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RESEARCH IN INDONESIAN DEMOGRAPHY:
A Bibliographic Essay

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The Institute was established in November 1969. This series of Working Papers, begun in September 1970, is designed to facilitate early circulation and discussion of research materials originating from the Institute.

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staff of the East-West
Population Institute.

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Indonesia's population has received far less scientific study than is justified by considerations of intrinsic demographic interest or even data quality. The reasons probably lie in the poor distribution of the relatively meager modern data that do exist and, for English-speaking scholars, in the fact that major historical sources are in Dutch and contemporary materials in Indonesian. As a result, the field has remained neglected by demographers, although in other social sciences it has been unusually well served by area specialists. These notes are designed to introduce a student of demography to the primary sources and major analyses of Indonesian population data, and to draw attention to some of the rather wide areas of ignorance.¹ Inevitably the discussion will to some extent reflect my own interests and biases--in particular, an expansive view of demography is taken, with the "pure" discipline treated mainly as a convenient vantage point from which social and economic change can be observed. The references are highly selective, emphasizing English language materials.

Three broad emphases can be identified in writings on Indonesian population, together accounting for the great bulk of the significant work. First is the obvious interest in population pressure

¹They are not written for Indonesia specialists, who would rightly criticize the oversimplifications of many of my comments. However, for removing some of the greater dogmatism of an earlier draft I acknowledge a helpful conversation with David Penny of the Australian National University.

and its impact on and interrelationships with agricultural development and institutional change. Most of these studies naturally relate to Java. Second is the attention given to pioneer settlement, which in the Indonesian case means largely the movement (with or without government assistance) of Javanese farmers to the frontier areas of Sumatra, Kalimantan and Sulawesi. And third are the many anthropologically-oriented studies, the fruits of a long tradition of Dutch scholarship supplemented, in the postwar period, by important American work. Among the more conventional areas of pure demography, analyses of fertility, mortality and urbanization are notably few.

While a number of analytical studies are available only in Indonesian, most material is in Western languages--in the modern period chiefly English. Not least of the unfortunate effects of the long period of acute economic and political difficulties that Indonesia has experienced was a virtual hiatus in substantive scholarly research through most of the 1960's. The Indonesian publications are nevertheless widely available (if not often easily accessible) in the U.S. as a result of the Library of Congress' acquisition program using PL 480 counterpart funds (and more recently under PL 89-329).²

²Some 11 U.S. libraries participate in the Library of Congress PL 480 project in Indonesia, which has collected copies of nearly everything published in Indonesia since the project's inception in 1964 and much material before this date. Because of the volume of material there is often a considerable delay in cataloging; in the interim, however, items are generally shelved by accession number and can be located by using the Library of Congress Accessions List: Indonesia (published monthly or bimonthly) or L.C. temporary author cards to identify the accession number.

Bibliographies

The most complete and useful bibliography of Indonesian demography is that compiled by Singarimbun (1969). Items in it are arranged by subject according to the Population Index scheme, although unfortunately without annotations. A work with a similar but slightly broader scope, but marred by errors, omissions and misprints, is Bhatta (1966). In related fields the following will also be found helpful: anthropology, Kennedy (1962)--a classic; economics, including labor and agriculture, Schleiffer (1953-54), Hicks and McNicoll (1967, 1968); agricultural economics, Indonesia: Survey Agro Ekonomi (1967); sociology, Jaspán (1961). For material more recent than these works, the monthly Tropical Abstracts provides a particularly good means of access, while the new Dutch journal Excerpta Indonesica promises to become an excellent annotated survey of current writings on Indonesia in the social sciences and humanities. Standard works such as the Bibliography of Asian Studies, Population Index, and the International Bibliography of the Social Sciences should also be consulted.

Specifically for items published in Indonesia, the Library of Congress PL 480 accessions list, referred to above, serves as a comprehensive, if rather unmanageably large, current bibliography. An annual listing of periodical articles appears in the Index of Indonesian Learned Periodicals issued by the Indonesian Institute of Sciences. However, comparatively few of the large number of entries included here prove to be worth the effort of tracing them. Finally, mention should be made of the Joint Publications Research Service index which locates

translations of selected important Indonesian research studies and official documents.

Primary Data

The standard colonial concerns of production and the tax base are statistically documented, at least for Java, from early in the nineteenth century. Predictably, social and demographic statistics are much less adequate and many basic series do not begin until well into the present century. From 1849, the annual Koloniaal Verslag (continued in the 1930's as the Indisch Verslag) summarizes most of the available data, although a number of other regular reports, especially on agriculture, were also issued. The conventional benchmark for population statistics in Java is the misnamed "census" taken by Raffles in 1815, during the brief British occupation. Among the subsequent Dutch surveys, the most important are the quinquennial enumerations from 1880 to 1905. The last of these, the results of which are published in the Koloniaal Verslag of 1907, gives the most detailed population data prior to the 1930 census.

The best critical account of prewar Indonesian demographic sources is contained in Widjojo Nitisastro (1970). Widjojo's scepticism is a necessary corrective to the undue faith in nineteenth century population estimates shown by a number of earlier writers and provides the basis for a reinterpretation of the demographic history of Java in line with the general shift in emphasis from Europocentric to an autonomous Indonesian history. Peper (1970) gives additional evidence questioning the beneficial impact of the pax neerlandica and

colonial public health measures, and supports Widjojo's conclusion that Java's population growth has been much less rapid than official statistics indicate. Raffles' estimate of the population of Java in 1815 (4.6 million), Peper argues, was less than half the true figure. Any subsequent research on Indonesian historical demography must be indebted to these two writers.

While a census of sorts was undertaken in Java in 1920 (Koloniaal Verslag, 1923), the first comprehensive and relatively reliable population data for the whole of Indonesia is provided by the 1930 census (Dutch East Indies...Volkstelling 1930). On a number of subjects its tables give more detailed information than is available from the 1961 census or elsewhere, and in a few instances it is virtually the only source. An important example of the latter is its data on the ethnic composition of the population, a characteristic strongly de-emphasized by the postwar Republic. The main weaknesses of the 1930 census are the absence of a breakdown by age (except a crude division into "adults", "children" and "infants") and a poor definition of urban areas. Each volume has an analytical section (with an English summary) which together form an excellent demographic study of colonial Indonesia. Many summary tables include comparative figures from the 1920 census.

Plans had been completed for a 1940 census when they were disrupted by the war. As part of this preparation a preliminary census was taken in certain small areas of Java, but the results do not appear to have been published or even compiled.

Other population data in the various yearbooks and reports

issued by the colonial government include registered births and deaths (very incomplete), morbidity statistics, international migration, and government-sponsored internal migration. The 1926 agricultural atlas (Dutch East Indies...Landbouwatlas van Java en Madoera) is a convenient statistical summary of population distribution and smallholder agriculture around 1920. Certain other studies of nutritional standards and the living conditions of peasants and workers were undertaken by the prewar government in the course of its belated "ethical policy", and details of these may be found in Singarimbun (1969) and Hicks and McNicoll (1967). As a general guide to official statistical sources up to the transfer of sovereignty in 1949, reference may be made to Graaff (1955).

In the postwar period the very limited number of primary sources of demographic data makes it possible to list them virtually in extenso.

1. Labor force sample surveys, 1957-58

A series of sample surveys carried out by the Department of Labor, designed and executed with ILO assistance. They sought data on labor force structure and include incidental demographic information. Initial pilot surveys covered small areas in West and Central Java, leading up to a survey of all Java in 1958. Results of the latter are presented in Indonesia: Direktorat Tenaga Kerdja (1963).

2. Population census, 1961

This was a well-administered census, but an array of budgetary and personnel problems at the Central Bureau of Statistics hindered the processing and publishing of results. Complete final tables are avail-

able for Greater Djakarta, East Java and the Jogjakarta Special Region, and a few for Central Java, although only for Djakarta were these given wide distribution (Indonesia: Biro Pusat Statistik, 1963c). Two other publications give widely quoted preliminary data: population totals for all first and second-order regions and breakdowns by selected characteristics except age (Indonesia: Biro Pusat Statistik, 1963a); and provincial age distributions classified by urban/rural, marital status, educational level, etc., derived from a one percent sample of the complete returns (Indonesia: Biro Pusat Statistik, 1963b).

Detailed data from this census for the islands other than Java apparently will never be available. Attempts made in the late 1960's to process a ten percent sample of the returns to give at least some basic data on a provincial and subprovincial level prior to the 1971 census have now been abandoned. Data can of course be compiled by users directly from the census worksheets, and some useful figures on city sizes gathered in this manner are published in Milone (1966b). However, it is doubtful if this material will be preserved for much longer.

Most users of the 1961 census--perhaps tacitly, out of relief at having at last some concrete information--have not questioned its accuracy. This is probably reasonable for Java, but may be much less so in large parts of the other islands. (A post-enumeration survey was carried out in Java, but gave the improbable result of a 0.2 percent undercount.) The age data especially need to be regarded with caution as the controversy over the reality of Indonesia's "hollow" age groups emphasizes (see Note 8 below).

3. Demographic Survey, 1963-67

A series of four surveys of Java based on the sample used in the post-enumeration survey which followed the 1961 census, designed to measure fertility and mortality. The same households were revisited, it becoming progressively more difficult to locate them. Descriptions and analyses of the first two surveys (1962 and 1963) are given respectively by Kannisto (1963) and Ueda (1965), both U.N. experts attached to the Central Bureau of Statistics. While presenting final estimates of crude birth and death rates which are frequently quoted, the extensive adjustments required in their derivation and deficiencies in the original survey make them of questionable value. Results of the two subsequent rounds (1965 and 1967) have not been adjudged of sufficient quality for publication.

4. National Socio-Economic Survey, 1963-

(Survey Sosial-Ekonomi Nasional, abbreviated Susenas; originally called the National Sample Survey.) This important survey undertaken by the Central Bureau of Statistics was intended to be in the style of the Indian National Sample Survey, although to date it has been very much less sophisticated. Nevertheless it has proved to be a good source of demographic data, mainly restricted to Java. Three rounds have been held; the dates, coverage and results so far published are as follows:

<u>Round</u>	<u>Survey Date</u>	<u>Coverage</u>	<u>Data</u>	<u>No. of reports issued (to March 1970)</u>
1	Dec. 1963- Jan. 1964	Java	Marital status, education, consumption	2
2	Nov. 1964- Feb. 1965	Indonesia, except Djakarta, East Nusatenggara, Maluku, and West Irian	Fertility, mor- tality, household size, internal migration, educa- tion, labor force, consumption	9
3	Sept.-Oct. 1967	Java	Marital status, household size, education, religion	1

Each table is broken down by age, sex, and urban/rural, and usually by province. The reports pay some attention to sampling error, but it is likely that other sources of error are of equal or greater significance. Individual reports are not listed in this bibliography but are readily available.

5. Agricultural census, 1963

This census provides substantial data on smallholder agriculture: size and fragmentation of holdings, tenure arrangements, crop and arable land areas, etc. For results, see Indonesia: Biro Pusat Statistik (1964, 1967). A separate series of reports gives results of the census of estate agriculture taken at the same time.

6. Other demographic data are compiled by the Department of Health (vital registration data--seriously incomplete except in a very few regions), the Directorate General of Transmigration (details of government-sponsored migration to settlements outside Java), and most provincial governments. The latter in most cases coordinate their statistical activities with those of the Central Bureau of Statistics and seldom can add to that agency's data. Two exceptions, however, are the municipal government of Greater Djakarta, at least since 1966, and the government of Jogjakarta Special Region--whose Bureau of Statistics is as notably thorough (if as dilatory) as the other sections of its ancient bureaucracy. Both Djakarta and Jogjakarta publish independent statistical reports of demographic interest.

7. A few small ad hoc demographic surveys have been carried out by research institutes such as the government's National Economic and Social Research Institute (LEKNAS), the University of Indonesia's Institute of Economic and Social Research, and the similar institute at Gadjah Mada University. One that is a significant source of primary data is the survey of urban migrants in Djakarta in 1953. The results of this study are published in Heeren (1955). A KAP survey was held in Djakarta in 1967 by the Indonesian Planned Parenthood Association with Ford Foundation assistance (a brief report is included in the proceedings of the International Planned Parenthood Federation Conference, Bandung, 1969) and another is proposed for Jogjakarta. An earlier KAP-type survey in rural East Java, seeking somewhat broader information, is described in Gille and Pardoko (1966).

8. Population census, 1971

Study of population trends in postwar Indonesia will be greatly stimulated when results of the forthcoming census are available. As now planned, this will be taken in October 1971, and is to consist of a complete population count using a short questionnaire together with a more detailed survey of a seven percent sample. (Only in the latter, for example, will single-year age data be collected.)

A general handbook of official Indonesian statistical data is the annual Statistical Pocketbook of Indonesia issued since 1956 by the Central Bureau of Statistics. A very much more comprehensive, quasi-official compilation is Nugroho (1967). The latter work includes important descriptions and evaluations of statistical sources, a topic on which Bhatta (1961) can also be consulted though at a less authoritative level. The first volume of the long-awaited Almanak Indonesia has a long section of demographic statistics, marginally more up-to-date than Nugroho.

The student unfamiliar with the intricacies of administrative terminology in Indonesia will face some initial problems in dealing with regional data, especially in coping with the intricate boundary changes in the colonial era and in comparing prewar and postwar subdivisions. Studies which may be found helpful here include Legge (1961), Milone (1966b), and atlases such as Atlas van Tropisch Nederland (1938) and the sheet on administrative areas in the (unbound) Atlas of Indonesian Resources (Indonesia: Badan Atlas Nasional, 1963-66). For a serious study of colonial population

growth the maps periodically issued with the Koloniaal Verslag are probably essential.

General Surveys of Population and Related Areas

Only a very few of the many works that could be mentioned under this rubric will be noted. For a general (and critical) study of the colonial economy and administration the writings of Furnivall (especially 1939) are recognized classics. Wertheim (1959) gives a more acerbic but equally valuable account of social and economic change under Dutch and Japanese rule and in the early years of independence. More typical of middle-of-the-road Dutch scholarship are the writings collected in Indonesian Economics (1961), where the discredited but historically influential concept of "cultural dualism" developed by Boeke is discussed at length. The contribution of Gelderen (1961) is of particular interest. Boeke's own major works, especially (1953), should also be noted. No thorough economic history of Indonesia exists, the best available probably being Gonggrijp (1957) and Furnivall (1939). Finally, among works on prewar Indonesia, the text of the 1930 census reports, as noted earlier, provides a thorough and readable descriptive analysis of the population data from the chief contemporary source.

As background reading for the study of modern Indonesian demography the HRAF survey volume on Indonesia is an excellent source: the chapters by Pelzer (1963a, 1963b) on geography and agriculture, Hildred Geertz (1963) on ethnic groups, and Paauw (1963) on the economy are the most relevant. Other recommended

general works include the geographies by Robequain (1958), Fisher (1964), and Fryer (1970); a sobering analysis of agricultural development problems by Penny (1969a) and a more detailed but less penetrating study by Sie (1968); the collection of anthropological case studies edited by Koentjaraningrat (1967); and the account of Javanese village social structure by Jay (1969). Since the majority of journalistic and a fair number of scholarly references to Indonesia's development problems make the statement that the country is blessed with abundant natural resources (and only lacking capital or technical skills or entrepreneurship), the authoritative debunking of this view by Fisher (1967) is a significant departure.

A convenient reportage of current developments in the economy is the survey article published regularly since 1965 in the Bulletin of Indonesian Economic Studies, which is similar in intent to the longer-running Economist Intelligence Unit's Quarterly Economic Review of Indonesia.

More specifically on population, the survey by Hawkins (1967) presents a knowledgeable overview of the field, while Meel (1951) is an influential earlier account. The monograph by Wander (1965) should also be noted as a substantial and well-documented analysis of economic and demographic interactions. Useful accounts of the 1961 census preliminary results are given in Ueda (1964) and Widjojo (1970), the latter including also a

detailed discussion of probable intercensal (1930-1961) population trends.³

Rural Population Pressure and Agricultural Change

This complex and fascinating subject has attracted much attention among students of Indonesia, dating at least from early in the twentieth century when the colonial government first became concerned with deteriorating welfare in Java. The best introduction, and a brilliant and provocative study in its own right, is Clifford Geertz (1963a). While this book is thought by many to be Geertz's greatest work (although in some informed opinions, an earlier and less polished version [C. Geertz, 1956] is superior), it is perhaps arguable that its very stylistic distinction has served to render it immune to some justifiable but prosaic criticism. For example, one major thesis, underlying his indictment of Dutch colonial agricultural policies, comes uncomfortably close to accepting a Rostovian concept of "preconditions for take-off," with the well-known weaknesses of the stage-theoretic approach. The comparative study of the economic-demographic development of Java and Japan, which Geertz introduces, is clearly of the greatest interest, but it awaits a more thorough treatment.

³Projections made by Widjojo on the basis of an assumed stable population in 1930 and hypothesized subsequent trends in vital rates (derived from a synthesis of the few available statistics supplemented by informed guesses)--and completed prior to 1961--gave a total population and age distribution which agreed remarkably closely with those actually obtained in the 1961 census (Widjojo, 1961, 1970). This is of course good if not conclusive evidence for the accuracy of his assumptions.

The nature of the impact of colonial rule on population growth in Java is a deep subject which so far has been characterized more by speculation than by research. The very considerable problems with the population data prior to 1920 have already been mentioned, although much more is known on the institutional changes in rural society. Most writers have focused their attention on the system of forced peasant deliveries of export crops, known as the Culture System, instituted in the 1830's. Burger's (1939) Leiden dissertation and Kolff (1929) are two important Dutch studies which emphasize the long-run impact of this policy. Keyfitz (1965a) and C. Geertz (1963a) both attribute a major role to the sugar industry in stimulating population growth in Java, though interestingly for rather different reasons. Both arguments can be expressed in terms of externalities: Keyfitz argues in effect that by offering the chance of employment for wages in rural areas the sugar centrals provided an incentive for large families, since these were better able to capture a share of the available wage-bill; in contrast, the thrust of Geertz's case (stated rather crudely) is that the centrals, by treating village lands as essentially communal, reinforced traditional sharing practices and thus prevented the imputation of social costs of children on to their parents. (This is the converse of the explanation offered by Sismondi, Bagehot and Mill for the existence of small families in France and Norway.) Clearly, the assumptions on the nature of village institutional patterns underlying these two arguments conflict with each other (although conceivably the social

structure could be loose enough to admit of both forms), as do also the implied norms of desired family size. Neither writer, however, sees population growth only in terms of the conventional Malthusian explanations of increasing productivity and the mitigation of positive checks.

There is here a large and potentially rewarding area for research. As a basic empirical issue, the extent to which sharing of wealth (more or less socially enforced) is a reality in rural Java needs further careful investigation, since such practices have profound implications for both economic and population policy. The idyllic conception of village life as one of harmony and mutual aid (gotong rojong) is maintained but demythologized in Koentjaraningrat (1961) who elicits the rational economic calculation that underlies it; R. Jay ("Santri and Abangan: Religious Schism in Rural Central Java," Ph.D. dissertation, Harvard University, 1957) suggests a less voluntary process in another region: "the coercive power of close neighbor and kin bonds, together with the shortage of land, permit only the tougher, more aggressive independent landholding households to resist demands for some kind of sharecrop concessions"; and different again is some research-in-progress on Central Java, which perceives as the salient characteristic of economic life in the village less the "dense web of finely spun work rights and work responsibilities" of Geertzian involution than the intense competitiveness that many observers have seen in the Indian village.

As a related but more policy-oriented problem, no one has yet undertaken a detailed study of the interactions of administrative

and fiscal policies impinging on the village with the social, institutional and demographic responses, which could determine the relevance of the utility calculus in explaining population growth. Such a project would be of far more than historical interest. In a demographic situation as critical as Java's, one of the few possible avenues for population policy lies (in a not entirely simplistic analogy) in the design of feedback systems which can convert the pressure on physical resources into socially rational family-size decisions. Whether the appropriate societal unit within which to attempt to internalize the costs of children is the family or some larger institution such as the village, is an issue of fundamental importance.⁴

Any thorough treatment of this subject would require an acquaintance with the extensive Dutch literature on both its agronomic and institutional aspects. The standard work on Indonesian agriculture is Hall and Koppel (1946), which includes contributions by the leading authorities. On land institutions, Van der Kroef (1960) provides a useful introduction, but the major sources are found among

⁴Boeke's (1954) policy prescription for Java of "village restoration," often derided as implying a wishful regression to preindustrial innocence, could also be interpreted as a proposal to internalize family-level diseconomies within the village--and is, therefore, defensible in economic terms although its feasibility remains untested. Something similar could be said of the many community development programs, on which a large and diffuse literature exists in Indonesia as in so many other countries. (See Slamet, 1965, for an interesting study and the relevant index entries in Hicks and McNicoll, 1967 and 1968, for further references.)

older treatises such as Deventer (1862), Asbeck, Feith and Unen (1915), and Scheltema (1931). The classic study of Indonesian customary law, of great importance in tracing the evolution of concepts of landownership and tenure systems, is Vollenhoven (1906-33); a shorter work by Haar (1948) is available in English. Case studies can also be valuable here: Selosoemardjan (1962, especially parts 3 and 5) is a work of particular interest and authority, giving some social psychological insights into village and family responses to outside pressure.

Most of these studies, with the exception of the two on customary law, concentrate on the situation in Java and, therefore, are mainly concerned with population growth in relation to wet rice agriculture. For corresponding studies of swidden agriculture, a mine of references to the famous and the obscure is contained in the three volumes of Bartlett (1955-61). Bartlett's long annotations, although sometimes repetitive (as in his devotion to dubious etymologies), and directed more toward plant than human ecologists, make this large bibliography stimulating reading in its own right.

Analyses such as Geertz's Agricultural Involution stress the stability of the wet-rice and swidden ecosystems over time and (in the former case) over a wide range of population densities. In the modern period and in the future, however, it may be that the process of destabilization is the more important phenomenon--either through the progressive degradation of the physical environment or as a result of rapid technological change. An excellent study of ecological deterioration under population pressure is the monograph

on Timor by Ormeling (1956). But Timor, where cattle are a major destructive agent, is untypical of the larger islands. A parallel study of Java, an immensely more complex undertaking, is badly needed. Some studies along this line do of course exist. Timmer (1961) is a competent synthesis of medical, sociological and economic data relating to population growth in the densely settled Jogjakarta region; Iso and Soedarsono (1960) provide a mass of relevant data on population densities and production in Java in the 1930's and 1950's, unfortunately published in an obscure journal, and Bennett (1957) gives a valuable account of the same problems in the province of East Java; and Bailey and Bailey (1962) have written perceptively on nutritional aspects of deteriorating agriculture in the regency of Gunung Kidul, a dry limestone area near Jogjakarta which has had a chronic hunger problem for decades. An aggregative statistical analysis of the effect of population growth on expansion of cultivated area in Java is included in Wander (1965).

Indonesia's fairly stagnant agriculture provides a relatively poor case study for examining the impact of technological change on demographic variables.⁵ A few microeconomic studies have been carried out which have indirect relevance for studying population responses. The research by Penny (1964, summarized in 1969b) on the relative degrees of "economic-mindedness" shown by farmers in selected

⁵The reverse causal relationship, however, has been examined (among others by C. Geertz, 1963a). This is the effect of population pressure in inducing labor-absorbing technological change--even where it may be a blind alley.

Sumatran villages is a case in point. The reasons that persuade a small farmer to plant a low instead of a high yielding strain of rubber (the latter being obtainable with very little effort or expense), when he recognizes that he is in effect halving his income stream for the rest of his life, can provide useful insights into corresponding fertility decisions--at least insofar as children may be regarded as economic goods. Other studies of interest in this context include a number of the reports in Koentjaraningrat (1967) and the chapter "Betting on the Strong" in Wertheim (1964). As in the other agricultural economies of Southeast Asia, the new rice and corn technologies are beginning to present a whole range of socioeconomic problems to producers and policy-makers, of which the demographic aspects are far from being the least significant.

Finally, in this section, some mention should be made of the political implications of rural demographic developments. There can be little doubt that population pressure, and the disputes over land and water rights attributable to it, played an essential part in the long build-up of tensions between the Communist Party and its political rivals in Java and Bali, which saw their bloody resolution in the months following the 1965 attempted coup.⁶ Chapter 1 of

⁶Compared to these large issues of political demography, the question more often asked of the population analyst, of how many died in the post-coup massacres of PKI and BTI (Communist Party and Peasant Front) members in 1965-66, is secondary. Guesses vary from about 100,000 to over a million. It is possible, though by no means certain, that a careful analysis of age and sex ratios from the 1971 census will yield a reasonable estimate.

Donald Hindley's The Communist Party of Indonesia 1951-1963

(Berkeley: University of California Press, 1964) is a good background study of the rural social and economic conditions in which the political conflicts developed, but there is much room for further work on this period. Moreover, since Java's immense population problems are not going to disappear in the foreseeable future, this will remain a topic of vital importance.

Internal Migration

In the Indonesian context internal migration is usually interpreted as meaning movement from Java to the land frontier in Sumatra and other islands. Almost all the many migration studies are concerned only with this process, although other population movements are also numerically significant and in one case, migration into Java, of major social and political importance. The reason for this concentration of emphasis seems to be that pioneer settlement has been closely tied to government and popular concern with overpopulation in Java--indeed, it has been advocated as a means of alleviating pressure in Java with rather astonishing persistence in the face of simple arithmetic and economics. Most of what is original or perceptive in this literature, however, can be found in a relatively few items.

The basic text on the subject is Pelzer (1945), a major work which although describing the prewar situation is to a surprising degree applicable to the modern period also. A critical Indonesian

account of the prewar official migration program⁷ and a comparison with the resettlement schemes adopted after independence is given by Amral Sjamsu (1960). Two further general studies are Hurwitz (1955) and the chapter "Inter-Island Migration in Indonesia" in Wertheim (1964)--the latter especially is a thoughtful analysis and evaluation of resettlement. The monograph by Heeren (1967) should also be noted, not least because of its comprehensive bibliography.

Soedigdo (1965) in an interesting study examines the various policies behind the different migration programs, a subject notably absent (at least in any rigorous form) from the many publications issued by the official Transmigration Service. This agency, in fact, has always appeared to measure the success of any scheme solely by the numbers of people moved out of Java under its auspices--a hangover from the grossly unreal plans of the 1950's which visualized half a million or more migrants annually. Aside from such unquantifiable objectives as national integration or security, a resettlement program can make a substantial contribution to economic development. Public investment in this type of program, however, should obviously be evaluated in terms of its (social) benefits and costs; such an analysis has not to my knowledge been attempted in any formal sense. Almost the only economic treatment of the impact of outmigration from Java, but considered rather abstractly, is found in Widjojo (1961).

⁷The Dutch referred to this settlement program as kolonisatie and the migration stream as transmigratie, whence the Indonesian term transmigrasi to describe the postwar program. Inevitably it is translated as "transmigration"; with use, the word loses its Dantean overtones.

Sociological studies of the problems of frontier migrant communities and their relationships with the indigenous peoples, are often only of marginal demographic relevance. One in particular, however, Kampto Utomo (1958), is a substantial work of wide interest. This study describes a settlement of spontaneous (as opposed to officially sponsored) migrants in southern Sumatra, and its practical importance lies in the information it adduces on the question of whether government policy should encourage spontaneous migration and if so how best to do it. Issues involved in this difficult question include the characteristics of self-selected migrants and the complex problems of land use planning and provision of extension services. The clearly important comparative study of the "unsuccessful" Indonesian settlement program and the "successful" (and mainly spontaneous) Philippine migration from the Visayas to Mindanao (which is rapidly filling up this island) has not yet been undertaken.

Apart from outmigration from Java (and excluding for the present rural-urban migration), only a few other population movements within the archipelago have been examined in any detail. Notable among these is Cunningham's (1958) anthropological analysis of the postwar Batak mass migration from Lake Toba to the east coast in North Sumatra. Data problems of course intrude here as elsewhere, but with the birthplace data given in the 1930 and 1961 censuses (the latter unfortunately largely unpublished) and the detailed if rough results on internal migration from the second round of the National Socio-Economic Survey, they are not insuperable. An attempt to provide an overview of migratory patterns using these sources is made in McNicoll (1968).

Urban Growth

If studies of urbanization in a particular country are to be of any interest beyond simply recording its progress, the process should presumably be analysed in relation to unique or otherwise characteristic features of that country. Indonesia is not lacking in these. Specific areas of potential interest would include: the persistence or modification of precolonial city characteristics; the differential impact of colonialism on urban patterns; regional and ethnic variation in propensity to migrate to cities, and in subsequent occupational patterns and social mobility; the demographic consequences of hyperinflation, especially those following from its effect on rural-urban economic relations and the development of informal patterns of income redistribution in urban areas; and the effects on urban migration of massive government expenditures concentrated in a few cities. Other such topics could readily be listed. Yet a survey of the fairly small literature on Indonesian urbanization shows that few have been tackled in more than a cursory manner.

The typological approach to cities using sophisticated functional criteria rather than the mere population size which too often satisfies the demographer, is largely the province of geographers. McGee (1967) is a worthwhile comparative study of Southeast Asian cities giving due weight to the historical perspective. Withington (1962) is a less ambitious survey of Sumatran towns. Although not a geographer, Milone (1966b) has prepared a monograph which, in its profusion of details on functional characteristics of towns and cities, does more than justice to the

discipline. This, indeed, is a valuable source book (providing, for example, some otherwise unavailable statistics from the 1961 census) but does not pretend to give a substantive analysis of the mass of data included.

On general historical and (human) ecological aspects of urban growth there are several valuable studies, all notably if understandably lacking in empirical data. Wertheim has contributed important interpretative accounts in (1951-52) and (1959, chapter 7). Keyfitz (1961) writes with a somewhat similar intent, and The (1959) and the relevant chapter in Van der Kroef (1956, vol. 1) should also be noted. The Indonesian Town (1958), a rather variable compilation of Dutch studies, includes a survey chapter on "Town Development in the Indies."

Djakarta has naturally attracted the most intensive research of any Indonesian city, exceeded among all places in the country only by the town of Modjokuto (to be mentioned below). The chief studies include the analysis of a 1953 sample survey of urban migrants in Heeren (1955), Castles' (1967) reconstitution of the 1961 ethnic composition of the city (a characteristic not included in the census of that year), and the dissertations by Milone (1966a) and Tankilisan (1961). The essay "Urban Characteristics in Indonesia" in Wertheim (1964) is also largely concerned with the problems of Djakarta and their origin. In recent years the government of Greater Djakarta has come under highly competent leadership and this is reflected in the statistical and other reports issued by the municipality.

On the other large cities of Indonesia there has been very little research. The studies of ethnicity and kinship in Medan by Bruner (1961, 1963) are among the few works which can be cited. Some aspects of urban development in Jogjakarta and Bandung have been examined, but no modern research appears to have been done on the major port city of Surabaya.

It is a different matter when we turn to Modjokuto. This is the mythical but supposedly paradigmatic Javanese town based essentially on the real town of Pare in western East Java which was the field location of the MIT Indonesia Project in the early 1950's. In a series of mimeographed reports, dissertations, articles and books (which still seem to be appearing), most aspects of social and economic life in Modjokuto and its surrounding villages have been recorded and intensively analysed by members of this interdisciplinary team, giving in toto a uniquely thorough picture of the early stages of modernization in a small urban setting. Two books by C. Geertz are of most importance in the present context: his social and economic history (1965), and an earlier comparative study of Modjokuto and a town in Bali (1963b), examining the vital question of the conditions of emergence of entrepreneurial activity. (Other results of the MIT project are seen in Dewey (1962), H. Geertz (1961), and Jay (1969).)

While Geertz's works are perhaps unsurpassed as examples of the integration of observation and analytic theory, the insights they offer have also been the basis for theories developed by other writers. One such example--a pioneering model of the sort which one

might wish would sometimes appear in a demographic journal--is Armstrong and McGee (1968).

Labor Force

It is virtually impossible to separate a discussion of labor force in a less developed country from central issues of development strategy such as choice-of-techniques and educational policies, so that the purely demographic approach is here more than usually arid. Among the small number of studies of Indonesian labor there are in fact few in this latter category, while several others are of broad interest. For good general treatments of the labor situation, with an economic, sociological and statistical bias respectively, the three works Hawkins (1963), Wertheim (1959, chapter 9), and U.S. Bureau of Labor Statistics (1963) can be recommended. (Several other BLS reports on Indonesia also exist.)

As a commercial and later a political colony, Indonesia has an unsavory history of labor relations, especially associated with its estate agricultural sector. This is well covered in Lasker (1950). The legal sanctioning of exploitation was slowly eliminated in the present century and several elaborate official surveys were undertaken to assess the welfare of workers, generally with disturbing results (see especially Dutch East Indies: Coolie Budget Commission, 1941). After independence a new and intractable set of problems arose. One, the problem of limited labor absorption by industry, is of course shared by all countries trying to industrialize and will be taken up below. Two others are less often met with: what Hawkins (1966) has termed "job

inflation," and the impact of a drastic rise in the number of new labor force entrants over a short period.

Hawkins, in an amusing but fairly correct description of the early and mid 1960's, looks at the effect on the bureaucracy of hyperinflation and the consequent falling of real wages to absurdly low levels. "Job inflation" is the process in which the skilled labor force resorts to frantic moonlighting to make ends meet. Closely allied with this aspect of the civil service is the presently much greater problem of its enormous size and relative ineffectiveness. For a number of noneconomic reasons the government soon after independence became an employer of first resort. The inflationary pressure of the resulting wage bill and the drag of a cumbersome government apparatus on the more productive sectors of the economy impose huge economic costs, yet the social and political costs of large-scale retrenchments (urged by many observers) are unacceptably high. The issues involved here, and in the somewhat analogous situation in the military, make up an area which has received little thorough study.

The fact that the very large cohorts of children, born after the years of low fertility and high mortality in the war and revolution, were fast approaching labor force ages was first pointed out by Keyfitz (1965b). Using the dramatic metaphor of an observer on "the grandstand of history" reviewing the passing generations of labor force entrants and being awed to see their size double within 5 years (1966-1971), this article was persuasive in bringing home to official circles in Indonesia the seriousness of the employment

problem--especially when associated with the very evident volatility of the student population at this time, the generation in question.⁸ It has been adopted, for example, as a major theme in Widjojo (1970). Of more concern to the researcher, however, is the theoretical side of the article: Keyfitz's speculation as to whether such a rapid quantitative change in an important demographic and economic variable (labor force entrants) will be perceived as a challenge and stimulus to development or as a drag on resources and a threat to social stability. One reason the Hirschman-Boserup thesis of population-pushed development is unconvincing is that population seldom pushes at more than three percent per annum, which is almost imperceptible as a change from one year to the next. (Java, indeed, has been an outstanding case in point.) A large shift in age distribution such as Indonesia is now experiencing provides both a more reasonable hypothesis and a large-scale test of it.

The study of the interrelationships between the degree of capital intensity in industry and the rate of labor absorption for an optimal development strategy, has generated an extensive and fascinating literature. Although no consensus emerges, it is at least clear

⁸Some Princeton demographers have challenged the existence of Indonesia's "hollow" age groups on the analogy with certain African countries where a similar hollow can be explained by underenumeration and age misreporting (Van de Walle, 1966). Surveys in the years following the 1961 census (which first revealed this age structure) indicate fairly clearly, however, that it is moving into higher ages over time. But there is still room here for dispute over the relative significance of the two proffered explanations, and a need for careful statistical analyses.

that the choice of maximum labor absorption as the objective criterion is a minority position--most economists recognize the potential conflict between short-run and long-run growth strategies. Economists and demographers in the field, however, are understandably overwhelmed by the immediate problems of unemployment, and thus tend to stress employment maximization. This view is evident in much of the writing on Indonesian labor, a recent example being Brand (1968).

Other Aspects

I shall note three other topics briefly: ethnicity--a large and well-researched area; fertility and mortality--in contrast, and almost empty field; and family planning and population policy--where Indonesia has lagged badly in contributing her share to the exploding literature.

The Kennedy (1962) bibliography on Indonesian ethnic groups is a standard access tool for material up to 1955, and of course, in a different sense, the Human Relations Area Files provide a continually updated source of basic data and analyses. The main journal in the field is Bijdragen tot de Taal-, Land- en Volkenkunde (Contributions to Philology, Geography and Ethnology), published in The Hague. One survey article should be mentioned which is an excellent and concise introduction and contains a basic bibliography: Hildred Geertz (1963). Finally, some separate notice should be taken of the Chinese population, because of its critical role in the economy and the economic and demographic consequences of

antisocialism in Indonesia: three works to refer to for information and references are Cator (1936), Skinner (1963), and Purcell (1966).

Studies of fertility and mortality in Indonesia have suffered from the general dearth of vital statistics. Widjojo (1970) gives the best summary and discussion of the available primary data. As noted earlier, Kannisto (1963) and Ueda (1965) are the sources of the conventional (and official) estimates of vital rates--widely accepted because they seem reasonable and there are almost no others. See, however, the recent paper by Iskandar (1970), which does give a more firmly based set of vital rates, and the life-tables derived from the second round of the National Socio-Economic Survey (Indonesia: Biro Pusat Statistik, 1968). Difficulties with errors in age reporting and large departures from stability hinder attempts to estimate rates from age distributions, although much can be done with these in combination with children-ever-born data from the 1961 census. Birth rates computed by such methods are mostly higher, and sometimes much higher, than the official estimates. The "true" levels will not be known until the results of the 1971 census can be analysed.

Mortality and morbidity have been the subject of some interesting micro-sociological studies, especially in conjunction with work on nutrition. The research by Timmer (1961), a number of papers by K. V. Bailey (e.g., 1959), and Postmus and Veen (1949), are among the best. For a recent description of hunger and nutrition problems see Napitupulu (1968) and the subsequent comments by Penny and Hipsley.

No similar corpus of work exists with regard to the social and economic context of fertility, in part a reflection of Indonesia's

position as a newcomer to family planning as official policy. Hildred Geertz's (1961) study of the Javanese family will be found helpful, as also will Gille and Pardoko (1966).⁹

Indonesia has little experience to offer on family planning. The small KAP survey in Djakarta (cited above) revealed a profound ignorance of contraceptive methods but a high level of interest. Other surveys are in prospect. A slim journal, Keluarga Berentjana (Family Planning), is published by the Indonesian Planned Parenthood Association. But family planning, although recognized by government leaders as an urgent need, must compete with many more obviously urgent programs within the stringent budgetary constraints that characterize the post-Sukarno era. Among the several dozen items listed in Masri Singarimbun's bibliography only a few are of significant interest to the student familiar with the wider literature: Singarimbun (1968) is a convenient review of the situation at that date, and nothing radical has happened since--although important organizational changes in 1970 have given the government the major role in what had been essentially a privately-sponsored movement. The collection of translations Family Planning Approaches in Indonesia (1969) are representative writings on a program in its infancy (1967-1968). One field which is always of interest and potential importance, folk methods of contraception, is currently the object of research by Masri Singarimbun in central Java.

⁹ Clifford Geertz's The Religion of Java (Glencoe: Free Press, 1960) would also be essential reading here for the serious student.

On the larger issues of population policy, the grandiose rhetoric of the early 1960's, with its visions of massive redistribution of population reaching towards what Sauvy calls the optimum of power, has disappeared. But a reading of the current Five-Year Plan does not reveal any coherent policy to replace it. At its most basic, such policy must involve decisions on investment allocation among alternative uses in physical capital formation, human capital (health and education), resettlement programs, and birth control, taking account of the complex interactions between them and of the institutional constraints on the system. It is in this large and refractory area that lie some of the most challenging research problems in Indonesian demography.

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ABSTRACT

The purpose of this essay is to introduce the student of demography to some of the principal analyses of Indonesia's demographic problems and to suggest areas of needed research. Ten topics are covered, most very briefly: bibliographies; sources of statistical data; general surveys of population and related areas; rural population pressure and agricultural change; internal migration; urban growth; labor force; ethnicity; fertility and mortality; and family planning and population policy. The cited references, stressing writings in English, were selected to represent a broad range of competent studies related to the issues discussed in the text. More comprehensive bibliographies are noted for further reading.