

## **Lecture 10: Introduction to Census, SRS, and Other National Sample Surveys**

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#### **CENSUS**

Population census is one of the most reliable and most common sources of data on size, growth and composition of population. In India, the first population census was conducted in early 1870s. It was conducted over a number of years. The second census was conducted on a fixed date in 1881. After that India has had a record of conducting census every ten years uninterruptedly. The last census was conducted in 2001 and the next census will be conducted in 2011. The main purpose of the census is to provide data on size and composition of population of India and its geographic divisions, i.e., population of different states and union territories, districts, blocks and villages. Census collects data from each individual living in the country on a number of items such as age, sex, urban-rural residence, marital status, religion, literacy and education, SC/ST community, work status, and migration status. The recent censuses have also provided data on total number of children ever born, children born last year and children surviving which are collected from all ever married women (Census of India, 2009). In certain censuses data were also collected on ex-defence personnel and disabled population by type of disability. These data are used for demographic estimates, projections of populations, and various planning purposes. They are also used to provide sampling frame for national and sub-national surveys. Census data on household characteristics and village infrastructure are also very useful for research and planning.

Census data on size is considered to be quite reliable. In the past, post-enumeration checks have shown that the size of India's population was underestimated not by more than two percent. Yet, some other data, for example, the data on fertility suffer from considerable errors. Demographers have, therefore, developed various techniques for study of errors in census data. When census data are used for population predictions, they have to be adjusted for various types of errors known to be present in age data as well as in over all size of population.

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### VITAL REGISTRATION SYSTEM

Censuses produce data mainly on size and composition of population. Demographers need data on fertility and mortality also. These data come from vital registration system in which all vital events – births and deaths – along with certain characteristics of the parents (in case of births) and the deceased (in case of deaths) are recorded wherever they occur. These data are collected and maintained on a continuous basis. In India, we are legally bound to report occurrence of births and deaths to local registrar – village head in rural areas and a municipal registrar in urban areas as registration of birth and deaths is done under the legal provisions of the Registration of Births and Deaths (RBD) Act, 1969. The Registrar General, India, appointed by the Central Government under the Act, coordinates and unifies the activities of the State Governments in respect of registration of births and deaths (Government of Karnataka, 2009). Under the Act, the head of the household is responsible to provide information within the prescribed period of 21 days; the institutional events are to be reported by the in-charge of the institution. However, the vital registration data are not complete and correct. They do not produce accurate values of birth and death rates.

### NATIONAL SAMPLE SURVEY

In India national sample surveys conducted by National Sample Survey Organization (NSSO) which comes under Ministry of Statistics and Programme Implementation (Government of India, 2009) have produced data on different characteristics of population including employment, migration, health, fertility and poverty. They have produced data on vital events also which are more reliable than vital registration system, yet, unlike the vital registration scheme that can produce data on continuous basis, survey can produce data on discrete time points only (say at the gap of five years). They also suffer from various sampling and non-sampling errors.

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#### SAMPLE REGISTRATION SYSTEM (SRS)

Sample registration system was developed in India due to lack of reliable registration data. It is also called a dual record system as it combines the methods of vital registration and survey.

As aptly described by Registrar General India (2009):

The Sample Registration System (SRS) is a large-scale demographic survey for providing reliable annual estimates of birth rate, death rate and other fertility & mortality indicators at the national and sub-national levels. Initiated on a pilot basis by the Office of the Registrar General, India in a few selected states in 1964-65, it became fully operational during 1969-70 with about 3700 sample units. The field investigation consists of continuous enumeration of births and deaths in selected sample units by resident part time enumerators, generally anganwadi workers & teachers, and an independent survey every six months by SRS supervisors. The data obtained by these two independent functionaries are matched. The unmatched and partially matched events are re-verified in the field and thereafter an unduplicated count of births and deaths is obtained. The sample unit in rural areas is a village or a segment of it, if the village population is 2000 or more. In urban areas, the sampling unit is a census enumeration block with population ranging from 750 to 1000. The SRS sample is replaced every ten years based on the latest census frame. It had been a practice to stagger the replacement process over 2-3 years. However, the latest replacement has been carried out in one go. Effective from January 2004, this sample is based on the 2001 Census frame. At present, SRS is operational in 7,597 sample units (4,433 rural and 3,164 urban) spread across all States and Union territories and covers about 1.5 million households and 7.10 million population.

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### OTHER SURVEYS

Demographers and social scientists are now using data collected in many other national and sub-national surveys, such as national family health surveys, reproductive and child health surveys.

### NATIONAL FAMILY HEALTH SURVEYS

National family health surveys (NFHS) was initiated in 1991. This was an important component of the Project to Strengthen the Survey Research Capabilities of the Population Research Centres in India. NFHS was launched by Ministry of Health and Family Welfare (MOHFW) which designated International Institute of Population Sciences as the nodal agency. It was followed by two more national family health surveys, called NFHS-2 and NFHS-3. These surveys have produced national and state level estimates of fertility, infant and child mortality, the practice of family planning, maternal and child health care and the utilization of services provided for mothers and children. NFHS-3 has also provided data on reproductive and child health indicators including reproductive tract infection (RTI) and sexually transmitted infections (STI). NFHS-3, for the first time, made use of biomarkers and produced data on anemia and prevalence of HIV.

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### REPRODUCTIVE AND CHILD HEALTH SURVEYS

The reproductive and child health surveys (RCH), 1-2 were conducted to generate district level data on utilization of services provided by the government health facilities and people's perception on quality of these services. About 50 percent districts were covered in the first phase in 1998 and the remaining 50 percent were covered in the second phase in 1999. The surveys were conducted by various regional agencies and coordinated by the International Institute for Population Sciences (IIPS), Mumbai. Among other things RCH surveys have produced data on the following indicators: girls marrying below age 18, births of order 3 and above, women age 15-44 knowing all modern methods of family planning, married women using any modern method of family planning, married women having unmet need for family planning, women who receive antenatal care (ANC), women having institutional delivery, women having safe delivery, children receiving complete vaccination, women who reported knowledge of HIV/AIDS, women who had any symptoms of RTI/STI, men who reported knowledge of HIV/AIDS, men who had any symptoms of RTI/STI, and rural women who were visited by ANM during three months prior to survey.

RCH report produced data on the above variables for states and union territories and districts. It also produced bi-variate tables linking the above variables to urban-rural residence, caste (SC/ST and others), education (illiterate, 0-9 years and 10 and above) and type of house (kachcha, semi-pucca and pucca).

## Questions and Exercises

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1. What is the difference between positivism and phenomenology?
2. Select a national level study of fertility (you may use internet material) and critically examine its methodology and analysis plans.
3. What is the difference between interview and observation methods?
4. Suppose you are to conduct a sample survey of child mortality in UP. Develop a research design for this and identify major steps of research.
5. What is the difference between primary and secondary data? What secondary data you would use if you are to study causes of school drop out in rural areas in a few districts of Bihar?
6. What are major sources of demographic data in India? Which sources provide data on fertility and mortality?
7. Suppose you are to conduct FGD of rural youths to explore factors that expose them to risk of HIV. What steps you would follow?
8. Write short notes on the following:
  - a. Quantitative methods
  - b. Limitations of observation methods
  - c. Census data in India
  - d. Experimental methods
  - e. RCH surveys

## References

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