

# Overpopulation: A Curse Or Boon for Developing Nations?

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**Abstract:** *Overpopulation is referred to as a state where the number of people exceeds the carrying capacity of the natural setting. In an overpopulated place, the number of people consuming the available and essential resources is way more than what is available for them. A developing nation is a nation that has an underdeveloped Industrial base and a low Human Development Index. Developing nations have an overall shortage of health and infrastructure, low levels of access to safe drinking water, high levels of air, and water pollution, a high proportion of highly infectious and tropical diseases, and high rates of poverty, crime, and illiteracy.*

*A major cause of overpopulation in developing nations is the lack of education for girls and women and the lack of information and access to birth control measures. Majorly this lack of education in various developing nations was enforced due to cumbersome religious practices and traditions that held obnoxious beliefs of uneducating women. However, this has not been the only reason. Another cause behind the low literacy for women has been a lack of resources and existing patriarchy which automatically puts the education of women on a lower pedestal than men.*

*The relationship between population growth and economic growth has been a recurrent theme in economic analysis since Thomas Malthus agreed that population growth would depress living standards in the long run. Taking into account the developing country of Africa a global study in 2010 was conducted. The study showed that 90% of the African population was concentrated on 21% of the land. Much of that 90% are living in crowded urban cities and densely populated cities and countries like Rwanda. This means that the other 10% of the African population is spread across 79% of the African land mass. Not all of that 79% is desirable for habitation.*

*When the Zika Virus spread rapidly across South America and was linked to several birth defects many asked why the same remained muted in Africa.*

*Asia is the largest continent in the world and about 60% of the world population are its inhabitants. It constitutes 1/3rd of the world's land and has more than, half of the population of the world. It has the world's two most populated countries-China (1.39 billion) and India (1.35 billion). Many expect Asia's population to grow by 750 million and reach 52 billion by 2050. South Asia has the highest overbalance of overcrowding in the developing world. A third of its population resides in areas that lack sufficient living spaces. The Asia Pacific region is urbanizing rapidly which brings enormous challenges to landscapes and lifestyles.*

*Urbanization causes inequalities between rich and poor and prompts the poor to live in shims and hinders economic growth.*

*Urbanization in cities like Mumbai, Bangalore, and Jakarta also demonstrates a lack of proper water supply, electricity, sanitation, and transportation and makes living conditions difficult. The dramatic growth in the population of Asia is a result of an increase in the number of people surviving their reproductive age.*

*According to the World Bank population and low fertility rates are to be blamed for an increase in population as 36% of the world's population over 65 currently live in East Asia. Higher incomes and better education have not only led to longer life expectancy and lower fertility rates but have also caused families to move and change social values.*

*Overall the developing nations are already struggling with pressure on food, clothing, and housing, unemployment, low standards of living decrease in forest area, environmental pressure, energy crisis, economic degradation, etc. Overpopulation just makes the conditions worse.*

**Keywords:** *Asia, Climate Change, Consumption, Developing Countries, Industrial Revolution, Inflation, Labour, Medical Facilities, Overpopulation, Poverty.*

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## **2. Introduction**

Overpopulation can be defined as a situation where the human population rises to an extent that exceeds the carrying capacity of the environment. In other words, overpopulation can be defined as an excess of people consuming the resources that are available for consumption. As a result of this, there is pressure on environmental resources and degradation of the same. Overpopulation is usually an undesirable condition. A large number of factors are responsible for the rise in a country's population. Some of the leading causes are falling mortality rate, progress in food production, urban and rural migration, poverty, child labor, fertility treatments, poor contraception, etc. Developing nations face the problem of overpopulation more than developed countries, but it affects most of the earth as of now.

Illnesses that had claimed thousands of lives until now were cured because of the intervention of vaccines. This along with an increase in food supply also contributed to this situation. Our planet can produce only a limited amount of water and food to support our livelihood. Overpopulation causes environmental damage including deforestation, pollution, etc. Similarly, there is the degradation of the environment which happens because of the overuse of resources like coal, oil, natural gases, and more.

The origin of this all started during the Industrial Revolution. Industrial Revolution changed the face of the planet. As more buildings and jobs were created, more people worked and got paid better and had the opportunity to have children because they were finally able to sustain them. Greater food production, new medicines, and better sanitation are some of the many factors that led to higher birth rates and lower death rates.

## **3. Causes Of Overpopulation In Developing Nations**

Decreased death rates: Scientific progress has allowed us to overcome diseases that earlier ended only in death. The invention of vaccines and antibiotics, like penicillin, helped a lot. Various diseases such as smallpox, polio, and measles have been completely eradicated by advancement

2. Agricultural Advancement: Agricultural advancements in the 20th century have allowed humans to increase food production using fertilizers, herbicides, and pesticides and yields further. This allowed humans with more access to food which leads to subsequent population explosions.

3. Better medical facilities: Science was able to produce better means of producing food, which allowed families to feed more mouths. Besides, medical science made many discoveries, thanks to which they were able to defeat a whole range of diseases. The disease that had claimed thousands of lives until now was cured because of the invention of vaccines. Combining the increase in food supply with fewer means of mortality tipped the balance and became the starting point of overpopulation.

4. Migration: Currently half of the global population lives in cities with more than 3,00,000 inhabitants. This has led to overstraining and overcrowding to a point where cities and countries no longer have the necessary resources to fulfill the needs of the people residing in these countries.

5. Poor Contraception: Poor pregnancy planning leads to a lot of unexpected pregnancies. As per statistics, 76% of women aged between 16 and 49 in Great Britain used at least one form of contraceptive, leaving a quarter open to unexpected pregnancies. Whereas a study by the World Health Organization (WHO) shows that this figure drops to 43% in underdeveloped countries, which leads to higher birth rates.

6. Poverty: Lack of educational resources leads to high birth rates which in turn results in poverty this has impacted the mental and physical well-being of the women as well.

#### **4. Effects of Overpopulation in Developing Nations**

**Depletion of Natural Resources:** The main impact of overpopulation is the degradation of natural resources due to overconsumption and pressure on them. The planet has limited capacity to generate raw materials each year and overconsumption causes havoc.

**Degradation of the environment:** With the overuse of coal, oil, and natural gas, has started producing some serious effects on our environment. Besides, the exponential rise in the number of vehicles and industries has badly affected the quality of air. The rise in the amount of CO<sub>2</sub> emissions leads to global warming. Melting of polar ice caps, changing climate patterns, and rise in sea levels are a few of the consequences that we might have to face due to overpopulation.

**Rising Unemployment:** There is a limited number of jobs available for people and when the population keeps on increasing, it creates a problem in job creation and hence results in unemployment.

**Climate Change:** Overpopulated areas have to deal with the effects of climate change. The rising sea levels and global warming from greenhouse gas emissions compromise the quality of life we live.

**Rising living Costs:** Fewer resources, less water, etc. cause an irrational balance in demand and supply thus among varied living costs. As the difference between demand and supply continues to expand due to overpopulation, it raises the prices of various essential commodities, including food, shelter, and healthcare. This means that people have to pay more to survive and feed their families.

**Farming impacts:** A growing agricultural base to feed an expanding world population comes with its complications. As the global population increases, more food is needed. Such measures may be met through more intensive farming, or through deforestation to create new farmlands, which in turn can have negative outcomes. Agriculture is responsible for about 80 percent of deforestation, worldwide. The yield of existing farmland can be increased through intensive farming to feed our rapidly growing population. This approach is characterized by reliance on mechanization, pesticides, and chemical fertilizers. Such practices can be associated with soil erosion or depletion. According to the World Wildlife Fund, the land used and abandoned in the last 50 years globally may be equal to the amount of land used today, As well, the agricultural runoff of excess fertilizers is one of the main causes of eutrophication, which depletes waters from oxygen and results in significant negative impacts for marine life.

##### **4.1. Overpopulation and global climate change**

Climate change is one of the major challenges of our time and adds considerable stress to our cities and the environment. From shifting weather patterns that threaten food production to rising sea levels that increase the risk of catastrophic flooding, the impacts of climate change are global in scope and unprecedented in scale. Without drastic action today, adapting to these impacts in the future will be more difficult and costly. This overview deals with the concept of global climate change, the associated terms, causes, consequences, solutions, and its potential health impact. It shows the need to act urgently if we are to avoid an irreversible build-up of greenhouse gases (GHGs) and global warming at a potentially huge cost to the economy and society worldwide. Therefore, addressing climate change requires an “unprecedented level of cooperation, not only between countries but also between different levels of Governments, private sector, and individuals.

But today due to overpopulation we're having problems keeping this balance because we burn fossil fuels to heat our homes, run our cars, produce electricity, and manufacture all sorts of products, we are adding more

greenhouse gases to the atmosphere. By increasing the amount of these gases, we have enhanced the warming capability of the natural greenhouse effect. It's the human-induced enhanced greenhouse effect that causes environmental concern because it has the potential to warm the planet at a rate that has never been experienced in human history.

**Economic Consequences:** Changes in global climate will have enormous consequences for living nature as well as the economy. Even a small rise in mean annual temperature can have a major impact on a region's ecology and biological diversity (Pounds & Puschendorf, 2004). Biodiversity is of crucial importance for the stability of ecosystems as well as for human health (Harvard, 2002). The economic impact of drought, floods, and other climate change effects will become quite substantial. Some researchers estimate that these costs are set to rise to between 5% and 20% of global income (Stern, 2006). The IPCC has not yet managed to provide a rock-solid cost estimate of the consequences of climate change. It has estimated the cost of limiting further change, though. If such action is taken, global income will grow by only slightly less than if nothing is done: overall economic growth up to the year 2030 would then be 3 percentage points lower (57% instead of 60%, for example).

Avoiding extreme climate change is also important if the "Millennium Development Goals" are to be achieved, formulated by the United Nations as follows:

- Eradicate extreme poverty and hunger.
- Achieve universal primary education.
- Promote gender equality and empower women.
- Reduce child mortality.
- Improve maternal health.
- Combat HIV/AIDS, malaria, and other diseases.
- Ensure environmental sustainability.
- Develop a global partnership for development.

That climate policy and the millennium goals go hand in hand is readily illustrated. In regions where climate change leads to more severe drought, for example, poverty and hunger will be exacerbated rather than eradicated. Climate change will mean that malaria spreads further around the globe rather than being effectively combated. The multiple impacts of climate change on biodiversity will mean less environmental sustainability, not more. The message is clear: if climate change is not halted, the millennium goals will simply not be achieved.

## **5. Global Warming**

Human population growth and climate change have grown hand in hand as the use of fossil fuels have exploded to support industrialized societies. More people necessitate more demand for oil, coal, gas, and other energy sources extracted from below the Earth's surface that spew carbon dioxide (CO<sub>2</sub>) into and other energy sources extracted from below the earth's surface that spew carbon dioxide (CO<sub>2</sub>) into the atmosphere when burned, trapping warm air inside like a greenhouse.

Global warming (as well as global cooling) refers specifically to any change in the global average surface temperature. Global warming is often misunderstood to imply that the world will warm uniformly. As in the case of average global temperature will also cause the circulation of the atmosphere to change, resulting in some areas of the world warming more, others less some areas can even cool. Unfortunately, although it significantly misrepresents what happens, the term 'global warming' is still often used by media and others to describe climate change. Climate change is more than a warming trend (which is why the term "global warming" is an inaccurate description of the phenomenon).

## 6. Brief History Of International Agreements On Climate Change

For the first time in June 1988, at the World Conference on the Changing Atmosphere in Toronto, politicians, and scientists conclude that “humanity is conducting an unintended, uncontrolled, globally pervasive experiment whose ultimate consequences could be second only to a global nuclear war.” The conference recommends reducing carbon dioxide emissions by 20% by 2005. In the same year, IPCC published its First Assessment Report, which highlighted the increasing accumulation of human-made greenhouse gases in the atmosphere. The first Conference of the Parties (1995) in Canada, realized the need for binding commitments by industrialized countries are required to reduce emissions. In December 1997 around 150 countries signed the Kyoto Protocol, which binds 38 industrialized countries (called Annex 1 countries) to reduce greenhouse gas emissions by an average of 5.2% below 1990 levels from 2008 to 2012. The Kyoto Protocol became international law on 16 February 2005.

For any nation, the more urgent priorities like economic development always tend to take over threats like climate change or global environmental change and this is why it is so difficult to achieve a coordinated international response to such issues. Recently, United Nations Climate Change Conference in Bali, Indonesia (December 2007) was attended by representatives from over 180 countries, together with observers from intergovernmental and non-governmental organizations. Participants agreed on the “Bali roadmap”, which provides guidelines to reach a treaty by the end of 2009 to replace the Kyoto Protocol. That year in April during the UN Climate Talks in Bangkok – the first meeting after the Bali conference—an ambitious timetable had been developed to complete the complex negotiations on a new climate deal in time for the UN Climate Conference in Copenhagen in December 2009.

## 7. Positive Effects Of Overpopulation In Developing Nations

1. Increased Military Might: An increase in the number of people increases military size, along with military supplies. Additionally, an increase in population can lead to an increase in technology, which will allow for the production of more sophisticated military products.

2. Cheaper and More readily available products: Having cheaper and more readily available products and services is something that is probably only a serious advantage in the short term, but it is an effect that overpopulation can have on society. Having more people who are willing to work will mean there will be more goods and services available to people. Since there will be a large supply, prices will go down and certain things will become more affordable.

3. Increased Human Resources: One obvious advantage that some people believe can be found in a large population is a greater number of human resources. This will most likely not lead to an increase in jobs in places in which unemployment has been a major issue, but with more people, there will be an increase of people willing to work for less. Whether that is a good thing in a socioeconomic climate that has historically placed a great value on class and wealth is open to debate, but some people believe that an abundance of people willing to work may have a positive effect on society.

4. Higher Demand in Industry: Logic would dictate that a country with a higher population will ensure more demand in certain industries. Since North America is a consumerist and capitalist society, many people would view this as a positive effect of population growth. A company that sells a good or service with high demand will be very successful as long as it has an output large enough to meet said demand. This is a slippery slope, however, as resources are finite even if demand is not.

5. Economies of scale: Farming and industry have been able to benefit from economies of scale, which means as the population grows, food output and manufacturing output has been able to grow even faster than population growth. For example, at the turn of the

nineteenth century, Thomas Malthus predicted population growth would lead to famine as we would be unable to feed the growing population. However, his dire predictions failed to materialize because he failed to

understand, that the productivity of land, labor, and capital could all increase more than proportionately. 300 years ago, most of the population worked on the land. Technological innovation and economies of scale, mean productivity of land has vastly increased as farmers make use of mechanization and economies of scale for increased food production.

6. The improved demographic structure of society: Many western economies are now experiencing a falling population, with the result that their population demography is being skewed to old, retired people. This is imposing costs on society as we struggle to pay for health care and pensions. Moderate population growth helps to rebalance the population with a higher share of young, working people.

## **8. Suggestions To Control Population Explosion**

1. To control the population rate, the best method is to increase the income rate.

2. Promoting delayed marriages.

3. Encouraging female education and employment.

4. Making available family planning methods through different outlets in urban, semi-urban, and rural areas.

5. Government should provide incentives and awards to people for adopting and promoting family planning measures.

6. Governments of India have made many laws regarding raising the minimum age of female marriages, education of child labor and others i.e. family planning government should take strict steps and make laws against the people who can't follow them.

7. "Family Planning" means bearing a child by will and not by chance. Invest in health infrastructure to reduce infant and child mortality rates.

### **8.1. Economic Measures**

Creating employment opportunities: Governments should create more and more employment so that the income of people can be raised. This will increase the living standard of people and people will adopt small families instead of big ones.

Development of Agriculture & Industries: If agriculture and industry are properly developed, a large number of people will get employment. When their income is increased they would improve their standard of living and adopt small family norms.

Standard of Living: Improvement in the standard of living acts as a deterrent to the large family norm. To maintain their higher standard of living people prefer to have a small family. Government should take important steps to increase the living standard of the people.

Incentives: Government should give various types of incentives to people to adopt birth control measures. Providing educational, health, or even financial incentive can be a highly effective population measure. Incentivizing policies like paying a certain amount of money to people with not more than two kids or three, and discounted education for single children, etc. can help to adopt small family norms.

### **8.2. Social Measures**

Late Marriage: As far as possible, marriage should be solemnized at the age of 30 years.

This will reduce the period of reproduction among the females and will reduce the fertility rate. The minimum marriage age at 21 yrs. for males and 18 yrs. for females.

Women Empowerment: In most developing countries, women folks are not considered

equivalent to men in terms of force and might. People keep giving birth to kids to have more sons than daughters. Empowering women with a say in matters concerning them like childbirth and educating them to fight against discrimination will ensure a healthy and aware society.

Education: Education is the solution to all problems. Education is the backbone of an individual and economy of the country. Educated people can easily understand the adverse effects which a high population growth rate possesses. Education, especially women's education, can work wonders in controlling the population. An educated man and woman can easily understand the merits of a small family. Without proper education, most measures like awareness campaigns and women empowerment will prove to be inefficient and useless.

Eradicating Poverty: Poverty is one of the main causes of social problems. Poverty is one of the reasons for overpopulation. Poor people are mostly illiterate and ignorant. They have a high fertility rate and give birth to many children. They don't follow family planning and other methods of population control. Therefore Govt. should take steps to eradicate poverty so that they get awareness and benefits of family planning. Change in social outlook: People in India prefer male children instead of a female children. This leads to an increase in births because people gave birth to a child until a male child is not born. This type of attitude among people should be changed. Both males and females should have an equal preference.

Family planning: This method implies family by choice and not by chance. by using preventive measures, people can regulate the birth rate. Family planning mainly depends on the availability of cheap contraceptive devices for birth control and proper medical facilities. Governments should give various types of incentives to the people to adopt birth control measures.

### **8.3. Statistics on Overpopulation**

1. Life expectancy contributes to overpopulation: In 2016, the World Health Organization reported that the worldwide life expectancy for babies born in 2015 increased by five years since 2000, to 71.4 years. Women in Japan can expect to live 86.8 years on average. In the United States, the average for women is 79 years and for men, it is 74 years. The numbers represent a 35-year increase over 100 years - more people living longer means a larger population. One billion people were born in 12 years: The population of the entire world increased by that much between 1999 and 2011. Developing countries represent the largest areas of growth resources to support them.

2. There were more than 125 million births in 2014: Assuming the same rate of fertility, another 625 million people will be born by the time those babies are of school age. That means a lot of job opportunities for teachers in the coming years. During the 20th century, the U.S. population tripled: However, there was a 17-fold increase in raw materials consumption. The number of people in the country continues to grow by about 3,000 every twenty minutes. The population of the United States is growing at a rate of more than 2 million people per year.

3. The population of the United States will double in 100 years at the current rate: To put that in a political perspective, a House of Representatives member represented 34,000 people in 1790. It now represents over 735,000 individuals each. Therefore, on a per capita basis, representation of the public American democracy is diluted.

4. Where better employment, education, and medical resources are available, overcrowding is shifting populations to where resource shortages become more likely. Population density is the issue, although the overall number of people on a larger scale is the same.

5. Population growth and an increase in energy usage are correlated: For example, there was a 41.7 percent increase in the nation's population between 1974 and 2007 (210,839,000 to 301,621,000), according to a Federation for American Immigration Reform (FAIR) report. The amount of energy consumed increased 37.1 percent (75.81 to 101.54 quadrillion BTUs consumed), leading to a rise in the number of fuel spills and release of greenhouse gases. This has affected waterways throughout the country and has caused the degradation of natural habitats. Zoning and planning provide cities with little ability to slow their growth, and urban crowding and sprawl continue across the country. Government programs to slow mass immigration have better potential, based on numbers from the FAIR.

6. The United Nations predicts the world population will reach 11 billion by the end of the 21st century, and

possibly level off. This is just one of three projections by the UN. It also says a greater decline in fertility than expected could trigger a population decline to about 7 billion, or less of a fertility decline can yield a higher rate of growth, to a world population of about 16.5 billion.

7. Urbanization and migration are accelerating throughout the world. The UN predicts that 66 percent of people on Earth will be living in cities by 2050. This and other trends may have profound impacts on economic development, income distribution, poverty, and access to important resources. Green practices can help avert the shortages in water and food, as well as access to the necessary resources.

## 9. Conclusion

The above analysis shows that the high growth rate of the population has slowed down the pace of economic development in developing countries. It is found that the fast-increasing population makes the task of absorbing the labor force in productive activities all the more difficult. So a large increase in population is more of a liability than an asset in developing countries. It has also been examined that increasing demand for agricultural land, firewood, dwelling units, etc. results in deforestation which adversely affects soil fertility, causes floods, and affects the climate. It can be concluded that a large sized population and its fast growth increase consumption needs. This increases consumption expenditure. So, the saving rate and capital formation do not increase much. A part of the resources mobilized by such economies is eaten away by the fast-growing population.

Let's be hopeful that increasing public awareness and enlisting strict population control norms by the Governments around the world will lead the way for the country's economic prosperity and control of the population. Climate change is happening and it is caused largely by human activity. Its impact is beginning to be felt and will worsen in the decades ahead unless we take action. The increasing rate of global warming—courtesy of carbon dioxide and other greenhouse gas emissions from human activities—has led to climatic changes and environmental degradation, which in turn have resulted in great challenges with diseases and human health. Many diseases which were previously unknown in certain climatic zones are now finding their way to such areas, due to changes in the weather conditions. Further, many diseases that had been thought extinct are re-emerging in areas with altered climatic conditions that favor their comeback. It is therefore important that stakeholders and decision-makers at industrial, government, and international policy levels come up with stringent and workable means of cutting down on greenhouse gases emission to combat the spread of global warming effects, and the resultant climate change, which has produced devastating impacts, especially among poorer nations.

Further, there should be increased funding for adaptation and coping programs and projects in affected areas to minimize the impacts on human health and curtail the spread of diseases. Although overpopulation has not affected the GDP of India has grown very fast in the last two decades. India is now 3rd largest economy with a GDP (PPP) of \$10.40 trillion but due to the population explosion still, it is ranked 116th country in terms of per capita income and 130th position in terms of HDI. Population explosion is adversely affecting the standard of living. Overpopulation creates the problems like unemployment, shortage of food, low per capita income, the problem of capital formation, high pressure, social, problems, economic insecurity, social insecurity, Increases pressure on land and environment degradation.

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