SYLLABI-BOOK MAPPING TABLE

Social Demography

Syllabi	Mapping in Book
1. Demography Emergence of demography. Importance of the study. Sources of demographic data: Census. Vital statistics and sample surveys. Population theories: Malthusian theory, Optimum population theory, Marxists, views on population and Demographic transition theory.	**Unit 1:** Demography **(Pages 3-30)**
2. Fertility Relationships among fertility, fecundity and reproductive span. Fertility measurements. Differential fertility. Physiological and socio-cultural factors affecting fertility. Methods of contraception.	**Unit 2:** Fertility **(Pages 31-53)**
3. Mortality Mortality measurements. Causes of mortality. Differential mortality. Causes of Maternal mortality. Infant mortality: Causes and trends in India. Factors responsible for Female Feticide and Female Infanticide-their implications.	**Unit 3:** Mortality **(Pages 55-77)**
4. Migration Types and patterns. Factors influencing migration. Social and demographic effects of migration. Brain gain and Brain drain trends.	**Unit 4:** Migration **(Pages 79-93)**
5. Population Growth and Control Trends of population growth in India and the world. Factors influencing population growth in India. Population control in India: Need. Measures. Family Welfare Approach Services. Appraisal of India's National Population Policy.	**Unit 5:** Population Growth and Control **(Pages 95-114)**

CONTENTS

INTRODUCTION

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The study of demography as a subject has of late acquired great importance in social sciences. Demography provides concrete and statistical information on a population, such as its composition, distribution and classification. This provides information on several social and economic issues such as rate of unemployment, standard of living, marital status, growing trends in caste, religion and education, urbanization, labour conditions and relationship between population and economic development of the region or country.

After an introduction to the topic, this book *Social Demography* covers vital aspects of demography such as fertility, mortality and migration. It ends with demographic trends in India and the world, and looks into certain policies and programmes implemented by the Government of India to control population.

This book is presented in a user-friendly format and a clear, lucid language. Each unit contains an Introduction and a list of Unit Objectives to prepare the student for what to expect in the text. At the end of each unit are a Summary and a list of Key Terms, to aid in recollection. All units contain Questions and Exercises, and strategically placed 'Check Your Progress' questions so that the student can keep track of what has been learned.

UNIT 1 DEMOGRAPHY

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Structure

1.0 INTRODUCTION

Demography is one of the most important topics in social science. It provides concise information on a population, its composition, distribution and classification. Several social and economic issues such as unemployment, production, consumption, saving, standard of living, income condition, marital status, composition of family, growing trends in caste, religion and education, urbanization, labour conditions and relationship between population and economic development are studied under this topic. Demography also deals with age, sex, fertility and mortality. This unit will introduce the various theories of population and demographic terms.

First we shall learn the definition, objectives, scope and subject matter of demography. We will also discuss the importance of the study of demography as a subject. With constant increase in scope, there is a growing recognition of the importance of the study of demography. Generally, the study of demography has a certain aim. You will know about various such aims later in the unit.

This unit also focuses on demographic data and the various sources and methods of demographic data collection. There are three principle sources of demographic data—census, vital statistics and sample survey. This unit provides detailed information on these three sources of demographic data.

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In the final section of the unit, we shall discuss some of the most important theories of population, starting with the early thinkers down to theories of demographic transition. We shall begin with the Romans and Greeks and move on to the mercantilists, physiocrats, Karl Marx and Thomas Malthus. You will also learn about the optimum population theory and demographic transition theory of population. Each theory includes assumptions as well as criticism.

1.1 UNIT OBJECTIVES

After going through this unit, you will be able to:

- Define social demography
- Explain the nature, objective and scope of social demography
- Explain the importance of the study of social demography
- Describe demographic data and the various sources and methods of demographic data collection
- Explain the concepts of census, vital statistics and sample survey
- Discuss the various early theories of population
- Explain Malthus' theory of population
- Explain the theory of optimum population
- Discuss the Marxist view of population
- Elaborate on the demographic transition theory

1.2 EMERGENCE OF DEMOGRAPHY

The study of human population, especially size, growth, density, distribution and vital statistics, is termed as *demography*. Demography also studies physical characteristics such as age, sex, family size, marital status, education, geographic location and occupation.

Things to know

- The term demography was first used by Achille Guillard in 1855.
- The beginnings of demography can be traced back to John Graunt's *Natural and Political Observations Made Upon the Bills of Morality* published in 1662.
- Demography studies social and economic issues such as unemployment, production, consumption, saving, standard of living, income condition, marital status, composition of family, growing trends in caste, religion and education, urbanization, labour conditions, and relationship between population and economic development.

The term demography derives from the Greek words *demas* which means 'people' and *grapho* which means 'to draw or write'. Thus, demography is mainly concerned with *writing about people*.

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The following are some definitions of demography that will further help in the understanding of its meaning.

'Demography is the study of the size, territorial distribution and composition of population, change therein, and the component of such changes, which may be identified as natality, mortality, territorial movement (migration) and social mobility (change of status)'— **Philip M. Hauser and Dudley Duncan**

'Demography is the mathematical study of size, composition and special distribution of human population and of changes over time in these aspects through the operation of five processes of fertility, mortality, marriage, migration and social mobility. Although, it maintains a continuous descriptive and comparative analysis of trends in each of these processes and in their net result, its long-run goal is to develop a body of theory to explain the events that it charts and compares.' — **Donald J. Bogue**

'Demography is an elaborate study of population.'

This view has been elaborated by Frank Lorimer in his book *The Nature of Demography* published in 1957. Accordingly, 'Modern demography is closely related to economics, sociology, psychology, geography, mathematics, genetics, ecology, and anthropology. It is thus a multi-science discipline.' — **Spengler, Vance, Ryder, Lorimer and Moore**

'Demography is both an abstract science and applied technology.' — **John V. Grauman**

'With improved data, new technique and the precise measurement of the demographic transition that is occurring, demography has become science rather than literature.' — **Irene Taeuber**

'Demography deals with population statistics. Population studies deals with analytical interpretation of population dynamics and composition, which cover a wider area....We, are shifting from demography to population studies.' — **S.N. Agrawal.**

'Demography does not deal with the behavior of individuals but only with the aggregates of people or even part thereof. The numerical portrayal of human population is known as demography.' — **W. G. Barckley**

From these above definitions, it is clear that demography is a developing and dynamic discipline which can be studied in both its technical and societal aspects. The technical aspect involves the statistical analysis of a population, its size and composition and factors that are responsible for its growth and distribution. The societal aspect involves the relationship between demographic processes as well as social, political, economic, biological and ecological factors.

Objectives of demography

Demography and its scientific nature can be understood from an analysis of its objectives. In general, the study of demography has four important objectives, which are as follows:

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- To achieve knowledge of the organization, distribution and size of the population of the field of study.
- To describe the evolution and distribution of a population in an area.
- To predict future demographic evolution and its possible effects.
- To enquire into trends of population in a given area and its relation with the different aspects of social organization in that area.

Thus, it becomes clear that demography is a science and it comprises all the features of science, such as prediction about the future, enquiry into cause-effect relationships, observation and analysis. It also uses various scientific methods and approaches.

Scope of demography

It is now clear that the scope of demography is very wide. It can be categorized into two parts—macro-demography and micro-demography.

Macro-demography

Macro-demography deals with the causes of slow or rapid growth of a population, slow and rapid growth of birth rates and death rates, sex ratio and health condition of the population, and so on. Scholars like Spencer, Vance, Ryder, Moore and Lorimer have dealt with macro-demographic issues.

Several social and economic issues such as unemployment, production, consumption, saving, standard of living, income condition, marital status, composition of the family, growing trend about caste, religion and education, urbanization, labour condition, and relationship between population and economic development are all parts of macro-demography.

Micro-demography

Study of small units such as an individual, family or group falls under micro-demography. This is the study of only one social or economic aspect of a limited area. In other words, micro-demography is the study of distribution, growth and redistribution of a population within a community and state. An example would be the study of fertility rate of women in Rajasthan.

Subject matter of demography

Population is the most important subject matter of demography. It covers various population aspects such as:

- Size
- Composition
- Distribution
- Labour force
- Population policy

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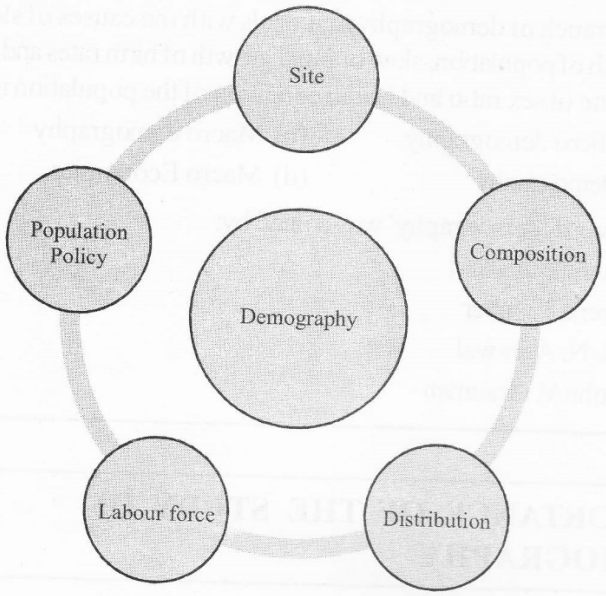

Fig. 1.1 Subject Matter of Demography

Size: The number of people living in a given place at a given time defines the size of the population.

Composition: Composition of a population covers all the measurable features of the people who form a given population. The most common characteristics are age and sex.

Distribution: This refers to the number of people distributed in rural and urban areas.

Labour force: This constitutes an important field of economic study. This is mainly used to study employment conditions.

Population policy: Population policy is used for population planning. This involves family planning, family planning programmes, progress and achievement, expenditure, targets, etc.

Check Your Progress

1. The study of demography deals with:
   (a) Population (b) Economy
   (c) Politics (d) Religion
2. For the proper planning of population, a country needs a:
   (a) Demographical study
   (b) Population policy
   (c) Labour force
   (d) Proper housing

contd...

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3. The branch of demography that deals with the causes of slow or rapid growth of population, slow or rapid growth of birth rates and death rates, and rate of sex ratio and health condition of the population is termed as:
   (a) Micro demography (b) Macro demography
   (c) Demography (d) Macro Economics
4. The word 'demography' was coined by:
   (a) Achille Guillard
   (b) Irene Taeuber
   (c) S. N. Agrawal
   (d) John V. Grauman

1.3 IMPORTANCE OF THE STUDY OF DEMOGRAPHY

In recent decades, the global population has been multiplying at fast rates. This phenomenon has a great impact on the social, political and economic life of humans. To study this, a separate field of study called demography has been introduced by sociologists. This does not mean that demography is only relevant to sociologists. Rather, it is also very important in the field of economics, geography, psychology and statistics.

After going through the scope and subject matter of demography, it becomes clear that demography is a very important field of study. With the constant increase in the scope of study of this subject, there is a growing recognition of its importance. The study of demography helps in understanding population trends of any given region with respect to economy, politics and society. The study also helps in population planning in developed and underdeveloped nations. The importance of demographic studies is clarified by the seriousness of the implications of rapid population growth. In most countries, the major problem concerning population is to control population growth in relation to the growth in food supplies, housing, education, employment and health amenities. Demographic studies can highlight requirements and conditions for future growth and development. Thus, the study of demography helps in planning health, food supply, employment, education and housing.

In the words of A.F.K. Organski, Professor of Political Science at the University of Michigan, the importance of the study of demography has been defined as:

> If you wish to know how fast a nation is progressing in its economic modernization, look at the figure of occupations, at the percentage of population engaged in agriculture, in industry and in services. For an indication of its living standards, look at the life expectancy because there is no better measure than the years of life a civilization gives each man. Would you know the state of national culture? Literacy figure and years of school completed will give you

some idea. Race relation? Look for differences in occupation, income schooling and length of life by race. National Power? Population size, combined with income or occupation figures will provide a basis for estimation.

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Check Your Progress

5. The study of the specification and characteristics of population of a place, race and religion in reference to its size, composition and distribution is the aim of:
   (a) Society
   (b) Politics
   (c) Economics
   (d) Demography
6. The study of demography helps in understanding:
   (a) Social problems
   (b) Population problems
   (c) Religion problems
   (d) Caste problems
7. A major problem concerning population is to control population growth in relation with:
   (a) Employment
   (b) Education
   (c) Business
   (d) Sports

1.4 SOURCES OF DEMOGRAPHIC DATA

Things to Know

- Census and vital statistics were initiated in India in the latter half of the 19th century.
- Sample survey method for data collection was used in India after Independence.

Nature of demographic data

Demography studies population statistics. The knowledge of population, its composition, distribution, age, sex, occupation and religion is important for any country in the world for the safety, security and social and economic development of its people. A country collects data of all these criteria of population for its progress and development and for the progress of its citizens. These data are collectively known as *demographic data*. The statistics used here are prepared by observations and recordings which take much time, expense and personnel.

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Sources of demographic data

There are three principle sources of demographic data. These are as follows:

- Census
- Vital statistics
- Sample surveys

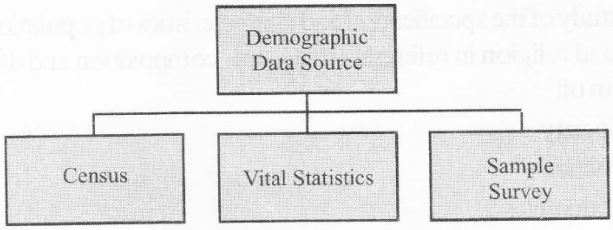

Fig. 1.2 Sources of Demographic Data

In demography, two kinds of information are usually studied. These are *information of characteristics* such as age, sex, inhabitance, language, etc., of a person living in an area and *information about vital events* like birth, death, marriage, divorce, widowhood, migration, etc. All this information is collected through various methods of data collection such as *census*, *sample survey* and *vital statistics*. In short, we can say that in demography both *qualitative* and *quantitative* aspects of human population are studied.

The various contents of demographic data are as follows:

- Birth rate
- Death rate
- Data concerning population structure
- Mortality data
- Fertility data
- Population size data
- Migration data
- Population distribution
- Labour force

(i) **Birth rate:** Only live births are taken into account.

(ii) **Death rate:** Death rate also includes stillbirth and foetal deaths.

(iii) **Data concerning population structure:** This data includes age structure, sex structure, literacy and educational structure, marital status, etc. Sex structure provides information on sex ratio, age structure shows the number of persons of various ages in the total population, literacy and educational structure shows the number of educated people in the total population, marital status shows the number of male, female, married and unmarried, widowers and widows, etc. The population structure process shows the number of population according to religion, region (rural and urban).

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(iv) **Mortality data:** This includes average expectation of life and birth, crude death rate, sex and age pattern of mortality, infant mortality rate, causes of death, mortality differential and trends in mortality.

(v) **Fertility rate:** This data includes fecundity and fertility. Fertility data shows the size of the family and also gives information on sterility, parity, conception, contraception and factors affecting the rate of fertility.

(vi) **Migration data:** Immigration and emigration are components of migration data. This also includes rate, trends and casual factors of both.

(vii) **Population distribution:** This includes the number of people living in a definite geographical area. It collects data of population distribution on the basis of residence (rural and urban). It also depicts trends in ruralization and urbanization.

(viii) **Labour force:** Data concerning economically active and inactive labour force is included under this section of demographic data. The data shows level of male and female labour force, age specific labour force, educated and uneducated urban and rural force, among others.

1.4.1 Census

The collection of data, publication and tabulation of socio-economic demographic avenues for the population of a particular region or area is termed as *census*. A census may also be defined as a total process of collecting, compiling and publishing demographic, economic and social data pertaining to a specified time, to all persons in a country or delimited territory. In other words, census is a statistical activity through which population statistics is collected for a country or any given area to easily process decisions pertaining to social, economic and regional planning. The word census derives from the Latin word *censere*, which means 'value' or 'tax'.

Origins of census

Things to Know

- Since last two censuses India is adopting a direct method of census.

The concept of census was practiced in ancient Babylonia, Egypt and China in one form or the other. The first and the most comprehensive effort to conduct a census in India was done in 1871–72.

This census did not cover the entire country, nor was it synchronous for the territory it did cover. But it can be said that the pioneering efforts at initiating administrative processes such as enlisting personnel in service of the Government at local levels for enumeration has been consistently followed by each census conducted since then. The census conducted in 1881 covered most parts of the country, and was synchronous. Since then, a census has been conducted every ten years without any break and with greater improvements in territorial coverage.

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Many other countries also use this method of census. According to a United Nations report, the number of countries using the census method was very low between 1895 and 1944. This increased to sixty-five countries between 1945 and 1954 and to more than 157 countries in 1977. Thus, we can see that with the passage of time the concept of census has developed in many countries.

Characteristics of census

> ***Things to know***
>
> - In Japan and Korea, the census is conducted after every 5 years.

A census possesses the following characteristics:

- The function of carrying out a census is the responsibility of the State.
- Census is conducted for the entire country and all citizens.
- Census is a periodic function. It is generally conducted after every five or ten years. In India, census is conducted after every ten years.
- Information on a person is obtained through observation and interview based on a questionnaire.
- All the information related to a census is published.
- The information of people in the census is related to a particular period.

Methods of census

There are two methods of carrying out a census. These are:

- De facto or de jure method
- Direct and indirect method

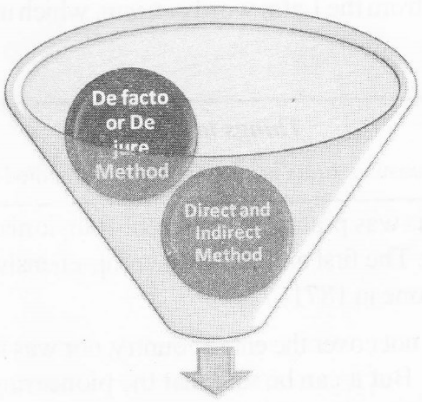

Fig. 1.3 Methods of Census

In the de facto method, the enumeration of a person is done at a place where he or she is found at the time. This method of census is also known as the *real census method.* In the de jure method, a person is enumerated at his or her real residence.

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As for example, if a person is from Delhi and is working in Kolkata, he will be counted as a resident of Delhi.

Census can also be counted by the direct or indirect method. In the direct method, the enumerator personally collects all the information. In the indirect method, the head of a family gets a schedule and is responsible for sending the reply.

Table 1.1 shows the salient dements that are generally included in a census.

Table 1.1 *Salient Features of a Census (according to UNO)*

Categories	Options
Geographical Parts	Place of general living or place at the time of census
Household Information	Relationship with the head of the family
Individual Information	Sex, Age, Marital status, Citizenship, Place of birth
Educational Characteristics	Educated, Educational standard, College education
Economic Characteristics	Kinds of Industry, Occupation, Status (Owner/Employee), Industry
Cultural Characteristics	Language/ Racial characteristics
Information on Fertility	Born alive
Inferences drawn from questionnaire	Total Population, Population and Density of Population according to Place, Rural/Urban Classification, Composition/Structure of family.

Source: *Studies in Demography* by *S.C.Srivastava.* 2004. Delhi: Anmol Publications.

A census can be a successful operation only if a country frames laws regarding it and its citizen follow the law. It is very important that every citizen compulsorily provides true information to the enumerator.

1.4.2 Vital Statistics

Statistics related to some important events in the lives of humans such as birth, death, marriage, widowhood, adoption, abortion, etc., are termed *vital statistics*. These events happen everyday and in most countries, it is the responsibility of the head of the family to report them. It is due to the compulsion of registration that this act is also known as 'registered statistic'. This technique was primarily developed to collect data of birth, death, marriage, fertility, adoption and abortion in a human population in an area. The method does not involve heavy expenditure and excessive manpower. The use of this type of registration is only useful when it is performed authentically. This method is used in several countries worldwide, including India, Sweden, Finland, Belgium, Israel, Taiwan, Thailand, Kenya, Turkey, Columbia, Morocco, Philippines and Korea.

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Table 1.2 shows the events that need to be registered.

Table 1.2 Categories of Vital Events that need to be Registered

Birth	Place of birth, sex, mother's age, order of birth, legitimacy and person involved in birth
Death	Place of death, person, cause and timing of death, age, sex, kind of death certificate. If foetal or stillbirth—age, sex, place, period of gestation, legitimacy, order of birth and age of mother.
Nuptiality	Year, month, date and age of bride, pre-marital status, residence and occupation.

Source: *Studies in Demography* by S.C.Srivastava. 2004. Delhi: Anmol Publications.

Vital statistics or registration in India

In India, this method of demographic data collection started in Madhya Pradesh and West Bengal in the years 1866 and 1873 respectively with the enactment of Births and Deaths Registration Act. Very soon, the Act was extended to other states of India, such as Bihar and Orissa, in 1886.

It has been estimated that the method of registration covered almost the whole of India by 1956. In 1969, an All India Registration of Births and Deaths Act was passed that ensured the compulsory registration of vital events. The registration department in the census of India has been active since 1960. The system of registration has attained importance after the provision of legal validity through the Central government.

Table 1.3 Government Departments that Conduct Registration in India

Department	State
Health Department	West Bengal, Kerala
Panchayats	Uttar Pradesh, Himachal Pradesh, Bihar, Orissa, Rajasthan
Police Department	Punjab, Jammu & Kashmir, Madhya Pradesh, Assam, Haryana
Revenue Department	Andhra Pradesh, Tamil Nadu, Maharashtra, Gujarat, and Mysore

Source: *Studies in Demography* by S.C.Srivastava. 2004. Delhi: Anmol Publications.

1.4.3 Sample Survey

Another method widely used by demographers, sociologists, economists, anthropologists and other social scientists for data collection, evaluation and research is the sample survey. Sample surveys are used to discover certain errors in the census, to provide information between censuses at more frequent intervals,

and to provide information on those issues that have not been included in the census.

In this method, a sample is selected from a target population to use as subjects for conducting the survey. This is the most effective and convenient process to collect data as the method gives immediate information. By administering surveys to carefully selected random samples in larger populations, demographers are better able to uncover underlying patterns of demographic behaviour.

Things to know

- In 1974–86, the World Fertility Survey was conducted in 62 countries, representing 40 per cent of the world population.
- Current Population Survey is a monthly survey conducted by the US Bureau of the Census.
- The 2002 National Survey of Family Growth in USA was the first to include male respondents.

The following are some of the major surveys used by demographers.

- **World Fertility Survey:** This was introduced in the 1970s in demographic communities as an important source of fertility-related data. This sample survey was used to gather information on reproductive behaviour and related social and psychological behaviour in populations.
- **Demographic and Health Surveys:** The Demographic and Health Surveys or (DHSs) are nationally representative household surveys with huge sample sizes. These surveys provide data for many variables such as population, health, fertility and nutrition.
- **Current Population Survey:** This is a monthly, nationwide survey which is conducted with the purpose of collecting data on the labour force.
- **National Survey of Family Growth:** National Survey of Family Growth involves the survey of male and female respondents in the 15–44 age group. This is mainly done to collect information on family life, health and reproductive systems.

Sample Survey in India

In India, the National Sample Survey was established in 1950 as a permanent organization with an aim to obtain comprehensive information on social, economic, demographic and agricultural characteristics of the entire country. The organization has conducted surveys on several social and economic issues such as fertility, mortality, household income, capital formation, consumer expenditure, retail prices, indebtedness, family planning, migration, employment, unemployment, urbanization, housing, land utilization, labour force, cost of cultivation, demographic structure and characteristics, small scale manufacturing etc. The National Sample Survey is a big source of primary data on rural and urban populations that may be further used in research.

Census and sample survey are methods that provide 'stock' data while vital statistics or registration methods provide 'flow' data.

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Check Your Progress

8. The World Fertility Survey was introduced in the year:
   (a) 1972
   (b) 1990s
   (c) 1970s
   (d) 1980s
9. Vital statistics is also known as:
   (a) Sample survey
   (b) Registered statistics
   (c) Statistics
   (d) Sample statistics
10. According to United Nation the Census includes:
   (a) Educational characteristics
   (b) Economic characteristics
   (c) Population
   (d) Entertainment
11. Among the various method of census, India is using:
   (a) Direct census method
   (b) Indirect census method
   (c) De facto method
   (d) De jure method
12. When was the National Sample Survey established and why?

1.5 THEORIES OF POPULATION

A theory of population determines the factors that affect population growth. Various social scientists and thinkers have presented their own views on population. These theories try to explain the growth and fall of population in different countries. It surveys the trends and analyses the causes of the various stages in the curve of a population.

The history of population theories is generally classified as pre- or post-Malthusian. This refers to Thomas Malthus, who wrote the seminal *An Essay on the Principle of Population* between 1798 and 1826.

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Early thinkers on population

Early thinkers on population encouraged procreation and population growth. According to the ancient Greeks and Romans, individuals were important parts of the State. They believed the sole purpose of marriage was procreation. Periods of warfare required individuals who could fight for the State.

At the same time, however, the Spartans and Athenians also tried to avoid overpopulation and supported abortion and infanticide. Greek thinkers such as Plato and Aristotle aimed at an optimum population and recommended abortion and infanticide as a major way of achieving it. Plato also proposed eugenics or selective breeding in order to control population and maintain its quality.

Roman thinkers such as Cicero, Pliny the Elder, Seneca, Epictetus, Marcus Aurelius, Cato, etc., promoted growth of population as Rome needed soldiers for expanding its empire. Cicero believed that floods, droughts, epidemics and wars were the natural checks on population growth.

Medieval thinkers on population

Medieval Christian thinkers emphasized moral and ethical viewpoints when discussing population. They preached celibacy and restraint, and were opposed to abortion, polygamy and divorce. They too believed that droughts, epidemics and floods were natural checks to population.

Pre-Malthusian theories

1. **Mercantilists:** The mercantilists favoured an economic approach to population. Some of the famous philosophers of this school include Antoine De Montechretien, Sir Thomas Mun, Sir William Petty, Jean B. Colbert, Richard Cantillon and John Locke. They believed that gold and silver are the capital of a nation, and these assets are acquired through trade. An increase in population causes an increase in trade. Therefore, they believed in increasing population for commercial purposes. Increase in population helps in development of trade and industry in two ways:
   (i) Increase in supply of labour encourages profit and reduces cost of production.
   (ii) Production is enhanced with the increased demand of commodity and increased demand of commodity is only possible through increase in population.

   In brief, the mercantilists believed population growth is good for society. It results in high per capita income and better standard of living. They also believed that possible checks on population included wars, accidents, plagues, urbanization, late marriage, abortion, emigration etc.
2. **Physiocrats:** French philosophers Francois Quesnay, Anne-Robert Jacques Turgot, Marquis de Mierabeau, Pierre Samuel Dupont de Nemours and other thinkers were known as the physiocrats. They did not favour population increase at the cost of standard of living. They believed that increase in

population may be desirable only if it could be comfortably maintained. Mierabeau maintained that to feed a large population, agriculture must be encouraged.

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1.5.1 Malthusian Theory

The Malthusian theory of population is considered to be the most important theory in the history of demography. Before discussing his population theory in detail, it will be appropriate to discuss something about Malthus.

Thomas Robert Malthus was born in 1766 at Roorkery in England. After school and before going to Cambridge, he was coached for a time by a Unitarian minister who instilled in him a strong religious sense. After completing his studies from Cambridge University, Malthus studied religion and ethics. He started working in 1797 in a church and became a priest at the age of thirty. Malthus practiced what he preached in his own life and proved to be a very happy, devoted and tender husband and father. He had one son, Henry, and two daughters, Emily and Lucy.

Malthus had a very fine taste for food, wine, music and natural beauty. He detested feudalism and reviled advocating break-up of the large states and subsidies for rural development.

His writings include *Principle of Political Economy* (1820), *Observation on the Effects of the Corn Laws* (1814); *Nature and Progress of Rent* (1815), *Measure of Value* (1823) and *Definition in Political Economy* (1827). His most important work, however, was his *An Essay on the Principle of Population*, first published in 1798. This easily brought both honour and criticism for Malthus. Its importance as a landmark in the history of population can be judged by the fact that the year of its publication is reckoned as the base year for the study of population doctrines.

Malthusian theory of population

> Population, when unchecked, increases in a geometrical ratio. Subsistence only increases in an arithmetical ratio. A slight acquaintance with numbers will show the immensity of the first power compared to the second.
>
> **Thomas Malthus, *An Essay on the Principle of Population***

Malthus' *An Essay on the Principle of Population* postulates that food is necessary to the existence of man, and the passion between sexes is necessary for procreation. Both these will remain nearly in its present state. A central argument of the book states that populations tend to increase faster than the supply of food available for their needs. Malthus tried to study the correlation between population and food production.

This was a highly pessimistic theory. He believed that if the population continued to grow at the same rate then one day man will have to face starvation as the means of food and natural resources are present in limited amount in the environment. He treated overpopulation as an 'evil' as this would reduce the amount

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of food available per person. According to him, population increases in geometrical ratio and subsistence increases in arithmetical ratio, i.e. population increases in the progression of 1, 2, 4, 8, 16, 32, 64, 128, 256 whereas subsistence increases in the progression of 1, 2, 3, 4, 5, 6, 7, 8, 9. Population doubles after every twenty-five years, and in two centuries the population would be to the means of subsistence as 256 to 9, in three centuries as 4096 to 13 and in two thousand years the difference would be almost incalculable.

Population check

While pointing out the powerful checks on the population growth, Malthus described two types of checks preventive check and positive check. Malthus describes, 'the first of these checks may, with priority, be called the preventive check to population, and the absolute necessity of their operation in the case supposed is as certain and obvious as that man cannot live without food'. The preventive checks which occur in human population to prevent excessive growth are related to practices affecting mortality and fertility. So his preventive checks include 'moral restraint', or the postponement of marriage, and 'vice' in which he included adultery, birth control and abortion. In order to describe moral restraint he said 'Abstinence from marriage, either for a time or permanently, from prudential consideration with a strictly moral conduct towards the sex in the interval. And this is the only mode of keeping population on a level with the means of subsistence which is perfectly consistent with virtue and happiness.' According to him, *vice* could be described as 'a sort of intercourse which renders some of the women of large town unprolific'. Vice includes prostitution, extra-marital sexual relation and other immoral acts.

According to Malthus, preventive checks were essential to avoid positive checks. According to him, positive checks are defined unwholesome occupation, labour and exposure to the seasons, bad and insufficient food and clothing arising from poverty, bad nursing of children, excesses of all kinds, great towns and manufactories, common disease and epidemics, war, infanticide, plague and famine. Malthus classified positive checks in two categories. The first were those brought about by natural causes and labelled as 'exclusively misery', such as epidemics, famine, etc.; the other were those which 'mankind brought upon itself such as wars, and all type of excesses which could have been avoided'.

Malthus, however, did not favour contraception since he believed it did not lead to the same drive to work hard as would abstinence and postponement of marriage. He pointed out that station in life and number of children correlate negatively and believed that the poor ought to be better paid and educated so they could attain the self-control and social responsibility found in the middle classes.

Assumptions of the Malthusian theory

Malthusian theory was based on the assumption that the strength of population is much greater than the capability of earth to provide subsistence. Malthusian principle states that the following:

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- Population is necessarily limited by the means of subsistence.
- Population invariably increases where the means of subsistence increases, unless prevented by some very powerful and obvious checks.
- These checks, and the checks which repress the superior power of population and keep its effects on a level with the means of subsistence, all are resolvable into moral restraint, vice and misery.
- The passion between the sexes is necessary and will remain nearly in its present state.
- The law of diminishing returns operates in agriculture.

The assumptions of Malthus theory depict that two of man's characteristics essential to the maintenance of life were immutable. These were laws and were antagonistic: (i) the need for food, and (ii) the passion between the sexes. It was the second option that provoked people to marry at a relatively early age resulting in overpopulation.

Impact

Charles Darwin and Alfred Wallace were most affected by the Malthusian theory. Both were co-founders of the modern evolutionary theory. Darwin's Theory of Natural Selection is directly indebted to Malthus' theory. Darwin maintained that animals retain favourable features that help them survive and lose those that are not useful.

By the end of the 19th century, living standards improved and birth rate dropped in Western countries. Overpopulation was not an issue any more. The two World Wars further lowered population, and Western countries saw unprecedented economic growth in the post-War years. In underdeveloped countries with agrarian economies, however, Malthus' theory often finds credibility.

Criticism of Malthus' theory of population

Malthus' theory was also subjected to harsh criticism. One of his bitterest critics, Karl Kautsky, accused him of plagiarism and stated that 'It was as correct to name the new population theory after Malthus as to name America after Amerigo Vespucci. Both did no more than to spread the news of what others had discovered.' It is irrefutable that most of Malthus' ideas were already anticipated by Machiavelli, Francis Bacon, William Petty, Sir Walter Raleigh, John Graunt, Sir Mathew Hale, Sir James Stuart and others. While criticizing Malthus, Karl Marx referred to him as one who 'had taken a monastic vow of celibacy'. In general, the following points were raised as criticism against the Malthusian theory of population:

- The weakest point in the theory was the ratio between the arithmetical and geometrical progression. According to Kenneth Smith, the ratio was never really proved.
- In many cases, the theory of the growth of the means of subsistence in arithmetical ratio was not proved.