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THE ISSUE OF UNCHECKED POPULATION GROWTH AND ITS EFFECT ON ENVIRONMENTAL DEGRADATION

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Abstract

As the world population continues to grow, humankind is expected to experience more social, economic and environmental problems. The global population keeps growing at a very rapid pace. According to the statistical data in 2030 the global population will reach 8.4 billion and in 2050 the total size of the population will be 9.6 billion. As a result of this phenomenal growth of population, the consumption of resources such as land, food, water, air, fossil fuels and minerals has grown rapidly over the last decades. More consumption means more waste, more water pollutants, toxic materials and greenhouse gasses. Unregulated population growth will cause the environmental degradation and ecological disaster in the future. The research question of this paper is: is there a causal link between the population growth and environmental degradation? The main goal of this article is to find out if the unchecked population growth causes damage to our environment.

Keywords: Unchecked population growth, environmental degradation, overpopulation, ecological problems, industrial growth.

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Introduction

At the current stage of society's development, global ecological trends are clearly worrying and maintaining a favorable living space, favorable geographical environment for humans is an international problem. Industrial society is obsessed with the economic growth without paying enough attention to the ecological issues. Man-made environmental disasters threaten both current and future generations of humans, as well as the entire biosphere. Industrialization process brought a lot of material wealth to mankind and significantly contributed to the acceleration of population growth. Due to the unchecked population growth currently humans are facing enormous ecological problems which can put an end to the existence of life on our planet. One of the major environmental consequences of the unchecked population growth is the global ecological degradation and the decline of biodiversity.

This article aims to find out if there is a causal link between population growth and environmental degradation. In order to answer the research question following methodology has been used in this paper: scholarly articles have been studied and analyzed in detail, as well as the works of Thomas Malthus. Particular attention has been paid to the concept of carrying capacity of the earth because one cannot describe the problems of overpopulation and environmental degradation without analyzing this concept.

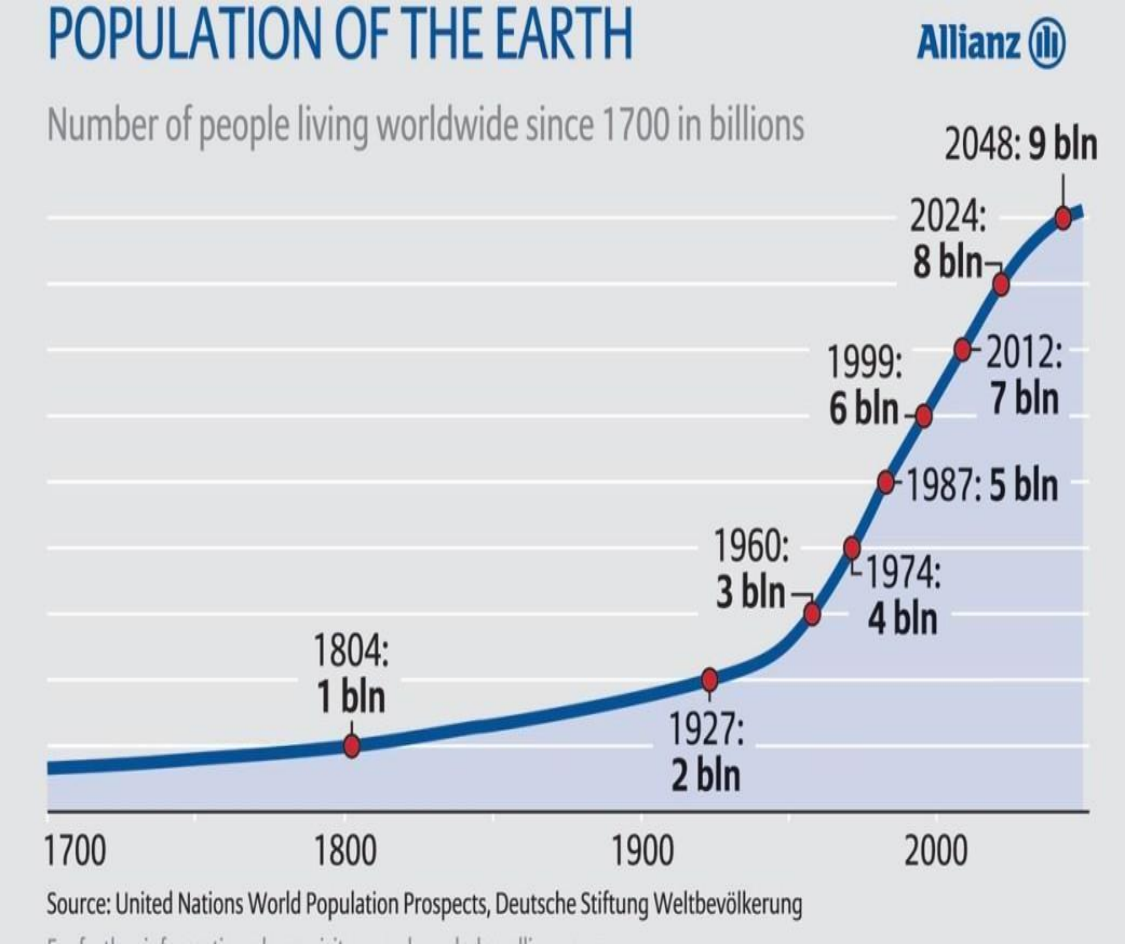
The Issue of Unchecked Population and Problem of Overpopulation

Humans have colonized almost all regions of the earth. According to the UN estimates there are 7.6 billion people living on our planet. Such a large number of people have infinite wants and needs and as the size of the population increases it will be more and more difficult to satisfy their demands and requirements in the future. people's wants and needs are infinite, but the resources available to society are limited. These 7.6 billion people are consuming vast quantities of resources and they are also producing vast quantities of waste. The world population is expected to keep growing. According to the statistical data in 2030 the global population will reach 8.6 billion and in 2050 the total size of the population will be 9.8 billion (United Nations , 2017) Until the age of industrialization, the human population was growing very slowly, kept in check by diseases, climate fluctuations and other social factors. The industrialization process, which began

by the end of the 18th century, has significantly accelerated population growth (Eric McLamb, 2011).

The global population started to increase rapidly due to the rising standards of living. Continuing improvements in nutrition, medicine and technology have seen a massive fourfold increase in the population over the last 100 years. As a result of this phenomenal growth of population, the consumption of resources such as land, food, water, air, fossil fuels and minerals has grown rapidly. More consumption means more waste, more water pollutants, toxic materials and greenhouse gasses. Unregulated population growth may cause the environmental degradation and ecological disaster in the future.

Excessive growth of human population has already caused the emergence of environmental problems such as rising levels of atmospheric carbon dioxide, global warming, and pollution. Statistical data indicates that as the global population has increased, the health of our environment



has decreased. Extremely rapid growth in the world population, that has taken place since the eighteenth century, can lead to human overpopulation. Human overpopulation raises concerns that our planet may not be able to sustain present or future numbers of inhabitants. It is no surprise that as the world's population will continue to grow, the humankind will experience more social, economic and ecological problems in the future such as deterioration in living conditions, starvation, malnutrition, air and water pollution.

The Environmental Degradation

Nowadays, it is very difficult to fight for the defense of the environment and carry out eco-friendly policies, because all this goes against the industrial development. Humans maintain constant industrial growth in order to satisfy their basic needs. Many problems have arisen because of this rapid industrial growth. Industrial growth brings with it air pollution, acid rain, pollution of rivers, seas and lakes, radioactivity, global warming, and so on. Industrial society is endangering both the survival of the human race and the survival of our planet. Humankind currently faces the prospect of an ecological catastrophe, because rising levels of consumption have led to environmental deterioration and degradation. The ecological state of the earth is deteriorating rapidly because of the human activities. Gigantic quantities of CO_2 are released every day that cause global warming and degradation of the environment. The effects of global warming and rising temperatures are more visible in the South and North poles. Melting of glaciers is inevitable because of the global warming, which will trigger natural disasters and cause enormous damage to the world's' population. (TV Imedi 2016).

The destruction of the ozone layer is one of the most serious problems facing humanity today. The ozone layer plays very important function, because it protects the earth from solar radiation, in other words, it protects us from the sun's harmful ultraviolet radiation. The ozone layer is still in danger as many substances are used that harm it. Various scientific experiments have proved that products made by the chemical industry are responsible for the ozone layer disaster (Kvinikadze et al 2010). European countries are at the top of the list of producers of CFCs, which are the gases responsible for the destruction of the ozone layer. Very little has been done to protect the ozone

layer, since the production of CFCs in the last 60 years, instead of decreasing, has increased significantly. The existence of the ozone layer is vital for the preservation of life on our planet. Therefore, it is very important that we protect the ozone layer and in order to achieve this, we must reduce the production and emission of certain gases. But in reality human beings are not willing to do it, because all this goes against their basic needs. In fact, the use of fossil fuels instead of decreasing has increased and it will continue to increase as the population of the earth continues to grow rapidly. Environmental problems are aggravated every year due to the population expansion. Energy requirements are constantly growing. Colossal amount of energy is needed in order to satisfy infinite number of needs.

Nowadays, nuclear energy is often used for the generation of electricity. A nuclear accident, similar to the disaster of Chernobyl or Fukushima, would have disastrous consequences for human life. However, many European countries continue to use nuclear energy for the generation of electricity. As the population of the earth continues to grow, it is more likely that more countries will use nuclear energy for the generation of electricity. In order to avoid nuclear accidents in the future, we have to reject nuclear energy and we have to look for alternative sources of energy. Instead of using nuclear energy, we can use solar, hydro or wind energy.

Another problem is the excessive use of chemical fertilizers and pesticides. The fertility of the earth is in danger because we use too many chemical fertilizers that cause a lot of damage to our planet. Chemical fertilizers can help increase crop yield, but at the same time the quality of the products may worsen. Because of the demographic growth, the usage of chemical fertilizers increases. In fact, people are not willing to reject the use of chemical fertilizers. Nowadays, quantity is more important than quality. Without chemical fertilizers, it will be extremely difficult to feed large number of people.

Human overpopulation raises a host of questions about the future of humankind and the earth we inhabit. Some of these questions are: How many people can earth realistically support? What can be done to mitigate the problem of overpopulation and environmental degradation in the future?

The Solutions to Overpopulation and Environmental Degradation

Intellectuals such as Thomas Malthus paid particular attention to the carrying capacity of the earth. Carrying capacity can be defined as the maximum number of people our planet can sustain

indefinitely. Debate about the carrying capacity of our planet dates back hundreds of years. The range of estimates is huge, fluctuating from five hundred million humans to more than one trillion. Experts disagree not only on the final number, but more importantly about the best and most accurate way of calculating that number. (Population and environment: a global challenge 2015) Most contemporary estimates for the carrying capacity of the Planet range between 4 billion and 16 billion.

Malthus predicted that mankind would outgrow its available resources, because a limited amount of land would be incapable of supporting a population with a limitless potential for increase. In other words, risk of starvation increases as the population continues to grow rapidly. Thomas Robert Malthus published a very important work called "Essay on the Principle of Population" in which he argued that human populations grow exponentially, while food production grows at an arithmetic rate (Thomas Malthus, 1798). Thus, while food production was likely to rise in a series of twenty-five year intervals in the arithmetic progression 1, 2, 3, 4, 5, 6, 7, 8, 9, and so on, human population was capable of growing in the geometric progression 1, 2, 4, 8, 16, 32, 64, 128, 256, and so forth. He predicted a future when human beings would have no resources at all to survive on. In order to avoid such a disaster, Malthus recommended regulating population growths. (Malthusian Theory of Population, 2011) However, most countries that face problems with over population, do not have policies that regulate birth rates.

Many things can be done to mitigate the problem of overpopulation and social problems related to excessive rise of population:

1. **Countries that face problems with overpopulation, may introduce policies that regulate the number of children.**

China has implemented one-child policy until 2015 and imposed legal restrictions on having more than one child, because otherwise it would have problems with feeding large population. (Top News 2011) Other countries that face problems with overpopulation can follow the example of China and put policies in place that regulate the number of children allowed to a couple. By enacting birth control measures and regulations and by reducing the overall population growth rate, we can save our planet and avoid ecological disasters in the future. The above mentioned policies can be introduced only for a certain period of time and after the reduction of the

population they can be abolished.

According to UN estimates the global population growth is concentrated mainly in the poorest countries of the earth. Developing countries are experiencing the highest rate of world population growth which represents a considerable challenge to governments in creating decent conditions for this large number of people. Rapid population growth in underdeveloped countries is placing a huge burden on economic, social and political structures (United Nations, 2017). Population growth in the developing countries is mostly concentrated in the urban areas, which significantly increases demand for energy, fossil fuels and water resources. Excessive population growth in the developing world is the root cause of poverty, environmental degradation and human sufferings (Mohsin Hasnan Ahmad et al., 2005).

Millions of women in the world today want to limit their pregnancies, but they do not have either knowledge or access to modern methods of contraception. The countries most affected by this problem are the poorest and most underdeveloped countries of Africa,

Asia and Latin America. World Health Organization estimates that 220 million women in different poor countries do not have access to modern methods of contraception. According to the statistical data there are nearly 40 % of unintended and unwanted pregnancies worldwide (Overpopulation Solutions, 2013). Those humans that lack knowledge about family planning should be educated and should have access to safe and effective contraceptive options for both sexes. Birth rates naturally decline when populations are given access to birth control devices.

2. Using all resources available to society more economically.

As population grows, people consume more resources. But some countries consume more than others. Countries around the world consume our planet's resources differently and unevenly. An average middle-class American consumes five times more than a Mexican, ten times more than a person from China, and thirty times more than an Indian. If everybody on earth consumed the resources like a middle-class American, the earth would have the carrying capacity of around 2 billion. However, if the people consumed the resources more economically and if they only consumed what they actually needed, then our planet could potentially support a much higher figure. People from all over the world, but particularly in developed countries, need to reexamine their consumption patterns. We have to reduce the amount of resources we consume and stop

unnecessary waste of resources in order to save our planet from destruction.

3. **Encourage the technological innovation and technological development.**

Advances in food production technologies could contribute to remarkable increases in food production and could help to feed large number of people. In order to avoid hunger and malnutrition innovative and more environmentally – friendly food production technologies have to be developed. Millions of people around the world suffer from undernourishment and malnutrition and this number is more likely to rise if more efficient food production technologies will not be developed. Governments around the world should finance scientists working on the technological innovation. They should stimulate scientists to do more research in order to develop innovative and more eco- friendly technologies.

Conclusion

It has been proved through scientific research that there is a relationship between population growth and environmental degradation. Recent research suggests that rapidly growing population requires more food, resources and land and therefore, there is a significant increase in the usage of fertilizers, pesticides, fossil fuels causing land degradation, deforestation, as well as water and air pollution. The ecological state of the earth is deteriorating rapidly due to the rapid growth of population and man-made environmental disasters.

The delicate problem of population growth can be solved if above mentioned solutions to overpopulation and environmental degradation will be taken into account and will be carried out. Overpopulation and environmental degradation is an issue that affects us all, and as such we are all responsible for working towards a sustainable future in which everyone is able to enjoy a better way of life without destroying our planet. Overpopulation and environmental degradation are global problems and they can be solved only if all countries cooperate and work together.

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