

Summary

- Demography is the statistical study of human populations and sub-populations. It can be a very general science that can be applied to any kind of dynamic human population, that is, one that changes over time or space (see population dynamics). It encompasses the study of the size, structure, and distribution of these populations, and spatial and/or temporal changes in them in response to birth, migration, aging and death
- Demographic analysis can be applied to whole societies or to groups defined by criteria such as education, nationality, religion and ethnicity. Institutionally, demography is usually considered a field of sociology, though there are a number of independent demography departments. Formal demography limits its object of study to the measurement of populations processes, while the broader field of social demography population studies also analyze the relationships between economic, social, cultural and biological processes influencing a population
- The term demographics refers to characteristics of a population. There are two types of data collection
 - Direct and Indirect — with several different methods of each type
- **Direct data** come from vital statistics registries that track all births and deaths as well as certain changes in legal status such as marriage, divorce, and migration (registration of place of residence). In developed countries with good registration systems (such as the United States and much of Europe), registry statistics are the best method for estimating the number of births and deaths
- **Sample enumeration in censuses:** As the cost and limited number of questions that can be included in the questionnaire are the main disadvantages of a population and housing census, many countries carry out a sample enumeration in conjunction with the census to collect more detailed information on a separate (longer) questionnaire which is often referred to as the (long form)
- Collecting additional topics from a sample of population or households during the census operation is a cost-effective way to broaden the scope of the census to meet the increasing and expanded needs for demographic and social statistics. The use of sampling makes it feasible to produce urgently needed data with acceptable precision when factors of time and cost would make it impractical to obtain such data from a complete enumeration
- The success of the sample enumeration will depend on the strict execution of scientifically designed selection procedures. The most important factors to be considered in the design are the size and complexities of the sample. The advice of sampling statisticians who are conversant in both the theory of sampling and practical operations of carrying out a sample survey in the field is indispensable at all stages of the sampling operations
- Many countries have instituted a continuing survey programme, which include periodic surveys (such as annual or quarterly labour force surveys or annual surveys on cost of living etc.) and ad-hoc surveys to meet specific statistical data needs. Although ad-hoc surveys may satisfy immediate purposes, they do not ordinarily provide a framework for a continuing data base and time series. Continuing periodic

surveys, on other hand, are normally carried out to investigate a highly important phenomenon that needs to be monitored frequently. All **Household survey programmes** should be a part of the overall integrated statistical data collection system of the country, including censuses and administrative records, so that the overall needs for statistical data can be adequately met

- There are different types of household surveys that can be organized for collecting demographic and social statistics, including multi-subject surveys, specialized surveys, multi-phase surveys, panel surveys, etc. Each of these has its advantages and disadvantages and the selection of a specific programme depends upon the subject matter requirements as well as resource considerations
- **Single round retrospective survey:** countries have conducted two types of single-round retrospective surveys. One type has made use of a shorter questionnaire similar to the census type. The other has used an individual extended questionnaire combined with a shorter or extended, household questionnaire. The individual extended questionnaire was intended for a subsample of the population only, usually women of child-bearing age. In both, the households in the sample were interviewed once. The adoption of an extended household questionnaire with retrospective questions on fertility and mortality, has given the opportunity for mutual evaluation and plausibility of the parameters they yield
- **Follow up survey method:** A prospective survey approach was developed to collect current data on fertility, nuptiality and mortality in order to avoid as much as possible memory lapse and misunderstanding of the reference period. In this approach, cluster samples of households are interviewed repeatedly within certain periods of time. An inventory of all resident members of the household and certain basic particulars are recorded in the first round. At each subsequent round, changes in the household composition since the last interview are recorded including information on births, marital status, deaths, and in- and outmigration among members of the household. Special instructions are given to the interviewers to record emigrations and also to be sure that a death is not omitted
- **Dual records system approach:** The dual-records system was devised to obtain further refinements in the measurement of current fertility and mortality and thus of the natural population growth rate. Data on vital events in this system are obtained in a defined area by two independent data collection methods, a periodic household survey and a separate reporting method. The latter records vital events on a current basis in the sample households, which may involve regular visits to the household, or it, may rely on a network of informers, the recorder verifying the occurrence of the events. It also can be the civil registration system itself
- Problems found in data from population censuses and surveys, especially those from single-round surveys, have led to the development of **indirect techniques of demographic estimation**. These methods are based on mathematical models and utilize data from surveys and censuses concerning children ever born alive, children surviving, date of most recent child born alive and its survival status, survival of mother and father, survival of the first spouse, age, sex and marital status and so on, to generate different kinds of **fertility and mortality estimates**