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Strategies for the 2010 Population Census of Japan

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I. INTRODUCTION

1. The Population Census of Japan has been conducted every five years since 1920 using a traditional approach in order to precisely grasp the actual conditions of the population and households, following the “Essential Features” described in the “Principles and Recommendations for Population and Housing Censuses” by the United Nations, namely, (a) individual enumeration, (b) universality within a defined territory, (c) simultaneity and (d) defined periodicity. The next Census is scheduled for 2010, which is the largest statistical undertaking in Japan with a population of over 120 million. This paper describes the outlines of the lessons learned from the 2005 Population Census and the strategies for the 2010 Census.

II. LESSONS LEARNED FROM THE 2005 POPULATION CENSUS

A. OUTLINE OF THE 2005 POPULATION CENSUS

2. The 2005 Population Census was conducted as of 0:00 a.m. on 1 October, 2005, in order to assess the number and basic characteristics of the population of over 120 million usually living in Japan. The questionnaire forms printed for the Census were over 70 million sheets, which would be nearly 2.6 times higher than Mt. Fuji if stacked up. One of the characteristics of the 2005 Population Census was, as in the past, data collection by enumerators, whereby questionnaires were delivered by enumerators, filled in by households and also collected by the enumerators.

3. While the planning and overall management were conducted by the Statistics Bureau of Japan (SBJ), fieldwork for the Census was legally entrusted to local governments, such as prefectures and

municipalities (cities, towns, and villages). The whole of Japan is divided into 47 prefectures, which took charge of Census operations, including distributing Census documents such as questionnaires to municipal governments, supervising the fieldwork of municipalities, and collecting Census documents from municipalities. Municipalities, totaling about 2,000, were in charge of field operations that included establishing Enumeration Districts, selecting and training supervisors and enumerators, and collecting Census documents such as questionnaires.

4. During the enumeration period, enumerators visited all the households in the assigned Enumeration District and asked them to fill in the questionnaires. After the reference day of the Census (1 October, 2005), the enumerators revisited the households and collected the completed questionnaires.

5. The questionnaires collected by the enumerators were checked at local governments (prefectures and municipalities) and sent to the SBJ. The tabulation, including data capture, coding, data editing etc. was planned and managed by the SBJ, although its operation was performed by the National Statistics Center, which is an incorporated administrative agency specialized in data processing. The results of the tabulation were then sent to the SBJ for analysis and publication.

B. DISSEMINATION OF THE CENSUS RESULTS

6. The results of the 2005 Population Census have been released by the SBJ in series since December 2005, when preliminary counts based on summary sheets on household and population by sex were published. In June 2006 the results of a 1% sample tabulation were released, aiming to clarify the situation of Japan according to basic characteristics as a prompt tabulation. The results of primary tabulation, in which all the questionnaires collected are used, were released in three stages from October 2006 to December 2007, followed by tabulations on small area statistics, detailed statistics using a sample of less than 10% of the questionnaires, and special topics, such as places of work.

7. The dissemination of the Census results was performed in several ways, with most of the results posted on the SBJ's web site (<http://www.stat.go.jp/english/index.htm>) and on the "e-Stat" (<http://www.e-stat.go.jp/SG1/estat/eStatTopPortalE.do>). The "e-Stat" is the portal site of official statistics of Japan, which provides one-stop access to all government statistics via the Internet. In addition, the results have also been disseminated in electronic form, such as CD-ROM, through an affiliated organization, while the SBJ has also been publishing statistical reports of the Census in the traditional way.

8. In addition, small area statistics using a geographical information system have been disseminated

on the “e-Stat”. This small area statistics are compiled on the basis of geographic units called “cho” or “aza” (address blocks). There are approximately 211,000 such address blocks in Japan, each containing an average of around 230 households. For each address block, the statistics of such basic characteristics are made available as population by age group, industry and occupation. In designing this site, special attention was paid to privacy concerns. Balancing the wider use of statistics and the protection of privacy will remain an important issue in disseminating small area statistics.

9. The SBJ has compiled Grid-Square Statistics (Mesh Blocks Statistics) for the Population Census since 1970. To compile Grid-Square Statistics, the entire land area of Japan is divided into square areas of nearly equal size, based on longitudinal lines drawn at every 1/80 degree and latitudinal lines drawn at every 1/120 degree. The areas thus defined are nearly equal to 1 square kilometer in the range of latitudes where Japan is located. This grid-square is called the Basic Grid-Square. In addition, a smaller grid-square called a Half Grid-Square is installed. The Half Grid-Square is demarcated by dividing a Basic Grid-Square into four equal parts towards longitude and latitude.

C. LESSONS LEARNED FROM THE 2005 POPULATION CENSUS

10. Generally speaking, the 2005 Population Census was successfully conducted with no significant trouble, but the following problems were observed: (a) an increase in cases where enumerators were unable to contact households because they were away from home, (b) an increase in cases where households did not cooperate in census activities, (c) some troubles with certain households, (d) reluctance to answer certain questions such as the name of the establishment for which one works, type of work, total floor space of dwelling, etc.

11. As mentioned, the enumerators collected the questionnaires of the Census by visiting each household of the Enumeration District. However, due to the above problems, the enumerators were unable to collect a certain number of questionnaires. The percentage of households of which the questionnaire(s) could not be collected increased more than twofold to 4.4 % in the 2005 Census, as compared to 1.7 % in the 2000 Census. When an enumerator was unable to collect the completed questionnaire from a household, he/she contacted the neighbors of the household to obtain basic information, such as the name, number and sex of the household members within the household concerned.

12. The factors underlying these problems can be identified as follows: (a) people’s awareness of privacy is increasing year by year, (b) the number of double earner households or single households who are not easily contacted at home are increasing, (c) an increase in households that live in apartment buildings equipped with self-locking systems at the entrance, (d) it is becoming more difficult to meet household members as they are increasingly cautious of talking with strangers due to

security concerns, despite the fact enumerators carry official ID cards.

13. To cope with such difficult circumstances affecting the Census operation, including the collection of questionnaires, the SBJ set up a special committee involving academics and specialists. Following intensive discussions, the committee issued a report making a number of proposals. These included changing the major collection method of questionnaires from the method using the enumerator’s visit to a new one involving mailing back. The committee also proposed multimode responses, i.e. via the Internet, mail or collection by enumerators be permitted if the household wished to do so. When the questionnaires are not submitted within a certain period of time, the enumerator should visit the households concerned to collect the questionnaires to follow up the collection.

III. STRATEGIES FOR THE 2010 POPULATION CENSUS

A. ESSENTIAL FEATURES OF THE POPULATION CENSUS

14. According to the “Principles and Recommendations for Population and Housing Censuses” by the United Nations, the essential features of population censuses are (a) individual enumeration, (b) universality within a defined territory, (c) simultaneity and (d) defined periodicity. The Population Census of Japan has been conducted by the traditional approach as a complete field enumeration, following these essential features.

15. The Population Census needs to be conducted as a complete enumeration because its results are used for the following purposes: (a) to construct the sampling frame for sample surveys on persons and households, and benchmark figures for estimation of aggregates of the variables recorded for samples only, facilitating the effective and efficient conducting of sample surveys, and to produce consistent estimates, (b) to produce statistics for areas smaller than cities, towns or villages.

Table 1: List of Population Census and household surveys conducted by the SBJ

Name	Cycle	Since
Population Census	Every 5 years	1920
Housing and Land Survey	Every 5 years	1948
Employment Status Survey	Every 5 years	1956
Labour Force Survey	Monthly	1947
National Survey of Family Income and Expenditure	Every 5 years	1959
Family Income and Expenditure Survey	Monthly	1946
Survey on Time Use and Leisure Activities	Every 5 years	1976

Note: The Census results are used to construct the sampling frame for these sample surveys

16. In the Principles and Recommendations, register-based and sample-based rolling censuses are known as so-called “alternative” methods, while the individual enumeration method is called the “traditional” method. This implies that when the traditional method is valid and applicable, it should be used, but that when it is not usable, the alternative approach should be taken.

B. USE OF ADMINISTRATIVE DATA

17. The SBJ has been using administrative data such as resident registers maintained by the municipalities for supplementing the contents of the census returns and compiling demographic statistics. The basic resident register has been used for the Population Census in order to ensure the accuracy of the results of the Census data at the stage of enumeration and data editing in the municipalities.

18. The internal migration statistics such as the number of internal migrants by sex and by prefecture and municipality are compiled monthly and annually from the basic resident registers. Besides, the SBJ has been compiling two sets of current population estimates: monthly estimates for the whole country and annual estimates for the prefectures. Both sets of estimates are based on the census population, and extrapolated by using immigration control data, live births and deaths registration data, internal migration statistics, etc. .

19. Several northern European countries have developed a register-based population census, in which a register of residents made by integrating related administrative database plays a vital role. These countries have the following common features: (a) Individual administrative records have been assigned with common identification codes, and can be linked among the registers, (b) There exists a consensus among the public regarding the integration of individual records of administrative information, (c) The population size is much smaller than that of Japan. (such as Norway, Finland, Denmark, the Netherlands, etc.)

20. It has been pointed out that by this approach the definition of items is not equivalent to the international standard because the administrative data are collected from a perspective differing to that of statistics, and that the items for which statistics are compiled are limited to the range of information contained in the administrative database.

C. IMPROVEMENT IN THE 2010 POPULATION CENSUS

21. The practice of having the enumerator visit households one by one to deliver the questionnaire forms should be maintained for the following reasons: (a) When the enumerator delivers the questionnaire forms, he/she checks the occupancy of dwellings and makes up a list of households residing in the enumeration district. This procedure minimizes omissions and duplications, and hence the enumeration is conducted accurately. (b) Visiting and distribution of the forms by enumerators may provide households with more of an incentive to fill in and submit the questionnaire forms.

22. The questionnaire forms may also be submitted from the households by mail. Submission in person to the enumerator, via the Internet, or to the municipal office may be permitted if the household wishes to do so. As the lifestyles of the people at large are becoming increasingly diverse, providing wider options for response methods other than enumerators' visits is an important consideration in order to obtain good responses. When the questionnaire forms are not submitted within a certain period of time, the enumerator will visit the households to solicit and collect the returns.

23. The mail-back method is to be introduced so that the forms can be collected in cases where enumerators are unable to contact households because they are away from home, they live in apartment buildings equipped with self-locking systems at the entrance, etc. . This will eliminate privacy concerns and alleviates enumerators' workloads.

24. There are many advantages of the Internet response method. One is the fact that those familiar with the Internet can submit their responses easily and quickly. In addition, the workload of enumerators would be reduced if many people would return their responses via the Internet, and there is no need for data capture and error correction in the case of submission via the Internet.

25. While the Internet response method is an attractive option as a data collection method, the following issues must be solved before it is adopted: (a) how to achieve cost effectiveness, (b) how to maintain the security and confidentiality of the data, (c) how to avoid duplicate responses and non-responses, (d) how to control IDs and passwords.

26. To reduce the workload of the municipal offices and the enumerators, some work is to be contracted out to the private sector. For example, entrusted private call centers are to deal with inquiries, claims etc. of the households.

27. The topics to be investigated in the population census are to be reviewed from viewpoints such as administrative needs, users' needs, people's response burden and international comparability. Topics such as the name of the establishment for which one works, total floor space of dwelling" etc., to which households are likely to be reluctant to respond, should not be abolished only from the viewpoint of such a reluctance, but maintained by developing better choices and methodologies for completion after analyzing the factors causing people's reluctance.

D. CENSUS COMMUNICATION ACTIVITIES

28. Since the success of the census activity depends on the wholehearted cooperation and assistance of the general public, an overall communications effort should be developed. The Census Supporters Meeting has been set up, consisting of various strata of the community, including condominium associations, colleges and universities associations, the educational community and foreigners support organizations, etc.. It aims to obtain general public understanding and cooperation in the population census, and to establish a social environment which will facilitate smooth and accurate census taking.

29. A working group, consisting of experts from academia, users of census data and local governments has been formed, and meets regularly. It reviews plans of the pilot surveys, analyzes their results, and deliberates on methodologies and outputs of the 2010 Census from an expert viewpoint.

30. As census field work is managed by the prefectural and municipal offices, discussion groups including these local governments is formed to discuss issues concerning the census methodologies and operations from a practical perspective. Through this process, consensus for the final enumeration methodology will be reached before the dress rehearsal.

E. TESTING THE NEW METHODS BY PILOT SURVEYS

31. The SBJ conducted the first pilot survey in 2007, followed by the second in 2008, and finally plans to conduct the dress rehearsal in 2009 in order to examine the feasibility and effectiveness of the new census methodologies.

32. The points of examination in the first pilot survey conducted in July 2007 are as follows: (a) how to manage the mail-back procedure and how to follow up efficiently households which did not submit the questionnaire, (b) how to achieve efficiency in the work of municipalities under the mail back procedure, which would add the workload of scrutinizing the contents of the returns.

33. The results of examination in the first pilot survey and measures for the 2010 Census are as follows:

(a) The response rate for the mail back method was not as high as in past experiences of the enumerators' visits. Consequently, the SBJ is to examine the possibilities of allowing the households choose from a range of multiple methods such as enumerators' visits, the mail back method, the Internet method and submission to the municipal office, not highlighting the mail back method.

(b) By the mail back method, enumerators were unable to scrutinize the contents of the census

returns, so this scrutiny had to be done by the municipal offices. Consequently, the workload of the municipal offices increased. To cope with the increased workload, it is necessary to improve the efficiency of the work of the municipal offices.

34. The points of examination in the second pilot survey conducted in June 2008 are as follows: (a) testing the feasibility and appropriateness of the Internet responses, (b) monitoring the status of returns submitted by different methods, and feeding back the information to the municipal offices for follow-up operations, (c) evaluating the effects of changing the questions or adding new ones.

35. The results of examination in the second pilot survey have not been available. However, regarding the Internet option, the Internet response rate seems low and the overall response rate seems to remain static. Under these conditions, the adoption of the Internet option would not make census operations more efficient and the costs involved would appear to outweigh the potential benefits. We may introduce the Internet responses method on a small scale only in certain regions of Japan in the 2010 Census.

IV. CONCLUDING REMARKS

36. In recent years, an increasing number of countries have been adopting so-called alternative approaches such as register-based or sample-based censuses. However, at this stage, the SBJ has been cautious in adopting new approaches such as the register-based census. This is because the traditional enumeration method remains valid in Japan, and still has many advantages in terms of coverage, accuracy, and timeliness over the alternative methods.

37. For the 2010 Census, the SBJ will introduce multimodal responses covering mail-back, Internet and enumerators for the convenience of respondents. The SBJ will test different methods of data collection and gather the opinions of relevant parties, including local governments and experts, and make the final decision that would be supported by the general public. The SBJ will make utmost efforts to draw up an optimal plan for the 2010 Census to cope with the issues raised at the last Census.