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Modern population censuses are very large and complex operations. Some countries have a well-staffed and permanent office to plan in advance and carry out the gigantic operation; but others, mostly in the developing regions, do not have that permanent organization and are hence pressed to mobilize in a short period all available resources and personnel to undertake an accurate enumeration of people and their principal social and economic characteristics. Despite careful planning and numerous precautionary measures undertaken to ensure accuracy, the final results include errors arising from a variety of sources. Some of these errors are large or affect many census tabulations. Others are small or affect only a few detailed and highly specialized census tabulations. Censuses taken in both developed countries and developing countries are subject to errors, although the impact of errors is often more serious in countries lacking a long tradition of census-taking or where communication and transportation infrastructures are poorly developed or where rural to urban migration is large. All are characteristic features of many developing countries.

Broadly, the errors that most commonly occur in censuses may be classified into two groups: (i) errors of coverage and (ii) errors of content, i.e., mistakes in the reporting of information concerning the characteristics of individuals. International census recommendations, therefore, stress that the publication of census results should also include an estimate of coverage errors, together with a full indication of the methods used for evaluating the completeness of the count (United Nations, 1980, p.34). Similarly, it is recommended to provide an evaluation of the quality of information collected on population characteristics such as age, marital status, occupation and so on.

In this context, the present paper reviews the methods used by developing countries in the 1980 round of population censuses to evaluate their quality regarding total counts and information collected on the specific characteristics of populations. To facilitate this international review, the census evaluation methods may be divided into three categories: (a) the Post-Enumeration Survey (PES) methods, (b) other statistical

activities including matching of census records with other surveys and/or administrative files, and (c) demographic analytical methods. The paper also focuses on the purpose and extent of use of these methods by countries to evaluate their 1980 population censuses.

Further, given the importance of PES methods and their wide use in censuses as evident from Table 1, it is proposed to undertake a detailed comparative study of post-enumeration surveys that were carried out by various developing countries for the purpose of evaluating their 1980 censuses. The details will include such aspects as the objective and scope of PES including census topics evaluated, timing of the survey after the census date, sample design and size.

The final section will deal with certain issues in the census evaluation field. The foremost, of course, will concern the use of evaluation results for adjustment of census count and/or population estimates. Other issues that may be addressed include the role of different methods for evaluation of census items to ensure confidence and proper use of the results in analysis and policy studies.

I. METHODS OF CENSUS EVALUATION IN SELECTED DEVELOPING COUNTRIES

As stated earlier, a variety of methods are used by countries to evaluate the quality of censuses. They have two-fold objectives: first, to provide users with some quantitative measure of the completeness of population count and hence some indication of the confidence with which census figures can be used for different purposes and second, to provide the census-takers with some knowledge of errors that can be avoided and with other helpful information to achieve improvements in the future. The evaluation methods, therefore, focus on errors that might arise at the data collection stage owing to one or more of the following factors: a) omission of persons or households in enumeration, b) difficulty in contacting certain households, c) respondent being uncooperative or unwilling to give correct answers, d) falsification of responses, e) conceptual problems involved in the questionnaire or the instructions, and f) coding and classification errors, erroneous computer programmes, inaccurate or unreliable imputation procedures or wrong transcription of data when reports are prepared. Some of these errors affect the total or sub-total of the population (i.e., coverage errors) and others affect the classification of persons (or households) in respect of their characteristics (i.e., content errors). This dichotomy between coverage and content error is, however, not rigid. Coverage errors may also distort the results of classification by characteristics if the omitted (or over-enumerated) persons are markedly

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different from the rest of the population with respect to specific characteristics. Thus, although generally known to measure either the coverage errors or the content errors, the basket of errors that the evaluation methods attempt to gauge, may differ among national censuses in their origin and implication.

With the above general remarks about census errors, this section presents an overall survey of methods of evaluation adopted by developing countries. The survey is based on information concerning census completeness asked in the Demographic Yearbook Census Questionnaire that was sent out recently to countries by the United Nations Statistical Office. In addition, information available in national census publications and other reports are also utilized to complete the survey.

Table 1 summarizes the methods used by developing countries for assessing the completeness of the 1980 round of censuses conducted during 1975-1984. A great majority of the developing countries shown in Table 1 have relied on a post-enumeration survey (PES) to evaluate the census coverage while a few reported that the assessment was based on methods of demographic analysis. For example, in Asia most countries conducted a PES as an integral part of the 1980 population census (see table 1).

The objectives of a PES, however, varied among the countries. Some countries like Cuba and China used it to evaluate separately the gross under-enumeration as well as the gross over-enumeration in population censuses, while a large number of countries used it only for measuring the net under-enumeration. Further, some countries used the PES to evaluate the extent of completeness by sex and some have employed it to measure the completeness by age groups, particularly those under 5.

As noted previously, a number of countries depended on alternative methods for evaluating their censuses. The countries include, for example, Kenya, Mali, Trinidad and Tobago, Argentina and Chile that used demographic analysis. Lack of resources and special staff needed for a PES was sometimes the reason for choosing alternative methods. In a few cases, other surveys were used to partially function as a PES at considerable saving of resources. Such a procedure met a combination of purposes and depending on the priority of purposes, the survey might not fully accomplish the objectives of census evaluation as effectively as a PES does. Experience of countries using this particular approach may be worth further examining for use in future censuses.

Some countries have switched to other methods in the light of past experience with post-enumeration surveys where the magnitude of error was such that no reasonable inference could be drawn let alone used for adjusting population counts. Thus, a post-enumeration survey is not always satisfactory and if not executed properly, its results could undermine

beyond repair the confidence in the census results. Therefore, a census evaluation scheme based on a combination of methods is desirable particularly in countries undertaking a population census and/or its evaluation for the quality of data particularly for the first time.

Several countries indeed coupled the demographic analysis and PES to evaluate the census results. Evaluation on the basis of demographic analysis involves principally the application of what is called the "balancing equation", either in aggregate terms for the total population or separately for population sub-groups, particularly individual age-sex groups. Since a population changes by births, deaths and migration, the method utilizes statistics of these events during the inter-censal period to appraise the census count. Demographic analysis has provided a sound evaluation of census results in countries, mostly developed, that have a very good civil registration and vital statistics system. Direct application of this method has been of limited value in the developing countries since many do not have a complete vital statistics system. However, countries or areas like Hong Kong and Sri Lanka with reliable registration statistics have undertaken census evaluation by the analytical method. A weakness of this method that should be underscored, is the dearth of reliable migration statistics that seriously affects the interpretation of results based on the demographic analysis. This limitation is compounded for countries with small populations or whose demographic situation is governed by both immigration and emigration.

Recent advances in indirect demographic analysis and estimates have, however, led to an increased use of the analytical methods to evaluate census results in the developing countries. While useful in throwing some light on the quality of census results, the magnitude of coverage error cannot be safely established for most developing countries based only on the demographic methods. Demographic analysis needs to be complemented by other methods, such as a post-enumeration survey, as followed in Hong Kong and Sri Lanka.

II. MAIN FEATURES OF POST-ENUMERATION SURVEYS UNDERTAKEN IN SELECTED DEVELOPING COUNTRIES

As noted in Table 1, a majority of developing countries carried out a post-enumeration survey for purpose of evaluating their population censuses. Depending on the objectives and depth of evaluation required, the principal features of PES were observed to vary in respect of sample design, size, timing of the survey and so on. A review of the main features of post-enumeration surveys that were undertaken by the developing countries, is attempted

below with a view to examine any general patterns that emerge concerning post-enumeration surveys and to observe any common experiences among the developing countries that might be of value in evaluating the future censuses by means of a PES.

Before undertaking this comparative study, a brief description of the PES may be useful. The Post-Enumeration Survey (PES), also sometimes called the Post-Enumeration Check (PEC), is a replication of the census exercise on a representative sample of the population which was defined to be covered by the census, with the purpose of matching each individual case to estimate the amount and to identify the cause of errors in the census enumeration. Operationally, (i) a sample for geographical areas or enumeration units is selected, (ii) the population in these units is re-enumerated in the PES questionnaire form, (iii) a matching of PES returns is done against the census returns, and (iv) an estimate is made of the census omission rate on the basis of the proportion of unmatched PES records. A further step is often found necessary involving "reconciliation" of all discrepancies between PES and census by means of a further interview at considerable cost. This evaluation method is based on the assumption that the PES contains no error and is complete. This is called the "classical" or traditional approach.

An alternative approach to a post-enumeration survey for census evaluation was sometimes attempted because the above-described classical approach involved heavy expenditures for matching census and PES returns and problems in achieving a high quality of re-enumeration work. Among the countries shown in Table 2, most followed the classical approach of better re-enumeration of the correct population in the survey. A few exceptions are Botswana (1981), Ghana (1984), Ivory Coast (1975) and Republic of Korea (1980).

This alternative approach starts with the assumption that incompleteness is an inevitable feature in any data collection system no matter how carefully and competently it is designed and executed using better qualified and better trained and supervised enumerators (Marks, 1978). The emphasis is, therefore, placed in trying to attain independence between the incomplete procedures, i.e., census and post-enumeration survey rather than trying to get completeness in one of the procedures, i.e., PES as attempted above. Thus, the theory which has been developed for dual estimation (Marks, Seltzer and Krotki, 1974) has been extended to the two alternative approaches. It involves (i) emphasis on independence rather than quality; (ii) enumerating persons resident in the sample segments at the time of PES, rather than trying to reconstruct the population as of the time of the census; (iii) doing a

"one-way match" in which a person is searched in every location where he might have been enumerated (whether or not this was in or near a sample segment); and (iv) keeping reconciliation and other expenditures aimed at improving PES accuracy to a minimum.

In this approach, the job of the PES enumerator is nearly identical to that of a census taker or that of an interviewer in a single round household sample survey. He canvasses his sample area and tries to list all the households in it; he lists the persons in the households; and he completes questionnaires on the characteristics of persons and households. These jobs do not need PES interviewers who are very exceptionally qualified (and very highly paid) nor do they need training or supervision substantially in excess of that given census enumerators.

However, while the newer technique simplifies the PES canvassing job, it does require that the PES interviewer obtain for persons who were living or staying elsewhere at the time of the census, information which can be used in searching for the person at the census listing at these other locations. Obtaining satisfactory information of this type is not easy and it does increase the difficulties and cost of matching.

Objective and scope: Most post-enumeration surveys included in Table 1 had in common two objectives, namely, evaluation of coverage and content errors. A few PES also attempted to collect additional items in the survey that were not initially collected in the census.

With respect to coverage error, the goals differed among countries: all focused primarily on evaluating the completeness or under-enumeration of the total count which is the single most important information provided by the census. Some also undertook to assess, on the one hand, the number of individuals missed within the enumerated households and, on the other hand, the number of households missed in the census, e.g., India (1981).

Further, some countries organized their PES to evaluate the completeness of enumeration in urban and rural areas separately. In the highly urbanized areas, it is of wide concern that the enumeration is difficult and that the chances of omission particularly of the single member households are great. Depending on the seriousness of such concerns, some countries have laid emphasis on evaluating urban and rural totals, as for example, Bangladesh (1981).

In this connection, it must be cautioned that the emphasis on evaluation of each component or sub-total of the population adds an additional dimension to the survey design and cost of a PES which should be carefully weighed by the census authorities. This review does not point to any convergence of national practices in this regard.

With respect to content errors, countries

have included a wide array of census items for evaluation which exceeded 10 in a few PES. Otherwise, about five key items such as name, age, sex, marital status and relationship to the head of household were evaluated by the classical approach of greater scrutiny and re-enumeration of the sample population.

Timing of PES: An important aspect of PES is its timing after the census has taken place. How long after the census a PES is conducted will largely depend on the resources available and other organizational factors including training of PES enumerators, etc. It is, nevertheless, considered important that the time lag should neither be too great nor too short. A week or two may be required to collect the completed returns from the field, close the census work per se, and thereby ensure that the PES enumerators do not have access to the census data. If the PES is delayed too long, the events of migration, births and deaths will affect the PES results and complicate matching of returns.

Table 2 presents the information on time lag observed between the census and the PES. It is noteworthy that a large number of countries had undertaken a post-enumeration survey around one month after the population census date. Some exceptions are Cuba (1981) and Peru (1981), which conducted the check in a week or two. Moreover, several countries or areas reported conducting a PES as long as three months or more after the census was held. In a few cases, it was due to the fact that the PES was combined with other surveys as, for example, in Burma (1982).

Sample size: A great diversity was observed in respect of sample design and size used in the PES undertaken by countries in the 1980's. While the divergence may in part be attributed to the differences in objectives, it is, nevertheless, striking to observe great variations in respect of the national samples chosen for PES. Barring those that conducted the post-enumeration check in conjunction with other surveys, only a few countries have used a large PES sample, e.g., Venezuela (1981), Botswana (1981). The remaining have used small samples reflecting one of the following reasons: the high cost of conducting a PES, the lack of adequate guidelines on this matter, the ambiguity about the end-use of evaluation results and so forth. Some examples of post-enumeration surveys conducted by countries are briefly summarized below to bring out their diversity and related aspects of design.

Bangladesh (1981): The Post-Enumeration Check (PEC) was planned to estimate error rates at the national level and separately for urban and rural areas. A total of 250 Enumeration Areas (EA's) - 100 urban and 150 rural - were selected for the PEC study. This provided a total sample size of 115,500 persons located in 21,089 households.

The fieldwork was carried out by 250

enumerators and 50 supervisors selected from among the experienced staff. The net error rates were calculated to be 3.0 per cent for rural areas, 6 per cent for urban and 3.3 per cent for the country as a whole.

Botswana (1981): The post-enumeration survey was conducted to measure census coverage. The double interview technique adopted requires the survey be completely independent of the census enumeration. At the same time, however, it was important to go into the field with the survey quickly to minimize population movements that would hinder matching. Therefore, as soon as the census questionnaires reached the main census office, the PES staff went into the field, i.e., four weeks after the enumeration was complete. It took seven days to completely re-enumerate the households included in the sample.

The sample was drawn from the enumeration areas of the census. The sampling frame consisted of all enumeration areas except 40 in remote mining areas where the population lived largely in dormitories and had been well-documented. In drawing the sample, the 1,297 enumeration areas were arranged into 17 census districts. Three enumeration areas drawn from each enumeration district gave a sample of approximately 35,000 persons. The questionnaire used was of the same format as the census except that the four items concerning industry, occupation, housing conditions and citizens living abroad were dropped.

Burkina Faso (1975): The PES which was conducted in March and April 1976 followed the census by approximately 3 months. It was intended to evaluate the census coverage and collect additional information on fertility, mortality and migration. The sample represented the entire country but was not adequate to determine coverage by urban/rural residence. The sampling fraction of 1 in 28 enumeration districts resulted in a sample of approximately 200,000 persons.

The PES was designed to be completely independent of the census. The practical difficulties encountered in matching the results at the level of individual questionnaires proved overwhelming. At the country level, it appeared that the census gave a more complete estimate of the population than the PES.

China (1982): The method of random cluster sampling was used to check the quality of enumeration after the census was taken. For provinces with a population over 20 million, 40 production teams and residents' groups were chosen, and for those with a population below 20 million, 20 production teams and residents' groups were selected for re-enumeration. The original census takers were excluded from both the second enumeration and the checking up.

Overall, 972 production teams and residents' groups with a total population of 187,362 were

per thousand and the omission rate was 0.56 per thousand, giving rise to a net overcount of 0.15 per thousand.

Ghana (1984): The purpose of the PES was to evaluate census coverage and the accuracy of information collected. The PES was planned in conjunction with the census in order to provide sufficient resources and to ensure its independence from the census and its representativeness of the entire country. Further, 1:1 matching of returns was expected with reconciliation of records at a minimum cost.

The focus on minimizing cost resulted in collecting information in the PES on a limited number of items: geographical identification, name of each household member and relationship to head, age, sex and occupation. Also provisions were made to distinguish three groups of persons: those in household at the time of census and PES; persons in household on the census night but not at the time of PES; and persons absent on the census night but present at the time of PES.

The sampling fraction used 1/2 of one per cent of the Enumeration Areas. The Enumeration Areas were listed by region and within each region by urban and rural areas. A systematic sampling technique was used to select Enumeration Areas for the sample that would give estimates of coverage by urban/rural areas as well as for the whole country. Sixty-seven Enumeration Areas were selected - 18 of 3,133 urban areas and 49 of 9,879 rural ones. All households in each area were re-enumerated. The survey took two weeks to conduct and went into the field as soon as the Census Office received all census questionnaires.

India (1981): The Post-Enumeration Check (PEC) was aimed at quantifying the coverage error consisting of (i) the likely omission or duplication of persons owing to omission or duplication of households (called Type I error), and (ii) omission or duplication of individuals in the enumerated households (called Type II error). It was also to provide a check on the quality of information on items collected in the census such as age, literacy, whether worked any time during the last year and main activity.

The total sample size of PEC was 4,000 blocks spread over 15 states and the Union Territory of Delhi. The sample size varied from state to state depending on the size of population. Each state was divided into three substrata based on the number of houses in each sub-area of the state (i.e., rural, non-city urban and city). An urban area with a population over 100,000 is called a city. In order to measure the coverage error, all the houses in the sample blocks were listed. For measuring the content error, only 10 per cent (about 15 houses in each block) were selected.

In the 1950's, census evaluation was considered rather unimportant and even a luxury absorbing resources that could be better spent on census tabulation and analysis. Over the decades, however, census evaluation has come of age and has begun to form an integral part of census programmes in both developed and developing countries. In particular, as many newly independent developing countries with little or no previous experience began to hold their first or second census and depended overwhelmingly on it for all their data requirements for development planning and administration, the quality of census results assumed vital importance. Hence, as noted in Sections I and II above, many developing countries have turned to census evaluation even more seriously and this trend will likely persist in the future.

Nevertheless, a number of issues concerning census evaluation that require further consideration particularly in the context of the 1990 round of population censuses continue to exist. Foremost is the issue of the use of census evaluation. National practices do not so far point to a unanimity on this matter among developing countries. Some reported using the coverage error to officially adjust the census total while others employed it merely to ensure confidence in the census results.

However, in most developed and developing countries, the census counts serve as the base population in making current population estimates or projections. The omission or duplication in the census figures affects the estimates or projections in two ways: first, the census count, unless adjusted appropriately, remains inaccurate and so are particularly the current population estimates. Second, the extrapolation tends to be erroneous unless the per cent under-enumeration was constant in the consecutive censuses. In this context, a number of developed and developing countries have been noted to use the evaluation results in preparing population projections and related demographic analyses. Such use of evaluation results has been observed to receive a wide acceptance in general.

With respect to census evaluation methods, the post-enumeration survey has been widely relied on by developing countries since the demographic analysis was not feasible for them due to the deficiencies in the civil registration and vital statistics system. However, in the last decade, the demographic analysis based on indirect techniques has been widely adopted by the developing countries and more importantly, their results have been readily applied to adjust the census age-sex data. In a sense, the growing acceptance of indirect methods has given rise to undue

confidence in them and their ability to adjust for content errors in the census results without appropriate adjustment for coverage errors and their differentials by age and sex. The issue arises as to how reliable are the adjustments made for content errors particularly in respect of age sex data by demographic analytical methods.

In post-enumeration surveys, the critical problem concerns the better re-enumeration of population and matching of PES returns with the census returns. Matching was found to be very difficult in many countries, and a short time lag in carrying out the PES was helpful in this regard. The other main problem, however, pertains to the erroneous inclusion or exclusion of people, which raises the conceptual issue of population definition in the censuses of many countries. The groups frequently involved are visitors, sons and daughters who are temporarily absent from home and so on. More detailed attention to conceptual aspects and definition of the total population at the pre-enumeration stage is important in the future. Further, a high quality survey was found difficult to carry out based on the limited experience of survey capability in a number of developing countries. The African experience with post-enumeration surveys seems unsatisfactory (United Nations ECA, 1986) and has in some countries given rise to experiments with a variant of the PES method based on the dual system estimation.

To conclude, it is not anticipated that there will be a convergence of views on various issues raised here, i.e., uses of evaluation results, the role of demographic analysis versus PES in census evaluation, the size of PES and so on. Nevertheless, some guidelines based on national experiences might be useful to resolve some and decide on the effective approach(es) to census evaluation in the future.

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Table 1. Methods and Results of the 1980 Census Evaluation in Selected Developing Countries, 1980 Round

Country or area	Census Year	Methods of evaluation			Results of evaluation		Remarks
		Post-enumeration survey (PES)	Demographic analysis	Other techniques	Per cent under-enumeration	Per cent over-enumeration	
AFRICA							
Algeria	1977	X			4.3		Adjustment made
Botswana	1981	X					
Burkina Faso	1975	X					
Burundi	1979	X					
Cameroon	1976	X			7.4		
Ghana	1984	X					No adjustment made
Kenya	1979		X		5.0		
Mali	1976		X				
Senegal	1976	X			2.0		For Dakar & in areas of high population mobility
Seychelles	1977	X					For Victoria only
Swaziland	1976		X				
AMERICA, NORTH							
Bahamas	1980	X			6.42		
Cuba	1981	X			0.20	0.16	
Trinidad and Tobago	1980		X				

Country or area	Census Year	Methods of evaluation			Results of evaluation		Remarks
		Post-enumeration survey (PES)	Demographic analysis	Other techniques	Per cent under-enumeration	Per cent over-enumeration	
AMERICA, SOUTH							
Argentina	1980		X		1.0		
Bolivia	1976	X			7.0		
Chile	1982		X				
Peru	1981	X			4.1		
Venezuela	1981	X			7.06		
ASIA							
Bangladesh	1981	X			3.3		
Burma	1983	X			1.6		For Rangoon city only
China	1982	X			0.056	0.071	
Hong Kong	1981	X	X		0.04		Adjustment made
India	1981	X		X	1.795		
Indonesia	1980	X					
Jordan	1979	X					
Korea, Rep. of	1980	X	X		1.96		
Malaysia	1980	X			4.2		Adjustment made; for Sarawak
Nepal	1981	X					
Pakistan	1981	X					
Philippines	1980	X					For Metro Manila Only
Singapore	1980	X		X			
Sri Lanka	1981	X	X				
Thailand	1980	X	X		4.7		

Sources: United Nations Statistical Office, Demographic Yearbook: Country Census Files; Lee-Jay Cho and Robert L. Hearn, eds., (1984) Census of Asia and the Pacific: 1980 Round; and other country reports (see references).

Table 2. Details of Post-Enumeration Surveys Conducted in Selected Developing Countries, 1980 Round

Country or area	Total Population 000's	Date of Census	Date of Post-enumeration survey (PES)	Time Lag	Purpose of PES		Sample Size
					Coverage Errors	Content Errors	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
AFRICA							
Algeria	16 948	12 II 1977	15 III 1977	1 month	X	No	
Botswana	925	16-26 VIII 1981	IX 1981	1 month	X	X	35 000 persons
Burkina Faso	5 638	1-7 VII 1975	III-IV 1976	3 months	X	X	199 500 persons
Burundi	4 114	16-30 VIII 1979	XI 1979	3 months	X	X	60 000 persons
Cameroon	7 090	9 IV 1976	IV 1976	shortly after census	X	X	
Ghana	12 206	18 III 1984	11-30 VI 1984	3 months	X	...	
Senegal	4 910	16-30 IV 1976	7 V - 7 VI 1976	one week	X	***	
Seychelles	62	1 VIII 1977	VIII 1977	2 weeks	X	X	
AMERICA, NORTH							
Bahamas	210	12 V 1980	VI 1980	1 month	X	...	
Cuba	9 724	11 IX 1981	IX 1981	week(s)	X	...	37 324 households
Peru	17 005	12 VII 1981	VII 1981	week(s)	X	...	35 000 persons
Venezuela	14 517	20 X 1981	XI 1981	1 month	X	...	139 584 persons
ASIA							
Bangladesh	87 120	6-8 III 1981	24-28 III 1981	2 weeks	X	No	115 500 persons
Brunei	193	26 VIII 1981	26 XI-17 XII 1981	3 months	X	X	19 537 persons
Burma	35 314	1-5 IV 1983	1984	1 year	X	X	20% of blocks
China	1 031 883	1 VII 1982	VII 1982	shortly after census	X	X	187 000 persons
Hong Kong	4 987	9 III 1981	IV 1981	3 weeks	X	X	23 695 persons
India	685 185	1 III 1981	18 III-4 IV 1981	1 month	X	X	199 497 persons
Indonesia	147 490	31 X 1980	XII 1980	2 months	X	No	126 335 persons

Country or area	Total Population 000's	Date of Census	Date of Post-enumeration survey (PES)	Time Lag	Purpose of PES		Sample Size
					Coverage Errors	Content Errors	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ASIA (continued)							
Korea, Rep. of	37 436	1 X 1980	1 XII-8 XII 1980	2 months	X	X	111 916 persons
Malaysia	13 183	10 VI 1980	VIII 1980	2 months	X	X	5% cluster sample of enumeration blocks
Nepal	15 023	22 VI 1981	1-14 VIII 1981	2 months	X	No	55 of 75 districts were covered using 2-stage stratified random sampling
Pakistan	83 782	1 III 1981	IV 1981	1 month	X	X	558 000 persons
Philippines	48 098	1 IV 1980	17 IX-15 X 1980	4 1/2 months	X	X	8% of 1698 barangays in Metro Manila
Singapore	2 414	24 VII 1980	1-14 VII 1980	3 weeks	X	X	42 385 persons
Sri Lanka	14 848	17 III 1981	V-VI 1981	2 months	X	X	2% of urban blocks; 0.5% of rural and estate blocks
Thailand	44 825	1 IV 1980				X	5% of enumeration districts

Sources: Same as Table 1.