section II
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																						
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						

Codes for Col. 21 :

- (a) Present throughout Census Enumeration Period — 1.
(b) Absent throughout Census Enumeration Period — 2.
(c) Present for part of Census Enumeration Period — 3.

Signature (with date) _____

	Copying	Desk Match	Field Reconciliation
Enumerator			
Supervisor			

CENSUS OF INDIA 1981

Census Evaluation Study Using SRS Records

Name of State/Union Territory _____

Name of Village/Town _____

Location

1.

4.

Name of District _____

Name or No. of Ward/Mohalla/Hamlet _____

code of Census
blocks falling
in SRS Unit

2.

5.

Name of Tehsil/Taluka/Anchal/P.S./Dev. Block/Circle etc. _____

SRS sample code No. _____

3.

6.

SECTION II : Censused children with "Partial Match" or "No Match" entries in Section I (to be copied from Population Record)

Fill in during Desk Match From Population Record										Field Reconciliation			Remarks
Sl. No.	Census block No.	Census house No.	SRS house-hold No.	Name of the head of household	Name of the child	Relationship to head	Sex	Age	Sl. No. of related entry in Section I	Whether Normal Resident-1 Visitor-2	Residential status during Census enumeration period (in codes)	If '2' or '3' in Col. 12 whether enumerated elsewhere? Yes-1, No-2, Not known-3	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1													
2													
3													
4													
5													
6													
7													
8													
9													
0													

Codes for Col. 12 :

- (a) N. R. present throughout Census enumeration period—1.
 (b) N. R. absent throughout Census enumeration period—2.
 (c) N. R. present for part of Census enumeration period—3.

Signature (with date) _____

Desk Match

Field Reconciliation

Enumerator

Supervisor

1980년 인구 및 주택 센서스
1980 Census of Population and Housing

Postenumeration Survey--Verification of Household Members

사후조사 가구원 확인표

To be completed in census office

New household

* 부호기입란		* 사무실기입란					* 신규작성가구기입란					
Code	거처번호	가구번호	Address			소	거처번호	가구번호	Address			소
	Housing unit number	Household number	Ri 리 Dong 동	Tong 동 Ban 반	Number 번 지		Housing unit number	Household number	Ri 리 Dong 동	Tong 동 Ban 반	Number 번 지	

질문 1 [조사원 기입] [가구확인 1] 및 표 1 가구추가기입표를 보고 다음을 구분하시오.
Question 1 (To be completed by interviewer)

Fill in according to answers given in Household Verification 1 and Table 1, Additional Households.

① 비이동가구 Households that have not moved

2 Code 1 for item 6 and 1 for item 7 in Household Verification 1

② 조사구내 이동가구 Households that moved within the enumeration district

표 1. Code 1 for item 5 in Table 1, 가구 Additional Households

③ [가구확인] Households verified in Household Verification 4

표 1. 가구 전인 가구 Code 4 (10.31 or before) for item 4 in Table 1, Additional Households

④ Households that moved in after November 1 that are not listed in the census summary form

표 1. 가구 추가 11. 8. 이후인 가구 Codes 2, 3, or 4 for item 4 in Table 1

⑤ Households that moved in after November 1 that are listed in the census summary form

[가구확인 1] Code 1 for item 6 and 2 for item 7 in Household Verification 1

⑥ Households enumerated in the census that moved out after November 1

[가구확인 1]에 ⑦란 「1」있었 Code 2 for item 6 and 1 for item 7 in Household Verification 1

⑦ Households that did not exist at the time of the census but that are listed as enumerated by mistake

[가구확인 1] 7란 「2」있 Code 2 for item 6 and code 2 for item 7 in Household Verification 1

Go to Question 3

질문 3 으로

End of survey

조사 끝

질문 2. [조사원 기입] 가구주 이름 및 가구원의 이름을 한
Question 2. (To be completed by interviewer)

Check names of heads of households and members and find possible reasons for their inclusion in the census by checking with neighbors and neighborhood association heads.

End of survey

조사 끝

* 이하 전란은 각 가구를 방문하여 기록하시오.

The following is to be completed when each household is visited.

Record of interview time		방문시간 기록표		응답자		Respondent		1. 가구주 - Head of household		2. 가구주의 처 - Wife of head		3. 장성한 자녀 - Adult member		기타 - Other		→ Circle the appropriate item and continue interview.	
1	2	3	4	12월	일	오전 AM	오후 PM	시	분	구분	응답자	이름	성명	성명	성명	성명	성명
1	December	Date	12월	일	오전	AM	오후	PM	시	분	구분	응답자	이름	성명	성명	성명	성명
2	12월	일	오전	AM	오후	PM	시	분	구분	응답자	이름	성명	성명	성명	성명	성명	성명
3	12월	일	오전	AM	오후	PM	시	분	구분	응답자	이름	성명	성명	성명	성명	성명	성명
4	12월	일	오전	AM	오후	PM	시	분	구분	응답자	이름	성명	성명	성명	성명	성명	성명

→ 재방문 하시오.

Visit again at later time.

*부호기입란

Code

질문 3 [조사원 기입] 질문 1을 보고 다음을 구분하시오
Question 3 (To be completed by interviewer) Check Question 1 and proceed.

1

1, 2 또는 5에
표된 가구

Codes 1, 2,
or 5 checked

2

3 또는 4에
표된 가구

Codes 3 or 4
checked

Verification of Household Members 1

질문 4 Question 4 We interviewed the people living in this household on November 1 and would like to verify the information we received. Please answer the following questions.

Enumeration of Household Members

질문 5 현재 대에서 살고 계신 분에 대하여 몇 가지 묻고자 하오니
사실대로 말씀하여 주십시오
Question 5 Questions for persons present in this household at this time.

	①	②	③	④	⑤	⑥			⑦	⑧	⑨	
	이름 Name of Each person in household	Relation to household head	Sex	Age	이분은 가구주와 어떠한 관계가 있습니까? [가구주와의 관계]	이분은 세나 이도 몇 살입니까? Korean age	몇 년도에 출생하였습니까? Year of Birth	몇 월 며칠에 생겼습니까? Date of Birth	※환산표를 보고 조사원이 만나이를 기입한다	이분의 배우관계를 주십시오. Marital status [배우관계]	이분은 현재 이 가구에 살고 있습니까?	이분은 11월 1일 당시 이 집에(이 가구와 함께) 살고 있었습니까?
01			① ②		Relationship to household head	살	Year of Birth	Month of Birth	Check conversion table and write age in completed years	① Currently married ② Widowed ③ Divorced ④ Never married	① 있었다 ② 없었다	① 있었다 ② 없었다
02			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
03			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
04			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
05			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
06			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
07			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
08			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
09			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
10			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
11			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no
12			① ②			살	Year of Birth	Month of Birth		① 유배우 ② 사별 ③ 이혼 ④ 미혼	① yes ② no	① yes ② no

부호가입란
Code

질문 6 [조사원 기입] 질문 1 을 보고 다음을 구분하시오.

Question 6 (To be completed by interviewer) Check Question 1 and proceed.

Verification of Household Members 2

질문 7 가족이던 아니던 간에 지난 11월 1일 당시 대
확인과자 하오니 사실대로 말씀해 주십시오.

Question 7 I would like to make sure that all persons who were
living here on November 1 were enumerated regardless of whether
they are members of the family or not. Please answer all questions.

[가] [센서스에서 조사되어야 할 가구원]

- (Household members who should be canvassed in census)
- Was anyone in the household born this year or last year?
Was this baby omitted? no — yes
 - Was there an employer who was not a family member living in this household on November 1 and was this person omitted? 1. 없다 no 2. 있다 yes
 - Were there any boarders living in this household on November 1 and were they omitted? no yes
 - Was any household member in military training or in the hospital and was this person omitted? no — yes
 - Was any household member in another country and was this person omitted? 1. 없다 no 2. 있다 yes
 - Was any household member on board a ship and was this person omitted? 1. 없다 no 2. 있다 yes
 - Was anyone who usually lives here travelling and was this person omitted? 1. 없다 no 2. 있다 yes
 - Did anyone in the household have a different official address and was this person omitted? 1. 있다 yes 2. 없다 no

Question number	가 가 가 가 가 가 가 가 가	이 이 이 이 이 이 이 이 이	름 름 름 름 름 름 름 름 름	Rela- tion to head of house- hold	성 별	Marital status	Age and date of birth	비 고
1	Household member number				1 M 2 F	1 Currently married 2 Widowed 3 Divorced 4 Never married	1 Year 2 Month 3 Day 4 Lunar/Solar	
2					1 남 2 여	1 유배주 2 사별 3 이혼 4 미혼	1 년도 2 월 3 일	
3					1 남 2 여	1 유배주 2 사별 3 이혼 4 미혼	1 Year 2 Month 3 Day 4 Lunar/Solar	
4					1 남 2 여	1 유배주 2 사별 3 이혼 4 미혼	1 Year 2 Month 3 Day 4 Lunar/Solar	
5					1 남 2 여	1 유배주 2 사별 3 이혼 4 미혼	1 Year 2 Month 3 Day 4 Lunar/Solar	
6					1 남 2 여	1 유배주 2 사별 3 이혼 4 미혼	1 Year 2 Month 3 Day 4 Lunar/Solar	
7					1 남 2 여	1 유배주 2 사별 3 이혼 4 미혼	1 Year 2 Month 3 Day 4 Lunar/Solar	
8					1 남 2 여	1 유배주 2 사별 3 이혼 4 미혼	1 Year 2 Month 3 Day 4 Lunar/Solar	
9					1 남 2 여	1 유배주 2 사별 3 이혼 4 미혼	1 Year 2 Month 3 Day 4 Lunar/Solar	

[나] [센서스에서 조사되지 않아야 될 가구원]

- (Household members who should not be canvassed in census)
- Among the persons listed, did anyone join the military and leave the household before November 1? 1. 있다 yes 2. 없다 no
 - Among the persons listed, was anyone living away to attend school? 1. 있다 yes 2. 없다 no
 - Among the persons listed, was anyone living away to work? 1. 있다 yes 2. 없다 no
 - Among the persons listed, was anyone just registered here but not living here? 1. 있다 yes 2. 없다 no
 - Among the persons listed, was anyone a long term resident of a care home or sanatorium? 1. 있다 yes 2. 없다 no
 - Among the persons listed, was there by any chance someone who died but whose death was not reported? 1. 있다 yes 2. 없다 no
 - Among the persons listed, was anyone living abroad for study or work? 1. 있다 yes 2. 없다 no

표 4. Table 4.

Question number	가 가 가 가 가	이 이 이 이 이	름 름 름 름 름	비 고
1	Household member number			
2				
3				
4				
5				

*부호기입란

Code

질문 8 [조사원 기입] 질문 1 을 보고 내용을 구분하십시오.
Question 8 (To be completed by interviewer) Check Question 1 and proceed.

Codes 4 or 5

Codes 1 or 2

End of survey

①

④ 또는 ⑤에

○표된 가구

②

① 또는 ②에

○표된 가구

조사 끝

질문 9 ① 이 가구가 11월 1 일 당시에는
여기서 살았습니까?

Q9 : Place of residence of this household last 1 Nov.

② 이 주소의 불확실한 곳은
Is any part of address not certain?

그것은 무엇입니까?
Which part?

③ 그때 사시던 곳의 위치를 알 수 있도록 집 근처의
큰 건물, 관공서, 학교, 교회, 교차로, 다리 등
Name an easily recognizable building or landmark near this place.

Shi/Do	시 · 도	①확실 Certain	②불확실 Not certain
Ku/Shi/Kun	구·시·군	①확실	②불확실
Dong/Eup/Myon	동·읍·면	①확실	②불확실
Ri/Ka	리 · 가	①확실	②불확실
Tong	통	①확실	②불확실
Ban	반	①확실	②불확실
Number	번지	①확실	②불확실

질문 10 현재 살고 있는 가구원 중에서 11
월 1 일 당시, 현재의 가구주와 같
이 살지 않고, 다른 곳에서 살고
있었던 분이 계십니까? 있다면
그분(들)의 이름과 사시던 곳을
말씀하여 주십시오.

Q10 : Are there any household members

who were living elsewhere last 1 Nov.? Give their names and former addresses.

② 이 주소의 불확실한 곳은
Is any part of address not certain?
그것은 무엇입니까?
Which part?

③ 그때 사시던 곳의 위치를 알 수 있도록
집 근처의 큰 건물, 관공서, 학교, 교회,
교차로, 다리 등 이름을 확실한 것만 말씀하여
여 주십시오.

Name an easily recognizable building or landmark near this place.

Name 원성명	①	②	③
Serial number			

Shi/Do	시 · 도	①확실 Certain	②불확실 Not certain
Ku/Shi/Kun	구·시·군	①확실	②불확실
Dong/Eup/Myon	동·읍·면	①확실	②불확실
Ri/Ka	리 · 가	①확실	②불확실
Tong	통	①확실	②불확실
Ban	반	①확실	②불확실
Number	번지	①확실	②불확실
Name of head of household	①	②	③

질문 11 그 이외에 현재 살고 있는 가구원 중에서 11월 1 일 당시, 현재의 가구주와 같이 살지 않고, 다른 곳에서 살고 있었던 분은
또, 이웃, 친척

Q11 : Are there any household members who were living elsewhere on November 1?

yes

①

있다

no

②

없다

질문 10 과 같은 내용을 질문하여 별지에

기입 첨부한다. Ask Question 10 and record on a separate sheet.

조사 끝

End of survey

*부호기입란

Code

Household Verification 4

가구확인 4

1. Are there any households near the enumeration district border that have been missed?	① 있다 yes ② 없다 no
2. Are there any households that live in business establishments such as tea rooms and restaurants that have been missed?	① 있다 yes ② 없다 no
3. Are there any households that live in big buildings such as schools and factories that have been missed?	① 있다 yes ② 없다 no
4. Are there any households that live in churches or temples that have been missed?	① 있다 yes ② 없다 no
5. Are there any households that live in empty buildings or garages that have been missed?	① 있다 yes ② 없다 no
6. Are there any households that live in stores or offices that have been missed?	① 있다 yes ② 없다 no
7. Are there any one-person households such as students or factory workers that have been missed?	① 있다 yes ② 없다 no
8. Are there any other unusual households in this enumeration district that have been missed?	① 있다 yes ② 없다 no

Table 1. Additional Households

표1. 가구 추가 기입표 (List of the Households Omitted and Moved in)

①	②	③		④	⑤	⑥
해 Number 번호	가 구 주 이 름 Name	Place of current residence 현재거주지 주소소재지	거 차 번 호 Number	가 구 번호 Household No.	현재부터 이 집에 살았을 기간? Since when has the household lived in this residence?	비 Comments
		Dong 리 Ri	동 번 호 No.	10.31 or before 12.1 or after	1. Same E.D. 2. Other E.D.	
01	of head of household				1. 같은 조사구 2. 다른 조사구	
02					1. 같은 조사구 2. 다른 조사구	
03					1. 같은 조사구 2. 다른 조사구	
04					1. 같은 조사구 2. 다른 조사구	
05					1. 같은 조사구 2. 다른 조사구	
06					1. 같은 조사구 2. 다른 조사구	
07					1. 같은 조사구 2. 다른 조사구	
08					1. 같은 조사구 2. 다른 조사구	
09					1. 같은 조사구 2. 다른 조사구	
10					1. 같은 조사구 2. 다른 조사구	
11					1. 같은 조사구 2. 다른 조사구	
12					1. 같은 조사구 2. 다른 조사구	
13					1. 같은 조사구 2. 다른 조사구	
14					1. 같은 조사구 2. 다른 조사구	
15					1. 같은 조사구 2. 다른 조사구	
16					1. 같은 조사구 2. 다른 조사구	

표 1

Table 2. Households Moved Out

표2. 전출가구 기입표 (List of the Households Moved Away)

☆ 조사원 의견
Interviewer's notes

①	②	③	④
Name of head of household 가 구 주 이 름 Name	거 차 번 호 Number	가 구 번호 Household No.	When did the household move away? 비 Comments
		10.31 or before 12.1 or after	
1			1. 10. 31 이전 2. 11. 1~11. 8 3. 11. 9~11. 30 4. 12. 1 이후
2			1. 10. 31 이전 2. 11. 1~11. 8 3. 11. 9~11. 30 4. 12. 1 이후
3			1. 10. 31 이전 2. 11. 1~11. 8 3. 11. 9~11. 30 4. 12. 1 이후
4			1. 10. 31 이전 2. 11. 1~11. 8 3. 11. 9~11. 30 4. 12. 1 이후
5			1. 10. 31 이전 2. 11. 1~11. 8 3. 11. 9~11. 30 4. 12. 1 이후
6			1. 10. 31 이전 2. 11. 1~11. 8 3. 11. 9~11. 30 4. 12. 1 이후
7			1. 10. 31 이전 2. 11. 1~11. 8 3. 11. 9~11. 30 4. 12. 1 이후

표 2

CENSUS OF POPULATION, 1980
POST ENUMERATION SURVEY SCHEDULE

CONFIDENTIAL

Census District: Reticulated Unit: Census House No: Census Household No: Type of Census House:

1 Name <input style="width: 80%;" type="text"/>	1 Name <input style="width: 80%;" type="text"/>	1 Name <input style="width: 80%;" type="text"/>	1 Name <input style="width: 80%;" type="text"/>
2 Relationship to Head <input style="width: 80%;" type="text"/>	2 Relationship to Head <input style="width: 80%;" type="text"/>	2 Relationship to Head <input style="width: 80%;" type="text"/>	2 Relationship to Head <input style="width: 80%;" type="text"/>
3 Sex <input style="width: 80%;" type="text"/>	3 Sex <input style="width: 80%;" type="text"/>	3 Sex <input style="width: 80%;" type="text"/>	3 Sex <input style="width: 80%;" type="text"/>
4 Ethnic/Dialect group <input style="width: 80%;" type="text"/>	4 Ethnic/Dialect group <input style="width: 80%;" type="text"/>	4 Ethnic/Dialect group <input style="width: 80%;" type="text"/>	4 Ethnic/Dialect group <input style="width: 80%;" type="text"/>
5 Date of birth <input style="width: 15%;" type="text"/> Day <input style="width: 10%;" type="text"/> Month <input style="width: 10%;" type="text"/> Year <input style="width: 10%;" type="text"/>	5 Date of birth <input style="width: 15%;" type="text"/> Day <input style="width: 10%;" type="text"/> Month <input style="width: 10%;" type="text"/> Year <input style="width: 10%;" type="text"/>	5 Date of birth <input style="width: 15%;" type="text"/> Day <input style="width: 10%;" type="text"/> Month <input style="width: 10%;" type="text"/> Year <input style="width: 10%;" type="text"/>	5 Date of birth <input style="width: 15%;" type="text"/> Day <input style="width: 10%;" type="text"/> Month <input style="width: 10%;" type="text"/> Year <input style="width: 10%;" type="text"/>
6 Marital status <input style="width: 80%;" type="text"/>	6 Marital status <input style="width: 80%;" type="text"/>	6 Marital status <input style="width: 80%;" type="text"/>	6 Marital status <input style="width: 80%;" type="text"/>
7 Citizenship <input style="width: 80%;" type="text"/>	7 Citizenship <input style="width: 80%;" type="text"/>	7 Citizenship <input style="width: 80%;" type="text"/>	7 Citizenship <input style="width: 80%;" type="text"/>
8 Residential status <input style="width: 80%;" type="text"/>	8 Residential status <input style="width: 80%;" type="text"/>	8 Residential status <input style="width: 80%;" type="text"/>	8 Residential status <input style="width: 80%;" type="text"/>
9 Activity/Occupational status <input style="width: 80%;" type="text"/>	9 Activity/Occupational status <input style="width: 80%;" type="text"/>	9 Activity/Occupational status <input style="width: 80%;" type="text"/>	9 Activity/Occupational status <input style="width: 80%;" type="text"/>
10 Language literate in <input style="width: 80%;" type="text"/>	10 Language literate in <input style="width: 80%;" type="text"/>	10 Language literate in <input style="width: 80%;" type="text"/>	10 Language literate in <input style="width: 80%;" type="text"/>
11 Language of newspaper(s) read <input style="width: 80%;" type="text"/>	11 Language of newspaper(s) read <input style="width: 80%;" type="text"/>	11 Language of newspaper(s) read <input style="width: 80%;" type="text"/>	11 Language of newspaper(s) read <input style="width: 80%;" type="text"/>
12 Language/Dialect of TV programmes viewed a) Usually <input style="width: 80%;" type="text"/> b) Most frequently <input style="width: 80%;" type="text"/>	12 Language/Dialect of TV programmes viewed a) Usually <input style="width: 80%;" type="text"/> b) Most frequently <input style="width: 80%;" type="text"/>	12 Language/Dialect of TV programmes viewed a) Usually <input style="width: 80%;" type="text"/> b) Most frequently <input style="width: 80%;" type="text"/>	12 Language/Dialect of TV programmes viewed a) Usually <input style="width: 80%;" type="text"/> b) Most frequently <input style="width: 80%;" type="text"/>
13 Language/Dialect of radio programmes listened a) Usually <input style="width: 80%;" type="text"/> b) Most frequently <input style="width: 80%;" type="text"/>	13 Language/Dialect of radio programmes listened a) Usually <input style="width: 80%;" type="text"/> b) Most frequently <input style="width: 80%;" type="text"/>	13 Language/Dialect of radio programmes listened a) Usually <input style="width: 80%;" type="text"/> b) Most frequently <input style="width: 80%;" type="text"/>	13 Language/Dialect of radio programmes listened a) Usually <input style="width: 80%;" type="text"/> b) Most frequently <input style="width: 80%;" type="text"/>
14 Dialect of Rediffusion programmes listened <input style="width: 80%;" type="text"/>	14 Dialect of Rediffusion programmes listened <input style="width: 80%;" type="text"/>	14 Dialect of Rediffusion programmes listened <input style="width: 80%;" type="text"/>	14 Dialect of Rediffusion programmes listened <input style="width: 80%;" type="text"/>
15 Dialect news listened <input style="width: 80%;" type="text"/>	15 Dialect news listened <input style="width: 80%;" type="text"/>	15 Dialect news listened <input style="width: 80%;" type="text"/>	15 Dialect news listened <input style="width: 80%;" type="text"/>

Name of Informant

Total No. of Persons in Household

Sheet No.

CENSUS OF POPULATION AND HOUSING 1981

POST-ENUMERATION SURVEY

FORM PES 1

The information is accorded confidential treatment and will not be used for taxation or other administrative purposes. It will be used only for preparation of Statistical Tables.

PART - A

A 1 District	A 2 A.G.A. Division	A 3 Electorate	A 4 Sector Urban/Rural/Estate	A 5 M.C./U.C./T.C./ G.S. Division	A 6 Ward/Village/Estate	A 7 Census Block Number	A 8 Serial Number of Unit (for head office use)

PART - B

B 1 Census Number of Unit	B 2 Type of Unit 1. Housing Unit 2. Living quarters other than Housing Unit. 3. Non-housing Unit.	B 3 Has the Unit been listed in the F1 Form for the Census Block. 1 - Yes 2 - No	B 4 Did the Enumerator visit the unit for the Preliminary Census? 1 - Yes 2 - No	B 5 Did the Enumerator actually visit the unit on the Final Census Night. 1 - Yes 2 - No	B 6 Remarks

PART - C

Please enter below the following two categories of persons.

- Current usual residents : All persons who are usual residents of the unit at the time of your visit, including those who have come into residence after the Final Census Day, i.e. 17th March, 1981.
- Persons who are not current usual residents but were present in the unit on the Final Census Night any time between 6.00 p.m. and Midnight.

Note : If there are two or more households enter each household separately and number the households in Cage C 1 below:

C.1 Household Number within unit.					
C.2 Name					
C.3 Whether a current usual resident.	1-Current usual resident 2-Other person present on Final Census Night	1-Current usual resident 2-Other person present on Final Census Night	1-Current usual resident 2-Other person present on Final Census Night	1-Current usual resident 2-Other person present on Final Census Night	1-Current usual resident 2-Other person present on Final Census Night
C.4 Relationship to head of household.	1-Head 2-Wife/Hus. 3-Son/Dau. 4-O.Rel. 5-N.Rel. 6-Visitor	1-Head 2-Wife/Hus. 3-Son/Dau. 4-O.Rel. 5-N.Rel. 6-Visitor	1-Head 2-Wife/Hus. 3-Son/Dau. 4-O.Rel. 5-N.Rel. 6-Visitor	1-Head 2-Wife/Hus. 3-Son/Dau. 4-O.Rel. 5-N.Rel. 6-Visitor	1-Head 2-Wife/Hus. 3-Son/Dau. 4-O.Rel. 5-N.Rel. 6-Visitor
C.5 Sex	1-Male 2-Female	1-Male 2-Female	1-Male 2-Female	1-Male 2-Female	1-Male 2-Female
C.6 Date of Birth and Age as on 17th March, 1981.	Year Mon..... Day..... Years	Year..... Mon..... Day..... Years	Year..... Mon..... Day..... Years	Year..... Mon..... Day..... Years	Year..... Mon..... Day..... Years
C.7 Marital Status as on Census Day 17th March, 1981	1-Nev.Mar. 2-Mar.(Reg.) 3-Mar.(Cus.) 4-Wid. 5-Div. 6-Leg.Sep.	1-Nev.Mar. 2-Mar.(Reg.) 3-Mar.(Cus.) 4-Wid. 5-Div. 6-Leg.Sep.	1-Nev.Mar. 2-Mar.(Reg.) 3-Mar.(Cus.) 4-Wid. 5-Div. 6-Leg.Sep.	1-Nev.Mar. 2-Mar.(Reg.) 3-Mar.(Cus.) 4-Wid. 5-Div. 6-Leg.Sep.	1-Nev.Mar. 2-Mar.(Reg.) 3-Mar.(Cus.) 4-Wid. 5-Div. 6-Leg.Sep.
C.8 Whether a usual resident at the time of the Final Census i.e. 17th March, 1981	1-Usual Resident 2-Visitor 3-Other	1-Usual Resident 2-Visitor 3-Other	1-Usual Resident 2-Visitor 3-Other	1-Usual Resident 2-Visitor 3-Other	1-Usual Resident 2-Visitor 3-Other
C.9 Whether present in the unit any time between 6.00 p.m. and 12 midnight on the Final Census Night.	1-Present all the time 2-Present only part of the time 3-Absent all the time	1-Present all the time 2-Present only part of the time 3-Absent all the time	1-Present all the time 2-Present only part of the time 3-Absent all the time	1-Present all the time 2-Present only part of the time 3-Absent all the time	1-Present all the time 2-Present only part of the time 3-Absent all the time
C.10 Whether enumerated on the Final Census Night and where.	1-Enum. in this unit 2-Enum. in another unit 3-Enum. outdoors 4-Late enumeration 5-Not enum. anywhere	1-Enum. in this unit 2-Enum. in another unit 3-Enum. outdoors 4-Late enumeration 5-Not enum. anywhere	1-Enum. in this unit 2-Enum. in another unit 3-Enum. outdoors 4-Late enumeration 5-Not enum. anywhere	1-Enum. in this unit 2-Enum. in another unit 3-Enum. outdoors 4-Late enumeration 5-Not enum. anywhere	1-Enum. in this unit 2-Enum. in another unit 3-Enum. outdoors 4-Late enumeration 5-Not enum. anywhere
C.11 Who is providing the answer for this person	1-Person himself 2-Head 3-Spouse of Head 4-A parent 5-Other	1-Person himself 2-Head 3-Spouse of Head 4-A parent 5-Other	1-Person himself 2-Head 3-Spouse of Head 4-A parent 5-Other	1-Person himself 2-Head 3-Spouse of Head 4-A parent 5-Other	1-Person himself 2-Head 3-Spouse of Head 4-A parent 5-Other
C.12 Comments and Explanations if any.					

PART - D (For use in Head Office only).

D.1 Has this person been enumerated in the Census Schedule for the Unit?	1-Enumerated and remains 2-Enumerated but deleted 3-Not enumerated	1-Enumerated and remains 2-Enumerated but deleted 3-Not enumerated	1-Enumerated and remains 2-Enumerated but deleted 3-Not enumerated	1-Enumerated and remains 2-Enumerated but deleted 3-Not enumerated	1-Enumerated and remains 2-Enumerated but deleted 3-Not enumerated
D.2 Relationship to head.					
D.3 Sex					
D.4 Age					
D.5 Marital Status					

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