

Unit 3

POPULATION THEORIES AND MODELS

THOMAS MALTHUS

Thomas Malthus(1766-1834)

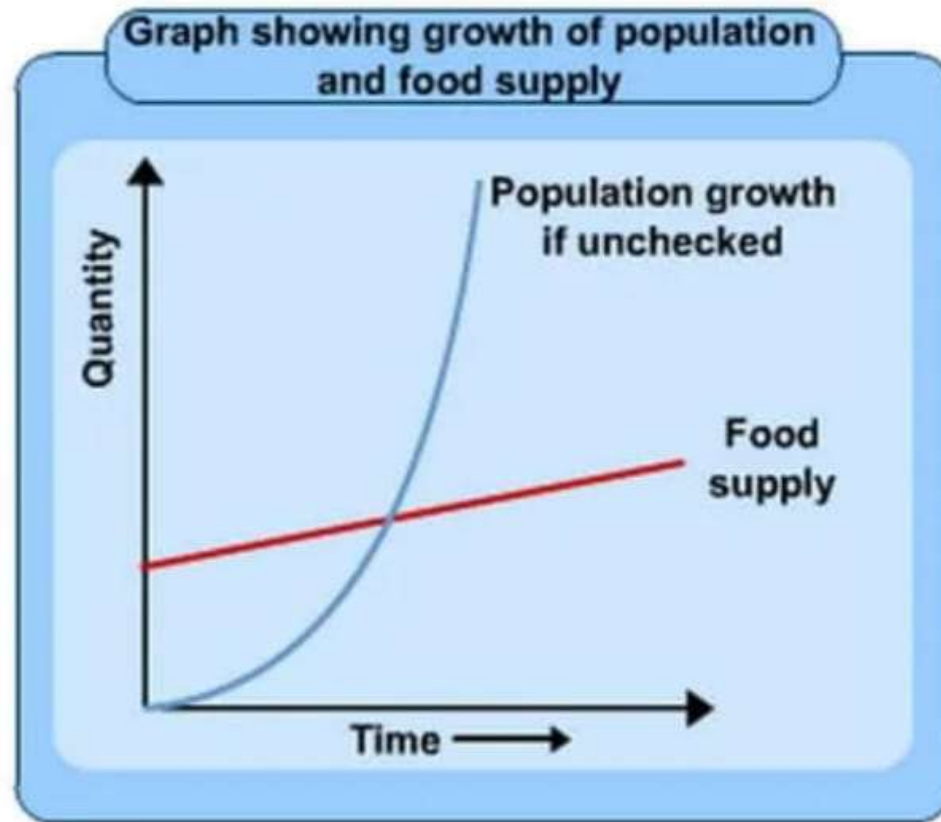
Thomas Robert Malthus (1766-1834) was the key figure to analyse the population statistics. His formulation on population was a landmark in the history of population theories. He generalized the relationship between population factors and social change. In his *Essay on the Principle of Population* (1798) 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.

The Core Principles of Malthus:

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.

Malthus recognised that population if unchecked grows at a geometric rate: 1, 2, 4, 8, 16, 32

However, food only increases at an arithmetic rate, as land is finite: 1 2 3 4 5 6



In brief, Malthus theory states that:

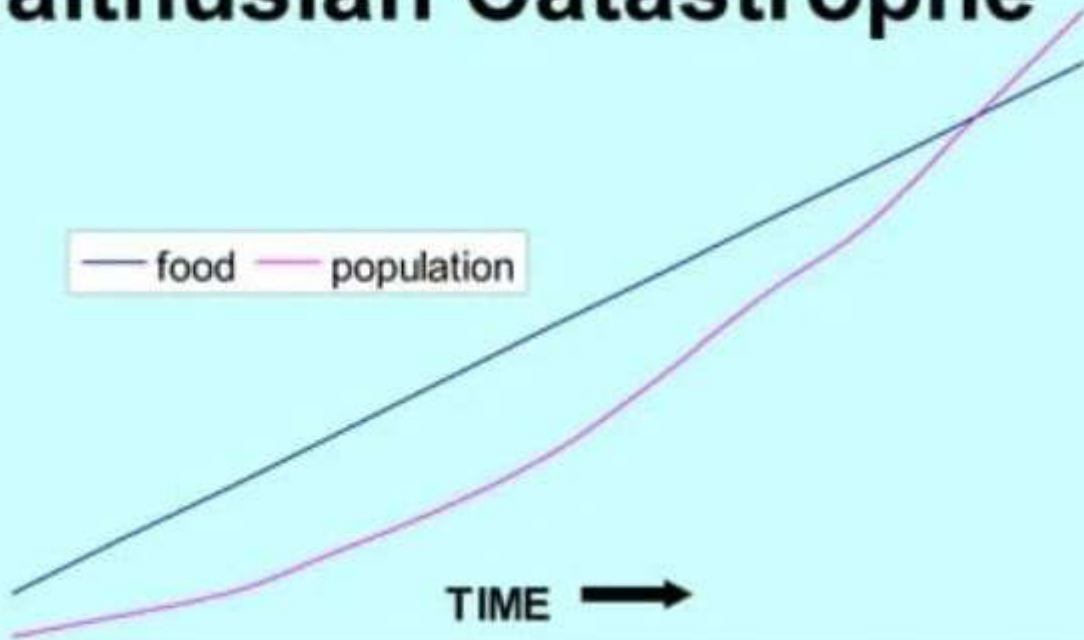
1. Population is necessarily limited by the means of subsistence.
2. Population invariably increases where means of subsistence increased, unless prevented by some very powerful and obvious checks.
3. These checks, and the checks which repress the superior power of population and keep its effects on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

Malthusian Catastrophe

— food — population

TIME →

War,
famine,
disease.



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.

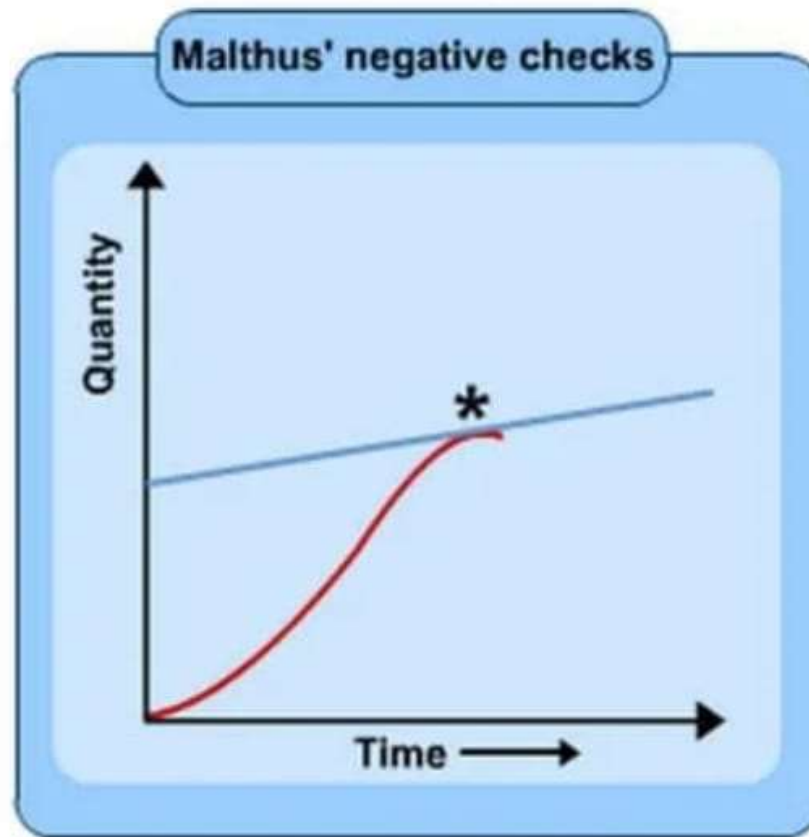
CHECKS

- Malthus suggested that once this ceiling (catastrophe) had been reached, further growth in population would be prevented by negative and positive checks. He saw the checks as a natural method of population control. They can be split up into 3 groups....

Negative checks (decreased birth rate)....

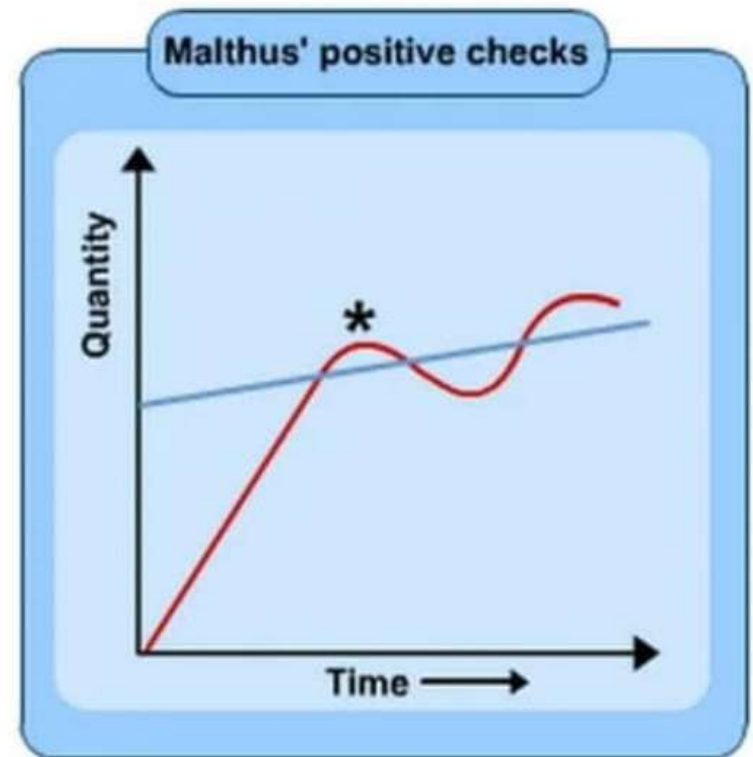
- Negative Checks were used to limit the population growth.
- It included abstinence/ postponement of marriage which lowered the fertility rate.
- Malthus favoured moral restraint (including late marriage and sexual abstinence) as a check on population growth.
- However, it is worth noting that Malthus proposed this only for the working and poor classes.

Negative checks



Positive checks (increased death rate)

Positive Checks were ways to reduce population size by events such as famine, disease, war - increasing the mortality rate and reducing life expectancy



Criticism of malthusian theory

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.

Marxist theory of population

- Marxist theory emphasizes the conflict between the proletariat (working class) and the bourgeoisie (capitalist class). Population dynamics are seen through this lens of class struggle.
- Marx argued that capitalists accumulate wealth by exploiting workers. As the capitalist system develops, it tends to concentrate wealth and resources in the hands of a few, leading to economic inequality and poverty among the working class.

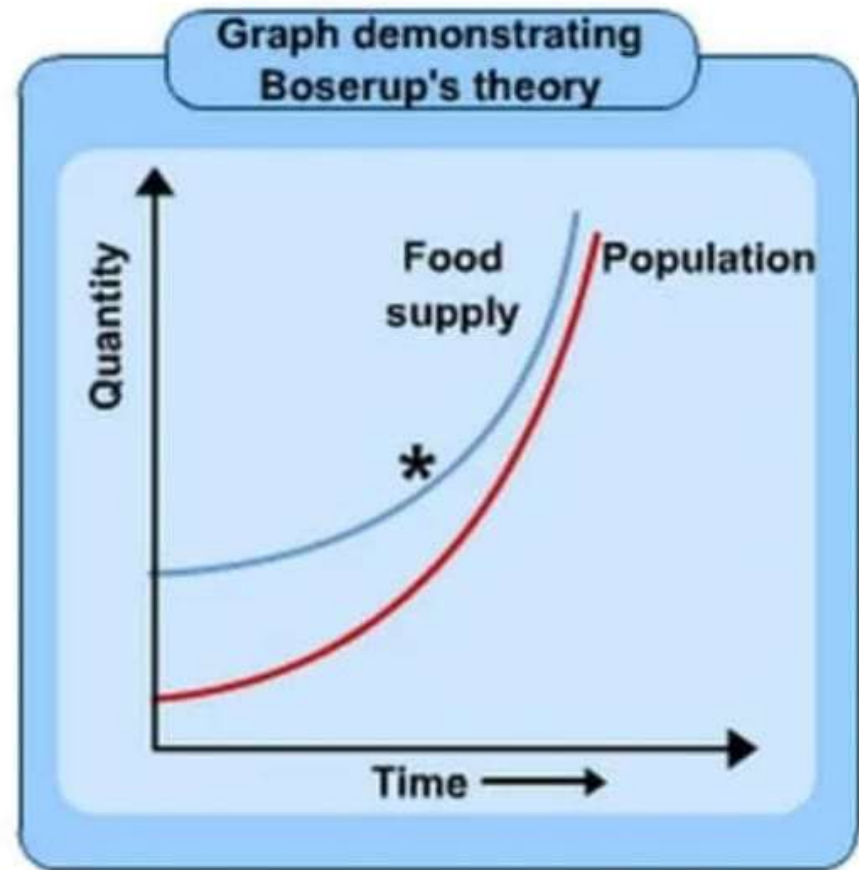
- Marx introduced the concept of a "reserve army of labor," which refers to the unemployed or underemployed population that capitalists can draw upon when needed. This surplus labor force helps to keep wages low and maintain capitalist control over the workforce.
- Marx believed that capitalism tends toward overproduction, where more goods are produced than can be consumed due to the limited purchasing power of the working class. This can lead to economic crises, unemployment, and social instability.

- In Marxist theory, population growth and reproductive behavior are influenced by the economic conditions and class relations. High birth rates among the working class are often seen as a response to economic insecurity and the need for additional family labor.
- **Critique of Malthusianism:** Marxists criticize Malthusian theories of population, which argue that population growth inevitably leads to resource scarcity and poverty. Instead, they argue that poverty and scarcity are the result of unequal distribution of resources under capitalism, not natural population limits.

Esther Boserup 1965

Boserup believed that people have the resources of knowledge and technology to increase food supplies. Opposite to Malthus - she suggested that population growth has enabled agricultural development to occur. Assumes people knew of the techniques required by more intensive systems and used them when the population grew.

Demographic pressure (population density) promotes innovation and higher productivity in use of land (irrigation, weeding, crop intensification, better seeds) and labour (tools, better techniques).



- 1. Population Growth as a Driver of Agricultural Innovation*: Boserup's central thesis is that population growth can lead to technological innovations and increased agricultural productivity. She argued that as population density increases, people are compelled to find new ways to produce more food, leading to agricultural advancements.
- 2. Intensification of Agriculture: According to Boserup, when faced with population pressure, societies intensify their agricultural practices. This means moving from extensive farming methods (e.g., slash-and-burn) to more intensive methods (e.g., multi-cropping, irrigation) to increase food production on the same amount of land
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- .3. Technological Change and Productivity: Boserup highlighted the role of technological change in overcoming the constraints of limited land and resources. Innovations such as improved tools, better seeds, and enhanced farming techniques are seen as responses to the necessity created by growing populations.
- 4. Human Ingenuity and Adaptation: Boserup emphasized human ingenuity and the ability to adapt to changing circumstances. She argued that population pressure leads to social and economic changes that drive technological and organizational improvements in agriculture.

- 5. Contrasting Malthusian Views: Unlike Malthus, who believed that population growth leads to famine and poverty due to the inability of food production to keep pace, Boserup was more optimistic. She believed that population pressure could be a catalyst for positive change and increased agricultural output.
- 6. Application Beyond Agriculture: While Boserup's theory primarily focused on agricultural development, its principles have been applied to other areas, such as industrialization and urbanization, suggesting that population pressure can spur innovation and economic development in various sectors