

**Course - Bachelor of Population Studies**

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**Paper Name - Concepts and Theories of Population**

**Paper No. I**

**Lecture No. 2**

**Lecture Title**

**Malthusian Theory of Population**

**Academic Script**

### **1. Introduction**

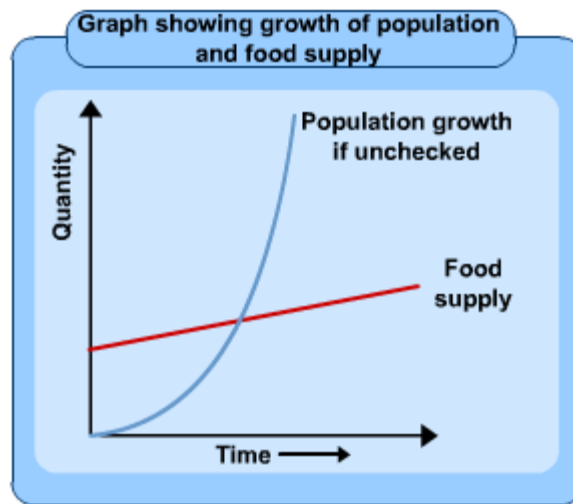
During the later seventeenth century, Thomas Robert Malthus had an opinion very different than most on human population. He was the first man to publicly predict the limits of the human population and how population and well-being are connected. In 1798, Malthus wrote 'An Essay on the Principle of Population', which explained his predictions and changed the view of many people. Malthus had the second edition of his book published in 1803. He modified some of his views from the first edition. But his original thesis did not change.

Malthus believed that the human population exhibits exponential growth. Exponential population growth takes if a population increased from 2 individuals to 4, 8, 16, 32, and then 64 individuals. According to Malthus, exponential population growth is linked with human well-being. Malthus found that food production did not increase at an exponential rate but instead increased more slowly. As a result, there will be differences in population and food growth rates. Therefore, Malthus predicted that the human population would eventually grow too large to be sufficiently supported by the food available.

### **2. Principles of Population**

Malthus was the first economist to propose a systematic theory of population. He proposes the principle that human populations grow exponentially (i.e., doubling with each cycle) and food production grows at an arithmetic rate (i.e. by the repeated addition of a uniform increment in each uniform interval of time). According to him, food output was likely to increase in the arithmetic progression 1, 2, 3, 4, 5, 6, 7, 8, 9, and so on. The population was capable of increasing in the geometric progression 1, 2, 4, 8, 16, 32, 64, 128, 256, and so forth. On the basis of the increase in food in arithmetical proportion and human population in geometrical proportion, Malthus predicted a future when humans would have no resources to survive on. Therefore, in order to avoid such a catastrophe, Malthus urged controls on population growth. This is explained in graph 1. Malthus hypothesized that unchecked population growth would quickly exceed carrying capacity, leading to overpopulation and social problems.

**Graph 1**



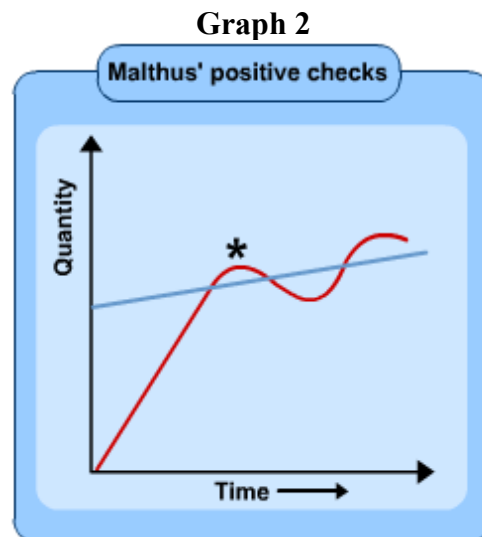
According to Malthus, resources tended to grow arithmetically. The populations exhibit exponential growth. Thus, if population growth left unrestricted, it would continue to increase until they would become too large to be supported by food grown on available agricultural land. Human population would outpace their local carrying capacity of ecosystems to support the local population. To avoid such a situation, he suggested "moral restraint". According to him, people must practice abstinence before marriage, forced sterilization where necessary, and institute criminal punishments for so-called unprepared parents who had more children than they could support. However, this solution was considered controversial in his time also. The only alternative to 'moral restraint' was disaster. According to him, if population allowed growing unchecked, it would outstrip available resources. This is called Malthusian catastrophes: naturally occurring checks on population growth such as famine, disease, or war.

In a hypothetical world population of one billion in the early nineteenth century with an adequate means of subsistence, he suggested that there was a potential for a population increase to 256 billion within 200 years. However, the means of subsistence were only capable of being increased to nine billion. Therefore, the population growth should be kept down to the low level. Otherwise, various checks will be operational, which he termed as "preventive checks" and "positive" checks. The preventative checks and positive checks will slow population growth and not allow the population to rise exponentially for too long. Even then, poverty is inescapable and will continue. Malthus predicts that population will double itself in 25 years. This was based on the experience of preceding 25 years in United States of America. According to him, a young country with fertile soil would have one of the highest birth rates. He argued that overpopulation was the cause of many of the social ills in the industrial societies of Europe. Poverty, malnutrition, and disease could be mainly due to overpopulation.

## **Malthus Checks on Population**

### **i. Positive Checks**

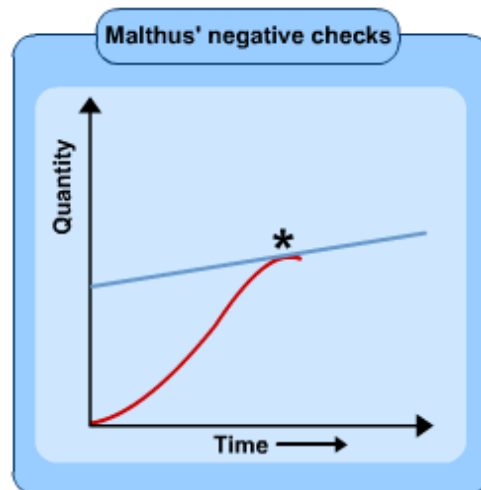
According to Malthus, positive checks to population growth shorten of human life spans. This is due to poor living and working conditions resulting in low resistance to disease, war, and famine. If population exceeds food supply, it is kept in check by war, famine, or disease. It then drops below the food supply. As the population recovers, so the cycle continues (see graph 2). In brief, positive checks increase the death rate. Positive checks include disease, war, disaster, and finally, when other checks don't reduce population, famine. Malthus felt that the fear of famine was also a major impetus to reduce the birth rate. He indicates that potential parents are less likely to have children when they know that their children are likely to starve.



## ii. Negative checks

Alternatively, the population could pre-empt the food shortages. If this happens, population growth is kept within the limits of the food supply (see graph 3). Malthus called these negative checks. Negative checks include later marriages and abstinence. These decisions are done sub-consciously as food prices increased and standard of living fell. The negative checks are also termed as preventive checks. Malthus suggested the chief preventive check as "moral restraint". It was seen as a deliberate decision by men to refrain "from pursuing the dictate of nature in an early attachment to one woman". He suggested to marry later in life than had been usual. Marriage is to be entered only when fully a man is fully capable of supporting a family. This would give rise to smaller families and fewer families. He was strongly opposed to birth control within marriage. He did not suggest that parents should try to restrict the number of children born to them after their marriage. He was aware that problems from the postponement of marriage such as an increase in the number of illegitimate births. According to him, these problems were likely to be less serious than those caused by a continuation of rapid increase in population. In brief, preventative checks are those that affect the birth rate and include marrying at a later age (moral restraint), abstaining from procreation, birth control, and homosexuality. Malthus was religious and worked as a clergyman in the Church of England. He has considered birth control and homosexuality to be vices and inappropriate.

## Graph 3



### 3. Criticisms

There have been many critics of Malthus theory. Karl Marx saw nothing wrong with the use of birth control. According to Marx, the problems would not arise due to population numbers, but due to the disorganization of the population. The problems stemmed from a capitalist system that oppresses the people.

Malthus failed to realize the possibilities of inventions, practices, and technological trends that help to monitor and improve the food supply.

There is also the issue of his refusal to accept birth control. This could have positive effects on the population growth. Birth control is widely used and encouraged today for various reasons. It also helps to slow down the population growth and also prevent infections and diseases.

Poverty is a worldwide phenomenon. If poor people are given the opportunity to better themselves through jobs and education, this will be beneficial to both the population and the economy. This is because they will be able to contribute to growth of many sectors.

With the growth of the technological and medical fields, there are decreased numbers of deaths from epidemics.

### Lessons of the Theory

Malthus concludes that at the end of the first century, two thirds of the population will be "totally unprovided for". In two thousand years, "the difference would be almost incalculable." The tendency of population to indefinite increase may be held back by two means. First, population may be limited by "moral restraint". Otherwise, various causes of increased mortality will operate. Increased mortality will be due to operation of the "positive checks."

The fallacious reasoning of geometrical and arithmetical rates of increase in population and food respectively is very weak. It is expressly repudiated by those who otherwise accept the doctrine of Malthus. The essence of Malthusian theory is that population tends to increase faster than the food supply. According to Malthus,

population constantly tends to increase, unless restrained. Thus, whenever growth, over time, is unchecked by conscious restraint, population will be kept in check by a corresponding degree of deprivation.

Malthus unashamedly makes vice and suffering the necessary result of natural instinct and affection. Malthusian theory claims poverty arises due to increased population, which forces further division of subsistence. Poverty, want, and starvation are not the result of greed or social maladjustment. They are the inevitable result of universal laws, as certain as gravity. Even if the rich were to divide their wealth among the poor, nothing would be gained. Population would increase until it again pressed the limits of subsistence. Any equality that might result would be only common misery. Malthusian theory is now generally accepted as an unquestionable truth. Poverty is due to the pressure of population against subsistence.

#### **4. Malthus Revived**

In the last forty years, Malthusian theory has once again gained attention in population debate. The oil crisis of the 1970s and the Sahel (Africa) famine in the 1980s seemed to vindicate Malthus. Malthus had been considered right. Human population had outstripped the ability to sustain them, not only with regard to food, but also with regard to resources such as oil, minerals, land, and water. Two 'neo-Malthusian' works by Paul Ehrlich's *Population Bomb* (1968) and Garrett Hardin's "Tragedy of the Commons" (1968) warns about the limits of sustenance, of resources, food, energy, land, the environment. The neo-Malthusians have captured the attention of the popular media and politicians alike. However, they are not without their flaws and their critics.

#### **Failure of Neo-Malthusian**

Paul Ehrlich claim in 1968 that 'hundreds of millions' of people would die of starvation by the 1970s. About 65 million Americans would starve. The population of the U.S. would decline by 22.6 million persons. England would cease to exist by 2000. According to Ehrlich, there were calls for action to end the population explosion humanely. A gradual population decline must become a top item on the human agenda.

Neo-Malthusians consistently argue that natural resources are absolutely limited and finite. Many commonly refer to this limited state as the earth's 'carrying capacity.' Overpopulation is sometimes defined in terms of density. The key to understanding overpopulation is not population density but the numbers of people in an area relative to its resources and the capacity of the environment to sustain human activities, that is, the area's carrying capacity. In short, if the long-term carrying capacity of an area is clearly being degraded by its current human occupants, that area is overpopulated. By this standard, the entire planet and virtually every nation is already vastly overpopulated.

In 1968, Garrett Hardin's "Tragedy of the Commons" contended that users of a common resource will inevitably destroy the very resource upon which they depend. This is a classic neo-Malthusian argument for natural limits. Recently, however, scientists have countered Hardin's view by pointing out that methods can be

developed that will allow for sustainable use of common resources. Elinor Ostrom and other argue that although tragedies have undoubtedly occurred, it is also obvious that for thousands of years people have self-organized to manage common-pool resources. Besides, users often do devise long-term, sustainable institutions for governing these resources. "Community-based natural resource management accepts that much of the state of ecosystems rests with local people and, therefore, the technology that can contribute to the sustainable use of natural resources is best used by local people."

A current topic in the population-resources debate is whether or not there is finite water. The neo-Malthusian argues that there is finite availability of the water supply. Proponents of the human-technological advancement argue that water is not limited in the sense that there is not enough to support human life. According to Ramon Llamas, we do not actually know how much water there is on earth. Each human being requires 1000 cubic meters (m<sup>3</sup>) per year to meet basic needs. However, such estimates can be misleading.

## **5. Conclusions**

Ever since its ascendancy in 1798, the *Essay on the Principle of Population* has profoundly affected the way in which people think about population and other demographic, economic, and, more recently, environmental issues. The *Principle of Population* outlined a fascinating vision of the relationship between population growth and 'subsistence.' Malthus argued that population expanded 'geometrically,' while 'subsistence increases only at an arithmetic ratio.' He believed that man's ability to increase his food supply was constrained in three particular ways: through land scarcity, the limited production capacity of cultivated land, and the law of diminishing returns. He predicted a possible scenario where population growth would outstrip subsistence, be it food, land, jobs, or any of the various components that define 'subsistence.'

It is significant to note that Malthus wrote his tract at time when England and Western Europe were experiencing great economic expansion. In the late eighteenth century, western society just beginning to experience the effects of the industrialization, and yet this society was organized in such a way that the Malthusian prophecy seemed a possibility. Populations were still quite rural and land-based rather than urban and technology-based. Thus, one could envision a time when there would not be enough land to go around from which everyone could carve a living.

Malthus felt that his predictions were inevitable. Population growth and long-term improvements to physical existence could not co-exist. However, it was not his intent to advocate government-implemented population control policies. He did not promote the use of contraception as a means of achieving the population optimum. Rather, his solution was a rational and 'virtuous' abstention from marriage, particularly amongst the working classes. This preventative check of 'moral restraint' would operate in tandem with other positive checks. These positive checks include all the causes which tend in any way prematurely to shorten the duration of human life, such as unwholesome occupations, severe labour and exposure to the seasons, bad and insufficient clothing arising from poverty, the common diseases and epidemics, wars, infanticide, plague, and famine.

According to Frank Furedi, Malthus' reason for writing the tract was likely to justify the government's economic and social policies which effectively abandoned the working classes. The ideas contained within *The Principle of Population* were very much informed by the social, economic and historical milieu in which Malthus lived. His essay was a reflection on the larger contextual situation. However, he failed to extrapolate from it a correct prediction that could be later verified by historical experience. No theory can be said to be scientifically or empirically proven if that theory can not be verified by several trials where its predictions come to fruition every time. In this respect, the test of time has not been kind to Malthus.