

GEOGRAPHY HONS

SEM VI

DSC 3: Population Geography

Major Sources of Collecting Population Data

Population Geography is an empirical science that discusses about the regional differences of population parameters.

Why does a population geographer need data?

Any population geographer needs population data mainly for two reasons:

- To record the situation of population at any give for a particular place. This is also known as stock data. It is represented by census and various social surveys.
- To record the population dynamics, that is, the population composition, combined effect of birth, death and migration on a particular area. It is known as flow data.

What are the various sources of collecting population data?

1. **Census:** It is the single largest source of data for population studies all over the world.

History of Census: The earliest example of modern type of census is known to have been conducted in New France (present-day Quebec) in Canada, in 1665 and Iceland in 1703. The first periodical census began in the United States in 1790 and in Britain and France in 1802. After the Second World War, with the assistance of the United Nations, the developing countries have begun census operations in a more scientific manner, and the output is becoming more and more reliable. By then, almost the whole of Europe had developed the system. At the present time, almost all the countries of the world, excluding a few exceptions (notably China), conduct census counting at regular interval.

Defination of Census: The modern population census has been defined by the United Nations as “the total process of collecting, compiling and publishing demographic, economic and social data pertaining, at a specified time or times, to all persons of a defined territory”. In other words, enumeration of the entire population of a country or a region at a particular time is called a census.

Characteristics of Census:

- **Periodicity**: In a census, population details are counted at a regular interval. Most of the countries, including India, conduct census every 10 years.
- **Simultaneity**: It refers to the counting of population simultaneously at a specified point of time. This time or date is known as reference date or census moment or census time. As a general rule, a day is fixed for the census and also a particular moment which is called the "census moment". In India, the "Census moment" now is the sunrise of 1st March, of the census year. The fixing of the "census moment" helps the enumerators to decide which persons are to be included in the census. The persons born after the census moment or the persons dying before the census moment are to be excluded from the census. Some of the characteristics of the population like age, marital status, occupation, literacy and birthplace etc., are referred to a period of time usually from 10th February to 28th February of the census year to ensure simultaneity.

Approaches of counting Census data

Two approaches are adopted.

- **De facto**: In the de facto approach, used in Australia for instance, each individual is recorded at the place where he/she is found at the time of enumeration.
- **De jure**: In the de jure approach, as in the United States, people are recorded at their normal or usual place of residence. In some countries, however, a combination of both the approaches is used, for example, in Brazil and England.

Problems/ Challenges in Census taking

- **Increasing costs**: To conduct a census, is a huge economic burden for a country, for example, on the 2010 census in the United States costing approximately USD\$13 billion, double what was spent on the 2000 census, which in turn doubled the 1990 cost. For many poor countries all over the world, taking huge amounts of money out of their limited resources for the purpose of census can be a very difficult thing. As a result of this, many poor countries cannot conduct censuses as regularly or as efficiently as richer countries do.
- **Intrusiveness, privacy concerns, and response burden**: People don't share private data.
- **Lower public cooperation and participation**. This is mostly due to illiterate population who have taboo is sharing details with the authority.
- **Difficulties in accessing** secure apartments and enumerating unsafe areas

- More complex living arrangements, for example, individuals living in multiple locations (such as children of separated parents), the homeless, nomads, refugees, and other hard to reach populations
- Timelines in relation to user needs, for example, needs for more frequent data on changing patterns of internal and international migration.
- Corruption during census can make it difficult to have an efficient population census exercise that provides accurate population figures. This automatically leads to inaccurate population figures of a country. Also, in countries where population sizes determine how much money the central government releases to a state or province, corruption can easily overtake the census taking process and make states to exaggerate their population sizes in order to get a bigger share of funds during the central government's distribution of funds.
- Insufficient number of professionals with the knowledge and experience of conducting census. More often than not, governments of underdeveloped countries don't have sufficient experienced census officers, demographers and population experts to effectively handle the task of conducting population census. As a result of this, these countries end up using inexperienced census officers to do the job.

Essential features of a Census/ Requisites of a Census

- Sponsorship: To conduct a census, vast organisation and considerable resources are needed. The census organisation has to mobilise extensive administrative machinery with adequate legislative authority. This can be done only by National Government with the cooperation of States and Local Governments.
- Defined Territory: The population figures have no meaning unless they refer to a well defined territory. The territory covered, along with any changes in its area in successive censuses should be clearly and explicitly stated.
- Universality: Each person present and/or residing within its scope, without omission or duplication should be included in the census to ensure completeness and accuracy of census data.
- Simultaneity: The total population enumerated should refer to one well defined point of time and the data collected should also refer to a well defined point or period of time. This is essential to an accurate count of the total population and relationship of facts about the population to a specified period of time.
- Defined Periodicity: Censuses should be taken at regular intervals so that comparable information is made available in a fixed sequence. A series of censuses makes it possible to appraise the past, accurately describe the present and estimate the future.
- Individual Units: Census data must be collected separately for each individual so that detailed classifications may be provided in all the required combinations. A procedure of "group enumeration" is not a census in the strict sense of the term because the recording of aggregated or summarized information on the characteristics of a group of person usually precludes the cross-tabulation of data on several characteristics.
- Compilation and Publications: No census is complete unless the data collected are compiled and published by geographic areas and by basic demographic variables. The unpublished data is of no use to the potential users of the census data. That is why the census should be limited to very important items which can be tabulated and published in time.

- International Simultaneity: The census of any country is of greater value nationally, regionally and internationally if it can be compared with the censuses of other countries which are taken at approximately the same time. Censuses in most countries of the world are conducted in years ending in 0 or 1. In India, the decennial censuses are conducted in years ending in 1. International comparability is thus maintained. **The Indian census accompanies all the above features.**

2. CIVIL REGISTRATION SYSTEM

Civil Registration is defined as continuous, permanent, compulsory recording of the occurrence and characteristics of vital events (birth, death, marriage etc.) as defined in and as provided through decree or regulation in accordance with the legal requirements of a country

HISTORY OF CRS

The first civil registration system was introduced in England and Wales in 1836 and Scotland in 1854. Britain, however, cannot be regarded as the birthplace of official vital statistics (Cox, 1976: 23). Even before Britain, in Sweden, a law for making of tabular records of population had come into existence as early as in 1748.

Though, a practice of collecting information on list of baptism, burials and wedding by churches is known to have existed from much earlier time in Europe, vital registration system is a matter of nineteenth and twentieth centuries only.

USES OF CRS

For Individuals

- It provides a **safeguard to social status and individual benefits**.
- It serves as a vital evidence to **prove nationality**.
- Birth registration records are required as **age proof** in any individual career system.
- Among other benefits the system provides the individual with a unique identity (her/his name), **records parental relationships**.
- The **death registration** record is generally required for **settlement of inheritance, insurance claims, claiming family allowances** and other social security benefits.
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For Administration

- Important tool for **studying the dynamics of the population** of any country or region

- Provide several, other ancillary information like in case of birth registration, sex of the baby, mother's age, the number of her previous children, the order of the birth, the residence of the parents etc. In case of death, it helps in the recording of information on date and place of death, sex, age and occupation of the deceased and the cause of death.
- In case of birth, it provides information to the government about vaccination, immunization, premature baby care, assistance to the disabled, etc
- Death records are required to provide information about disease case register, electoral roll, social security, etc.

3. DEMOGRAPHIC SAMPLE SURVEYS

Demographic sample surveys form another important source of population data. In sample surveys data are obtained from selected samples and the extent of statistical error in the data is minimized by regulating the size of the samples. The data thus obtained have several uses such as bringing up-to-date the results of a complete count taken some time in past, checking the accuracy and supplementing the data of current complete count etc.

There are three types of Demographic Sample surveys going on in India:

- **3.1 National Sample Survey:**

The National Sample Survey (NSS) is one of the oldest continuing household sample surveys in the developing world. The survey is conducted on a regular basis by the National Sample Survey Organisation (NSSO), India's premier data collection agency. Since 1972, the NSSO has fallen under the Ministry of Statistics and Program Implementation of the Government of India (GOI).

Importance of NSS: The data provided by NSS serves an important tool for Indian economy. At independence and much after, the country was faced with a subsistence production structure (mainly in agriculture) characterized by mass poverty and hunger. Systematic data on the extent, magnitude, and patterns of poverty, as well as on household consumption patterns and trends, were not readily available for informed policy interventions. To remedy this, the GOI launched the NSS to gather nationally representative information on household structure, consumption, and production.

History of NSS: The first NSS round was conducted in 1950–1951 and included information on land utilization, prices of essential commodities, and daily wages of skilled and unskilled laborers at the village level. At the household level, data was obtained on demographic characteristics as well as land ownership, cultivation, and utilization. In addition, detailed data was gathered on monthly and weekly consumption, as well as on entrepreneurial activities, from a subset of the sampled households. The first round was based on a random sample of only 1,833 villages out of a total of 560,000.

The coverage of the NSS varies over the different rounds. Each round always obtains information on consumption and employment; however, the rounds also cover other subjects, such as health, schooling, or disability, in the form of additional modules. Thus, for instance, the fifty-eighth round focused on disability, housing conditions, village facilities, and urban slums, while the sixtieth round covered morbidity, health care, and conditions of the elderly. Since its inception, the NSS has covered some fifty different subjects in its surveys, such as household debt and investment, literacy and culture, health, schooling, and village-level infrastructure.

Until 1998 the unit record data from the NSS was not available to the public. In 1998 the GOI made the NSS unit record data, retrospectively from the thirty-eighth round of 1983, available in the public domain at a modest fee. Since that time, numerous researchers have used the data to address a number of issues, such as health, nutrition, schooling, disability, small-scale industry, and food subsidies

Weakness of NSS data

- The NSS **has sometimes changed its data collection methodology midstream**, and this has affected the comparability of NSS estimates over time. This was particularly the case in the fifty-fifth round, when the NSS adopted a different reporting period for certain types of consumption expenditures, rendering consumption and poverty estimates from that survey noncomparable to those from earlier periods.
- Another weakness of the data is that, unlike some other national socioeconomic surveys (notably the National Socio-Economic Household Survey, or SUSENAS, of Indonesia), **there is no fixed rotation schedule for the special-interest modules** that are attached to the core consumption-employment module of the NSS. As a result, it is difficult to obtain nationally representative data on important topics such as health and education on a regular, ongoing basis. For instance, the NSS included a health-care module in the fifty-second round conducted in 1995–1996, but this was not repeated until the sixtieth round in 2004. Likewise, the topic of rural assets and indebtedness was covered in the forty-eighth round in 1992 and only revisited in 2003 in the fifty-ninth round. It would be helpful if a regular rotation schedule were established whereby important topics such as health, schooling, and assets could be covered every three or four years.

• **3.2 Sample Registration System:**

The Sample Registration System (SRS) is a large-scale demographic survey for providing reliable annual estimates of Infant mortality rate, birth rate, death rate and other fertility & mortality indicators at the national and sub-national levels.

It is initiated on a pilot basis by the Office of the Registrar General, India in a few selected states in 1964-65. Gradually, 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. The current Sample is based on the 2011 Census frame. At present, SRS is operational in 8850 sample units (4,961 rural and 3,889 urban) covering about 7.9 million population, spread across all States and Union territories.

• **3.3. National Family Health Surveys**

The National Family Health Survey (NFHS) is a large-scale, multi-round survey conducted in a representative sample of households throughout India. The NFHS is a collaborative project of the International Institute for Population Sciences (IIPS), Mumbai, India; ORC Macro, Calverton, Maryland, USA and the East-West Center, Honolulu, Hawaii, USA.

The Ministry of Health and Family Welfare (MOHFW), Government of India, designated IIPS as the nodal agency, responsible for providing coordination and technical guidance for the NFHS.

NFHS was funded by the United States Agency for International Development (USAID) with supplementary support from United Nations Children's Fund (UNICEF). IIPS collaborated with a number of Field Organizations (FO) for survey implementation. Each FO was responsible for conducting survey activities in one or more states covered by the NFHS. Technical assistance for the NFHS was provided by ORC Macro and the East-West Center.

The First National Family Health Survey (NFHS-1) was conducted in 1992-93. The survey collected extensive information on population, health, and nutrition, with an emphasis on women and young children in Eighteen centres. The second NFHS was conducted in 1998-99 in 26 states followed by a third round in 2005-06 in 29 states.

Advantages of Sample System:

- It requires a smaller number of staff or interviewers, and thus, is less expensive.
- With the help of more skilled interviewers and properly designed questionnaires, information on some specific topics can be obtained in detail through sample surveys, which are ordinarily not possible in periodic complete counts.
- The data obtained through a sample survey are more reliable.
- Sample surveys can be conducted more often and questions asked can be varied from time to time.

Disadvantages of Sample Surveys:

- Sample surveys cannot replace the complete counts. Sample surveys and periodic complete counts are basically complementary to each other.
- An efficient sampling requires stratification, and this can be achieved only if there is a suitable reference framework based on a recent complete count of some sort (Cox, 1976:42).

- Sample survey is largely dependent on Census. So, an inefficient or incorrect Census will lead to a faulty Sample survey.

4. Population Registers:

In the Scandinavian countries and some other European countries like the Netherlands, Belgium and Finland the local registration bureaus maintain registers in which details about each individual are continuously recorded. These registers are known as population registers and they provide a comprehensive account of the changes that take place in the population. In this system, a separate card for each individual is maintained from the time of his/her birth (or immigration) to his/her death (or emigration).

Sweden is said to be the first country to have started this system in the seventeenth century

In India, it is known as National Population Register (NPR). It is a Register of usual residents of the country. It is being prepared at the local (Village/sub-Town), sub-District, District, State and National level under provisions of the Citizenship Act 1955 and the Citizenship (Registration of Citizens and issue of National Identity Cards) Rules, 2003. It is mandatory for every usual resident of India to register in the NPR. A usual resident is defined for the purposes of NPR as a person who has resided in a local area for the past 6 months or more or a person who intends to reside in that area for the next 6 months or more.

Demographic Particulars contained in NPR

The following demographic details of every individual are required for every usual resident:

- Name of person
- Relationship to head of household
- Father's name
- Mother's name
- Spouse's name (if married)
- Sex
- Date of Birth
- Marital status
- Place of birth
- Nationality (as declared)
- Present address of usual residence
- Duration of stay at present address
- Permanent residential address
- Occupation/Activity
- Educational qualification

Present status of NPR:

The data for National Population Register was collected in 2010 alongwith the houselisting phase of Census of India 2011. The updation of this data was done during 2015 by conducting door to door survey. The digitisation of the updated information has been completed. Now it has been decided to update the National Population Register along with the Houselisting phase of Census 2021 during April to September 2020 in all the States/UTs

except Assam. A Gazette notification to this effect has already been published by the Central Government

5. International Publications:

The United Nations and its various organs, along with other international agencies such as the World Bank, publish population data for the world as a whole and for different countries separately at regular interval. The most important of them is the Demographic Year Book, published by the UN.

It provides data on such wide ranging topics as population size, area, density, urban population, population growth, age-sex composition, number of births and birth rate, number of deaths and death rate etc. Sometimes, the volume is devoted to special topics, which include fertility, mortality, marriage, divorce, migration, and population census statistics.

The special volume includes detailed statistics regarding a particular topic. Besides, the UN also publishes the Population and Vital Statistics Report quarterly which includes latest data on total population, total mid-year population and estimate of population for a recent reference year (Srinivasan, 1998:56). Information on vital events includes total number of births, deaths, infant deaths, crude birth rates and crude death rates.

The United Nations Development Programme (UNDP) also publishes data on various social, economic and demographic aspects for the world and for different countries in its annual Human Development Report. Other international publications on world population data include Production Year Book of FAO, Year Book of Labor Statistics of ILO, Statistical Year Book of UNESCO, and World Health Statistics Annual of WHO. While the FAO publication provides information on agricultural population, the publication of ILO gives detailed data on the economically active population.

Similarly, the UNESCO publication provides data on education, literacy and school attendance for different countries of the world. The monthly periodical of WHO presents data on public health and mortality for different countries of the world. Apart from the above sources, the World Bank also publishes data on various demographic, social and economic aspects in its annual World Development Report.
