

United Nations Expert Group Meeting on
International Standards for Civil Registration
and Vital Statistics Systems
27 – 30 June 2011
New York

The Vital Statistics System in China¹

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¹ The text is presented without formal editing.

1. Statistics Law of the People's Republic of China provides that statistics are collected through three main data sources: population censuses, regular sample surveys and administrative records. Currently the National Statistical Bureau of China collects demographic and social statistics through the population census (conducted every 10 years in years ending in 0), the 1% population sample survey (conducted during the inter-censal years ending in 5), the annual 1 % sample survey on population changes, and the monthly labor force survey usually conducted only in big cities. Administrative records are used as supplemental sources to those collected through regular population census and sample surveys. For example, data on registered permanent residents and temporary residents are available from the Ministry of Public Security. Employment and unemployment data are available from the Ministry of Human Resources and Labor and Social Security.

1. 2010 Population census in China

2. In 2010, China conducted the sixth national population census. Items collected on the census form include sex, age, ethnicity, education level, industry, occupation, social security, marriage and fertility, mortality, migration, housing, and unemployment. Total population and population by province collected from the 2010 population census were published on *Population Census Statistics Communiqué* in late April 2011.

3. After field enumeration, a total of 402 enumeration blocks were randomly selected to conduct post-enumeration survey to compare with the records of census enumeration, which resulted in a population undercount rate of 0.12 percent.

4. The following are some of the new challenges China faces during this round of census taking:

- (a) There are difficulties in counting accurately the migrant population. The increasing size and scope of the migration, as well as the high frequency in changing of residence of the migrants contributed partly to the difficulties. Sometimes the migrants themselves are avoiding being interviewed for fear of possible administrative penalties.
- (b) Many more people have multiple residences which makes the census enumeration more difficult
- (c) The cooperation level from respondents is lower compared to the last round. This might be due to the busy schedule of respondents as well as the increasing awareness of the general public on confidentiality and privacy.
- (d) There is an under-reporting of births. Parents are reluctant to report births that are outside of the family planning programme in fear of potential penalties from the government. It is also of in the interest of the local government to keep the birth rate low for the area under administration as fertility rate is used for a measure to evaluate the performance of the local government.
- (e) There were difficulties in recruiting enumerators. Eight million enumerators were employed by the government for the 2010 census. The enumerators worked for 40-60 days. Recruiting from public sectors or enterprises became very difficult because the cost were born by the employers. On the other hand,

recruiting from the society requires a big budget.

5. In the meantime, the 2010 China Population Census has some new characteristics:
- (a) **Stronger Legal Basis:** There was a promulgation of Regulations on Population Census specifying the objectives, principles and methods for population census. The rights of respondents and strict rules on protecting privacy are emphasized in the Regulation.
 - (b) **Changes in the enumeration method.** All persons are to be enumerated at the place where present at the census time, as compared with the approach in earlier censuses, which was de-jure based. Information was also collected at the place of household registration, so that population can be classified by both the de facto residence and permanent residence where their household registration is located.
 - (c) **Collecting information on international migrants.** Foreigners were included in the enumeration. A shorter questionnaire (8 questions) was used and face-to-face interviews were conducted.
 - (d) **Remote sensing images were used for delineation of census areas and for mapping.** Nationwide, there were nearly 7 million census enumeration areas. Remote sensing images were used for the first time in preparing maps of census areas and blocks, which ensured the full coverage of census areas without duplication or omission. In addition, significant inroads were achieved in spatial analysis of population was achieved by combining census data and spatial positions.
 - (e) **More topics covered by the Census:** The 2010 Census used a combination of a long form (for 10% of the population) and a short form (for 90% of the population). The short form includes 6 household items and 12 individual items. The long form has 19 household items and 28 individual items.
 - (f) **Wider use of administrative records.** The following administrative records were used for the census: resident population and migrants' information from the household registration administered by the Ministry of Public Security; birth information collected by family planning departments, the health department as well as the community and village committees. Such information is used in census to check and compare with the list of household members, births and deaths occurred in the household.
 - (g) **Data Capturing and Processing.** A decentralized strategy was used in the 2010 Census for data capturing and processing, at three levels - city, province, and national. OCR technology with Chinese character recognition capability was used. All information on short forms was captured without coding. A computer hot deck program, designed for the data from short forms, was implemented throughout.
 - (h) **Establishing strict quality control and data acceptance systems.** There were Quality Control Teams at all levels, charged with running a routine check-up and a random check. Post enumeration survey was carried out after the field enumeration.

2. Annual Population Change Sample Survey

6. Sampling survey on population change, officially established since 1983, is conducted by NBS in China once a year. The purpose is to provide reliable population data such as annual total population and population structural changes such as fertility and mortality at the national and provincial level every year.
7. The survey is a multi-stage survey, with stratified clusters proportional to size. It takes the whole country as the population and provincial level as sub-population. The sample size is 1.2 million persons. The survey covers key items that are collected in censuses including sex, age, ethnicity, the level of education, marital status, fertility, mortality, migration and so forth. A survey methodology book is published every year for training and supervision purposes.
8. Population figures from the sample survey are calculated every year. Yearbook, communiqué, report and main data are also published.

3. Administrative records on civil registration and vital statistics

9. Civil registration and vital statistics in China play a great role in planning and policy intervention. At present multiple ministers are involved in the civil registration and vital statistics system. They include the Ministry of Public Security, the Ministry of Civil Affairs, the Ministry of Health, and the Ministry of Education.
 - (a) The Ministry of Public Security provides guidance and supervision as well as manages information collected from local household registration units. The Ministry publishes national data on registered permanent residence every year.
 - (b) The Ministry of Civil Affairs publishes data on marriages and death.
 - (c) The Ministry of Health is responsible for disease prevention and control, developing community health as well as maternal and child health programme and publishing health statistics.
 - (d) The Ministry of Education analyzes and disseminates information of basic education statistics.
10. For the publication, National Statistics Bureau is responsible for publishing data on usual population. The Ministry of Public Security is responsible for publishing data on registered permanent residence for provincial, prefectural, and county level.
11. With the development of information technology, population information resources management and the application of service level in China has made a big progress. Some departments have established databases and applications associated with population information. According to media reports, China has initiated the establishment of national basic repository of the population information, based on data from relevant agencies such as Public Security, Family Planning, Human Resources and Social Security, Housing and Urban-rural, education, transportation, industry and commerce, taxation, and financial information system resources. The citizen identity number is used as the unique number

for the system. Once the repository is established, exchange and sharing of population information will be feasible.

4. Comparing and evaluating the quality of vital statistics

12. There are three main resources obtaining the major population data including sample surveys and population censuses conducted by National Statistical Bureau, and administrative records from household registration administered by the Ministry of Public Security.

13. Information on total population, crude birth rate, crude death rate and percent of urban population generated from sample surveys and population censuses are of the same statistical standard. Retrospective adjustment of total population figure is carried out for 10 years once a population census is completed. At this moment, adjustment of population estimates for the years 2001-2009 is being made, based on the newly published 2010 population census data.

14. Population census and sample surveys derive usual residents counts falling into the three categories below:

- (a) People residing in the Township, Towns and Street Communities with Permanent Household Registration in the same place;
- (b) People residing in the Township, Towns and Street Communities, with Permanent Household Registration elsewhere, having been away from that place for more than 6 months;
- (c) People residing in the Township, Towns and Street Communities, with Place of Permanent Household Registration unsettled.

15. The Ministry of Public Security is responsible for publishing yearbook every year, releasing data on population at the place of their permanent household registration, for provincial and lower geographic areas.

16. Population figures derived from population census and surveys are different from what is obtained from the Ministry of Public Affairs. The former counts population by their usual residence (staying in a place for more than 6 months) and the latter counts population by their place of permanent household registration. The two different data sources not only provide different population distributions (due to internal migration) among geographic areas, but also provide different total population count. For example in 2008, the total population is 1328.02 million people by the estimates from the National Bureau of Statistics (based on census and sample surveys), while the household registration population is 1321.31 million people, published by the Ministry of Public Security. Such difference is most likely is the consequence of the fact that there are people who do not have household registration.

17. Overall speaking, administrative records may be an effective complementary source to the census and sample surveys in providing population and vital statistics. How

administrative records and sample survey can be combined to generate small area population estimates is now being investigated.