looking toward the 1980 census round

During 1978 the East-West Population Institute is conducting a series of census-related activities that bring together Asian, Pacific, and American census officials and researchers to exchange ideas on the conduct and analysis of the 1980 round of censuses. These activities reflect the East-West Center's interest in promoting better relations and understanding among the people of Asia, the Pacific, and the United States through ongoing programs of cooperative study, training, and research. The specific aim of these East-West Population Institute activities is to develop new knowledge relevant to the generation and utilization of population and related data and to promote the dissemination and application of this knowledge in relation to the 1980 round of population censuses.

Sixth Population Census Conference — At the census conference, held 8–13 May, over 35 participants met to discuss the experience gained during previous censuses and to share ideas for the planning and implementation of the censuses in the 1980 round. Representatives from census and statistical organizations in Asia, the Pacific, and the United States as well as participants from the East-West Center and the University of Hawaii attended the conference. Representatives from each country presented an update on recent developments in census plans. Particular emphasis was placed on changes in the design and content of the census schedule in each country between the 1970 and 1980 round censuses. Specific topics considered in relation to censuses included training, mapping, sampling, computer editing, tabulation, posttabulation, computer processing, and evaluation.

Census Fertility Estimation Working Group — This activity, meeting 5 April–31 May, includes 13 participants from statistical and research organizations in the region. They are studying various methods of estimating fertility from census data, including the Brass, the Bogue-Palmore, and the own-children method. Special attention is being paid to the practical problems of applying these methods to the 1970 round census data and analyzing the results. Several members of the group are focusing on the process of matching participants in the Census Fertility Estimation Working Group calculate estimates of fertility from census data. Shown here are (left to right) Ms. Sharada Munandhar, Central Bureau of Statistics, Nepal; Ms. Chintana Pejaranonda, National Statistical Office, Thailand; and Ms. Sri Handajani Soewarno, Central Bureau of Statistics, Indonesia. Mr. Sing Loon Wong, Department of Statistics, Sarawak, Malaysia, is in the background.
Census Mapping Workshop — During this workshop, held 21 February—17 March, individuals involved in census mapping operations in 12 countries discussed techniques for census mapping in preparation for the 1980 census round. The group examined existing mapping programs in the countries represented and investigated procedures that might be used to develop a mapping program in countries without one. The following steps in preparing census maps were considered:

- the collection of relevant maps (in this context called base maps);
- the compilation, updating, and editing of the base maps with particular attention to geographic features that may be used to identify the boundaries of enumeration districts (EDs);
- the determination of the ED boundaries;
- the design of enumeration maps with emphasis on functional detail that will assist enumerators in identifying the boundaries of EDs and in locating all households in EDs; and
- the drafting of enumeration maps.

Other topics discussed were map production techniques, including computer production; potential uses and limitations for census mapping of aerial photographs and visual images produced by the reception of signals from satellites orbiting the earth; and graphic presentation of census data.

Ninth Summer Seminar in Population — Two summer seminars will be devoted to census-related topics. Members of the workshop on the Own-Children Method of Fertility Estimation will work through a number of applications with a view toward learning the method and its recent extensions, while subjecting them to further testing. Participants will also do work on individual projects based on data brought from their countries. The workshop on Demographic Measurement from Census and Survey Data will provide an overview of procedures for collecting and compiling census data and methods of analyzing types of tabulated data. Participants will look at each aspect of the census operation to understand how the various stages fit together to make a successful census. In analyzing labor utilization, for example, the group will discuss how data must be collected and edited to produce good results.

Upcoming issues of the Forum will contain reports on all these activities except the summer seminar workshops, which will be covered in a separate report.

Examination cartographic equipment during the Census Mapping Workshop are (left to right) Mr. A. Attanayake, Sri Lanka; Dr. Raj Roop Tripathi, India; Mr. Jose C. Ayuyu, Northern Marianas; Mr. Seung Kon Lim, Republic of Korea; and Mr. George Rodriguez, Trust Territory of the Pacific Islands.
IRAN

- Mr. Joseph Eory, project manager with the United Nations Development Programme in Iran, sent a progress report on the results of the 1976 Population and Housing Census of Iran. The October 1976 enumeration was followed by a postenumeration survey (PES) designed to check completeness of coverage. Preliminary analysis of the PES results indicates an underenumeration of approximately 3 percent.

During the census all questions were asked of the entire population, but sampling was used to prepare advance tabulations. Forty-nine tables have been published based on a 5 percent sample for all 23 provinces, for Tehran, and for the country as a whole. The 100 percent tables now being processed for the 162 districts in Iran are expected to be published within a year.

An innovation introduced by the Statistical Centre of Iran to ensure the timeliness and quality of the census publications was the use of two diary review teams. A preedit diary review team was made responsible for all tabulation code and control count corrections. The edit diary review team released the data for COCENTS tabulation or requested additional corrections.

PAKISTAN

- Mr. Sardar M.J. Khan, participant in the EWPI Census Editing and Imputation Working Group, reports that with a view toward improving the accuracy of the population count before the next census, the Government of Pakistan instituted a national registration system through an Act of Parliament after the 1972 Census. The comprehensive form which citizens fill out in order to be issued an official identity card includes the person's name, father's name, date and place of birth, religion, marital status, occupation, and educational attainment, providing a source of sociodemographic data independent of the census.

INDIA

- Assistant Registrar General Mr. K.K. Chakravorty reports that preliminary plans for the 1981 Census of India were discussed at a conference of data users held in February. The plans were formulated on the basis of suggestions received from various sources and deliberations of working groups, seminars, and symposia held since 1974. A major topic of discussion was the introduction of sampling at the enumeration stage. (In 1971 sampling was done only at the data processing stage.) Questions on migration, fertility, and secondary work were considered as possible topics for sample enumeration.

In the first pretest, held in April, universal and sample schedules (for area and household samples) were tried out. Pretest data were processed and evaluated. Expert group meetings will precede the second conference of data users, scheduled for October. By the time the second pretest is held in February 1979, the census schedules will have been finalized.

Although a housing census as such is not taken in India, prior to every census basic statistics on housing and establishments are collected in a houselisting and house numbering operation. No sampling will be introduced at the enumeration stage of this operation in 1981. Items not covered in the 1971 houselist but proposed for incorporation into the 1981 list include electricity, drinking water supply, toilet facilities (in urban areas only), and the number of couples living in the household. The houselist will provide a frame for all types of establishments, but the establishment schedule of 1981 may be limited to ascertaining facts about household activity only.

SINGAPORE

- Acting Chief Statistician Ms. Chian Kim Khoo writes that the results of the first phase of the Singapore Household Expenditure Survey, 1977-78, have been compiled in a report, Survey of Households, April 1977, which is now available at $85.00 a copy. The report covers the socioeconomic and demographic characteristics of the population. Field work for the ongoing second phase, in which information on income and expenditure of a sample of households is being collected for one year, is expected to be completed by early June; the results will be ready next year.

- Ms. Khoo is serving as a member of the Census Planning Committee, established for the 1980 Census of Population under the chairmanship of the Senior Minister of State for Finance. The committee plans to hold its first meeting before mid-1978. Preparations for the 1980 Census are expected to be similar to those for 1970, but in view of the rapid changes and increasing needs for demographic data for social and economic planning, it is likely that more questions will be included in the 1980 questionnaire.

MALAYSIA

- According to Mrs. Jean Pala of Malaysia's Department of Statistics, the Census and Demography Division of the department has begun preparatory work for the 1980 Population and Housing Census. Topics to be included, concepts, definitions, and classifications for the tabulation of data are being finalized. A complete draft questionnaire is anticipated by mid-1978. Initial field testing of concepts and definitions was carried out in November 1977. Housing, fertility, migration, and labor force were among the topics tested. Reports on the tests are not yet complete, but there are indications that certain subjects which were suggested for inclusion in the census would meet with some problems. One is the concept of "Building"; another is the problem of obtaining information on "Duration of Marriage." (It is felt that obtaining information on age at marriage would be preferable to trying to estimate the duration.)

The field test also attempted to investigate the possibility of checking birth registration completeness in conjunction with the population census. Information on children aged one and below at the time of the interview was obtained and then matched with the birth records obtained by the vital registration system. In some cases the information collected during the field testing was not accurate or complete enough for matching purposes because of the unavailability of a suitable respondent. However, with good publicity given to the census, this problem is expected to be overcome to a large extent.
**REPUBLIC OF CHINA**

* Correspondent Tung-yih Lu has been appointed Deputy Director of Taiwan’s Bureau of Statistics and is involved in the new monthly labor force survey. The new Director of the Bureau of Statistics is Mr. Tse Tseng Huang. Mr. Lu writes that an English edition of the extract report of the 1975 Sample Census of the Taiwan-Fukien area of the Republic of China is now available.

* The 1970 and 1975 Censuses were both 5 percent sample counts. The 1980 Census, to be taken on 16 December, will be a complete count with both de jure and de facto enumeration. All nationals of the Republic of China residing in the census area, aliens residing in the census area excluding foreign government officials and their dependents, and government officials stationed abroad and their dependents will be enumerated. Items to be covered are type of household, name, relationship to household head, sex, date of birth, nationality or domicile, marital status and age at marriage, place of residence five years ago, and (for persons 15 years and over) educational attainment and economic characteristics. A preliminary enumeration will be carried out two weeks before the standard census time, and a verification enumeration will be conducted within three days after the standard census time. Preliminary estimates are to be published by January 1981. The census report based on final statistics is expected to be available in June 1982.

**HONG KONG**

* Correspondent Joseph M.K. Lee sent a report on initial planning for the 1981 Population Census of Hong Kong. The first phase of the census will consist of a 100 percent head count by age and sex; a 20 percent detailed enumeration will comprise the second phase. In April of this year the Census and Statistics Department consulted users on which topics to include in the census.

During the current preliminary stage of the preparations, hardware and software requirements are being considered. The ICL 2970 (with 256 mega bytes, 10 EDS 200, and a dual processor) is likely to be used. The department is looking into the feasibility of using FILAN (Massive File Analysis System) as in 1971 or a suitable generalized package such as COCENTS. The staff may write tailor-made input, validation, editing, and imputation programs.

**JAPAN**

* Japanese Correspondent Mr. Shoko Yosabara writes that the 1978 Housing Survey, which concerns the quality of living conditions in Japan, will be conducted on 1 October. Items to be included in the survey are the size and number of rooms, rent, commuting hours, sunshine hours, and land circumstances surrounding the living quarters, as well as family composition by age and sex. The survey will cover about 110,000 enumeration districts of the 1975 Population Census. Tabulation will begin as soon as enumeration ends, and the prompt results will be released by March 1979. The report for each prefecture will be published upon its completion; finally, the report for the national total will be published.

The large-scale 1980 Census will also be held on 1 October. A pilot survey is planned for this fall immediately after the housing survey. The enumeration items and method are currently under consideration.

**AUSTRALIA**

* Australian correspondent Brian Doyle writes that in preparation for the 1981 Census the Bureau of Statistics has carried out two pretests of census procedures such as the use of self-coding forms that can be read by optical mark reader (OMR) machines, field sampling, and various approaches to anonymity in census completion. Although the results are still being processed and the OMR schedules have not yet been put through the document reader, preliminary checks reveal that the public appears to have marked the schedules very well.

Field sampling is being tested for 1981 in an effort to reduce the size of each schedule without cutting back on the information obtained. The approach tested uses three census schedules, each with a common core and variable additional questions.

In a test in which name was made optional, 50 percent of the respondents did not provide their full name, though some provided their first name, which is sufficient for most statistical purposes. In the other test, name was optional on some and compulsory on other schedules to test for a difference in respondent non-completion and accuracy of data in the use of anonymous schedules. The results are not yet available.

In response to the Bureau's invitation to users, more than 1,000 submissions for topics to be included in the 1981 Census and fewer than 40 for the exclusion of topics have been received. The most frequently suggested topics for inclusion in order of popularity are income, occupation, birthplace, type of dwelling, educational qualifications, internal migration, journey to work, industry, race and ethnic origin, and fertility. Census topics will be emphasized in two further tests planned for 1978–79.

**NEW ZEALAND**

* Correspondent Michael A. Moore sent information from New Zealand on the processing of the 1976 Census results and on plans for the 1981 Census. Instead of a post-enumeration survey after the 1976 Census, several post-census checks have been conducted. The last major check being undertaken, the verification of advanced ages, compares age statements for two consecutive censuses to determine the degree of consistency of age statements rather than the accuracy since the age declared at the previous census is assumed to be correct.

Because of staffing and machinery problems in the data processing division, the release of results has slowed down since the completion of the regional bulletin series in 1977. Volume 1B on location and increase of population is now complete. The publication of volumes 2–12 and a series of subject matter bulletins on selected topics has been rescheduled over the period from mid-1978 to mid-1980.

A regional statistics section has been established by the Department of Statistics to assemble and maintain a comprehensive library of national and regional maps, to review the regional classification systems in use in official statistical surveys, and to maintain the computerized national street listing now in the final testing stages.

* Recent developments for the 1981 Census of Population and Dwellings include a review of questionnaire topics such as income, fertility, head of household, and dwelling

(continued on page 9)
AN IMPROVED PROCEDURE FOR ADJUSTING FOR OMISSIONS AND AGE MISREPORTING OF CHILDREN IN THE OWN-CHILDREN METHOD OF FERTILITY ESTIMATION

by Robert D. Retherford, Minja Kim Choe, and Anuri Wanglee

Introduction

The own-children method is a census-or survey-based reverse-survival technique for estimating age-specific fertility in years prior to enumeration. Enumerated children are first matched to mothers within households from answers to questions on age, sex, marital status, relation to head of household, and number of living children. Given an appropriate set of life tables describing age-specific mortality in the population, these matched (i.e., own) children, classified by own age and mother’s age, are reverse-survived to obtain births by age of mother in previous years, and by age of women by age are reverse-survived to obtain women at earlier ages in previous years. After adjustments are made for omissions, age misreporting, and unmatched (non-own) children, age-specific birth rates are calculated by dividing the first figure by the second. Typically the technique is applied to census data, and estimates are calculated for each of the previous ten to fifteen years or for groups of years. The technique and its application to the United States, the Republic of Korea, Malaysia, Indonesia, Pakistan, and the Philippines have been elaborated in a series of publications dating back to 1965 (Grabill and Cho; 1965; Cho 1968; Cho and Ahn 1968; Cho, Palmore, and Saunders 1968; Cho 1969; Cho, Grabill, and Bogue 1970; Cho 1970, 1971a, 1971b, 1971c, 1973, 1975; Arnold et al. 1976; Cho et al. 1976; Gardner et al. 1976; Engracia et al. 1977; Retherford and Bennett 1977; Retherford 1978; Retherford and Cho 1978).

The own-children method requires accurate age reporting of both children and women. If omissions and age misreporting are severe, as is the case in many developing countries of Asia where the method has been applied, the own-children estimates of level and trend of fertility may be in error. Accordingly, the method has been designed to incorporate age-specific adjustments for omissions and age misstatement where these are available (for example, from a postenumeration survey).

The own-children estimates of fertility trend are especially sensitive to omissions and age misreporting of children. The purpose of this note is to outline an improved procedure by which to adjust numbers of own children by age to minimize errors in the estimates stemming from this source. Own-children estimates based on the 1970 Census of Thailand are used to illustrate the improved procedure.

Methodology

The following notation is used.

- \( U_{xa}^C \): Adjustment factor for census underenumeration and age misreporting of children aged \( x \) to \( x+1 \)
- \( U_{xa}^W \): Adjustment factor for census underenumeration and age misreporting of women aged \( a \) to \( a+1 \)
- \( V_x \): The reciprocal of the proportion of children aged \( x \) to \( x+1 \) living with their mothers at the time of the census (adjustment factor for non-own children

In previous applications of the own-children method, numbers of enumerated own children were adjusted for omissions and age misreporting by multiplying simply by the factor \( U_{xa}^C \), regardless of mother’s age, and numbers of women were adjusted by multiplying by the factor \( U_{xa}^W \). The adjustment factor \( U_{xa}^W \), specified by both child’s age and mother’s age, was not used previously to adjust numbers of own children and is introduced for the first time in this note.

The difficulty with the simple adjustment procedure used earlier for children is that it makes no allowance for the impact of the adjustment factor \( U_{xa}^W \) for women aged \( a \) on the numbers of children \( C_{xa} \) matched to those women. It seems reasonable that if we adjust the number of women aged \( a \) by the factor \( U_{xa}^W \), we should adjust the number of children \( C_{xa} \) matched to them by the same factor. At the same time we should adjust the total number of children aged \( x \), summed over all ages of mother, by the factor \( U_{xa}^C \). These two requirements together imply that an improved adjustment factor \( U_{xa}^C \) for omission and age misreporting of own children \( C_{xa} \) should be proportional to both \( U_{xa}^W \) and \( U_{xa}^C \).

The considerations of the previous paragraph may be described more succinctly in two equations

\[
U_{xa}^C = k_x \frac{U_{xa}^W U_{xa}^C}{V_x} \tag{1}
\]

\[
U_{xa}^C C_x = \frac{\sum U_{xa}^W C_{xa} V_x C_{xa}}{\sum U_{xa}^W C_{xa}} \tag{2}
\]

where \( k_x \) is a proportionality factor, shown below to be a function of \( x \), and \( V_x \) is the adjustment factor for non-own children. Substituting the expression for \( U_{xa}^C \) in equation (1) into equation (2) and solving for \( k_x \), we obtain

\[
k_x = \frac{C_x}{V_x \sum U_{xa}^W C_{xa}} \tag{3}
\]

which establishes that \( k_x \) is indeed a function of \( x \). Substituting this expression for \( k_x \) back into equation (1) we obtain

\[
U_{xa}^C = \frac{U_{xa}^W U_{xa}^C C_x}{V_x \sum U_{xa}^W C_{xa}} \tag{4}
\]

Since \( C_x = \sum V_x C_{xa} \), equation (4) may also be written as

\[
U_{xa}^C = \frac{U_{xa}^W U_{xa}^C \sum C_{xa}}{\sum U_{xa}^W C_{xa}} \tag{5}
\]

Equations (4) and (5) represent the improved adjustment factor for omission and age misreporting of children. For reasons of convenience, equation (5) is the formula used in the own-children computer program package.
Table 1 Adjusted own-children estimates of total fertility rates and age-specific birth rates for Thailand based on the 1970 Census (rates per thousand)

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<td>1960–64</td>
<td>6470</td>
<td>78</td>
<td>277</td>
<td>333</td>
<td>285</td>
<td>203</td>
<td>98</td>
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<tr>
<td>1965–69</td>
<td>6253</td>
<td>82</td>
<td>246</td>
<td>309</td>
<td>285</td>
<td>215</td>
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<tr>
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<td>5.1</td>
<td>-11.2</td>
<td>-7.2</td>
<td>0.0</td>
<td>5.9</td>
<td>-1.0</td>
<td>-10.0</td>
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<td>1965–69</td>
<td>6191</td>
<td>89</td>
<td>267</td>
<td>299</td>
<td>260</td>
<td>206</td>
<td>100</td>
<td>19</td>
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<tr>
<td>Percentage change</td>
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<td>2.9</td>
<td>-2.7</td>
<td>-4.5</td>
<td>-7.5</td>
<td>-4.4</td>
<td>-6.6</td>
<td>-8.3</td>
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</table>

NOTE: Adjustment factors $\gamma_C$ and $\gamma_W$ were computed from Arnold and Phananiramai (1975). Percentages were computed from more exact values than those shown.

As in previous applications of the own-children method, women are adjusted by multiplying numbers of own children $W_a$ by the adjustment factor $\gamma_W$. In the case of women, more complex adjustments are unnecessary. Since women are classified only by their own age, the problem of interdependency of adjustments does not arise.

Application

The above methodology is applied to own-children fertility estimates based on the 1970 Census of Thailand. These preliminary estimates are based on a forthcoming report being prepared collaboratively by staff of the Thailand National Statistical Office, Mahidol University, and the East-West Population Institute.

In this application, computation of reverse-survival factors is based on a single set of changing life tables by sex for the whole country. Changing life tables were computed by assuming that the Survey of Population Change (SPC) life tables by sex for 1964–65 (Thailand National Statistical Office 1969) were correct for that date, and that age-specific probabilities of dying changed between 1960 and 1970 at the pace indicated by Rungpitwarangsi's (1974: 61–64) life tables for 1960 and 1970, which were calculated by the Brass death distribution method. Computational details are given in the forthcoming own-children report mentioned above.

The Thai data provide a good test of the methodology outlined in the previous section because adjustment factors for omissions and age misstatement are both available and large at some ages. The adjustment factors $\gamma_C$ for children are 1.113 (0–4) and 1.015 (5–9). The adjustment factors $\gamma_W$ for women are 1.017 (15–19), 1.187 (20–24), 1.082 (25–29), 0.933 (30–34), 0.968 (35–39), 1.032 (40–44), 1.121 (45–49), 1.048 (50–54), and 1.057 (55–59) (Arnold and Phananiramai 1975). In the absence of single-year adjustments, each adjustment factor for a five-year age group is applied identically to each single-year age group within the five-year age group.

The old procedure using the simple adjustment factors $\gamma_C$ for children results in an irregular age pattern of fertility decline, shown in the first panel of Table 1. The new procedure using the improved adjustment factors $\gamma_C$ results in a more reasonable pattern, shown in the second panel, characterized by increasing cancepted declines in fertility with increasing age, except for a slight dip at ages 35–39 and 40–44. The dip may reflect additional estimation errors; normally one would expect the percentage declines to increase uniformly with age because fertility decline usually begins among high parity women at the older reproductive ages.

Table 2 shows comparison data based on two survey rounds (1968–69 and 1971–72) of the Longitudinal Study of Social, Economic and Demographic Change in Thailand, conducted by the Institute of Population Studies, Chulalongkorn University, and two rounds (1964–65 and 1974–

Table 2 Estimates of total fertility rates and age-specific birth rates for Thailand based on the Longitudinal Study of Social, Economic and Demographic Change and the Survey of Population Change (rates per thousand)

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<td>1968–69</td>
<td>6100</td>
<td>70</td>
<td>260</td>
<td>290</td>
<td>230</td>
<td>200</td>
<td>150</td>
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<tr>
<td>1971–72</td>
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<td>70</td>
<td>230</td>
<td>290</td>
<td>180</td>
<td>170</td>
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<td>-11.5</td>
<td>0.0</td>
<td>-21.7</td>
<td>-15.0</td>
<td>-20.0</td>
<td>0.0</td>
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<tr>
<td>Survey of Population Change</td>
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<td>1964–65</td>
<td>6299</td>
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<td>303</td>
<td>273</td>
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<td>1974–75</td>
<td>5167</td>
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<td>254</td>
<td>204</td>
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<tr>
<td>Percentage change</td>
<td>-18.0</td>
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<td>-30.6</td>
<td>-32.1</td>
<td>-41.7</td>
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</table>

75) of the Survey of Population Change. The age pattern of fertility decline derived from the Longitudinal Study is erratic, no doubt in part because of comparatively small sample sizes and the short time period over which changes are computed, and would not seem to serve as a good base of comparison. The two rounds of the Survey of Population Change, based on much larger samples with change computed over a ten-year period, show a more consistent pattern, with the per centaged decline in fertility increasing monotonically with age beyond age 20. Both the own-children estimates and the SPC estimates show an increase in fertility at ages 15–19.

When the two sets of own-children estimates in Table 1 (new procedure), corresponding to the two time periods 1960–64 and 1965–69, and the two sets of SPC estimates of age-specific fertility in Table 2, corresponding to the two periods 1964–65 and 1974–75, are combined in chronological order, only two out of seven age groups show monotonic fertility trends over four time points, suggesting that errors remain in at least some of the estimates. In most cases, however, the departure from monotonicity is minor.

In conclusion, both a priori reasoning and examination of the evidence for Thailand indicate that the new own-children adjustment procedure for omissions and age misstatement is superior to the old procedure. The new procedure has accordingly been incorporated into the own-children computer package, which is available to users upon request.

ACKNOWLEDGMENTS

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REFERENCES


Ms. Minja Kim Choe, right, coauthor of the accompanying article, is Data Analysis Officer at the East-West Population Institute. Readers interested in obtaining the own-children computer package may address requests to her.
PREPARATIONS FOR THE 1980 POPULATION AND HOUSING CENSUS OF THAILAND

by Samruay Chotechanapibal

The next census of Thailand will be conducted in April 1980 by the National Statistical Office (NSO). This census will be the eighth population census and the second housing census to be taken in Thailand. During the early stages of census planning, which began in 1976, is centered within the Population Survey Division of NSO, but after initial planning is completed, working and advisory groups composed of government representatives and private individuals will be established.

Timetable

The census project will take about six years, from 1976 to 1982, from preparations and planning to the publication of the basic reports. Following is a year-by-year summary of the census activities.

1976 — Initial planning was begun in October. This included obtaining information from government agencies on data requirements, drafting the census questionnaire, and studying census concepts and definitions.

1977 — Pretests were conducted in January, April, and July in different regions of Thailand. The main objectives of these tests were to check the draft questionnaires and the content of each question, to find out whether respondents understood and could answer the questions, and to check the definitions and coverage. Interview time and the efficiency of the enumerators and trainers were also studied.

Preparations and planning for the 1978 Pilot Census began in 1977 after the analysis of the results of the three pretests.

Preparation of the 1980 Census maps was also begun in February by the Statistical Techniques Division of NSO; it is estimated that the maps will be completed by 1979.

1978 — A pilot census was conducted in April 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 similar to the projected 1980 Census in order to test all phases of the census operations, particularly the field organizational structure, the effectiveness of field control, and the effect and applicability of sampling in villages. The report on the pilot census is expected to be completed about mid-1979.

1979 — Preparations and planning for the 1980 Census will be finalized in 1979. Problems detected in the pilot census will be examined and worked out before the 1980 Census.

1980 — The 1980 Population and Housing Census will be taken in April. A preliminary report presenting population by province will be published within six months of the completion of the field work.

1981—82 — Tabulation and publication of basic population and housing data by province, region, and the whole kingdom will be completed.

Coverage

As in the previous census, the 1980 Population Census will cover all persons residing in the country as of the census date, 1 April. To be covered are all Thai nationals; civilian citizens of foreign countries having their usual residence in Thailand, or those who have resided in Thailand for at least three months; persons having their usual residence in Thailand, but who are at sea or temporarily abroad as of the census date; and government officials, both military and civilian, including Thai diplomatic personnel, and their families located abroad.

Persons who will not be enumerated include nomadic groups, that is, 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 temporarily visiting or traveling in Thailand for less than three months.

Enumeration and sampling

The basic unit of enumeration is the household; for the population census all persons falling within the scope of the census will be enumerated on a de jure basis with the exception of students, who will be enumerated on a de facto basis. Both the housing and population censuses will be conducted simultaneously. Listing and enumeration will also be carried out simultaneously using two separate forms. It has been decided that for municipal areas both population and housing items will be collected on a complete count basis; in the villages, only the basic population characteristics will be obtained on a complete count basis and other characteristics of population and housing items will be collected on a 25 percent sample basis. Sample households to be interviewed on detailed questions will be selected systematically with a random start.

Items in the census

In the 1978 Pilot Census 29 population items and 24 housing items were asked on a 25 percent basis. Basic characteristics (i.e., name, relationship to head of household, relationship within the family, residence status, sex, age, school attendance, and marital status) were asked on a 100 percent basis. Items asked in the pilot census but not in 1970 are relationship within the family, reason for moving from province of last residence, and age at first marriage; and (in private households only) access to the household, advance payment for rented housing, source of drinking water, type of bathroom, type of kitchen, and housing requirement. The 1980 questionnaire is expected to contain the items asked in the pilot census.

Mapping

As in the 1970 Census, two types of maps were used in the 1978 Pilot Census in preparation for 1980: master maps and enumeration district (ED) maps. Master maps show the location of EDs in municipal areas and districts (amphoe). There will be a master index map for each municipal area.
showing the location of all EDs in the area and one for each district showing the location of all villages and the boundaries of communities. Enumeration district maps will be divided into municipal and nonmunicipal area maps. Each ED map will show the boundaries, houses, and delineated blocks within an ED. The average size of an ED will be approximately 200–350 households. In nonmunicipal areas where villages are too large to be considered as an ED and are divided into several parts, there will be maps of the villages showing boundaries, important places, and houses within each part.

New Zealand (continued from page 4)

type; an updating of enumerator and subenumerator handbooks plus the preparation of a manual for area officers, who act as liaison officers between the Department of Statistics and the field personnel; and a proposal for the study of available packages for census editing, methods of imputation, and confidentiality procedures. The timetable for the 1981 Census advances significantly the deadlines for the 1976 Census, especially in the field of mapping, questionnaire design, and the preparation of specifications for data processing. It has also been decided that for the first time the Department of Statistics rather than district controllers will determine the boundaries of census collection districts. The purpose of the change is to standardize the size of the districts and to ensure that the best boundaries are selected, enabling also the earlier start in the mapping preparations to be achieved.

World tables (continued from page 12)

have been standardized as much as possible, World Tables 1976 should be a valuable reference book for librarians, researchers, and students. An annual supplement to keep the material current would enhance the usefulness of the volume. Anyone interested in purchasing the tables should write to the Johns Hopkins University Press of Baltimore, Maryland, or London, England. The price of a soft-cover edition is US$8.95.

STATISTICAL TRAINING PROGRAMS

The International Statistical Programs Center (ISPC) of the US Bureau of the Census conducts training programs for statisticians which serve changing needs of developing countries for trained personnel to collect, process, and analyze statistical data. The curriculum for the full-year and short-term programs offered in Washington, D.C., during the period August 1978 to August 1979 has been updated and expanded to include new and advanced topics and techniques to meet the current needs of countries. A training program is offered in each of the following specializations: Sampling and Survey Methods, Agricultural Surveys and Censuses, Population Statistics and Demographic Analysis, Economic Surveys and Censuses, and Computer Data Systems.

In preparation for the 1980 round censuses of population, housing, and agriculture, ISPC is offering short courses for executive-level officials who have census planning responsibilities and for professionals responsible for subject-matter or data collection activities.

Additional information on the statistical training programs may be obtained by writing to Chief, Training Branch, International Statistical Programs Center, US Bureau of the Census, Washington, D.C. 20233.

1980 US CENSUS UPDATE

The dress rehearsal for the 1980 Census is being conducted in three areas of the United States. Two portions of the program were held in April, one in the Richmond, Virginia, area and the other in two counties of Colorado. The final portion of the rehearsal will be carried out in part of New York City in September. Unlike the pretest censuses in which alternate methods and questionnaires were tried out in a number of areas across the country in the last few years, the dress rehearsal program is intended to use the planned final materials and procedures in locations which simulate various conditions the Bureau of the Census will face in counting everyone in the US in 1980. After the dress rehearsal, only those materials and procedures which do not appear satisfactory for 1980 will be revised.

The Richmond census was conducted by the mail-back system which will be used for most of the US in 1980; under this system, enumerators call only on those households that do not send back their questionnaires or do not fill them out completely. The door-to-door enumeration system which will be used in the rest of the country, generally the very sparsely settled areas, was rehearsed in La Plata and Montezuma Counties, located in the southwest corner of Colorado. Under the door-to-door system, each household is requested to fill out and hold its questionnaire for pickup by the census enumerator who will ask for any missing information at that time. The dress rehearsal to be carried out in the selected inner-city area of Manhattan Borough in New York, which contains many racial and ethnic groups, will use the mail-back system.

Because more detailed information on the American Indian has been requested than has been historically provided and because the relevancy to the Indian community of some of the regular census concepts and questions and the resulting data have been questioned, the Colorado dress rehearsal tested a supplementary questionnaire for American Indians living on reservations.

The dress rehearsal is of special significance to data users in that prototypes of 1980 summary tapes and other products will be produced so that users can become familiar with the formats and contents of these materials.

The population items planned for the 100 percent enumeration in 1980 are name, household relationship, sex, race, age, marital status, and Spanish origin or descent. Intended sample population items are school enrollment, educational attainment, birthplace, citizenship and year of immigration, ancestry, current language, year moved into house, place of residence five years ago, major activity five years ago, veteran status, presence of disability or handicap, children ever born, date of first marriage and whether terminated by death, employment status, hours worked last week (for employed persons), place of work, travel time to work, means of transportation to work, persons in carpool, whether looking for work (for unemployed persons), industry, occupation, class of worker, time worked in 1979, and amount of income by source and total income in 1979.

Readers desiring additional information on the 1980 US Census may subscribe to Data User News for US$4.00. The monthly publication provides continuous reporting on plans for the 1980 US Census, applications of census data, new computer programs, technical explanations of census methodology and processing techniques, and information on new publications. A periodic supplement, 1980 Census Update, reports on the planning and preparatory activities for the next census. These publications may be obtained by writing to Subscriber Services Section (Publications), Bureau of the Census, Washington, D.C. 20233.
by Alice D. Harris

Wherever possible the price and the International Standard Book Number (ISBN) are supplied to facilitate ordering the books reviewed in the column.

Internal migration in developing countries

Two years ago, in the May 1976 issue of the newsletter (Vol. 2, No. 4), I reviewed several books on migration. Since that time, the volume of literature on this topic has grown at an exponential rate. Planners in developed and developing countries alike have been concerned with urban sprawl, squatter settlements, rural out-migration, and unemployment—all effects of uncontrolled internal migration. These concerns are echoed in the recent literature on migration as researchers are attempting to pinpoint why people move, how this movement can be measured, and how it can be regulated to mitigate its social and economic effects and even to promote economic development. It would be impossible to do justice to all the literature in a brief review, but I would like to mention some titles that would be worthwhile additions to a population collection.

The economic impacts of internal migration are examined in Michael P. Todaro’s study, Internal Migration in Developing Countries (1976, ISBN 92-2-101599-8). Todaro reviews the theory, evidence, methodology, and research priorities of internal migration for the World Employment Programme. He presents an econometric model of labor migration in less developed countries which has won acceptance among economists since it first appeared in 1967 because of its ability to explain simultaneous high rates of rural-urban migration and high rates of urban unemployment. Todaro begins by covering the problem of surplus labor in urban areas. In searching for a framework for migration analysis, he finds Everett Lee’s migration theory inadequate to offer practical policy guidance for decision makers. He then criticizes the earlier Lewis-Fei-Ranis model of development for its assumptions about urban wage rates. His own model suggests that migration decisions are based on expected rather than actual earnings and that migrants will move to urban areas despite the high probability of unemployment if the wage differential to be gained is worth the cost of moving.

Both Todaro’s review of the literature and his bibliography are chiefly economic in nature and will not satisfy those in other disciplines who also have theories of migration behavior. Nevertheless, the book is a worthwhile addition to any collection of migration literature and presents the Todaro model in a form that is readily understood by laymen as well as researchers. It may be purchased through ILO Publications, International Labour Office, CH-1211 Geneva 22, Switzerland, in paperback or hardcover edition; the latter costs approximately US$11.95.

Alice Harris is Resource Materials Specialist at the East-West Population Institute. She and her staff maintain the Institute’s collection of documentation and reference materials, including a sizable body of census publications. Readers and publishers who have new publications of interest to the readers of the census newsletter may send review copies to Ms. Harris at the Resource Materials Collection, East-West Population Institute, 1777 East-West Road, Honolulu, Hawaii 96848.

The relationship between social change and internal migration is the subject of a report from the Migration Review Task Force, Social Change and Internal Migration (1977, ISBN 0-88936-133-9) by Alan Simmons, Sergio Diaz-Briquets, and Aprodicio A. Laquigan reviews research findings on this topic from Africa, Asia, and Latin America. The information in each regional review is parallel in structure so that researchers can make comparisons of migrant characteristics, determinants and consequences of migration, and policy implications for the different areas. The report contains an introductory overview of “what is known, what is not known, and which research issues are most closely related to current development policy concerns in each of the three regions” (preface). It points out that much of the literature on internal migration in Asia compares and contrasts migrant characteristics and patterns of movement without dealing with their causes and consequences and suggests areas in which further studies are needed. A useful bibliography should enhance the value of the book to researchers. It is available from the International Development Research Centre, Box 8500, Ottawa, Canada K1G 3H9.

Two recent books which go beyond the demographic aspects of internal migration are New Approaches to the Study of Migration and Internal Migration: A Comparative Perspective. The former comprises papers presented at a symposium of the American Anthropological Association in 1975 and edited by David Guillette and Douglas Uzzell. (Houston: William Marsh Rice University, 1976, ISBN 0-89263-229-1, US$4.75). Emphasis is given to the definition of migration, to the need for more theoretical work, and to the place of migration in social change.

Internal Migration: A Comparative Perspective, edited by Alan A. Brown and Egon Neuberger. The book is a multidisciplinary approach to the theoretical, methodological, and policy aspects of internal migration in different parts of the world. Chapters by anthropologists, economists, and sociologists as well as demographers approach the issues for regions of varying levels of economic development and with different economic systems. The book is the third in a series of publications sponsored by the Committee on Comparative Urban Economics and is weighted toward mathematical models and the systems approach. There is no general bibliography, but each chapter contains references and there is an author and subject index. Internal Migration: A Comparative Perspective is published by Academic Press (New York, 1977, ISBN 0-12-137350-9, US$32.60). Both volumes would be useful for anyone working in the area of migration.

Because the flow of internal migration is linked to a variety of urban and rural problems, there is a growing interest among developing countries in devising programs and policies for changing or controlling migration flows. Sally Findley reviewed some of these issues and policies in Planning for Internal Migration while working at the U.S. Bureau of the Census. (U.S. Government Printing Office, Washington, D.C, 20402, 1977, US$3.25). Findley’s report summarizes the results of available research on internal migration and related factors as a basis for investigating policy tools with which countries can influence migration, particularly rural-urban migration. The author goes on to describe some of the options available to policy makers in developing countries and the problems and constraints to implementing an internal migration and population strategy. The discussion of migration policies is presented within the framework of
rural-centered or urban-centered development. A broad range of economic, social, and physical policies for implementing each kind of development is analyzed and organized into a matrix showing the major types of programs related to each of the development strategies. The concluding chapter provides insight into how to determine which migration policy is feasible given a country’s economic, technical, administrative, and political resources. Findley’s report is designed for developing countries, but because of its comprehensive review of migration and its interdisciplinary approach to migration studies, it merits the attention of policy makers from the developed as well as the developing world.

Indonesia has been one of the first among the developing nations to attempt to redistribute its population for development purposes. Efforts to resettle Javanese farmers began in 1905 and again in the 1930s under the Dutch colonial government. After Indonesian independence a new program of resettlement, known as transmigration, was initiated in the 1960s and has continued, with changes, until the present. Transmigration in Indonesia, written by J.M. Hardjono, a Senior Lecturer, Faculty of Arts, Padjadjaran State University, Bandung, describes why Indonesia instituted the population resettlement program; examines the past problems, successes, and failures encountered by the Dutch and the Indonesian governments; and presents future prospects for the transmigration program.

As defined by the Basic Transmigration Act of 1972, transmigration means “the removal and/or transfer of population from one area to settle in another area determined upon within the territory of the Republic of Indonesia in the interests of the country’s development, or for other reasons considered necessary by the Government.” The definition covers not only government-organized schemes, but also those undertaken by nongovernment bodies for the resettlement of people and migration by individuals or groups of individuals who move to project areas of their own accord and with only a small amount of assistance. It does not cover independent movers into or from Java and Bali.

Hardjono affirms the high rate of population growth in Indonesia—an annual increase of 2.37 percent. Population control policies are attempting to lower this rate. At the same time, Indonesia also has a population distribution problem: two-thirds of its people live on 7 percent of the land, on the islands of Java and Madura. Underemployment and unemployment in Java are matched by a scarcity of labor in the outer islands, so that although the volume of internal migration is not high, the direction of migration is important. The transmigration program cannot solve the population problems of Indonesia, but, Hardjono points out, it can make a significant contribution to economic development in other parts of the country.

Transmigration in Indonesia (1977) is a clear, concise, and authoritative report with excellent maps, tables, and bibliography. It is available from Oxford University Press in Kuala Lumpur, Delhi, Jakarta, London, or Melbourne for about US$9.50.

New publications from Gadjah Mada University

A recent publication of the Population Institute at Gadjah Mada University, Yogyakarta, Indonesia, is Value of Children: A Study in Java. The report, written by Dr. Masri Singarimbun, Director of the Population Institute, with Dr. Russell K. Darroch and Paul A. Meyer, contains the preliminary tabulations from the Indonesian Survey on the Value of Children. Because of the great cultural diversity in Indonesia and the supposition that the values investigated in the study are closely linked to the cultural background of the respondents, parents belonging to the two largest cultural groups, Javanese and Sundanese, were chosen for the survey rather than a national sample.

The survey was undertaken from February to April 1975 using the questionnaire developed for the international Value of Children Project designed for cross-national comparison. Several volumes for Phase I of this project have already been published by the East-West Population Institute, East-West Center, Honolulu. (Details on how to obtain these volumes are available from the Publications Office of the East-West Population Institute.) The questionnaire was translated into Javanese and Sundanese and administered to sample households in four areas—Bandung and Tasikmalaya in West Java and Surakarta and Salatiga in Central Java. Twenty percent of the 2,000 households surveyed are in urban centers and the remaining 80 percent are in the surrounding rural areas. After the field survey, the questionnaires were coded at the Population Institute and sent to Australian National University for key punching, editing, and tabulating. This preliminary report is based on the tabulated results, which were returned to Gadjah Mada early in 1977.

The report is bilingual—Indonesian and English—to facilitate its use by researchers in Indonesia and other countries. The introductory text is followed by 81 tables which display the answers to questions asked of the couples in sample households. The tables have been prepared for the two data sets (Sundanese and Javanese) by rural-urban residence and sex. Cross-tabulations by other major independent variables such as age, parity, desired number of children, and socioeconomic status will be analyzed in a later report.

The Value of Children: A Study in Java is just one of a series of interesting publications of the Population Institute. Also available are the Indonesian translations of two East-West Population Institute Papers written by Dr. James Palmer, Measuring Mortality: A Self-Teaching Guide to Elementary Measures (Pengukuran Mortalitas: Petunjuk Untuk Belajar Sendiri) and Measuring Fertility and Natural Increase: A Self-Teaching Guide to Elementary Measures (Pengukuran Fertilitas dan Pertambahan Alamiah: Petunjuk Untuk Belajar Sendiri) are self-contained units that explain the basic principles of fertility and mortality measurement. Each contains definitions and examples of usual values for the measures covered, exercises and questions for the reader that emphasize interpretation rather than computation, and references to other explanations and to articles where the demographic measures are used in interesting or important ways.

A list of additional publications and prices can be obtained by writing The Population Institute, Gadjah Mada University, Bulaksumur, Yogyakarta, Indonesia.

Recent report on Fiji

In 1970 UNESCO launched an intergovernmental Programme on Man and the Biosphere (MAB) to develop within the natural and social sciences methodologies for studying the relationship between population and natural resources and to contribute to the design of regional planning measures to meet conditions of population pressure. The MAB Programme has adopted an integrated ecological approach for its research and training activities centered around fourteen major international themes and designed for the solution of management problems in different types of ecosystems. Fiji was selected for an international pilot project,
funded by the United Nations Fund for Population Activities, on Ecology and Rational Use of Island Ecosystems. An agreement with the Government of Fiji was reached in 1972, and extensive field surveys were carried out from 1974 through 1976. Dr. Harold C. Brookfield, currently Professor of Geography, University of Melbourne, served as Chief Technical Advisor. The first of three general reports on the project has just been published as Population, Resources and Development in the Eastern Islands of Fiji: Information for Decision-Making.

The report contains an initial summary; chapters which describe and analyze the resources, population trends, production and social and economic condition of the islands; a chapter examining the consequences of present trends and policies; and a conclusion which presents three possible development strategies for Fiji and the implications of these strategies for national policy. The volume is profusely illustrated with maps, figures, and tables that should prove useful to anyone doing research on Fiji. UNESCO hopes that the results of the study will be useful to the Government of Fiji in policy matters related to population, development, and environment. The project results are also intended to be useful for the establishment of policy guidelines in similar conditions of man-environment interactions in tropical islands and in developing countries in general. A final hope is that the methodology presented in the Fiji reports can be a model for similar multidisciplinary research on population environment relationships seen in a developmental context. Inquiries about obtaining the report can be made to International Secretariat, Man and the Biosphere Programme, UNESCO, 7 Place de Fontenoy, 75700 Paris, France.

Cook Islands census report ready

The latest Census of Population of the Cook Islands was taken by the Statistics Office of the Central Planning Bureau in December 1976. Within a year the final report was completed, an accomplishment that reflected the cooperation of every individual in the Cook Islands. The report, Census of Population and Housing 1976, comprises 27 pages of text, 22 charts and graphs, and 216 pages of statistical tables. Much of the compiled information has never been collected before. Tables cover a broad range of demographic, economic, and social facts. The relationship between population and housing is reflected in some analyses, and an analytical chapter on the distribution of income, relationship between the number of occupants and rooms, and population projections has also been included. Another 50 pages of statistical tables on details of occupation and industry will be published separately at a later date. A wide array of tables on fertility components is available for demographers, and government officers will find ample figures to aid them in development planning. Copies of the report can be obtained from the Government Printing Office, Rarotonga, Cook Islands.

Sri Lanka monograph

The fourth in the U.N. ESCAP Country Monograph Series, Population of Sri Lanka, is now available. The report (1976, IX ISSN 0066-8451; ST/ESCAP/30) was prepared by the Population Division in collaboration with the Ministry of Health, the Department of Census and Statistics, the Ministry of Planning and Economic Affairs, the Ministry of Education, and the University of Sri Lanka. It uses data from the 1970 Population Census of Sri Lanka and follows the general format of earlier country monographs on Hong Kong, the Republic of Korea, and Thailand. The monograph contains maps in color and black and white and more than 280 different tables of historical data, population characteristics, and projections. The chapters go beyond the traditional discussions of fertility, mortality, and migration to include chapters on nutrition and food supplies, the status of women, and some aspects of law and population dynamics in Sri Lanka. The sources and evaluation of demographic data are included in annexes. To obtain a copy of this comprehensive report write to the ESCAP Secretariat, United Nations Building, Rajdamnern Avenue, Bangkok 2, Thailand.

World tables available

Next to population, the statistics most requested in the East-West Population Institute Resource Materials Collection are of an economic nature. Although there are many good compilations of economic data in existence, it has been hard to find one with figures that are comparable from one country to another. Now the World Bank has solved this dilemma by publishing its extensive data files of economic and social data for 145 countries. The files, last printed in mimeograph form in 1971, have been published in a new edition that makes the tables available to outside users. World Tables 1976 contains time-series information on basic economic factors such as GNP, gross domestic income, expenditures, and consumer price indexes. It also presents derived economic indicators for the years from 1950 through 1973 in as many countries as possible. Demographic and social data are given for 1960 and 1970. Although the Bank has concentrated on collecting data for the developing countries which are Bank members, tables for countries with industrialized market economies are also included. Material is presented by both calendar year and fiscal year when applicable. A translation of headings and titles is provided in French and Spanish. Because the data (continued on page 9)