

Population Dynamics

Population explosion refers to the phenomenon of rapid growth in population experienced by society. It is not the rapidity of the population growth itself, which is problematic in nature. In fact, in certain societies deliberate attempts are made by the state to promote rapid population growth. Israel and Russia can be cited as some of the examples of such societies. What makes the rapid growth of population problematic is the inability of the economy to provide for the maintenance of the rapidly increasing population. Demographers had tried to explain the phenomenon of population explosion with the help of "Demographic Transition Theory", which is based on the demographic experience of European societies. According to this theory, demographic transition in society takes place through three main phases, which are:

Pre-Industrial Phase: This stage is characterised by a high birth rate and a high death rate including high infant mortality rate. As a result of this, the growth rate of population is low and population remains more or less stable. Such societies were primarily agrarian societies characterised by low level of development in science and technology due to which modern medicinal and hygienic facilities were absent. Thus, the death rate continued to be high which created insecurity among the parents about the chances of survival of the newborn child. This in turn motivated them for frequent childbirth leading to high fertility

Early Industrialisation Phase: The growth of science and technology and consequent economic development leads to an improvement in drinking water facilities, improved sanitation and knowledge of hygiene, development of medical science lead to control over various epidemics and endemic diseases. As a result of all these developments the death rate experiences a steep decline. Even infant mortality comes to be controlled. However, the birth rate continues to be high due to numerous factors, viz. low status of women, influence of religion which extols childbirth, labour-intensive nature of economy which demands low level of skills but large manpower, traditional outlook of the population which creates an aversion to the adoption of family planning techniques etc. It is during this phase of high birth rate and low death rate in the underdeveloped economy when the problem of population explosion rises.

The Phase of Advanced Industrial Societies: Here death is further checked because of improvements in medicine and other aspects of social and natural environment. Participation in the process of production in industries requires highly specialised skills. So prolonged training and education is needed to make individuals economically productive. Thus need for proper bringing up of children within limited resources forces the parents to restrict the family size. Moreover, improved status of women, their participation in modern occupations and greater awareness of the mother's health etc, are other factors which motivate people to restrict the number of children. And the easy availability of birth control measures due to innovation in the birth control technology provides the means for reducing the birth rate

and hence birthrate also declines. These societies again reached the stage of stable population size characterised by low birthrate and low death rate it.

India at present is passing through the **second stage** i.e. Early Industrial Phase and hence, is experiencing explosive growth in population, as can be seen from the fact that India's population nearly doubled itself over a period of 30 years. The provisional figures released by 2011 census has estimated population of 1.21 billion which is a matter of concern for a country like India.

Death and mortality

Like fertility, mortality too has its many social consequences. In the past and medical facilities were not available in many societies death rate or in other words mortality rate was very high. Most of the women died at a time of delivery of the child. In very many cases death came because there was no proper diagnosis. In case of India, for a very long time the country was known for its high mortality rate. The rate was very high because:

- most of the people lived a life of poverty. They did not get sufficient food to maintain themselves, less to talk of nutritive food. Western medical facilities even in the urban areas were inadequate. These did not reach the rural areas at all.
- The people, particularly in the rural areas, were not very health conscious. They had no health education and were ignorant of the importance of health.
- The married couple did not realise that their health deteriorated with the number of children.
- Child and infant mortality rate was very high, because the parents could not afford good diet for their children.
- Medical facilities in the country were very costly and only a few rich could afford that.

Size and growth of population in India

India is the second most populous country in the world ranking only after China. In the census 2011 (provisional figures) the population of India is estimated to be one 2.1 billion. 18 crore people have been added since the last census (2001). It means on an average 18 million people are added to India every year. In the first post-independence census, taken in 1951, the population stood at 360 million.

Three factors determine the change in size of population of any country i.e. how many persons are born, how many persons die, and how many persons are added to the population after considering the number of persons leaving the country and number of persons coming into the country.

Implications of the size and growth of population

The size of the population of India is itself staggering and it is growing at a high rate. Despite intensive efforts to development programmes, their achievements have not been able to keep pace with the needs of the growing population.

The per capita production of foodgrains has increased, but only marginally because of the high growth rate of population. The housing shortage has also been increasing over the years. The norms for the health and medical services have not been met. The upward trend in gross and net national product is not reflected in the per capita income to the same extent. The situation related to unemployment and underemployment reflects the inability of the employment market to absorb the pressures of increasingly large labour force

Fertility

Fertility, refers to the actual reproductive performance of individual or a group. The birth rate crude (taking only children born alive into consideration) is an important measure of fertility. Several factors have contributed to the high fertility rate in Indian women like:

- high fertility rate has been strongly supported by religions and social institutions in India, leading to appropriate norms about family size.*
- Among the Hindus, a man expected to go through various stages of his life while performing his duties attached to each stage. Marriage is considered one such duty. For Hindu women, marriage is considered essential, because it is the only sacrament she's entitled to, though the Hindu man goes through several sacraments throughout his life.*
- Till recently, the custom in India required that girls to be married off before they entered puberty. Even today, despite legislation forbidding the marriage of girls before the age of 18 years, many girls are married off before they attain this age. In India, traditionally women start childbearing at an early age, and continue to do so till she reaches the age at which they are no longer biologically capable of bearing child.*
- As in traditional societies, in India too, great emphasis is laid on bearing children. Women, who does not bear child, is looked down upon in society. In fact, the new daughter-in-law attains a rightful status in the family only after she produces a child, preferably a son.*
- The preference for sons is deeply ingrained in the Indian culture. Sons are required for extending the family-line and for looking after the parents in their old age. Among the Hindus, a son is desired not only for the continuation of the family line and for providing security in old age, but also for ceremoniously lighting the funeral pyre and, thus, effecting the salvation of his father's soul. The*

preference for sons is so high in Indian society that a couple may continue to have several daughters and still not stop childbearing in the hope of having at least one son.

- In Indian society, children are considered to be gifts of God, and people believe that it is not up to them to decide on the number of children. High infant and child mortality rates also contribute to a large family size. A couple may have a large number of children in the hope that at least few of them will survive to reach adulthood. The low status of women is also a contributing factor to high fertility. Women, unquestionably accept excessive childbearing without any alternative avenues for self-expression.
- Children in Indian society have great economic, social, cultural as well as religious value. Fertility of Indian women is high, as often there is some economic incentive to having a large number of children as it provides additional source of income in case of poor families.
- Almost all the religion in India are against the use of contraceptive which again leads to high fertility rate.

It is the combination of several factors, that contribute towards the high fertility rate in India. While considering the factors contributing to high fertility, it is also necessary to consider traditional Indian norms which regulate the reproductive behaviour of individuals.

Implications of high fertility

Apart from contributing in a big way to the population problem of the country, high fertility affect the family and, in turn society in many ways. Women are tied down to child-bearing and child-rearing for the best years of their productive lives. They are, therefore, denied the opportunity to explore other avenues for self-expression and self-development.

Excessive childbearing affects their own health and that of their children. Looking after a large number of children puts further strain on the physical and emotional resources of such women.

The burden of providing for a large family sits heavily on the breadwinner of the family. The constant struggle to maintain a subsistence level is exhausting. To escape from the problems of everyday life, he may take to drinking. This would lead to further deterioration of the economic and emotional well-being of the family.

The children, often unwanted, unloved and neglected, are left to their own devices, to make life bearable the children in large families often have to start working at a very early age to supplement the slender financial resources of the family. They are, therefore denied the opportunity to go to school and get educated. The girl child is the worst sufferer who are often not sent to school at all or is

withdrawn from school at an early age to help her mother in carrying out domestic chores and to look after her younger siblings when the mother is at work.

Mortality

Various measures of mortality are employed in its analysis, but the three basic measures are:

- **Crude Death Rate** : It is the ratio of total registered deaths occurring in a specified calendar year to the total midyear population multiplied by 1000.
- **Expectation of life at birth**: The average expectation of life at birth is a good measure of the level of mortality because it is not affected by the age structure of the population.
- **Infant mortality rate** : Infants are defined as those children who are in the first year of their life in countries like India where health conditions are poor, infant deaths account for a substantial number of all deaths. Infant mortality rate is, therefore often used as an indicator for determining the social economic status of the country and the quality of life in it.

There is a **decline in mortality rate** in India due to public health and disease control measures, which were mostly imported from the developed countries. These include vaccines against many communicable diseases, eradication of killer diseases like plague and smallpox and extension of health and medical services. The effect of severe famines have also been considerably reduced by preventive and relief measures. But still much remains to be done to bring mortality rate further down.

The decline in the death rate and high birth rate have been the main factors responsible for the rapid growth of population. The increased average life expectancy at birth has resulted in a high proportion of persons in the younger age group. In India aged persons, do not necessarily contribute to the national income of the family income. They have to be looked after, and expenditure on their health and medical needs has to be met. When strong supports are not provided by the joint family, the burden falls of society. Old-age homes or foster care homes for the aged have to be provided from the state funds. Many of the state governments have introduced various schemes to provide pension to the old, but still much needs to be done to save older people and provide them a decent life when they need it the most.

It has been observed that wherever infant and child mortality is high, fertility is also high and vice versa. A couple is always interested in the number of surviving children and not in the number of children born. Because of the high levels of infant and child mortality, a couple may go in for a large number of children in the hope that at least a few would survive to reach adulthood. Thus, apart from emotional trauma caused to parents, high infant and child mortality rates result in high fertility rates leading to inflation and population.

Age and sex are the basic characteristics or the biological attributes of any population. These characteristics or attributes affect not only the demographic structure, but also the social, economic and political structure of the population. Age and sex are also important factors because they are indicators of social status. Each individual is ascribed a certain status in society on the basis of sex and age. Status and roles are culturally determined and vary from one culture to another. Even within the same culture status and roles may undergo changes over a period of time. While in traditional societies, age demands respect, modern societies may be more youth oriented.

Age structure India

India is an old country with a large young population belonging to the age group of 0 - 14 years and a growing number of aged population in the age group of about 50 years. India has a large young population because the birth rates are high and the number of children born is large. The sustained high level of birth rates has resulted in large proportion of children and a small proportion of old population. On the other hand, in economically developed countries the birth rates are low and less children are born. When low birth rates result in a higher proportion of older people.

Rapid reductions in mortality and lengthening of the lifespan result in younger population. This is mainly because the improvement is first experienced by the infants and children. More infants and children survive leading to an increase in the proportion of the young persons in the population as in the case of India. On the other hand, when the mortality level is very low there is no further scope for any large increase in survivorship during infancy and early childhood and any improvement in mortality conditions hence affect the older age group and lead to further ageing of the population. Such a situation prevails in developed countries like Sweden, the United States, the United Kingdom, Canada, Japan, France and Australia.

Sex ratio

The sex ratio in case of India is expressed as the number of females per 1000 males. Generally, in most countries the overall sex ratio in the population is favourable to the females i.e. there are more females than males in the population. When the situation is otherwise i.e. more males than females, it is considered unusual. The population statistics available through census indicate that the sex ratio in India has always been adverse to the females. According to the 2011 census it is estimated that the overall sex ratio in case of India is 940 females per thousand males.

Of all the factors, high mortality in case of females appear to be the most plausible explanation for the adverse sex ratio in India. Though biologically stronger than male, the female in India is in a socially and culturally disadvantaged position and has been accorded a inferior status since centuries. The death rates for the females in most age groups are higher than those for the males. Therefore it can

be said that, a sex ratio that is adverse to the females is a peculiarity of the Indian demographic picture not seen anywhere else.

Family Planning and Welfare

The limited success in adoption of family planning in India can be explained in terms of various socio-cultural and economic factors. It has been found that urban population is more responsive to family planning measures than rural population. Further, educated groups accept birth control practices much more easily. In urban areas practice of family planning has found more prominence than in case of urban poor or the rural masses.

Socio-cultural and economic conditions in rural areas and among the poorer sections in urban areas are largely responsible for failure of family planning measures. Some of these conditions are:

- **Age at marriage:** In rural areas as well as among the urban areas, marriage takes place at an early age in spite of the legislative provisions raising minimum age at marriage. Those who marry at an early age tend to have high fertility. Most females in rural areas marry below the age of 18 and by the time they reach mid-40s they would have given birth to six or seven children. On the other hand, it has been found that urban women who marry after 22 years have considerably low fertility. Thus the traditional practices of early marriage in rural India and among the poorer sections of urban population contributes to high fertility.
- **Low status of women:** The low status of women, lack of awareness regarding the consequences of mother's health due to frequent pregnancy and the value system in India according to which respect is accorded to women on the basis of number of children, especially sons they have given birth to, are responsible for high birth rate. Even the joint family system in which women as wife is accorded a low status is responsible for high birth rate. Women themselves decide to give birth to a number of sons and seek emotional security in their relationship with the sons. This is mainly due to the fact that in a patrilineal joint family husband-wife relations are not characterised by high emotional intimacy.
- **Religious beliefs:** Indian society continues to be predominantly rural and even in urban areas diffusion of secular scientific education is confined only to the upper and middle classes. The worldview of the masses as well as the urban world is dominated by religion. All religions extol childbirth and are against any intervention in the process of reproduction. Particularly, among the Hindus, birth of a son is considered essential which alone can save the father from 'put hell'. Given the high infant mortality parents tend to have many sons in order to ensure that one would survive. In the process

number of daughters are also born leading to a large family size. The preoccupation with the birth of a son is to be found even among educated people in the urban areas and thus the religious belief discourages them to adopt family planning programmes. Even a Islam discourages its believers from adopting birth control measures. The minority consciousness among the Muslims is another factor which motivates them in giving birth to many children.

- **High infant mortality and lack of provisions for old age Security:** High infant mortality and the inability of the state to provide any provision for the old-age creates a sense of insecurity and makes the rural people rely on their male children, to provide support in the old age And hence birth of many children is considered desirable.
- **Economic reasons:** Another most important factor which creates a preference for a larger family is the high incidence of poverty in both rural and urban areas. Among the poor sections of the population , children are viewed as an asset. The upbringing of the children does not require any extra effort, neither do they provide for the education of the children. At a very early age both boys and girls in the poorer families start working and begin contributing to the family income. Similarly, in the farming sector among the middle and small farmers, the agricultural practices are based on labour-intensive technology. Thus large sized families are considered desirable because they supply the manpower needed for agricultural activities. Thus poverty and backwardness and lack of modern scientific education are also responsible to a great extent in discouraging people from the adoption of family planning measures.

Another factor which has contributed to the poor performance of family planning programs is that Indian government has continued to rely on the bureaucratic machinery for implementing family planning measures and for a long period the focus of family planning strategy has been primarily on birth control, rather than making a multipronged attack on various aspects which are responsible for high birth rate. Only in the sixth and seventh five year plans, a broader perspective was adopted in the form of family welfare programme. However, given limited resources and continued reliance on bureaucratic machinery, the success in controlling the population growth, remains limited.

In rural sections also, a picture more or less similar to the one given above emerges. It was found that low castes, middle castes and Rajputs were represented in the category of agriculturists, the lowest castes being the landless, sharecroppers and the middle castes being landowners. It was also found that Brahmins and Harijans were not represented among agriculturists, because Brahmins were the highest and the Harijans the lowest, most of whom performed their traditional occupations.