

CENSUS AND SAMPLE SURVEYS

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9.1 INTRODUCTION

You have already studied the introduction to cartography in Block 1 of this course, where we acquainted you with maps and their types. In this unit, you will study the population enumeration or census and sample surveys with various other surveys as these are considered as important data sources for geographical studies. The data gathered from these can be used as a secondary source to prepare certain maps or in thematic cartography. After reading this unit, you will not only come to know about the need of conducting such vast and extensive surveys ranging from a year basis to decades but also explore the answers to certain leading geographical questions. These may cover what, where, why, when and how of census and sample surveys conducted by different Government agencies in India periodically for meeting the varied needs of the country in detail.

You need to understand here that Census is the full head count meaning thereby each and every member is covered in the information. This aspect has

been dealt with in Section 9.2. In next Section 9.3, the details of data collected from all India educational survey has been discussed. In case of Sample Survey, only a proportion of the population is taken into consideration for survey. For sample survey, some techniques are used to select the proportion of population and identification of population for survey. This technique is called sampling technique. You will study all such information in Section 9.4. Next Section 9.5 will highlight the data related to health and other aspects of the population. The last Section 9.6 deals with the data on agriculture and livestock resources of the country.

Expected Learning Outcomes

After completing the study of this unit, you should be able to:

- ❖ explain the importance of census and sample surveys as the sources of data for geographical studies and thematic cartography;
- ❖ describe the population census;
- ❖ discuss the sample surveys; and
- ❖ discuss the agriculture census and livestock surveys.

9.2 POPULATION ENUMERATION (CENSUS)

Maintaining statistics on population has been an age-old practice. It was earlier related to taxation and military purposes. The modern Census in the world was started in 17th Century in various parts of the world. In North America and England, the first full census started in 1790 and 1801, respectively. India is one among the countries having successfully conducting Census enumeration for a long time. And even before this, during 800-600 BC, there are some accounts of population count. The written account is found in Kautilya's Arthashastra of 321-296 BC for taxation purpose. Ain-e-Akbari also mentions the collection of some population data. Census of various towns were also conducted at various times by British prior to the Imperial Census held in 1871. For instance, the limited census was conducted in Allahabad (1824), Banaras (1827-28), Dacca (now Dhaka, 1830), Madras (1851-52) and in North Western Provinces (1852). These Censuses were conducted in five years interval till 1872 (known as 1871 Census). In India, the present modern census was started in 1872 with first census starting the process in 1865 with actual head count in various parts of the country. Moreover, a very systematic continuously evolving population census has been in practice since 1881 every decade or 10 years counting fifteenth since 1872.

The 1881 Census provided complete geographical coverage except Kashmir with classification of data under demographic, economic and social characteristics. In 1891, additional coverage was given to the upper parts of Burma (present Myanmar), Kashmir and Sikkim with information on mother tongue and parental tongue with modification on religion, cast, literacy and occupation. The 1901 Census expanded to Baluchistan (present Pakistan), Rajputana, Andaman and Nicobar, Burma, Punjab and remote areas of Kashmir. Provision of house number was introduced with caste records of

Hindus and Jains and tribe or race of people of other religion. The 1911 Census included the knowledge of foreign language "English" and sects of Christian. The 1921 Census covered the Indian Empire and continued the information on caste, tribe or race irrespective of religion. It gives the extensive details of data with ethnographic report containing caste, tribe, race and religion. The 1941 Census included the employment information and refined the question on literacy. The 1951 Census covered the whole country except Jammu and Kashmir and included fertility, unemployment, infirmity and size of family. The 1961 and 1971 Censuses used household/establishment schedule and individual slips to collect various data including fertility and migration details. In 1981, the details were further expanded on education, marital status, migration and employment status through same schedules and lists. The 1991 Census prepared Primary Census Abstract at micro level (village and ward) for rural and urban areas. It captured the data related to literacy with new definition (considering population of age 7 years and above rather than 4 years as taken in 1981). Some dimensions of work were also included. In 2001 Census, possession of assets, disability and travel related information were collected. In 2011, further details on amenities and facilities including gadgets like computer/laptop, mobile/telephone facility, and fuels etc. were collected. It also included the third gender, expansion of type of disability, school attendance status, travel for work and migration were also included in a diversified and integrated manner.

The Census of India collects and provides data under various series. These are:

A – Series Tables: General Population Tables

A-Series tables give general population table including final population & sex ratio, population (0 to 6 years) and sex ratio (0 to 6 years), population of scheduled castes and scheduled tribes, literate population and literacy rate, worker and non-worker, main and marginal worker, and type of worker (e.g., cultivator, agricultural labourer, worker in household industry and other worker). This series gives broad profile of population with above information.

B – Series Tables: Economic Tables

B Series table gives data mainly on economic activities by work status (Main, Marginal, Non-Workers Seeking/Available for work), social groups (SC, ST, Others), age, sex, marital status, religion and other backgrounds like educational level, rural-urban and industrial category. These information are further expanded. This data also gives information at three digit level, i.e. individual occupation level. The data of this series is very important to know about the economic profile in terms of working population by various backgrounds for the assessment of present condition and also for future economic planning.

C – Series: Social and Cultural Tables

C Series data provides information on social and cultural aspects. The data includes marital status, age at marriage, duration of marriage, work status and occupation, educational level, by social groups, age and sex, religion,

population attending educational institution by age, sex and type of educational institution; single year age returns by residence (rural/urban) and sex, population in five year age-group by residence and sex; religious community by age-group and sex; population by bilingualism, trilingualism, age and sex; disabled population by type of disability, age, sex and marital status; and disabled population among main workers, marginal workers, non-workers by type of disability, age and sex. C series data has immense importance to look at the socio-cultural aspect and address the major issues through proper intervention like age at marriage, work status, education, age-sex profile (pyramid), lingualism, language shifts, disability, etc.

D – Series: Migration Tables

D Series data pertains to migration. Population classified by place of birth, age and sex; Migrants classified by place of last residence, sex and duration of residence in place of enumeration; Migrants classified by place of last residence, duration of residence and reason for migration; population by place of last residence, sex and duration of residence in place of enumeration; Migrants by place of last residence, age, sex, educational level and duration of residence; Migrants by place of last residence with duration 0-9 years reporting 'Work/Employment' as reason for migration by age, sex and educational level (by India/State/City); Migrant workers by place of last residence and industrial category; Migrant workers (other than cultivators and agricultural labourers) from place of last residence and occupational division; Migrants by place of last residence, age, sex, marital status and duration of residence 0-9 years; and Persons born and enumerated in districts of the State. Migration data is very important to address the issues related to migration at both places of origin and destination in terms of shortage of labour and lopsided demographic profile at origin and provision of infrastructure and amenities at the destination. It is very important to have migration data for the planning and management during very critical times like present pandemic situation (2020) in the country.

F – Series: Fertility Tables

F Series data gives information on fertility. It includes currently married women by number of children ever born, number of male children ever born and number of surviving children by sex; number of women and ever married women by present age, parity and total children ever born by sex; number of women and ever married women by present age, parity, religious community and total children ever born by sex; number of women and ever married women by present age, parity, educational level and total children ever born by sex; number of women and ever married women by present age, parity, economic activity and total number of children ever born by sex; number of women and ever married women by present age, number of surviving children and total surviving children by sex; number of women and ever married women by present age, religious community, number of surviving children and total surviving children by sex; number of women and ever married women by present age, educational level, number of surviving children and total surviving children by sex; number of women and ever married women by present age, economic activity, number of surviving children and total surviving children – census of India 2001; number of women and ever married women by present

age, economic activity, number of surviving children and total surviving children by sex; number of women and currently married women by present age, number of births last year by sex and birth order; number of women and currently married women by present age, religious community, number of births last year by sex and birth order; number of women and currently married women by present age, educational level, number of births last year by sex and birth order; and ever married women by number of children ever born, number of male children ever born and number of surviving children by sex. These are disaggregated by social groups (SC, ST and Others). These tables are very important for the projection of population, population planning, planning for future needs, maternal and child care and women welfare, etc.

HH – Series: Household Tables

HH Series provides the data on households. Households by composition and size; Normal households by household Size, households by usage, with number of aged persons by sex and household size, household by ; marital Status, sex and age of the head of the household; Religion, sex of the head of the household and household size; by number of literates and religion, by disabled males and females, number of workers, by members without educational levels, by children attending schools, by members seeking/ available for work. The data are provided by social groups also.

H – Series: Tables on Houses, Household Amenities and Assets

H Series provides data on houses, household amenities and assets. The broad coverages are census houses and the use to which they are put, condition of census houses used as residence and residence-cum-other use, distribution of households by condition of census houses occupied by them; distribution of census houses by predominant material of roof, wall and floor; distribution of households living in census houses by predominant material of roof, wall and floor; distribution of census houses used as residence and residence-cum-other use by their type of structure; distribution of households by type of census houses occupied; distribution of households by size and number of dwelling rooms; distribution of households by ownership status of census houses occupied by them and number of dwelling rooms; distribution of households by number of married couples in a household and number of dwelling rooms, total number of married couples and number of married couples having independent sleeping room, distribution of households by amenities like source of drinking water and its location, by source of lighting, by availability of bathroom and type of latrine within the house and type of drainage connectivity for waste water outlet, by availability of separate kitchen and type of fuel used for cooking, by source and location of drinking water and availability of electricity and latrine; and by assets like number of households availing banking services and number of households having each of the specified assets. H series data reflects the living conditions with access to housing, drinking water facilities, toilet and bathroom, fuel, electricity, banking facilities, population with assets, etc. This data is also very helpful in assessment and planning various policies.

SC/ST - Series: Tables on Individual Scheduled Castes (SC) and Scheduled Tribes (ST)

Under this type of data, Primary Census Abstract data provides information on Population, Population (0-6 years), Literates, Total workers, Main workers and Marginal workers, Type of workers: Cultivators, Agricultural labourers, Workers in household industries and Other workers, Non-workers of individual Scheduled Castes (SC) and Scheduled Tribes (ST) in a state by sex and rural/urban break up Population of individual SCs/STs at district level are available only in compact disc (CD). This data gives the situation among SCs and STs and plan for their upliftment.

These data are extremely valuable in geographical studies and thematic mapping.

SAQ 1

What is population enumeration? Explain.

9.3 ALL INDIA EDUCATIONAL SURVEY

The All India Educational Survey (AIES) was started in 1957 by the National Council of Educational Research and Training (NCERT) to collect, organise and disseminate the information on the overall progress in education in the country. These information act as basic inputs for developing educational policies at micro and macro levels, and monitoring the progress of education by central and state governments. The indicators for which data are collected are availability of schooling facilities in rural habitations, physical and educational facilities in schools, incentive schemes and beneficiaries, medium of instruction and languages taught, enrolment particularly of SCs, STs, girls and educationally backward minority community, teachers and their academic and professional qualifications, library, laboratory, ancillary staff and subject-wise enrolment at +2 stage of education. In addition, the enrolment and teachers in unrecognised schools, Alternative Schools and AIE Centers, Oriental Schools covering Sanskrit Pathshalas, Madarsas and Maktabas; Special Schools for children with disabilities, and Pre-Primary Institutions are covered.

The major objectives of the survey have been to assess the availability of various levels of schooling facilities for habitations by population size and location or distance of availability; to assess the basic facilities available in the school like building, classrooms, drinking water, electricity, toilets, furniture, medical facilities including vaccination, etc; class and subject-wise enrolment, availability of qualified teachers, availability of science laboratories and library, physical education teachers, librarian, guidance counsellor, non-teaching staff in secondary and higher secondary schools; medium of instruction and languages taught, disabilities, etc. The survey included unrecognized and schools/centres under Education Guarantee Scheme & Alternative and Innovative Education (EGS & AIE), oriental schools, like Maktabas, Madarsas and Sanskrit Pathshalas also for information collection along with recognized schools. The social group and gender have also been in consideration in the survey. The other information's are related to estimate the class-wise

enrolment by single age, new entrants, promotees, repeaters and attendance in the context of Universal Elementary Education (UEE).

Such kind of information have been of great use in measuring the furthering of our educational progress in the country by planning and policy formulation, implementing and monitoring.

SAQ 2

What is All India Educational Survey?

9.4 SAMPLE SURVEYS

There are surveys which collect information of various types covering well designed samples so that the statistics or information collected from these samples give maximum representation to the entire population or universe. In India, the National Sample Survey has been one of the oldest and largest such survey. The other surveys are Sample Registration System (SRS) and Civil Registration System.

9.4.1 National Sample Survey (NSS)

After a long initiative since British time, the National Sample Surveys came into being in 1950 to collect information on a variety of socio-economic aspects through sample surveys in the country which came under the National Sample Survey Organization in 1970. It collects information through household surveys, enterprise surveys, village facilities and land and livestock holdings, and special surveys covering a wide range of information.

NSS collects the information related to economic, health, education, villages facilities, slums, social and cultural aspects. Economic information includes employment and unemployment, livelihood, consumer expenditure, Common Property Resources (CPR), trade and finance, non-agricultural enterprises, debt and investment, land and livestock holdings, situation assessment of agricultural, status of work participation under **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA)**, household expenditure on services and durable goods, etc. Social information includes living conditions and economic activities of tribals, migration & ownership of land by non-tribals in tribal areas, etc. Health and education as social consumption in India are also a part of NSS, which collects the information on maternity, childcare, development milestones of children, morbidity, disabled persons, family planning and utilization of medical services and health under health and literacy, participation and expenditure in education under the category of education.

Besides these, the information on culture, particulars of slums housing conditions and migration, village facilities and domestic tourism are also collected.

9.4.2 Sample Registration System

It is also known as Vital or Civil Registration System. This is a system to

record vital events like births and deaths by the Government of India. In India, the registration of births, still births and death is mandatory because correct and latest information on fertility and mortality is essential for the planning of programmes related to health and health care services. With the enactment of Registration of Births & Deaths Act, 1969, the sample registration of births and deaths in India was started fully in 1969-70 by the Registrar General of India, though it was running on pilot basis from 1964. It is now known as Sample Registration System (SRS).

The main objective of the SRS is to collect and provide reliable estimated data on fertility and mortality measures like birth rate, death rate and neonatal/infant/child mortality rates at disaggregated levels for rural and urban areas with total estimations across the states. It also gives the information on the causes of deaths (rural) under the title "Survey of Causes of Deaths (Rural)." SRS is based on dual record system where a resident part time enumerator does the continuous enumeration of births and deaths in sample unit of area (rural/urban blocks) and also by a full time supervisor on six monthly bases. Finally, the data collected from both are matched and rectified, if there is any discrepancy. Sampling frame is also revised every ten years based on the latest census results for wider representation of the existing population.

SAQ 3

What are sample surveys?

9.5 NFHS AND DLHS

There are some health surveys started in recent times like National Family Health Survey (NFHS) and Reproductive and Child Health- District Level Household Survey (RCH-DLHS). NFHS was started in by International Institute of Population Studies in 1992-93 in collaboration with East West Center, the Population Research Centres and Ministry of Health and Family Welfare, Govt. of India to strengthen the survey research capabilities of population research in India. Since then, four surveys have already been completed and 5th (2018-19) is in progress. NFHS includes the statistics on various aspects of household population and housing characteristics, characteristics of respondents, fertility and fertility preferences, family planning, other proximate determinants of fertility, infant and child mortality, maternal health, child health, nutrition and anaemia and child and adults, morbidity and health care, other adult health issues, Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) related knowledge, attitudes and behaviour, HIV prevalence, women empowerment and domestic violence.

DLHS has started since 1998-99 by the Ministry of Health and Family Welfare and International Institute of Population Studies (IIPS).

Population and household profile with amenities and facilities, marital status, background characteristics of women, fertility, use of family planning, Unmet Need of Family planning, quality of family planning services, antenatal care, delivery care, women receiving Janani Suraksha Yojana (JSY) benefits,

women having pregnancy related complications, live births, still births, child immunization, child feeding practices, birth weight, awareness about diarrhoea and Acute Respiratory Infection (ARI), treatment of childhood diseases, Awareness of Reproductive Tract Infection/Sexually Transmitted Diseases (RTI/STI) and Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS), utilization of government health services, birth registration, personal habits (age 15 years and above), reported prevalence of morbidity, reported prevalence of chronic illness during last one year, nutritional status of children below 5 years, anaemia status by haemoglobin level, blood sugar level, hypertension, health facilities covered, health programmes at village level, accessibility of health facility, and availability of health infrastructure, staff and services.

SAQ 4

What do you understand by NFHS and DLHS?

9.6 AGRICULTURAL CENSUS AND LIVESTOCK SURVEY

Agricultural Census

Agricultural Census is conducted every five years with full coverage by the Agriculture Census Division, Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India since 1970-71 in collaboration with the States and Union Territories. It is a part of the programme of World Census of Agricultural. Initially, it was sample based for the years 1950s and 1960s. Ten agricultural censuses have been conducted so far, 2015-16 being the last one.

The data is collected social group wise for size class-wise number and area of operational holdings, size class-wise estimated number and area of operational holdings by tenancy status, size class-wise estimated leased in area by terms of leasing, size class-wise estimated area under different land use, size class-wise estimated number of operational holdings by irrigation status, size class-wise estimated number of operational holdings, receiving irrigation and area irrigated by different sources, size class-wise estimated number of wells and tube wells, size class-wise estimated irrigated and unirrigated area, under different crops (paddy, jowar, bajra, maize, ragi, wheat, cereals, gram, tur, urad, pulses, sugarcane, sugar crops, spices & condiments, fruits, vegetables, food crops, groundnuts, sesamum, rapeseed & mustard, sunflower, coconut, soybean, oilseeds, cotton, jute, fibres, dyes & tanning material, tobacco, drugs & narcotics, fodder & green manures, tea, coffee, rubber, plantation crops, floriculture crops, aromatic & medicinal plant, non-food crops).

Livestock Census

Livestock Census began in India in 1919-20 and 19 censuses have already

been conducted since then. It includes complete count of livestock and poultry. It includes the enumeration of number with age and sex of livestock and poultry through survey of households and other establishments or institutions in rural and urban areas. However, the estimation is made annually for the major livestock products like milk, eggs, meat and wool, etc. The survey includes district wise breedwise population of buffalo and cattle. Exotic and Cross bred Cattle, Indigenous Cattle, Buffaloes, Sheep and Goat, Pig, Horses and Ponies, Donkeys/Mithun/Yak, Mules, Camel, Elephant/Dogs/Rabbit and Poultry (Fowl, Ducks, Turkeys, Quails, Other poultry, and number of birds in Farms/ Hatcheries) along with their sexwise characteristics in terms of age and utility.

SAQ 5

What are Agricultural Census and Livestock Survey?

9.7 SUMMARY

In this unit, you have studied so far:

- Population enumeration covering history, evolution and various data captured by the census in India.
- All India Educational Survey with objectives and aspects of data collected, organized and disseminated.
- Sample surveys covering National Sample Surveys and Vital or Civil Registration System known as Sample Registration System in India.
- NFHS and DLHS with their coverages.
- Agricultural census and livestock survey with the nature of data collected under these.

9.8 TERMINAL QUESTIONS

1. What do you mean by population enumeration? Explain in details the evolution of Indian Census and data collected under this.
2. Discuss the objectives of All India Educational Survey and data collected by the survey.
3. Explain in details the purpose and data coverage of sample surveys in India.
4. What are NFHS and DLHS? Give detailed account of data collected under these surveys.
5. What are Agricultural Census and Livestock Survey? Elaborate.

9.9 ANSWERS

Self Assessment Questions

1. Enumeration is a process where the detailed information of each and

every member is collected through schedule. It is also known as census.

2. The All India Educational Survey started in 1957 by the National Council of Educational Research and Training (NCERT) collects, organises and disseminates the information on the overall progress of education in the country in the form of various aspects of school education.
3. Sample surveys are the surveys based on certain samples to collect the information of national importance for planning and development in the country.
4. NFHS and DLHS are health surveys based on samples in the country starting since 1992-92 and 1998-99 respectively with major focus on maternal and child health and health care including various background characteristics.
5. Agriculture census started in 1970-71 is also a kind of enumeration related to social group and size class wise multiple aspects of land like operational holding, tenancy, land use, irrigation and so on. Livestock census started in 1919-20 is conducted to collect the information related to livestock and poultry with complete count.

Terminal Questions

1. Explain population enumeration and give a description of data collected under various series by the Indian Census with their utility. Refer to the Section 9.2.
2. Discuss why All India Educational Surveys are conducted and also mention the data collected by the All India Educational Survey. Refer to the Section 9.3.
3. Discuss why sample surveys were started and what type of data is collected under this. Refer to the Section 9.4.
4. Explain what are NFHS and DLHS and thereafter discuss the types of data collected by NFHS and DLHS. Refer to the Section 9.5.
5. Explain what are agricultural census and livestock survey. List out and discuss the various kinds of data collected under these. Refer to the Section 9.6.

9.10 REFERENCES/SUGGESTED FURTHER READING

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