

CHAPTER 2

The Demographic Structure of Indian Society

Summary

Demography

Demography is the systematic study of population. The term is of Greek origin and composed of the two words, *demos* (people) and *graphein* (describe) which implies the description of people. Demography studies the trends and processes associated with population including – changes in population size; patterns of births, deaths, and migration; and the structure and composition of the population, such as the relative proportions of women, men and different age groups.

Varieties of Demography

There are different varieties of demography which includes formal demography that is a largely quantitative field, and social demography which focuses on the social, economic or political aspects of populations. All demographic studies are based on processes of counting or enumeration – such as the census or the survey which involve the systematic collection of data on the people residing within a specified territory.

Nation-State and society

Two different processes happened to take place at roughly the same time in Europe during the latter half of the eighteenth century i.e. the formation of nation-states as the principal form of political organisation, and the beginnings of the modern science of statistics. The modern state had begun to expand its role and functions.

It had begun to take an active interest in the development of early forms of public health management, policing and maintenance of law and order, economic policies relating to agriculture and industry, taxation and revenue generation and the governance of cities.

With the expansion of states, it required the systematic and regular collection of social statistics – or quantitative data on various aspects of the population and economy. The American census of 1790 was probably the first modern census, and the practice was soon taken up in Europe as well in the early 1800s. In India, censuses began to be conducted by the British Indian government between 1867-72, and regular ten yearly (or decennial) censuses have been conducted since 1881. Independent India continued the practice, and seven decennial censuses have been conducted since 1951, the most recent being in 2011. The Indian census is the largest such exercise in the world (since China, which has a slightly larger population, does not conduct regular censuses).

Importance of Demographic Data

Demographic data are important for the planning and implementation of state policies, specially those for economic development and general public welfare. But when they first emerged, social statistics also provided a strong justification for the new discipline of sociology. Aggregate statistics – or the numerical characteristics that refer to a large collectivity consisting of millions of people – offer a concrete and strong argument for the existence of social phenomena. Emile Durkheim's

famous study explaining the variation in suicide rates across different countries was a good example of this. Durkheim argued that the rate of suicide (i.e., number of suicides per 100,000 population) had to be explained by social causes even though each particular instance of suicide may have involved reasons specific to that individual or her/his circumstances.

Formal Demography and population studies

Formal demography is primarily concerned with the measurement and analysis of the components of population change. Its focus is on quantitative analysis for which it has a highly developed mathematical methodology suitable for forecasting population growth and changes in the composition of population.

Population studies or social demography enquires into the wider causes and consequences of population structures and change. Social demographers believe that social processes and structures regulate demographic processes; like sociologists, they seek to trace the social reasons that account for population trends.

Some Theories and Concepts in Demography

The Malthusian Theory of Population Growth

Theory : The Malthus's theory of population growth which outlined in his Essay on Population (1798) was a pessimistic one. He argued that human populations tend to grow at a much faster rate than the rate at which the means of human subsistence (specially food, but also clothing and other agriculture-based products) can grow. Therefore humanity is condemned to live in poverty forever because the growth of agricultural production will always be overtaken by population growth.

Highlights of his Theory :

- The humanity is condemned to live in poverty forever because the growth of agricultural production will always be overtaken by population growth.

- Population rises in geometric progression (i.e., like 2, 4, 8, 16, 32 etc.), agricultural production can only grow in arithmetic progression (i.e., like 2, 4, 6, 8, 10 etc.).
- Because population growth always outstrips growth in production of subsistence resources, the only way to increase prosperity is by controlling the growth of population.
- Humanity has only a limited ability to voluntarily reduce the growth of its population (through 'preventive checks' such as postponing marriage or practicing sexual abstinence or celibacy).
- Malthus believed therefore that 'positive checks' to population growth in the form of famines and diseases, were inevitable because they were nature's way of dealing with the imbalance between food supply and increasing population.

Criticism

- The most effective refutation of his theory was provided by the historical experience of European countries.
- The pattern of population growth began to change in the latter half of nineteenth century, and by the end of the first quarter of the twentieth century these changes were quite dramatic. Birth rates had declined, and outbreaks of epidemic diseases were being controlled.
- Malthus's predictions were proved false because both food production and standards of living continued to rise despite the rapid growth of population.
- Malthus was also criticised by liberal and Marxist scholars for asserting that poverty was caused by population growth. The critics argued that problems like poverty and starvation were caused by the unequal distribution of economic resources rather than by population growth.
- An unjust social system allowed a wealthy and privileged minority to live in luxury while the vast majority of the people were forced to live in poverty.

The Theory of Demographic Transition

This theory suggests that population growth is linked to overall levels of economic development and that every society follows a typical pattern of development-related population growth. There are three basic stages of population growth:

- I. **First stage** : Faces low population growth in a society which is underdeveloped and technologically backward. Growth rates are low because both the death rate and the birth rate are very high, so that the difference between the two (or the net growth rate) is low.
- II. **Second stage** : It is a transitional stage of movement from a backward to an advanced stage, and this is characterised by very high rates of growth of population.
- III. **Third stage** : This also faces low growth in a developed society where both death rate and birth rate have been reduced and the difference between them is again small.

Population Explosion

This happens because death rates are brought down relatively quickly through advanced methods of disease control, public health, and better nutrition. However, it takes longer for society to adjust to change and alter its reproductive behaviour (which was evolved during the period of poverty and high death rates) to suit the new situation of relative prosperity and longer life spans. This kind of transition was effected in Western Europe during the late nineteenth and early twentieth century. In India too, the demographic transition is not yet complete as the mortality rate has been reduced but the birth rate has not been brought down to the same extent.

Common Concepts and Indicators

Birth Rate : The birth rate is the total number of live births in a particular area (an entire country, a state, a district or other territorial unit) during a specified period (usually a year) divided by the total population of that area in thousands. In other words, the birth rate is the number of live births per 1000 population.

Death Rate : It is expressed as the number of deaths in a given area during a given time per 1000 population.

Growth rate of population : The rate of natural increase or the growth rate of population refers to the difference between the birth rate and the death rate.

- When difference is zero (or very small) then we say that the population has 'stabilised', or has reached the 'replacement level', which is the rate of growth required for new generations to replace the older ones that are dying out.
- Negative growth rate occurs when fertility levels are below the replacement rate. This is true of many countries and regions in the world today, such as Japan, Russia, Italy and Eastern Europe.

Fertility Rate : The fertility rate refers to the number of live births per 1000 women in the child-bearing age group, usually taken to be 15 to 49 years.

Total fertility rate : It refers to the total number of live births that a hypothetical woman would have if she lived through the reproductive age group and had the average number of babies in each segment of this age group as determined by the age-specific fertility rates for that area. It is also expressed as the 'the average number of births to a cohort of women up to the end of the reproductive age period.

Infant Mortality Rate : It is the number of deaths of babies before the age of one year per 1000 live births.

Maternal mortality rate : It is the number of women who die in childbirth per 1,00,000 live births.

High rates of infant and maternal mortality are an unambiguous indicator of backwardness and poverty; development is accompanied by sharp falls in these rates as medical facilities and levels of education, awareness and prosperity increase.

Life expectancy : This refers to the estimated number of years that an average person is expected to survive. It is calculated on the basis of data on age-specific death rates in a given area over a period of time.

Sex ratio : It refers to the number of females per 1000 males in a given area at a specified time period.

- Nature seems to produce roughly 943 to 952 female babies for every 1000 males.
- Sex ratio is somewhat in favour of females, this seems to be due to two reasons:
 - (i) Girl babies appear to have an advantage over boy babies in terms of resistance to disease in infancy.
 - (ii) At the other end of the life cycle, women have tended to outlive men in most societies, so that there are more older women than men.
- The combination of these two factors leads to a sex ratio of roughly 1050 females per 1000 males in most contexts.
- The sex ratio has been declining in some countries like China, South Korea and specially India.
- This phenomenon has been linked to prevailing social norms that tend to value males much more than females, which leads to 'son preference' and the relative neglect of girl babies.

The age structure of the population : It refers to the proportion of persons in different age groups relative to the total population. The age structure changes in response to changes in levels of development and the average life expectancy.

The dependency ratio : It is a measure comparing the portion of a population which is composed of dependents (i.e., elderly people who are too old to work, and children who are too young to work) with the portion that is in the working age group, generally defined as 15 to 64 years.

The dependency ratio is equal to the population below 15 or above 64, divided by population in the 15-64 age group. This is usually expressed as a percentage.

- A rising dependency ratio is a cause for worry in countries that are facing an ageing population.
- The falling dependency ratio can be a source of economic growth and prosperity due to the larger proportion of workers relative to non-workers.
- This is sometimes referred to as the 'demographic dividend', or benefit flowing from the changing age structure.

Size and Growth of India's Population : India is the second most populous country in the world after China, with a total population of 121 crores (or 1.21 billion) according to the Census of India 2011.

Growth rate of India's Population

Between 1901-1951 : a modest rate of growth; average annual growth rate did not exceed 1.33%

Between 1911 and 1921 : a negative rate of growth of - 0.03%. The reason was influenza epidemic during 1918-19 which killed about 12.5 million persons or 5% of the total population of the country.

Between 1961-1981 : growth rate of population substantially increased after independence from British rule going up to 2.2%. Since then although the annual growth rate has decreased it remains one of the highest in the developing world.

Before 1931, both death rates and birth rates were high, whereas, after this transitional moment the death rates fell sharply but the birth rate only fell slightly. The principal reasons for the decline in the death rate after 1921 were increased levels of control over famines and epidemic diseases.

The Global Influenza Pandemic of 1918-19

Influenza is caused by a virus that attacks mainly the upper respiratory tract – the nose, throat and bronchi and rarely also the lungs. The genetic makeup of influenza viruses allows for both major and minor genetic changes, making them immune to existing vaccines. Three times in that last century, the influenza viruses have undergone major genetic changes, resulting in global pandemics and large tolls in terms of both disease and deaths. The most infamous pandemic was "Spanish Flu" which affected large parts of the world population and is thought to have killed at least 40 million people in 1918-1919. More recently, two other influenza pandemics occurred in 1957 ("Asian influenza") and 1968 ("Hong Kong influenza") and caused significant morbidity and mortality globally.

The global mortality rate from the 1918-1919 Spanish flu pandemic is not known, but is estimated at 2.5 – 5% of the human population, with 20% of the world population suffering from the disease to some extent. Influenza may have killed as many as 25 million in its first 25 weeks; in contrast, AIDS killed 25 million in its first 25 years. Influenza spread across the world, killing more than 25 million in six months; some estimates put the total killed at over twice that number, possibly even 100 million.

In the United States, about 28% of the population suffered, and 500,000 to 675,000 died. In Britain 200,000 died; in France more than 400,000. Entire villages perished in Alaska and southern Africa. In Australia an estimated 10,000 people died and in the Fiji Islands, 14% of the population died during only two weeks, and in Western Samoa 22%. An

estimated 17 million died in India, about 5% of India's population at the time. In the British Indian Army, almost 22% of troops who caught the disease died of it.

While World War I did not cause the flu, the close quarters and mass movement of troops quickened its spread. It has been speculated that the soldiers' immune systems were weakened by the stresses of combat and chemical attacks, increasing their susceptibility to the disease.

Source : Compiled from Wikipedia, and World Health Organisation : Webpages:

http://en.wikipedia.org/wiki/Spanish_flu

<http://www.who.int/mediacentre/factsheets/fs211/en/>

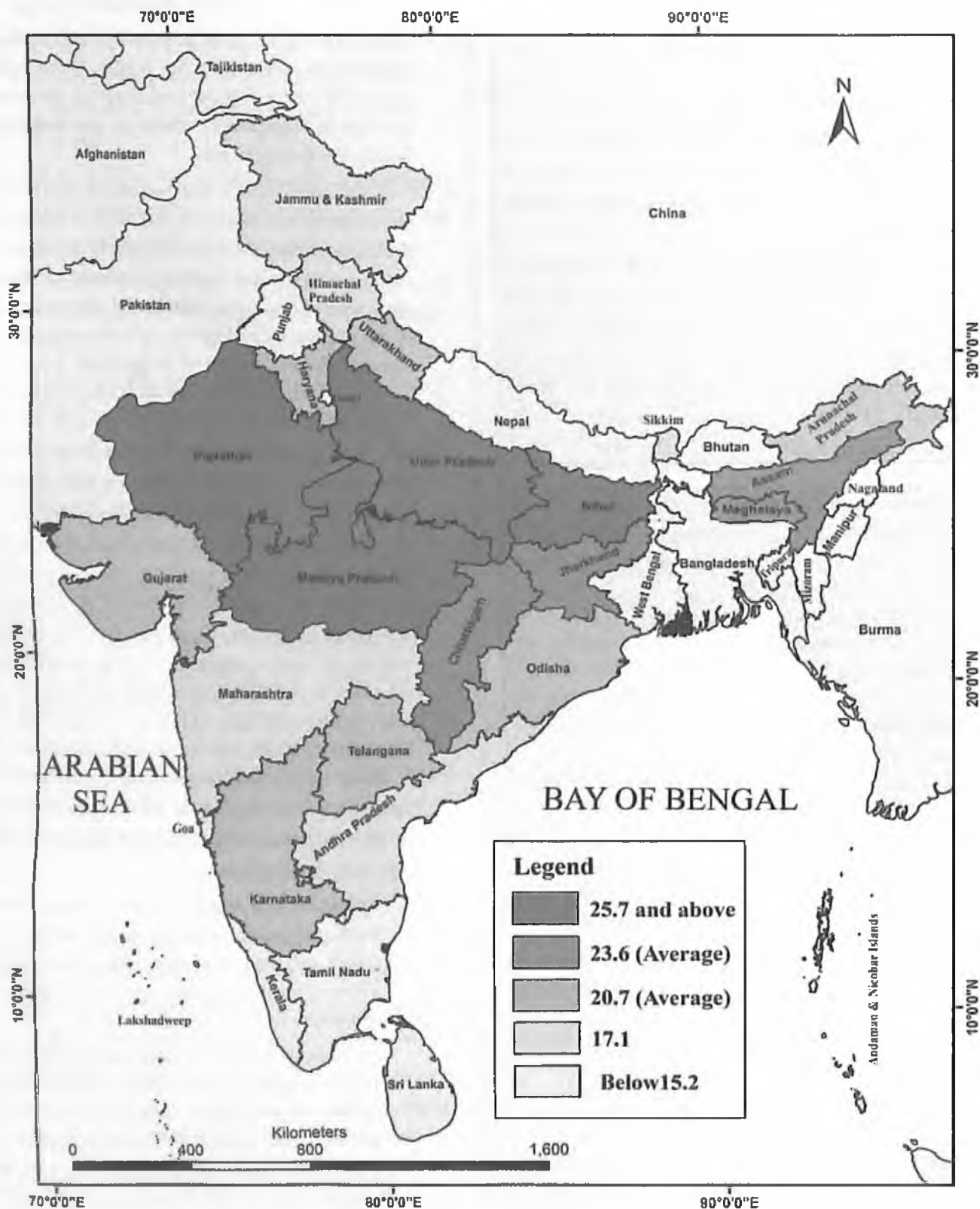
Changes in the Birth and Death Rate in India

- Improvements in medical cures for these diseases, programmes for mass vaccination, and efforts to improve sanitation helped to control epidemics.
- Famines were also a major and recurring source of increased mortality. Famines were caused by high levels of continuing poverty and malnutrition in an agroclimatic environment that was very vulnerable to variations in rainfall. Lack of adequate means

of transportation and communication as well as inadequate efforts on the part of the state were some of the factors responsible for famines.

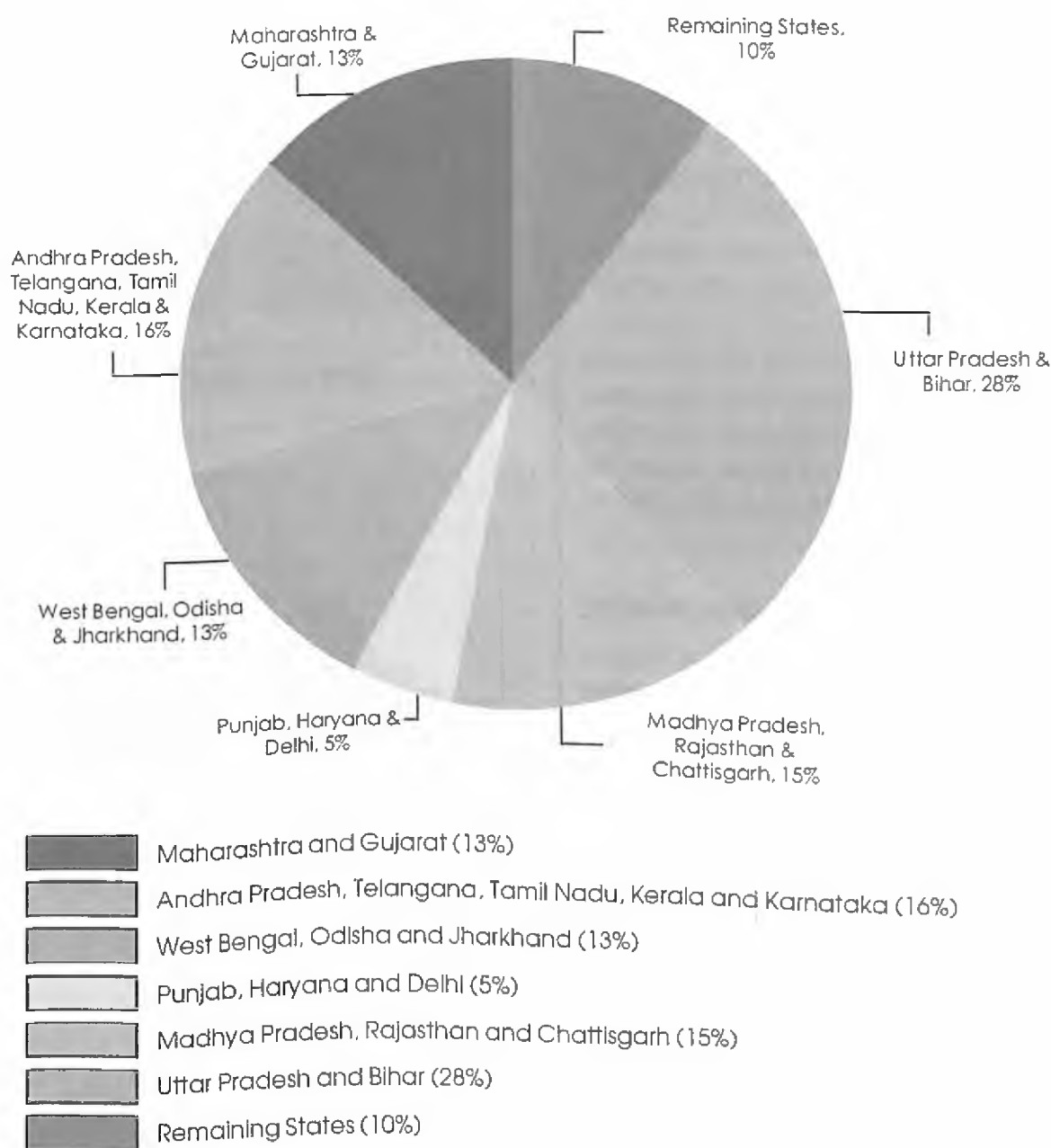
- The increased levels of prosperity exert a strong downward pull on the birth rate. Once infant mortality rates decline, and there is an overall increase in the levels of education and awareness, family size begins to fall.
- Scholars like Amartya Sen and others have shown, famines were not necessarily due to fall in foodgrains production; they were also caused by a 'failure of entitlements', or the inability of people to buy or otherwise obtain food. Substantial improvements in the productivity of Indian agriculture (specially through the expansion of irrigation); improved means of communication; and more vigorous relief and preventive measures by the state have all helped to drastically reduce deaths from famine. Nevertheless, starvation deaths are still reported from some backward regions of the country.
- The Mahatma Gandhi National Rural Employment Guarantee Act is the latest state initiative to tackle the problem of hunger and starvation in rural areas.
- **Variations in fertility rates :** States like Andhra Pradesh, Himachal Pradesh, Punjab, Tamil Nadu and West Bengal have managed to bring down their total fertility rates (TFR) to 1.7 each (2016). This means that the average woman in these states produces only 1.7 children, which is below the 'replacement level' and Kerala's TFR is also below the replacement level, which means that the population is going to decline in future.
 - * But there are some states, notably Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh, which still have very high TFRs. In 2016, the TFRs of these states were 3.3, 2.8, 2.7 and 3.1, respectively.
 - * According to the Economic Survey 2018–19, India's total birth rate was 22.4, among them rural birth rate was 22.4 and urban birth rate was 17.3. The highest birth rate in India is of Uttar Pradesh (25.9) and Bihar (26.4), and they will also account for about half (50%) of the additions to the Indian population upto the year 2041.

STATE-WISE BIRTH RATES IN INDIA, 2017



Sample registration system bulletio, government of India, July 2019

REGIONAL SHARES OF PROJECTED POPULATION GROWTH UPTO 2041



Age Structure of The Indian Population

India has a very young population — that is, the majority of Indians tend to be young, and the average age is also less than that for most other countries. As with fertility rates, there are wide regional variations in the age structure as well. While a state like Kerala is beginning to acquire an age structure like that of the developed countries, Uttar Pradesh

presents a very different picture with high proportions in the younger age groups and relatively low proportions among the aged. India as a whole is somewhere in the middle, because it includes states like Uttar Pradesh as well as states that are more like Kerala.

- The share of the under 15 age group in the total population has come down from its highest level of 42% in 1971 to 29% in 2011.
- The share of the 15–59 age group has increased slightly from 53% to 63%, while the share of the 60+ age group is very small but it has begun to increase (from 5% to 7%) over the same period.
- But the age composition of the Indian population is expected to change significantly in the next two decades.
- Most of this change will be at the two ends of the age spectrum – as Table 2 shows, the 0–14 age group will reduce its share by about 11% (from 34% in 2001 to 23% in 2026) while the 60 plus age group will increase its share by about 5% (from 7% in 2001 to about 12% in 2026.)

Age Composition of The Population of India, 1961–2026

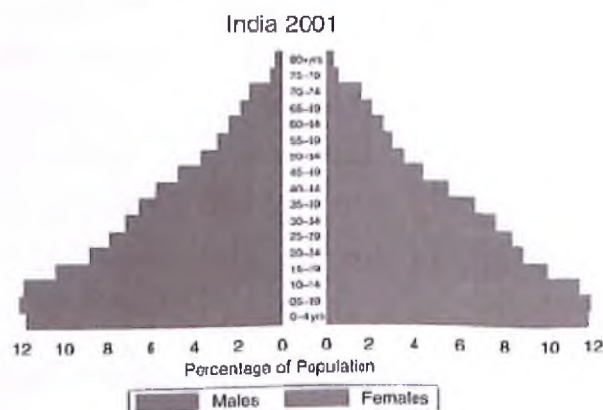
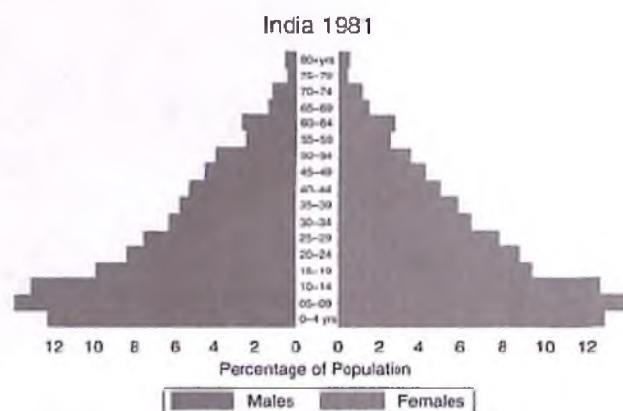
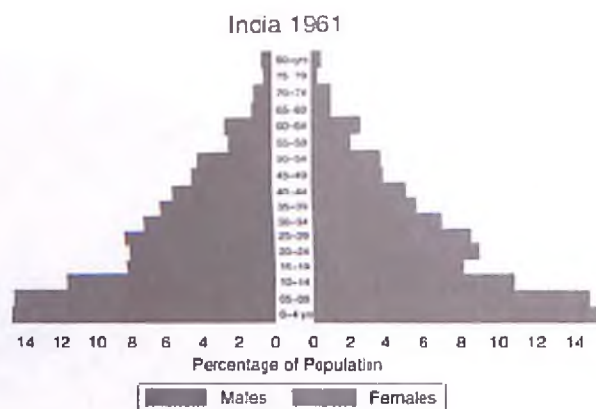
The bias towards younger age groups in the age structure is believed to be an advantage for India. Like the East Asian economies in the past decade and like Ireland today, India is supposed to be benefitting from a ‘demographic dividend’. This dividend arises from the fact that the current generation of working-age people is a relatively large one, and it has only a relatively small preceding generation of old people to support.

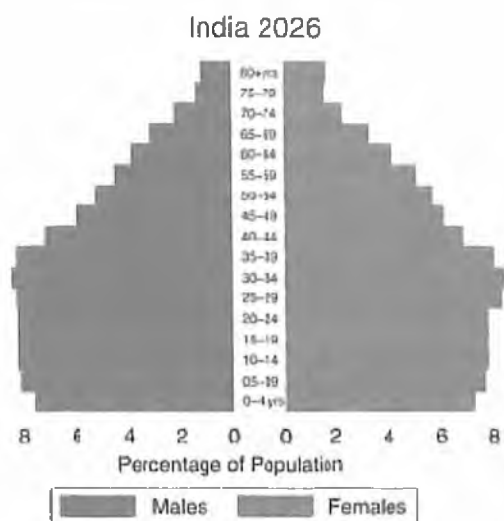
Year	Age Groups			Total
	0–14 Years	15–59 Years	60+ Years	
1961	41	53	6	100
1971	42	53	5	100
1981	40	54	6	100
1991	38	56	7	100
2001	34	59	7	100
2011	29	63	8	100
2026	23	64	12	100

Age Group columns show percentage shares; rows may not add up to 100 because of rounding

A graphical picture of the ‘population pyramid’ from 1961 to its projected shape in 2026

Age Group Pyramids, 1961, 1981, 2001 and 2026





Source : Based on data from relevant volumes of the Census of India (1961, 1981 and 2001) and the Report of the Technical Group on Population Projections (2006) of the National Commission on Population.

The Age Group 'pyramid' shown in Chart 4 provides a much more detailed version of the kind of age grouped data presented in Table 2. Here, data are shown separately for males (on the left side) and females (on the right side) with the relevant five-year age group in the middle. Looking at the horizontal bars (including both males and females in a particular age group) gives you a visual sense of the age structure of the population. The age groups begin from the 0-4 years group at the bottom of the pyramid and go on to the 80 years and above age group at the top. There are four different pyramids for the decennial census years of 1961, 1981, 2001 and the estimates for 2026. The pyramid for 2026 shows the estimated future size of the relevant age groups based on data on the past rates of growth of each age group. Such estimates are also called 'projections'. These pyramids show you the effect of a gradual fall in the birth rate and rise in the life expectancy. As more and more people begin to live to an older age, the top of the pyramid grows wider. As relatively fewer new births take place, the bottom of the pyramid grows narrower. But the birth rate is slow to fall, so the bottom doesn't change much between 1961 and 1981. The middle of the pyramid grows wider and wider as its share of the

total population increases. This creates a 'bulge' in the middle age groups that is clearly visible in the pyramid for 2026. This is what is referred to as the 'demographic dividend' which will be discussed later in this chapter.

The Declining Sex-Ratio In India

The sex ratio is an important indicator of gender balance in the population. As mentioned in the section on concepts earlier, historically, the sex ratio has been slightly in favour of females, that is, the number of females per 1000 males has generally been somewhat higher than 1000. However, India has had a declining sex-ratio for more than a century.

From 972 females per 1000 males at the turn of the twentieth century, the sex ratio has declined to 933 at the turn of the twenty-first century. The trends of the last four decades have been particularly worrying – from 941 in 1961 the sex ratio had fallen to an all-time low of 927 in 1991 before posting a modest increase in 2001. According to Census of India 2011 sex ratio has increased and now it is 943 females per 1000 males.

State Report on Sex Ratio

The state-level child sex ratios offer even greater cause for worry. As many as nine States and Union Territories have a child sex ratio of under 900 females per 1000 males. Haryana is the worst state with an incredibly low child sex ratio of 793 (the only state below 800), followed by Punjab, Jammu & Kashmir, Delhi, Chandigarh, Uttarakhand and Himachal Pradesh. As Map 2 shows, Uttar Pradesh, Daman & Diu, Himachal Pradesh, Lakshadweep and Madhya Pradesh are all under 925, while large states such as West Bengal, Assam, Bihar, Tamil Nadu, Andhra Pradesh, Karnataka are above the national average of 919 but below the 970-mark. Even Kerala, the state with the better overall sex ratio does not do too well at 964, while the highest child sex ratio of 972 is found in Arunachal Pradesh.

Reasons for decline in sex ratio

- The main health factor that affects women differently from men is childbearing. It is relevant to ask if the fall in the sex ratio may be partly due to the increased risk of death in childbirth that only women face.

- However, maternal mortality is supposed to decline with development, as levels of nutrition, general education and awareness, as well as, the availability of medical and communication facilities improves.
- Indeed, maternal mortality rates have been coming down in India even though they remain high by international standards.
- Social scientists believe that the cause has to be sought in the differential treatment of girl babies.
- Severe neglect of girl babies in infancy, leading to higher death rates; sex-specific abortions that prevent girl babies from being born; and female infanticide (or the killing of girl babies due to religious or cultural beliefs).
- It is striking that the lowest child sex ratios are found in the most prosperous regions of India. According to the Economic Survey for a recent year, Maharashtra, Punjab, Haryana, Chandigarh and Delhi are having high per capita income and the child sex ratio of these states is still low.

Literacy

Literacy as a prerequisite to education is an instrument of empowerment. The more literate the population the greater the consciousness of career options, as well as participation in the knowledge economy. Further, literacy can lead to health awareness and fuller participation in the cultural and economic well-being of the community. Literacy levels have improved considerably after independence, and almost two-thirds of our population is now literate. But improvements in the literacy rate have to struggle to keep up with the rate of growth of the Indian population, which is still quite high. Enormous effort is needed to ensure the literacy of the new generations – which are only just beginning to be smaller in numbers than in the past.

Female literacy has been rising faster than male literacy, partly because it started from relatively low levels. Female literacy rose by about 10.4 per cent between 2001 and 2011 compared to the rise in male literacy of 7.6 per cent in the same period. Literacy increased approximately 8% in total. Male literacy rose about 5% whereas female literacy rose about 10%.

Female literacy has been rising faster than male literacy. Literacy rates also vary by social group – historically disadvantaged communities like the Scheduled Castes and Scheduled Tribes have lower rates of literacy, and rates of female literacy within these groups are even lower. Regional variations are still very wide, with states like Kerala approaching universal literacy, while states like Bihar are lagging far behind. The inequalities in the literacy rate are specially important because they tend to reproduce inequality across generations.

Rural-Urban Differences

The vast majority of the population of India has always lived in the rural areas. According to Census of India 2011 still more people are living in rural areas but the population of urban areas has increased. Now 68.8% population lives in rural areas while 31.2% people live in urban areas.

Farm Practice

- Agriculture used to be by far the largest contributor to the country, but today it only contributes about one-sixth of the gross domestic product.
- The majority of our people live in the rural areas and make their living out of agriculture, the relative economic value of what they produce has fallen drastically.
- Moreover, more and more people who live in villages may no longer work in agriculture or even in the village.
- Rural people are increasingly engaged in non-farm rural occupations like transport services, business enterprises or craft manufacturing.

Urbanization

- Mass media and communication channels are now bringing images of urban life styles and patterns of consumption into the rural areas. Consequently, urban norms and standards are becoming well known even in the remote villages, creating new desires and aspirations for consumption. Mass transit and mass communication are bridging the gap between the rural and urban areas.

- Considered from an urban point of view, the rapid growth in urbanisation shows that the town or city has been acting as a magnet for the rural population.
- Those who cannot find work (or sufficient work) in the rural areas go to the city in search of work.
- This flow of rural-urban migration has also been accelerated by the continuous decline of common property resources like ponds, forests and grazing lands.
- These common resources enabled poor people to survive in the villages although they owned little or no land.

Preference to Cities

- Sometimes the city may also be preferred for social reasons, specially the relative anonymity it offers.
- The fact that urban life involves interaction with strangers can be an advantage for different reasons.
- For the socially oppressed groups like the Scheduled Castes and Scheduled Tribes, this may offer some partial protection from the daily humiliation they may suffer in the village where everyone knows their caste identity.
- The anonymity of the city also allows the poorer sections of the socially dominant rural groups to engage in low status work that they would not be able to do in the village.
- While urbanisation has been occurring at a rapid pace, it is the biggest cities – the metropolises – that have been growing the fastest.
- These metros attract migrants from the rural areas as well as from small towns.
- There are now 5,161 towns and cities in India, where 286 million people live. What is striking, however, is that more than two-thirds of the urban population lives in 27 big cities with million-plus populations.

Population Policy In India

India was perhaps the first country to explicitly announce such a policy in 1952. The population policy took the concrete form of the National Family Planning Programme. The broad objectives of this programme

have remained the same – to try to influence the rate and pattern of population growth in socially desirable directions. In the early days, the most important objective was to slow down the rate of population growth through the promotion of various birth control methods, improve public health standards, and increase public awareness about population and health issues.

The National Family Planning Programme was renamed as the National Family Welfare Programme after the Emergency, and coercive methods were no longer used. The programme now has a broad-based set of socio-demographic objectives. A new set of guidelines were formulated as part of the National Population Policy of the year 2000. In 2017, Government of India came out with National Health Policy 2017 in which most of these socio-demographic goals were added with new targets.

Important Goals of National Health Policy 2017

- Increase health expenditure by Government as a percentage of GDP from the existing 1.15% to 2.5 % by 2025.
- Increase Life Expectancy at birth from 67.5 to 70 by 2025.
- Establish regular tracking of Disability Adjusted Life Years (DALY) Index as a measure of burden of disease and its trends by major categories by 2022.
- Reduction of TFR to 2.1 at national and sub-national level by 2025.
- Reduce Under Five Mortality to 23 by 2025 and Maternal Mortality Rate from current levels to 100 by 2020.
- Reduce neo-natal mortality to 16 and still birth rate to “single digit” by 2025.
- Achieve global target of 2020 which is also termed as target of 90:90:90, for HIV/AIDS, i.e., 90% of all people living with HIV know their HIV status, 90% of all people diagnosed with HIV infection receive sustained antiretroviral therapy, and 90% of all people receiving antiretroviral therapy will have viral suppression.

- Achieve and maintain a cure rate of >85% in new sputum positive patients for TB and reduce incidence of new cases, to reach elimination status by 2025.
- Reduce the prevalence of blindness to 0.25/ 1000 by 2025 and disease burden by one third from current levels.
- Reduce premature mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases by 25% by 2025.
- Increase utilization of public health facilities by 50% from current levels by 2025
- Antenatal care coverage to be sustained above 90% and skilled attendance at birth above 90% by 2025.
- More than 90% of the newborn are fully immunized by one year of age by 2025.
- Meet need of family planning above 90% at national and sub national level by 2025.
- 80% of known hypertensive and diabetic individuals at household level maintain "controlled disease status" by 2025.
- Relative reduction in prevalence of current tobacco use by 15% by 2020 and 30% by 2025.
- Reduction of 40% in prevalence of stunting of under-five children by 2025.
- Access to safe water and sanitation to all by 2020.
- Reduction of occupational injury by half from current levels of 334 per lakh agricultural workers by 2020.
- Increase State sector health spending to > 8% of their budget by 2020.
- Decrease in proportion of households facing catastrophic health expenditure from the current levels by 25% by 2025.
- Ensure availability of paramedics and doctors as per Indian Public Health Standard (IPHS) norm in high priority districts by 2020.
- Increase community health volunteers to population ratio as per IPHS norm, in high priority districts by 2025.
- Establish primary and secondary care facility as per norms in high priority districts (population as well as time to reach norms) by 2025. Ensure district-level electronic database of information on health system components by 2020.

Multiple Choice Questions

[1 Mark]

Q. 1. Which of the following are correct reasons of decline in sex ratio?

- (a) Social factors (b) Health factors
(c) Lack of nutrition (d) All of the above

Ans. (d)

Q. 2. Which of the following states have child sex ratio lower than 972?

- I. Delhi II. Himachal Pradesh
III. Kerala IV. Arunachal Pradesh
(a) I, II and III (b) II, III and IV
(c) I, III and IV (d) All of the above

Ans. (a)

Q. 3. Once _____ rates decline, and there is an overall increase in the levels of education and awareness, family size begins to fall.

- (a) Maternal mortality
(b) Infant mortality
(c) Birth
(d) Death

Ans. (b)

Q. 4. Which of the following states have fertility rate below than the replacement level?

- I. Kerala
II. Andhra Pradesh
III. Himachal Pradesh
(a) I and II
(b) II and III
(c) I and III
(d) All of the above

Ans. (d)

Q. 5. Famines were caused by high levels of continuing _____ and _____ in an agroclimatic environment that was very vulnerable to variations in rainfall.

- (a) Poverty
- (b) Malnutrition
- (c) Both (a) and (b)
- (d) Illiteracy and production

Ans. (c)

Q. 6. The estimated number of years that an average person is expected to survive is called _____

- (a) Mortality rate
- (b) Life expectancy
- (c) Ageing population
- (d) Death rate

Ans. (b)

Q. 7. Which of the following country has negative growth rate of population?

- (a) India
- (b) Bangladesh
- (c) Italy
- (d) USA

Ans. (c)

Q. 8. Cities are an attractive destination for villagers. It is supported by the following reasons:

- I. Low status work availability for socially dominant class
- II. Strangers can interact with each other on positive note
- III. Partial protection to SCs/STs from daily humiliation

- (a) I and III
- (b) II and III
- (c) I and II
- (d) All of the above

Ans. (d)

Q. 9. Which of the following statement is incorrect about literacy in India?

- (a) Literacy increased approximately 8% in total.
- (b) Male literacy has increased more than the female literacy

- (c) Female literacy has increased about 10%
- (d) Scheduled Castes and Scheduled Tribes have lower rates of literacy

Ans. (b)

Q. 10. Government of India has launched the following programme to improve sex ratio?

- (a) Beti Bachai Beti Padhao
- (b) Ladli Yojana
- (c) Jan Dhan Yojana
- (d) All of the above

Ans. (a)

Very Short Answer Type

[1 Mark]

Q. 1. Malthus's theory of population growth was outlined in _____

Ans. Essay on Population

Q. 2. What are the reasons of 'population explosion'?

Ans. Advanced methods of disease control, public health, and better nutrition

Q. 3. What is replacement level?

Ans. It is the rate of growth required for new generations to replace the older ones that are dying out.

Q. 4. Differentiate between fertility rate and total fertility rate.

Ans. Fertility rate is a rough average for an entire population and does not take into account the differences across age-groups.

The total fertility rate refers to the total number of live births that a hypothetical woman would have if she lived through the reproductive age group and had the average number of babies in each segment of this age group as determined by the age-specific fertility rates for that area.

Q. 5. How dependency ratio is calculated?

Ans. Dependency ratio = population below 15 or above 64 / population in the 15-64 age group * 100

Q. 6. According to the Census of India 2011, what is the population of India?

Ans. 121 crores or 1.21 billion

Q. 7. What does high maternal and infant mortality rate indicates?

Ans. High rates of infant and maternal mortality are an unambiguous indicator of backwardness and poverty; development is accompanied by sharp falls in these rates as medical facilities and levels of education, awareness and prosperity increase.

Q. 8. On what basis we can say that sex ratio is somewhat in favour of females?

Ans. There are two reasons. First, girl babies appear to have an advantage over boy babies in terms of resistance to disease in infancy. At the other end of the life cycle, women have tended to outlive men in most societies, so that there are more older women than men. The combination of these two factors leads to a sex ratio of roughly 1050 females per 1000 males in most contexts.

Q. 9. What factors are responsible for famine in India?

Ans. Lack of adequate means of transportation and communication as well as inadequate efforts on the part of the state were some of the factors responsible for famines.

Q. 10. How India is benefitting from demographic dividend?

Ans. India is supposed to be benefitting from a 'demographic dividend'. This dividend arises from the fact that the current generation of working-age people is a relatively large one, and it has only a relatively small preceding generation of old people to support.

Short Answer Type - I

[2 Marks]

Q. 1. Why is rising dependency ratio a cause for worry in countries that are facing ageing population?

(CBSE 2019)

Ans. A rising dependency ratio is a cause for worry in countries that are facing an ageing population, since it becomes difficult for a relatively smaller

proportion of working-age people to carry the burden of providing for a relatively larger proportion of dependents.

Q. 2. Identify the reasons for different replacement levels found in the different States of India.

(CBSE 2019)

Ans. The following reasons are behind different replacement levels:

1. The wide variations in fertility rates across the States of India.
2. Increase in the levels of education and awareness

Q. 3. What is the trend of sex ratio in India?

Ans. The sex ratio is an important indicator of gender balance in the population. Historically, the sex ratio has been slightly in favour of females, that is, the number of females per 1000 males has generally been somewhat higher than 1000. However, India has had a declining sex-ratio for more than a century. From 972 females per 1000 males at the turn of the twentieth century, the sex ratio has declined to 933 at the turn of the twenty-first century. The trends of the last four decades have been particularly worrying – from 941 in 1961 the sex ratio had fallen to an alltime low of 927 in 1991 before posting a modest increase in 2001. According to Census of India 2011 sex ratio has increased and now it is 943 females per 1000 males.

Q. 4. What are the reasons of decline in sex ratio in India?

Ans. Demographers and sociologists have offered several reasons for the decline in the sex ratio in India. The main health factor that affects women differently from men is childbearing. It is relevant to ask if the fall in the sex ratio may be partly due to the increased risk of death in childbirth that only women face. However, maternal mortality is supposed to decline with development, as levels of nutrition, general education and awareness, as well as, the availability of medical and communication facilities improves.

Q. 5. Discuss the state of female literacy in India.

Ans. Female literacy rose by about 10.4 per cent between 2001 and 2011 compared to the rise in male literacy of 7.6 per cent in the same period. Literacy increased approximately 8% in total. Male literacy rose about 5% whereas female literacy rose about 10%. Again female literacy has been rising faster than male literacy.

Q. 6. How rural-urban gap can be bridged?

Ans. Mass media and communication channels are now bringing images of urban life styles and patterns of consumption into the rural areas. Consequently, urban norms and standards are becoming well known even in the remote villages, creating new desires and aspirations for consumption. Mass transit and mass communication are bridging the gap between the rural and urban areas.

Short Answer Type - II

[3 Marks]

Q. 1. What are the social reasons of growing urbanization in India?

Ans. The city may also be preferred for social reasons, specially the relative anonymity it offers. The fact that urban life involves interaction with strangers can be an advantage for different reasons. For the socially oppressed groups like the Scheduled Castes and Scheduled Tribes, this may offer some partial protection from the daily humiliation they may suffer in the village where everyone knows their caste identity. The anonymity of the city also allows the poorer sections of the socially dominant rural groups to engage in low status work that they would not be able to do in the village.

Q. 2. What is population momentum? Discuss the demographic transition of India.

Ans. Population momentum refers to a situation, where a large cohort of women of reproductive age will fuel population growth over the next generation, even if each woman has fewer children than previous generations did.

Census data from India (i.e., Registrar of India) suggests that population growth is on the decline

since 1991. The average number of children a woman expected to give birth during her life was 3.8 in 1990, and this has fallen to 2.7 children per woman today (Bloom, 2011). Even though the fertility and population growth rates are declining, India's population is projected to increase from 1.2 billion today to an estimated 1.6 billion by 2050 due to population momentum.

Q. 3. Mention some of the important goals of National Health Policy 2017.

Ans. Some Important goals are:

1. Increase health expenditure by Government as a percentage of GDP from the existing 1.15% to 2.5 % by 2025.
2. Establish regular tracking of Disability Adjusted Life Years (DALY) Index as a measure of burden of disease and its trends by major categories by 2022.
3. Achieve and maintain a cure rate of >85% in new sputum positive patients for TB and reduce incidence of new cases, to reach elimination status by 2025.
4. Reduce premature mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases by 25% by 2025

Long Answer Type

[5 Marks]

Q. 1. Analyse the success and failure of the family planning programme. (CBSE 2019)

Ans. India was perhaps the first country to explicitly announce such a policy in 1952. The population policy took the concrete form of the National Family Planning Programme. The broad objectives of this programme have remained the same – to try to influence the rate and pattern of population growth in socially desirable directions.

Success of family planning programme :

- The average number of children a woman expected to give birth during her life was 3.8 in 1990, and this has fallen to 2.7 children per woman today
- The fertility and population growth rates are declining

- The drop in Crude Death (CDR) and Birth Rates (CBR) for the past four decades indicates that India is progressing towards a post-transitional phase.
- However, during 1990s, the decline in CBR has been steeper than the decline in CDR, which has resulted in reduced annual population growth rate of 1.6% today.

Failure :

- The Family Planning Programme suffered a setback during the years of the National Emergency (1975-76).
- Normal parliamentary and legal procedures were suspended during this time and special laws and ordinances issued directly by the government (without being passed by Parliament) were in force.
- During this time the government tried to intensify the effort to bring down the growth rate of population by introducing a coercive programme of mass sterilisation.
- Vast numbers of mostly poor and powerless people were forcibly sterilised and there was massive pressure on lower level government officials (like school teachers or office workers) to bring people for sterilisation in the camps that were organised for this purpose.

NCERT Questions

Q. 1. Explain the basic argument of the theory of demographic transition. Why is the transition period associated with a 'population explosion'?

Ans. Theory population growth is linked to overall levels of economic development and that every society follows a typical pattern of development-related population growth. There are three basic stages of population growth. The first stage is that of low population growth in a society that is underdeveloped and technologically backward. Growth rates are low because both the death rate and the birth rate are very high, so that the difference between the two (or the net growth rate) is low. The third (and last) stage is also

one of low growth in a developed society where both death rate and birth rate have been reduced considerably and the difference between them is again small.

The transitional stage of population from a backward to an advanced stage is characterised by very high rates of growth of population. This 'population explosion' happens in this stage because death rates are brought down relatively quickly through advanced methods of disease control, public health, and better nutrition.

Q. 2. Why did Malthus believe that catastrophic events like famines and epidemics that cause mass deaths were inevitable?

Ans. Malthus believed therefore that 'positive checks' to population growth in the form of famines and diseases were inevitable because they were nature's way of dealing with the imbalance between food supply and increasing population. He argued that human populations tend to grow at a much faster rate than the rate at which the means of human subsistence (specially food, but also clothing and other agriculture-based products) can grow. Therefore humanity is condemned to live in poverty forever because the growth of agricultural production will always be overtaken by population growth.

Q. 3. What is meant by 'birth rate' and 'death rate'? Explain why the birth rate is relatively slow to fall while the death rate declines much faster.

Ans. The birth rate is the total number of live births in a particular area (an entire country, a state, a district or other territorial unit) during a specified period (usually a year) divided by the total population of that area in thousands. In other words, the birth rate is the number of live births per 1000 population. The death rate is a similar statistic, expressed as the number of deaths in a given area during a given time per 1000 population.

Measures to improve birth rate :

- Improvements in medical cures for these diseases, programmes for mass vaccination, and efforts to improve sanitation helped to control epidemics

- The birth rate is a sociocultural phenomenon that is relatively slow to change. By and large, increased levels of prosperity exert a strong downward pull on the birth rate.

Q. 4. Which states in India have reached or are very near the 'replacement levels' of population growth? Which ones still have very high rates of population growth? In your opinion, what could be some of the reasons for these regional differences?

Ans. The rate of natural increase or the growth rate of population refers to the difference between the birth rate and the death rate. When this difference is zero (or, in practice, very small) then we say that the population has 'stabilised', or has reached the 'replacement level', which is the rate of growth required for new generations to replace the older ones that are dying out

Some states, like Andhra Pradesh, Himachal Pradesh, Punjab, Tamil Nadu and West Bengal have managed to bring down their total fertility rates (TFR) to 1.7 each (2016). This means that the average woman in these states produces only 1.7 children, which is below the 'replacement level' and Kerala's TFR is also below the replacement level, which means that the population is going to decline in future. But there are some states, notably Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh, which still have very high TFRs.

Reasons :

- Improvement in literacy
- Family planning
- Awareness
- Medical facilities

Q. 5. What is meant by the 'age structure' of the population? Why is it relevant for economic development and growth?

Ans. The age structure of the population refers to the proportion of persons in different age groups relative to the total population. The age structure changes in response to changes in levels of development and the average life expectancy. Initially, poor medical facilities, prevalence of disease and other factors make for a relatively

short life span. Moreover, high infant and maternal mortality rates also have an impact on the age structure.

There are three age structures – 0-14 years – dependent group, 15-60 years – working group and 60+ are elderly population.

Relevance for economic growth

- With development, quality of life improves and with it the life expectancy also improves.
- Renewal and replacement of government programmes will take place
- More young population is favorable, they may become demographic dividend

Q. 6. What is meant by the 'sex ratio'? What are some of the implications of a declining sex ratio? Do you feel that parents still prefer to have sons rather than daughters? What, in your opinion, could be some of the reasons for this preference?

Ans. The sex ratio refers to the number of females per 1000 males in a given area at a specified time period. India has had a declining sex-ratio for more than a century. This phenomenon has been linked to prevailing social norms that tend to value males much more than females, which leads to 'son preference' and the relative neglect of girl babies.

In fact the decade 1991-2001 represents an anomaly in that the overall sex ratio has posted its highest ever increase of 6 points from the all time low of 927 to 933, but the child sex ratio has dropped from 945 to 927.

Demographers and sociologists have offered several reasons for the decline in the sex ratio in India.

- The main health factor that affects women differently from men is childbearing. It is relevant to ask if the fall in the sex ratio may be partly due to the increased risk of death in childbirth that only women face.
- However, maternal mortality is supposed to decline with development, as levels of nutrition, general education and awareness, as well as, the availability of medical and communication facilities improves. Indeed, maternal mortality rates have been coming down in India even though they remain high by international standards.

Chapter Practice

Multiple Choice Questions

[1 Mark]

1. Which of the following factors are responsible for the decline in child sex ratio?
 - I. Higher death rate among girl babies due to malnutrition
 - II. Sex-specific abortions
 - III. Female infanticide
 - (a) I and II
 - (b) II and III
 - (c) I and III
 - (d) All of the above
2. _____ refers to a situation, where a large cohort of women of reproductive age will fuel population growth over the next generation, even if each woman has fewer children than previous generations did.
 - (a) Population momentum
 - (b) Demographic dividend
 - (c) Total fertility rate
 - (d) Fertility rate
3. Choose the incorrect statement:
 - (a) The infant mortality rate is the number of deaths of babies before the age of one year per 1000 live births.
 - (b) Life expectancy is the estimated number of years that an average person is expected to survive.
 - (c) The maternal mortality rate is the number of women who die in childbirth per 1,000 live births.
 - (d) Historically, all over the world there are slightly more females than males in most countries.

Very Short Answer Type

[1 Mark]

4. What leads to population explosion?
5. What is the criticism by Marxist and liberals on Malthus theory of population growth?

Short Answer Type - I

[2 Marks]

6. What is Malthusian theory of population growth?
7. What is demographic dividend and how it is beneficial for India?

Short Answer Type - II

[3 Marks]

8. Famines were also a major and recurring source of increased mortality. How?
9. What is dependency ratio? Discuss the nature of dependency ratio.

Long Answer Type

[5 Marks]

10. What are socio-demographic goals incorporated in National Health Policy 2017?