



OVERPOPULATION AS AN EMERGING CONCERN FOR INDIA: A NARRATIVE REVIEW

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Abstract

Overpopulation is a critical issue that poses significant challenges to the sustainable development of India. With an estimated population of over 1.3 billion people, the country faces immense pressure to provide its citizens with basic living necessities, and energy. The growth rate is driven by multiple factors, including high birth rates, low mortality rates, and low effectiveness of family planning programs. Despite India's efforts to implement effective family planning programs, many families in rural areas still prefer having large families, which has contributed to the country's population explosion. The consequences of overpopulation are widespread and far-reaching, and they have serious implications for India's future. Food shortage stands out as one of the major obstacles confronting the nation. With a growing population, the demand for food has increased rapidly, leading to reduced crop yields and food shortages in many parts of the country. It resulted in malnutrition and starvation, particularly among the rural poor. Water shortages are another major problem that has resulted from overpopulation. With an increasing water demand, many parts of the country are experiencing severe water scarcity, leading to widespread drought and related issues. Overpopulation has also led to pollution and environmental degradation, which are India's major challenges. The country's rapid development has raised pollution levels in the air and water, making it difficult for people to breathe clean air or drink clean water. This has contributed to various health problems, including respiratory diseases, skin diseases, and cancer. Furthermore, overpopulation has resulted in poverty and unemployment, which are significant challenges that India needs to overcome. As the birth rate continues to increase, the number of job opportunities is not keeping pace, resulting in a growing unemployment rate. This has contributed to an increase in poverty levels, people are finding it hard to meet their fundamental requirements like food due to financial constraints, shelter, and healthcare. Given the scale and complexity of the problem, the study calls for urgent action by policymakers and stakeholders to address the issue of overpopulation in India. Effective measures are taken such as encouraging the use of contraceptive methods, improving access to education and healthcare, encouraging sustainable development practices, assisting in decreasing the population growth rate, and enhancing the situation can be aided by the country's overall well-being. By prioritizing these measures, India can take significant steps toward achieving sustainable development and ensuring a better future for its citizens.

Keywords: Overpopulation, Recourse scarcity, Natural Resources, Narrative review

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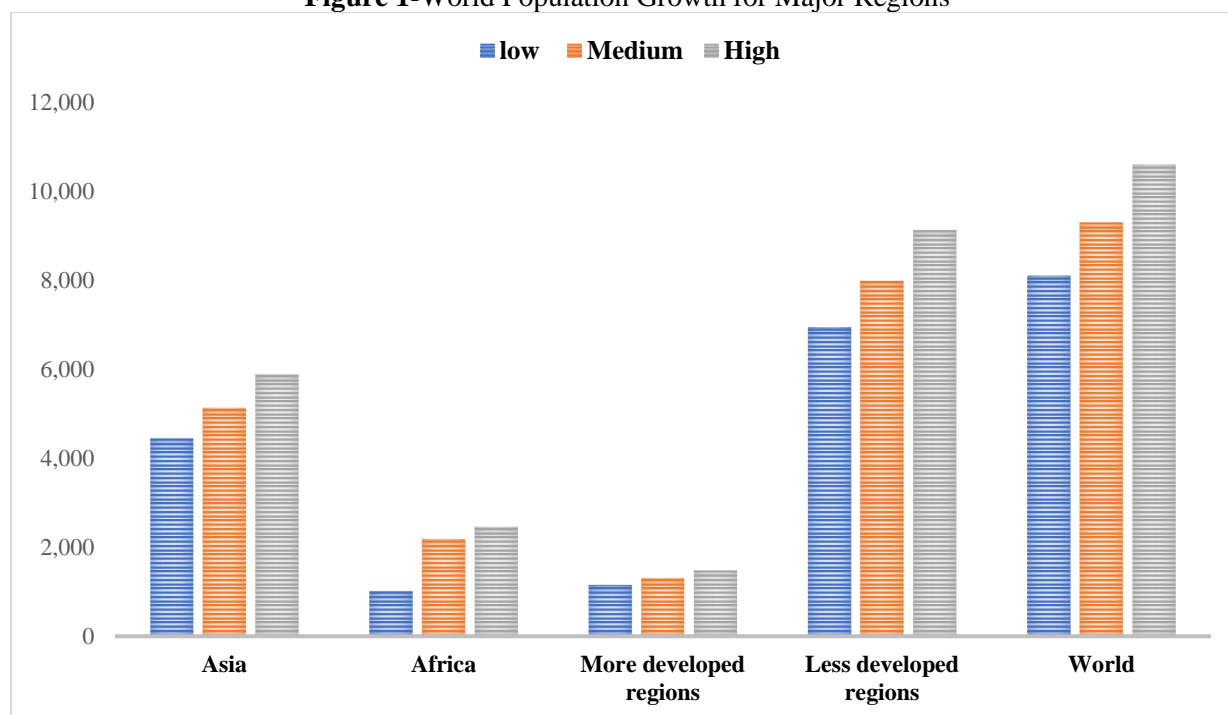
Introduction

India comes second to China with over 1.37 billion people as of 2020 (Worldmeter, Censes 2020). Over the last few decades, India's population has grown at an unprecedented rate, and this has resulted in several issues, including poverty, food insecurity, and environmental degradation. It is one of the biggest concerns faced by India in terms of overpopulation as it threatens to overwhelm the country's limited resources and infrastructure (Sofi, 2020). Overpopulation is an increasingly pressing problem in India, as the population has grown from about 376.3 million people in 1950 to 1.37 billion people in 2020 (Worldmeter, Censes 2020). This rapid growth has led to a decline in the availability of resources per capita, as the population is now larger than the resources available to support it. This has resulted in several issues, including poverty, food insecurity, and environmental degradation. Additionally, overpopulation has also led to an increase in urban sprawl, as people are forced to move to cities in

search of work, leading to an increase in congestion, pollution, and crime.

The dramatic development of human growth throughout the recent hundreds of years has initiated infringement in the wild territories and their subsequent obliteration, posing an estimated threat to biodiversity. Vinod (2012) highlights this issue. The population growth rate from 1960 to 2000, there was an approximately 2% annual increase, which indicates a possible increase in population every thirty-five years and hence may lead to ecological imbalances. Bloom (2011) reports on this phenomenon and presents the project, figure-1 shows the population growth in various regions. Till today, Africa has been facing the problem of population growth. It has the lowest population growth with around nearly 2,500 persons. On the other hand, Asian countries have been with the most overpopulated population and growing rapidly by 6,000 persons. Similarly, less developed regions and more developed regions have indicated the difference in their population growth rates.

Figure 1-World Population Growth for Major Regions



Source: <https://www.worldometers.info/>

The government has enforced numerous guidelines and programs to manage the issue of overpopulation. It consists of the National Population Policy 2000 (Singh, 2022), which seeks to reduce population growth by encouraging the use of contraceptive methods and delivering access to reproductive health services; the National Health Mission, which seeks to improve access to health services and reduce maternal and child

mortality; and the Pradhan Mantri Gramin Awas Yojana, which seeks to provide housing to rural areas. Additionally, the government has taken steps to improve access to education, which has been linked to lower fertility rates. Despite these efforts, overpopulation remains a major problem in India. It is found that by 2050, India's population will reach 1.7 billion (Intellectap, 2017), placing an even greater strain on the country's resources. To

address this issue, the government needs to continue to invest in family planning and reproductive health services, as well as improve access to education and healthcare services.

Additionally, initiatives to promote sustainable development and reduce urban sprawl should be implemented to ensure that India's resources are used efficiently and effectively.

Graph 2- India's Population Growth Rate during 2020- 2023



Source – <https://www.macrotrends.net/>

The above graph highlights the population growth rate during 2020-2023 in India. The population increases by 0.81% in 2023 as compared to 2022. The population of India in 2022 was 1,417,173,173, which represents an increase of 0.68% compared to 2021. Similarly, the population of India in 2021 was 1,407,563,842, which represents an increase of 0.8% compared to 2020. The population of India in 2020 was 1,396,387,127, which represents an increase of 0.96% compared to 2019.

Review of literature

Overpopulation is a demanding issue that has garnered significant consideration from researchers, representatives, and the public. "World Population Prospects 2019: Highlights" (United Nations, 2019) overviewed the trends and projections of the global population. The report predicts that by 2050, the global population will reach 9.7 billion, and by 2100, it will increase to 10.9 billion. The report also discusses the implications of these population trends, including increased demand for resources and potential environmental degradation. Overpopulation has an important impact on the native environment and society. It can lead to environmental issues, and economic and social challenges such as food insecurity and inequality (Bohuslavska, 2018). Therefore, sustainable development and

population control can help to mitigate the negative impact of overpopulation (Sannigrahi and Mukhopadhyay, 2017). Population and environment are interconnected to each other. Harte and Lovelock (1994) discuss population groups and their impact on the environment in their study and argue that population growth is a significant factor contributing to climate change, deforestation, and other environmental issues. They also suggest that reducing population growth should be a top priority for policymakers. In this connection, overpopulation can have multiple consequences, including resource depletion, famine, and disease (Ehrlich, 1968). Therefore, population growth must be reduced to avoid the catastrophic consequences of overpopulation. Additionally, it can be used as a key strategy for mitigating its ill effects on all. (Bradshaw and Brook, 2014).

David Bloom, David Canning, and Jaypee Sevilla (2003) examined the relationship between population growth and economic development and suggested to reduce the fertility rates of the country can lead to economic growth and poverty reduction, particularly in developing countries. Bloom and Sachs (1998) suggested investing in the education and healthcare sector to reduce population growth and its negative impact. Additionally, the consequences of overpopulation, including resource depletion, environmental

degradation, and social challenges are crucial areas that need to address effectively (Katz, 2013).

Methodology

The current study uses online data sources to highlight the concerns of overpopulation and its impact on natural resources and provide a brief highlight of the Indian population and its concern related to overpopulation. The present study uses a narrative review method to select the selected literature related to overpopulation from the Google Scholar database. The study uses the keywords like “*overpopulation*,” “*natural resources*” “*Indian population*” and many more to search the literature. The studies try to conceptualize the concern of overpopulation in the Indian context.

Overpopulation and India

India is the most populated country after China with 1.42 billion people (Worldometer, 2023). Overpopulation is a grave concern for our country, because of its huge population of 1.42 billion people which is 17 percent of the world population (Ghosh, 2017). Overpopulation is an unfavorable situation in which the number of people inhabiting an area surpasses the number of natural resources that can provide nourishment and support for them. (Bhattacharya, 2020). Over 7 billion people live on the planet today, with China being the most populated nation, followed by India (Worldometer, 2023). The economic miseries of underdeveloped, poor, and developing nations are brought on by speedy population increase (Ghosh, 2017). Intriguingly, the USA, which is the third-most populous nation in the globe, has 311.1 million residents, or just 1/4th of India's population (Worldometer, 2023). When you take into account that the USA is three times bigger than India in terms of size, this disparity is even more astounding (Ghosh, 2017). In terms of population, some Indian states are larger than other nations. For example, Uttar Pradesh, which has 166 million residents, outnumbers the 146.9 million citizens of the Russian Federation (Worldometer, 2023). Similar to how Orissa has a larger populace than Canada and Chhattisgarh than Australia (Ghosh, 2017).

The population of Asia takes 67 percent of the world's population, With a global income of only 18 percent. On the other hand, North America with only 16 percent of the world, receives 45 percent of global income. Even so, it only uses 12 percent of global revenue (World Bank, 2023). Africa's predicament is also more concerning. The more populous regions continue to have poor socioeconomic conditions. Their inhabitants

receive food that is inadequate in quantity and lacks nutrients (World Bank, 2023). The most populated regions globally are in Asia- Southeast Asia countries that are China, Pakistan, Bangladesh, Phillippines, India, etc. (Bhattacharya, 2020). The population of the region consisting of the Middle East and North Africa has also been increasing at an alarming rate over the last few years (United Nations, 2021). It has also been claimed that Latin America is in charge of ringing the global alarm. In this area, as the population grows, the people's standard of living is declining, and domestic unrest is rising. Due to increased birth and fertility rates, the population of sub-Saharan Africa is growing quickly. These aforementioned regions of the globe have been described as having explosive population growth. These places have seen more population growth than other areas so far, and they will likely continue to do so shortly as well (Bhattacharya, 2020).

Causes of Overpopulation

Carling and Collins (2018) defined overpopulation as people per square meter that is for every person there is a fixed square of land to reside in and when that exceeds is called overpopulation. The term overpopulation is often used about human populations, and it is considered one of the most significant global issues of humanity today. While many factors contribute to overpopulation, however, the current study will focus on the three most significant causes, including high fertility rates, increased life expectancy, and migration. One of the most significant factors contributing to overpopulation is high fertility rates. According to the World Health Organization (WHO), the global fertility rate was 2.5 children per woman in 2019 (WHO, 2021). However, in some countries, particularly those in sub-Saharan Africa and South Asia, fertility rates are much higher. For example, the fertility rate in Niger is 6.9 children per woman, while in Afghanistan it is 4.9 children per woman (World Bank, 2021). These high fertility rates are often attributed to cultural and religious factors, lack of education and access to family planning services, and traditional beliefs about the importance of having many children (United Nations, 2019). The second significant factor contributing to overpopulation is increased life expectancy. Advancements in medicine and public health have led to a significant increase in life expectancy over the past century, particularly in developed countries. For example, the life force in the United States improved from 47 years in 1900 to 78 years in 2021 (World Bank, 2021). While longer life expectancy is a positive development, it

also leads to an aging population and a decrease in the number of individuals leaving the population through death. This can put a strain on resources, particularly in countries where social welfare systems are underdeveloped or non-existent. Finally, migration is another factor contributing to overpopulation. As people travel from rural areas to urban areas, cities become more densely populated, leading to overcrowding and pressure on resources. This is particularly true in developing countries, where urbanization is occurring rapidly. According to the United Nations, the ratio of urban population has increased by 30 percent globally in 1950 to 56 percent in 2021 (United Nations, 2021). This movement will reach up to 68 percent by 2050 (United Nations, 2021).

Impact of Overpopulation

The human population is a valuable resource for any country. But when it exceeds the carrying capacity of a given geographical area and increases demands for resources causes unemployment, environmental degradation, increased demand for health services, and social and economic burden for countries. On the other hand, Ausubel (2016) argues that technological advancements have allowed for increased food production and reduced the impact of population growth on the environment. She believes that idea of overpopulation is a myth. However, Asian countries like India and China have experienced the negative impact of population growth and overpopulation.

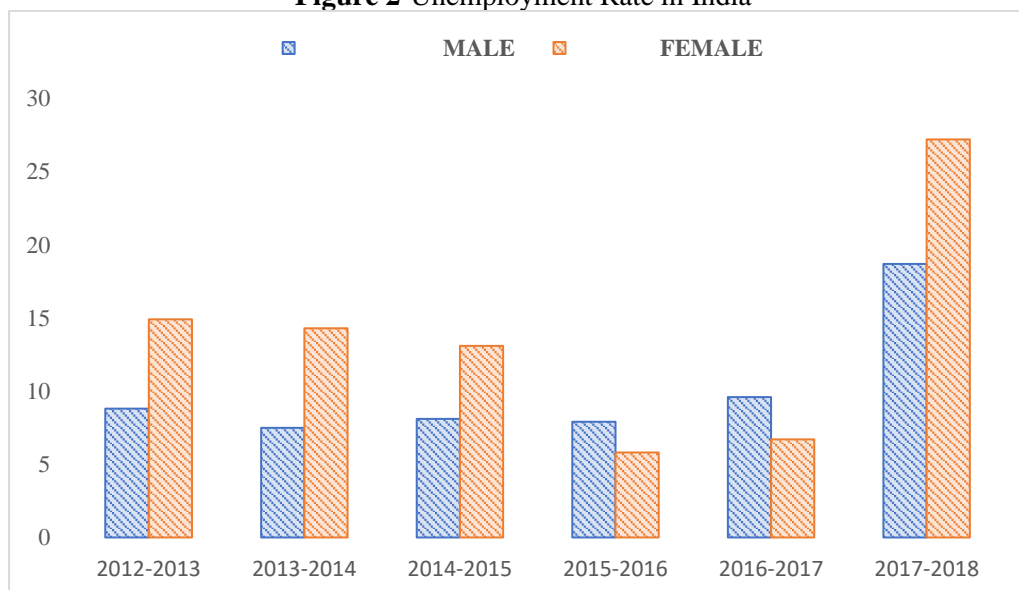
Thus, overpopulation has become a significant concern for policymakers and scholars worldwide due to its devastating effects of it on the

environment, social structures, and economic development. The current study tries to highlight the effects of overpopulation in different domains like the environment, public health, social structures, and economic development and provide possible way-out strategies to deal with the concern of overpopulation.

Employment: India has faced numerous problems due to overpopulation, including unemployment, lacking income rate, insecurities, loss of jobs development failure, and many social problems (Smith, 2019). It causes more competition for employment opportunities and creates an environment where employers hire employees for a lower wage due to the increased supply of labor in the country. Additionally, the lower wages when the demand for products is higher and produce low purchasing power to the people create an illusion of “*there are fewer jobs in the market.*”

The population growth rate is increasing continuously for the past decades. The proportion of youth in the country's total population is much more than the number of jobs available. It creates a situation of unemployment in the economy. The figure-1 highlights the unemployment rate among urban youth in India. It shows that urban female has an almost higher unemployment rate than males during 2014-2018. During 2017-18 it was an all-time high for both gender (male=18.7% and female 27.2%). However, during 2015-16 it was low at 7.9% and 5.8% for males and females respectively. It indicates that the unemployment issue is in urban settings, however, the picture of rural India is even more shocking (National Sample Survey Office, 2018)

Figure 2-Unemployment Rate in India



Source: - National Sample Survey Office, 2018.

Environment: Overfarming, deforestation, water pollution, and even global warming are all detrimental environmental and economic effects of overpopulation. It is one of the most urgent environmental problems, silently escalating the factors that contribute to habitat loss, global warming, degradation of the environment, and the use of fresh water and fossil fuels at rates faster than they can be replenished. According to (UN-Water), water covers 75% of the surface of the globe. Of that, the ocean makes up 97.5 percent, and freshwater makes up 2.5 percent. Glaciers and ice caps contain 70% of the world's freshwater, while surface waters including rivers, lakes, ponds, and groundwater make up the other 30%. Less than 1% of the world's freshwater remains since the majority of the freshwater resources are either inaccessible or too contaminated. The Global Outlook for water resources for 2025 predicts that by that year, more than half of the world's population will be vulnerable to water-related problems and that people will need fresh water. Consists of land pressure, soil erosion, trees, habitat loss, biodiversity loss, altered consumption patterns, increased energy demand, air pollution, global warming, and climate change, as well as water scarcity and pollution. The use of fossil fuels for transportation and energy production has increased, which has led to rising levels of greenhouse gas emissions that contribute to climate change. (Carling & Collins, 2018a).

Additionally, the increase in human population has resulted in biodiversity loss and habitat damage, endangering the survival of numerous species. For instance, animal habitats for orang-utans, tigers, and elephants have been lost by the clearing of forests for agriculture or urbanization, leading to a sharp drop in their populations. (Carling & Collins, 2018).

Economic Impact: Overpopulation can also affect economic development in various ways. The growth in the number of individuals hints to a rise in demand for goods and services, creating an opportunity for businesses to expand and create jobs. However, if the growth rate exceeds the capacity of the economy to provide jobs, the unemployment rate may increase, leading to poverty and social unrest. Furthermore, overpopulation can lead to inflation, as the demand for resources exceeds supply, leading to an increase in prices. This can affect the purchasing power of individuals, particularly those with low income, leading to economic hardship (Cohen, 2010). (Placeholder1)

Health: Overpopulation also has significant effects on public health, particularly in developing countries. The inadequate provision of basic amenities such as clean water, sanitation, and healthcare services results in the spread of infectious diseases such as cholera, typhoid, and malaria. The proximity of individuals in crowded cities facilitates the transmission of communicable diseases, such as COVID-19. Moreover, overpopulation also contributes to poor air quality, leading to respiratory illnesses such as asthma, lung cancer, and bronchitis (Carling & Collins, 2018). Additionally, overpopulation also has an impact on access to education and healthcare in India. As the population continues to grow, the demand for these services increases, which can lead to overcrowding, inadequate facilities, and a lack of resources. It can result in lower-quality education and healthcare, particularly in rural areas where resources are scarce (Kumar & Yadav, 2020). Overcrowding in schools and hospitals also increases the risk of the spread of infectious diseases.

Social Impact: Overpopulation also has a significant impact on social structures. Rapid population growth often results in the uneven distribution of resources, with some individuals having access to more resources than others. This creates social inequalities, leading to conflicts and tension within societies. Overpopulation can also lead to social problems such as crime, homelessness, and drug abuse. For instance, in crowded cities, there is an increase in the number of homeless people, who often resort to begging, theft, or drug abuse as a means of survival (Carling & Collins, 2018).

Way-out Strategies

One of the major concerns of overpopulation in India is the impact it has on employment Opportunities. With the growing population, there is an increase in the competition for jobs, particularly in urban areas. This can lead to unemployment, underemployment, and a mismatch between available jobs and the skill sets of the workforce. This section reviews some of the relevant literature on overpopulation and employment in India. Ghosh (2021) examined the relationship between population growth and employment and found that rapid population growth in India population has led to increased competition for jobs, particularly in urban areas. As a result, there has been a rise in informal employment, which is often characterized by low wages and poor working conditions. The study concludes that policies aimed at reducing

population growth and promoting skill development are needed to address the employment challenges posed by overpopulation in India. Similarly, Iyer and Karthikeyan (2021) examined the impact of population growth on employment in the state of Tamil Nadu in southern India and found that rapid population growth has led to increased demand for labor, particularly in the construction and service sectors. However, this has not translated into better employment opportunities, as most of the jobs are low-paying and lack social security benefits. The study recommends that policies aimed at creating more formal employment opportunities and promoting education and skill development are needed to address the employment challenges posed by overpopulation in Tamil Nadu. Therefore, in the contemporary world, controlling population growth is essential to defeating issues like poverty, illiteracy, unemployment, economic sluggishness, etc. The benefits of advanced technology and the nation's expanding development will only be absorbed by population growth. To stop the unchecked population increase, the following actions should be taken:

Family Planning: The most efficient way to keep the population under control is to raise awareness of birth control procedures and contraception. To solve the overcrowding issue, we must educate people about the advantages and techniques of family planning. Additionally, it will aid in their comprehension of the necessity of having no more than one or two kids. Family planning must be viewed as a distinct discipline. It will be necessary to take the proper actions; however, success can only be attained through negotiation and persuasion. A healthy population whose numbers are in line with the nation's wealth is essential to a decent and prosperous society. Modern family planning techniques and strategies should be used for this. The government, NGOs, and civic society should effectively spread it (Parenthood, 2008).

Governmental Initiatives: The concerned authorities should expand the means for employment, entertainment, and instruction. They must implement public policies that not only restrain unchecked population development. It also prevents unchecked population migration and a developing concentration of people in urban regions. To achieve the ideal populace mix, sufficient resources should be used along with ample room and sturdy infrastructure. Mishra, S. (2021)

Need for education: Farmers must receive education and join cooperatives to better their situation. The farmers continue to have access to opportunities to learn about loans, appropriate agricultural practices, education, and technology thanks to the assistance of the government, cooperatives, and other helpful organizations. Thus, they come to understand that being illiterate is a curse that only results in poverty and ruin (Noddings, 2005).

Raising awareness: India's quick population growth hinders its advancement and development. Although it is impossible to limit population growth by reducing the current population, it is possible to do so by increasing public awareness of the overpopulation problem. (Rao & Reddy, 2018).

CONCLUSION

Overpopulation poses a severe threat to individuals and the environment in terms of deforestation, ecosystem degradation, climate change, and adverse impact on the psychosocial health of the individual. Though, several policies and programs have been initiated by developed as well as developing nations to mitigate the effects of it. But, still, the policy implementation gap and poor effectiveness are a greater challenge in producing desired outcomes. Therefore, the effectiveness of awareness programs about population control and education, explicitly in poorly developed regions, and impartial sharing of resources must be ensured. Further, it will help to plan and control the population explosion in the country.

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