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The 2000 Round of Population and Housing Census in the ESCAP Region: Lessons Learnt and Emerging Issues[1]

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1. This discussion paper reviews the experiences of countries in the ESCAP region in the implementation of the 2000 Round of Population and Housing Census and tries to bring out some important issues that came to light in the process and which are likely to bear on the next round. This is an opportune time to discuss these issues in order for countries to adequately address them as they start planning and preparing for the 2010 round of censuses. The next round is especially critical in the light of additional needs for data to be used in monitoring Millennium Development Goals.

2. A population and housing census undertaken by any country during the period 1995-2004 is considered part of the 2000 World Programme of Population and Housing Census. Nearly all countries in the ESCAP region conducted a census of population and housing at least once during the designated period. The three countries which did not are Bhutan, Democratic People's Republic of Korea (DPRK), and Uzbekistan. Bhutan, however, is in the preparatory stage to undertake a census in 2005.

3. For many of the countries, census taking has been fairly regular with ten (10) years as the most common interval. Some even undertake enumeration as often as every 5 years. Political instability, war and civil disturbances served to disrupt the regularity with which censuses have been conducted in some countries. For example, the last two population censuses in Sri Lanka had an interval of 20 years because of an on-going internal conflict between the government and rebel groups that led to the cancellation of

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the 1991 census. Even then, during the 2001 census, areas of rebel stronghold could not be enumerated resulting in a partial census for the country. Similarly, the 2000 round of censuses in Cambodia and Afghanistan were undertaken 36 and 25 years, respectively, since their last enumeration. In the case of Pakistan and Bhutan, the anticipated political implication of the results of a population count has been a major consideration for delaying the conduct of the census.

4. Several member states of ESCAP conducted their first census during the 2000 round since becoming independent states. Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, and Tajikistan – all part of the Former Soviet Union – managed to successfully launch their 2000 censuses. During the pre-independence censuses, the role of the statistical organisations in these countries were limited to data collection. Planning and preparation for the censuses, as well as, data processing and tabulations, were then all carried out at the Central Statistical Office of the former USSR which was based in Russia. Given the limited capacities and largely inexperienced staff of the statistical offices of these countries soon after they became independent, it was a big challenge and, indeed, a great achievement by these newly independent states to plan and carry out a census and process and disseminate its results. Timor Leste, likewise, is another country that has launched a census programme recently as an independent country. The results of the enumeration, nevertheless, are yet to be processed and tabulated.

5. The role of the international community, in particular, the UN system, in making the conduct of the census possible in countries with limited capacities to do so, needs to be underscored. Financial assistance has been crucial but so is the technical guidance that these countries received as they went through the process of planning and implementing their censuses. UNFPA has provided both financial and technical assistance for population censuses to several countries in this region. UNSD and the UN regional commissions, through the conduct of international symposiums and conferences have made possible the sharing of experiences at the regional and international level and have undoubtedly enhanced the learning process especially among less developed statistical organisations. Technical publications such as the *Principles and Recommendations for Population and Housing Censuses*, now in its second revision, have significantly improved the standardization of concepts and definitions at the global

level. This is particularly true in the case of CIS countries whose previous censuses have been designed largely to suit the needs of closed economies. Unfortunately, the use of the publication in those countries has been limited due to the fact that the Russian version did not come out on time. It is hoped that work on the further revision of this major publication, including translations to UN official languages, can be hastened in order that countries will be able to fully make use of them as they start to plan for the 2010 World Programme of population and housing censuses.

6. Censuses are very costly operations and so far, these have been carried out utilizing mainly public funds, supplemented, in some cases, by funds from multilateral donors. No doubt that in the next round of censuses, some countries would still rely on external assistance to finance their censuses. However, given that resources are increasingly dwindling, the need to tap other sources for funding some of the census activities has become even more crucial. In this connection, the need to coordinate donor agencies also needs to be highlighted to maximize the use of scarce resources. In at least one country, failure of the assistance programme of some international agencies was sadly experienced mainly because of lack of coordination among major stakeholders.

7. The private and business communities, in particular, are potential sources of additional funds that have not hitherto been seriously considered. Limited examples indicate that these sectors can be effective partners in undertaking censuses. In the 1999 census, Kyrgyztan, for example, used innovative ways of tapping the business sector to support the census publicity campaigns. Grocery bags used in a supermarket carried census messages and these contributed to raising awareness of the general public on the census programme.

Quality of Census Data

8. The culture of evaluating census data has yet to be further developed in many of the statistical organizations. The yardstick for quality is often too flimsy. If the resulting counts of national and sub-national population falls within expectation, then data are considered of good quality. Additionally, if the ‘not stated’ categories in the tabulated data are very small, conclusions are also made that data quality is good.

9. Evaluating the quality of data needs to be given more serious attention and should be incorporated in the overall census plan. In some countries, Post-Enumeration Surveys (PES) are carried out – not with the serious idea of using its results to assess the quality of the main enumeration but because it is a 'standard procedure' in census-taking. Results of a PES are hardly released either because they point to substantial errors in the census which census officials are wary to accept, or they are not processed at all. In the preoccupation to quickly process and release the main census results, processing of a PES is sometimes set aside. It is no wonder at all that the merits of a PES have been a subject of debate in technical meetings.

10. During the processing of the census questionnaires, it is possible to assess data quality by examining the frequency of certain types of errors such as missing information or inconsistencies in the reported data. Most census processing software have the capability to generate these statistics. Here again, many statistical offices fail to exploit this opportunity to evaluate their data and to make public their shortcomings. Error statistics may be available but only to data processing managers whose only concern is to chunk out 'clean data'. Tabulated data do not reveal these shortcomings because of editing and imputation. Unsuspecting data users may feel good about the data if they find the results to be consistent and comprehensive.

11. Census planners need to pay greater attention to improving data quality. Every step in the census process should have built in measures to minimize errors. In this regard, training of census enumerators takes prominence in the whole issue of data quality. Needless to say, a disorganized training programme for the census field workers leads to ill-trained enumerators and, in turn, poor quality of data to be collected.

12. Countries that rely heavily on the interview method of data collection require such a large pool of census enumerators that the process of recruiting qualified persons and training them for enumeration can be a huge nightmare. India, for example, hired a million enumerators for its last census. In less developed countries, where literacy levels are generally low, the supply of qualified enumerators is often short so that census organizers are constrained to lower their standards of recruitment. This makes the training strategy all the more critical. A snowball three-level training programme is a common approach with census enumerators comprising as trainees at the third and last

level of training. Ideally, participants in one class should not exceed 25 to ensure effectiveness of training. But due either to shortage of trainers or to cost-cutting measures, actual class sizes far exceed this number. As a result, the interaction between trainor and participants becomes limited.

13. Duration of training at each level is oftentimes inadequate to ensure that trainees absorb as much of the instructions as possible. It is also crucial, but not done in a number of countries, that the participants are given a chance to do practice interviews. The large number of enumerators that need to be trained make it an almost impossible task to ensure a uniform understanding and transmission of instructions, including census concepts and definitions. In this regard, use of verbatim training guides for the trainors could be an effective tool for the kind of training that a census undertaking demands.

14. A number of countries do have a well-planned and effective training programme for the census. Instruction manuals are thorough and written in a language that can be understood even by an enumerator with the most basic intelligence. Examples are well illustrated and adequate visual materials are utilized during the training.

Use of IT and Timeliness of Data

15. The extent of the application of information technology in census operations varies a great deal from country to country. At one end of the spectrum are countries like Singapore, Japan, Australia and New Zealand where modern technology is applied in almost every step of the census process, from data collection, to data capture and data dissemination. Other countries make use of these new technologies on selected census operations only, more specifically, during data capture which is otherwise a labour intensive operation if the traditional approach were followed.

16. The application of modern technology for data capture, such as OCR/ICR, has been met with mixed success. Experiences in this regard point to a very important lesson learnt (which was anyhow recognized at the outset but ignored in the actual application) that success in the application of a particular technology depends on the extent to which the necessary conditions prevail such as well-trained and literate persons who fill up the

questionnaires, continuous availability of maintenance service for the equipment, and a number of others. In Bangladesh, for instance, the final results of the 1991 census which utilized OMR machines for data capture were released after a lag time of 7 years. For the 2001 census, OCR technology was used. Delays are likewise encountered, albeit, not as seriously as the previous one. The experience of Pakistan underscores the importance of good census planning. Questionnaires used in the 1998 census were printed in 1990 (the original date for the census was 1991). During the data capture stage, rejection rate by the OCR machines was very high because the condition of the questionnaires was no longer ideal. This situation necessitated the transcription of collected census information from some questionnaires into fresh ones before they were fed into the OCR machines.

17. On the other hand, success stories in the use of traditional approach to data entry, that is, by manual key-ing of data using microcomputers, are not wanting. Nepal, a country with a population of about 22 million, adopted this approach during the 2001 census. Within a year, it was able to process, tabulate, publish and disseminate nearly all statistical tables.

18. There is indeed a serious ground for considering use of modern technology for processing census data especially in very large countries. However, greater attention should be given to testing as well as ensuring that the necessary conditions for their application can be met. Only then can the benefits of the technology be fully realized and the high cost associated with it, justified.

Analysis, Utilization and Dissemination of Census Data

19. With few exceptions, analysis of the data collected in the censuses of countries in this region has been very limited. Census organisations find satisfaction and get the feeling of 'mission accomplished' once the data are tabulated and the reports published. Some go as far as writing a monograph or two on selected topics which are generally very descriptive in nature and do not exploit the depth of information that underpins census data. Nowadays many statistical organisations have websites for disseminating their statistics including census data. In most cases, however, the data are posted in

websites just like the paper publications. There are few exceptions. For example, the website of the Indian census organisation, allows interactive viewing of data with maps to enable a thematic view of the data.

20. Utility of census data goes much beyond the published statistical tables and descriptive analysis of demographic trends. The statistical office, of course, is not solely responsible for analyzing census data and for further processing them into more meaningful and informative presentations, such as poverty mapping, as was done with Cambodian census data. First, the necessary skills may not be available within the organisation itself. Secondly, shortage of manpower leaves the technical staff little option but to be involved in either planning or implementing other statistical projects. In fact, analysis of census data may be better off left with other institutions, such as research and academic institutions, NGO's, sectoral ministries, and multilateral organizations. The problem here, however, lies in the dissemination of data. Published census data are admittedly very limited and restrictive, for research purposes. To fully mine the wealth of information available from the census, one needs to access raw data files, which in many countries, is still very much restricted for reasons of confidentiality. Even where safeguards to confidentiality are in place and restrictions to access lifted, the sheer volume of data makes it difficult for others to make use of them. Hopefully, with the development of technology for mass data storage, as well as the increasing availability of user-friendly software for data manipulation, the analysis and utilization of census data will be greatly enhanced in the coming round of population census.

Indicators for Monitoring Millennium Development Goals: Possibilities from the 2010 Round of Population and Housing Census

21. Most countries in the region have prepared, or in the process of preparing, reports on their progress towards achievement of MDGs. The experience across countries has been generally similar in terms of identifying accurate and reliable indicators; data are either non-existent, inconsistent or non-comparable over time. Population census, as a source of data, has been minimal possibly because there are better sources for specific

indicators or because the census has not been viewed as a traditional source of data for indicators like enrollment, labour force participation, etc.

22. The advantage of a population and housing census over a survey as a source of indicator is that it allows for sub-national level indicators. Several MDG indicators can be possibly sourced from the census without additional questions other than those traditionally asked. What is probably needed is improvement in the design of the questionnaire and the manner in which some of questions are phrased in the questionnaire. The following MDG indicators can be possibly derived from a population and housing census without significant additional cost to the census:

Number	Indicator
6	Net enrolment ratio in primary education
7	Proportion of pupils starting grade 1 who reach grade 5
8	Literacy rate of 15-24-year-olds
9	Ratio of girls to boys in primary, secondary and tertiary education
10	Ratio of literate females to males of 15-to-24-year-olds
11	Share of women in wage employment in the non-agricultural sector
29	Proportion of population with sustainable access to an improved water source
30	Proportion of people with access to improved sanitation
31	Proportion of people with access to secure tenure

23. To address the gender equality issue, it has been argued on several occasions that it is not sufficient to ensure that ‘sex’ as an individual characteristic is asked in the census

questionnaire and that data are tabulated according to sex. Even the way other questions are asked and reported, such as household headship, and labour force participation, are defective from gender point of view and therefore there is a need to improve the way the information is solicited from the census respondents.

24. India and Nepal have taken even further steps to ensure that the census is gender-sensitive. In collaboration with UNDP, UNIFEM and UNFPA and Women's Commission, the census organisers incorporated gender-sensitisation sessions in the training of enumerators and census supervisors with the idea that they would be able to collect data that were gender-sensitive if they were aware of the gender issues in their society. The census awareness campaign among the general public likewise incorporated gender-related messages.

25. Apart from the MDGs, there are other data that address emerging issues which countries may consider in the 2010 round of population census. There are growing concerns, for example, on international migration and ageing, on account of recent demographic trends. The number of topics to be asked in a census should be limited to the barest minimum not only to keep the cost of the census down but also to ensure quality and timeliness of availability of data. In the light of emerging issues for which data can be expected to be in demand, it is necessary that countries prioritize the data to be considered for the census and consider surveys as alternative sources of data.