

Theories of Population: Malthus Theory, Marx's Theory and Theory of Demographic Transition!

The theorizing about population (population size and change) have remained an important subject since time immemorial. Many of the ancient philosophers like Confucius (China), Kautilya (India), Ibn Khaldin (Arab), Plato (Greece) and modern thinkers like Adam Smith, David Ricardo and others, either directly or indirectly, have said somewhat significant on population issues.

For instance, Kautilya, a contemporary of Plato, had written in his Arthashastra that 'a large population is a source of political, economic and military strength of a nation'. Similarly, the 14th century Arab historian, Ibn Khaldin maintained in his theory of 'rise and fall' that the growth of dense population is generally favourable to the maintenance and increase of imperial power. To the Jews, the injunction to

Adam and Eve by the Almighty to 'be fruitful and multiply, and replenish the earth' has been a guiding principle for their attitude towards marriage and procreation. The Chinese philosopher, Confucius argued that a numerical balance be maintained between population and environment.

Thus, he was not in favour of unchecked growth of population. He was the first who gave the concept of optimum population level. In ancient Greece, the earliest thinkers favoured the expansion of population, but Plato was a restrictionist who advocated an absolute limit of population.

One of the earliest demographers Edmond Halley (1656-1742) was the first scientist to use death statistics in different age groups to determine a person's likelihood of death as he or she passed through each age group (Population Today, 1986). But, as a science, it emerged only in the last 250 years. The systematic compilation of data was first begun on a large scale in the 19th century Europe.

Malthus' Theory:

Thomas Robert Malthus (1766-1834) was the key figure to analyse the population statistics. His formulation on population was a landmark in the history of population theories. He generalized the relationship between population factors and social change.

In his Essay on the Principle of Population (1798) Malthus argued that because of the strong attraction of the two sexes, the population could increase by multiples, doubling every twenty-five years. He contended that the population would eventually grow so large that food production would be insufficient.

Human capacity for reproduction exceeded the rate at which subsistence from the land can be increased. Malthus further wrote 'Population when unchecked increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio.'

Malthus contended that the world's population was growing more rapidly than the available food supply. He argued that the food supply increases in an arithmetic progression (1, 2, 3, 4, and so on), whereas

the population expands by a geometric progression (1, 2, 4, 8, and so on).

According to him, the population could increase by multiples, doubling every twenty-five years. He said the gap between the food supply and population will continue to grow over time. Even though food supply will increase, it would be insufficient to meet the needs of expanding population. Moreover, the famine and other natural calamities cause widespread sufferings and increase the death rate, which is nature's check against population.

In brief, Malthus theory states that:

1. Population is necessarily limited by the means of subsistence.
2. Population invariably increases where means of subsistence increased, unless prevented by some very powerful and obvious checks.
3. These checks, and the checks which repress the superior power of population and keep its effects on a level with the means of subsistence, are all resolvable into moral restraint, vice and misery.

Malthus based his above arguments on man's two basic characteristics essential to the maintenance of life:

- (i) The need for food, and
- (ii) the passion between sexes.

It was the second which led people to marry at a relatively early age and would result in such a large number of births that the population would double itself in few years if unchecked by misery and vice.

Malthus referred to two classes of checks which kept population down:

1. Positive means:

He spoke of famine (hunger), disease or war, pestilence and vicious customs about women.

2. Negative means:

He explicitly demanded artificial means of birth control and suggested as an alternative that birth rate be decreased through preventive measures such as late marriage (postponing marriage until later age), moral restraint, and chastity (abstinence). He contended that without such restraints the world would face widespread hunger, poverty and misery.

The 'positive' and 'preventive' checks which occur in human population to prevent excessive growth relate to practices affecting mortality and fertility respectively. Malthus saw the tension between population and resources as a major cause of the misery of much of the humanity. He was not, however, in favour of contraceptive methods, since their use did not generate the same drive to work hard as would a postponement of marriage.

Malthus argued that the positive and preventive checks are inversely related to each other. In other words, where positive checks are very

effective, the preventive checks are relatively less effective and vice versa.

However, in all societies, some of these checks are in constant operation although in varying magnitude of effectiveness. Malthus believed that despite these checks, the inability of increased food supply to keep abreast of population increase always results in some kind of a situation of overpopulation.

Criticism:

Malthus' views have been widely challenged on many grounds. The main criticisms about his theory are as under:

1. The validity of his two sets of ratios has been questioned by his critics. It is argued that population has rarely grown in geometrical proportion and means of production have rarely multiplied in arithmetic progression.
2. Malthus overemphasized the 'positive' checks and did not visualize the role of 'preventive' checks like contraceptives and family planning. Neo-Malthusists argued for the adoption of birth control within marriage. Human inventions in the fields of birth control, health and nutrition and agriculture have helped to a great extent to strike a balance between human reproduction and food supply.
3. Malthus was also severely criticized for ignoring the role of changing technology and the consequent transformation in socio-economic set-up of a society. He did not fully appreciate the extent to

which improved agricultural technology and crop fertilization could sustain large population.

Neo-Malthusians agree that there are absolute limits on food supply, energy and other resources. Furthermore, they suggest that the problem is intensified by the disproportionate consumption of such resources by so-called developed (industrialized) actions. This formulation has been challenged by other researchers.

Yet none would deny that starvation is a very real fact even in 2012. According to International Food Policy Research Institute, out of 79 countries 65 come under the category of alarming level of hunger. Barundi, Ethiopia, Chad, Eritrea and Timor have been categorized as the five hungriest countries in the world. Around the world, we read many reports of starvation death and malnutrition.

With such images in mind, a representative of the World Bank stated in 1981 that the 'ghost of Malthus is not buried yet'. Ironically gains in food supplies do not always lead to progress in the fight against starvation. It puts pressure on food prices that makes it more difficult for the poor to buy the food they need.

4. Both the positive checks of hunger and disease referred to by Malthus do not operate today, except the terrible disaster sometimes caused by Tsunami, Katrina, Rita and floods or rains in desert areas like Banner and Jaisalmer in August 2006.

But catastrophe of this nature in any part of the world is immediately rushed to the affected place from surplus areas all over the world. A

marked decline in the death rate even in the developing countries is a significant factor in the context of the population spurt.

5. Moreover, natural calamities referred to above have occurred in under-populated areas also and thus there was no causal relationship between positive checks and overpopulation.

6. Malthus also failed to realize even the biological limitations that a population cannot grow beyond a certain limits.

Marx's Response to Malthus' Thesis:

The debate about the Malthusian theory has continued down to the present. Economists such as J.S. Mill and J.M. Keynes supported his theory whereas others, especially, sociologists, have argued against it. According to them, the widespread poverty and misery of the working class people was, not due to an eternal law of nature as propounded by Malthus but to the misconceived organization of society.

Karl Marx went one step further and argued that starvation was caused by the unequal distribution of the wealth and its accumulation by capitalists. It has nothing to do with the population. Population is dependent on economic and social organization. The problems of overpopulation and limits to resources, as enunciated by Malthus, are inherent and inevitable features associated with the capitalist system of production.

Marx's contention that food production could not increase rapidly was also debated when new technology began to give farmers much greater yields. French sociologist E. Dupreel (1977) argued that an increasing

population would spur rapid innovation and development to solve problems, whereas a stable population would be complacent and less likely to progress.

During the depression of the 1930s, the debate changed somewhat because the birth rate fell sharply in industrial (western) nations. Some predicted that human species would die out. Schemes were proposed to encourage families to have more children by giving them allowances for each child born. The birth rate rose sharply after World War II, especially in the underdeveloped nations like India, Africa and Bangladesh. Birth control programmes were instituted to control the population so as to eliminate starvation.

Despite the criticisms, the Malthusian thesis gained widespread currency during his lifetime. His ideas had profound effects on public policies, on the classical and neo-classical economists, on demographers and evolutionary biologists led by Charles Darwin.

His principle of population has been successful in highlighting the urgency to maintain a balanced relationship between population growth and means of subsistence. The critics of Malthus failed to realize that it was because of a large measure of truth in Malthusian principle of population that men today feel the need of resorting to contraception to keep their families within reasonable limits. Another main contribution of Malthus was to give a new line of thinking whereby the dynamics of population growth were viewed in the context of man's welfare.

Theory of Demographic Transition:

Demographic transition is a term, first used by Warren S. Thompson (1929), and later on by Frank W. Notestein (1945), referring to a historical process of change which accounts the trends in births, deaths and population growth that occurred in today's industrialized societies, especially European societies. This process of demographic change began for the most part in the later 18th century.

Demographic transition should not be regarded as a 'law of population growth', but as a generalized description of the evolutionary process. In simple terms, it is a theory which attempts to specify general laws by which human populations change in size and structure during industrialization. It is frequently accepted as a useful tool in describing the demographic history of a country.

The theory postulates a particular pattern of demographic change from a high fertility and high mortality to a low fertility and low mortality when a society progresses from a largely rural agrarian and illiterate society to a dominant urban, industrial, literate and modern society.

It is typically viewed as a three-stage process:

- (i) That the decline in mortality comes before the decline in fertility,
- (ii) that the fertility eventually declines to match mortality, and
- (iii) that socio-economic transformation of a society takes place simultaneously with its demographic transformation.

The demographic transition theory is characterized by conspicuous transition stages.

The transition from high birth and death rates to low rates can be divided into three stages (some scholars like Haggett, 1975 have divided into four or five stages):

i. Pre-transition stage:

High and fluctuating birth and death rates with little population growth.

ii. Stage I:

High birth rates and declining death rates with rapid population growth.

iii. Stage II:

Low birth and death rates with slow population growth.

iv. Stage III:

Birth and death rates both decline appreciably leading to zero population growth. The theory holds that pre-industrial societies were characterized by stable populations which had both a high death rate and birth rate. It postulates a little and slows population growth. The theory states that the high mortality rates characteristic of undeveloped areas will decline before fertility rates which are also high.

In the first stage of transition, death rates (especially the infant deaths) begin to fall as a result of advances in public health and sanitation as well as improvements in nutrition and food supply. Since

the birth rate continues to remain high relative to the declining death rate, there is a rapid 'transitional' growth as we find in India today.

In the second stage, changes in social attitudes, the introduction of cheap forms of contraception and increases in life expectancy create social pressures for smaller families and for a reduction of fertility.

The diffusion of knowledge and cheap medical technology has brought many non-industrial societies into this stage of the demographic transition however, these societies have been unable to enter the third stage. The result has been very high rates of population growth in countries that are not experiencing corresponding economic growth.

In the last (third) stage of demographic transition birth and death rates decline appreciably which eventually becomes approximately equal, and in time it will result in zero population growth. Before this stage begins, there can be one more stage in which low birth and death rates lead to slow population growth.

The populations of advanced, urban industrial societies, which have entered the last stage, are now stable with low birth and death rates. In some cases (e.g., Eastern and Central Europe) birth rates have fallen so slow that the rate of natural increase was actually zero or negative. In this stage, the technical know-how is abundant, the deliberate controls on family planning are common and the literacy and education levels are also very high.

The growth pattern of human populations is thus held to be S-shaped, involving a transition from one type of demographic stability with high

death rates to another type of plateau with low death and birth rates. Among the later demographers, Coale and Hoover further elaborated upon the role of development and modernization in the process of transition in demographic behaviour, maintained that a society characterized by peasant economy is marked with very high birth and death rates.

Death rates are high because of lack of adequate nutritive food, primitive sanitary conditions and absence of any preventive and curative measures of control over diseases. A high birth rate, on the other hand, is a functional response to high death rates, particularly among infants and children.

In the present-day world, as would be true of any point in time, different countries of the world are at different stages of the demographic transition. In the opinion of Glenn Trewartha (1969), this is largely due to the dual nature of man.

According to him, biologically, man is same everywhere and is engaged in the process of reproduction but culturally man differs from one part of the world to another. It is the cultural diversity of man that gives rise to varying fertility patterns in different areas resulting in different stages of demographic transition discussed above.

Criticism:

Although the theory of demographic transition has been appreciated widely by the demographers, it has been criticized on many grounds

also. There are even critics who have gone to the extent of saying that it cannot be called a theory.

The main points of criticism are:

Firstly, this theory is merely based upon the empirical observations or the experiences of Europe, America and Australia.

Secondly, it is neither predictive nor its stages are segmental and inevitable.

Thirdly, the role of man's technical innovations cannot be underrated, particularly in the field of medicine, which can arrest the rate of mortality.

Fourthly, neither does it provide a fundamental explanation of the process of fertility decline, nor does it identify the crucial variables involved in it.

Fifthly, it does not provide a time frame for a country to move from one stage to another.

Finally, it does not hold good for the developing countries of the world, which have recently experienced unprecedented growth in population due to drastic decline in death rates.

In spite of these criticisms and shortcomings, the demographic transition theory does provide an effective portrayal of the world's demographic history at macro level of generalizations. As an empirical generalization developed on the basis of observing the demographic

trend in the West, the transition process for any country can easily be understood.