

Impact of Population Growth on Environment in India – A Case Study

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ABSTRACT

Rapid population growth in a country like India is threatening the environment through expansion and intensification of agriculture, uncontrolled growth of urbanization and industrialization, and destruction of natural habitats. The present paper is an attempt to study the population change and its impacts on land, forest and water and energy resources. Rapid population growth plays an important role in declining per capita agricultural land, forest and water resources. The analysis reveals that outcomes of high population growth rates are increasing population density and number of people below poverty line. Population pressure contributes to land degradation and soil erosion, thus affecting productive resource base of the economy. The increasing population numbers and growing affluence have resulted in rapid growth of energy production and consumption in India. The environmental effects like ground water and surface water contamination; air pollution and global warming are of growing concern owing to increasing consumption levels. The paper concludes with some policy reflections and emphasizes the potential importance of natural resources.

Key words: Population, India, Growth, environment, degradation.

1. INTRODUCTION

The world has changed greatly since the 1960s and 1970s, when there existed a virtual consensus among Western experts that rapid population growth in the developing world represented a serious global crisis. One of the primary causes of environmental degradation in a country could be attributed to rapid growth of population, which adversely affects the natural resources and environment. The uprising population and the environmental deterioration face the challenge of sustainable development. The existence or the absence of favorable natural resources can facilitate or retard the process of socio-economic development. The three basic demographic factors of births (natality), deaths (mortality) and human migration (migration) and immigration (population moving into a country produces higher population) produce changes in population size, composition, distribution and these changes raise a number of important questions of cause and effect. Population growth and economic development are contributing to many serious environmental calamities in India. These include heavy pressure on land, land degradation, forests, habitat destruction and loss of biodiversity. Changing consumption pattern has led to rising demand for energy.

The final outcomes of this are air pollution, global warming, climate change, water scarcity and water pollution. The rapid population growth in a developing country like India are frightening the environment through the expansion and intensification of agriculture, the uncontrolled growth of urbanization and industrialization and the destruction of natural habitats. The pressures on the environment intensify every day as the population grows. The growing trends of population and consequent demand for food, energy, and housing have considerably altered land-use practices and severely degraded India's forest vis-à-vis environment also. The growing population put immense pressure on land intensification at cost of forests and grazing lands because the demand of food could not increase substantially to population. Thus, horizontal extension of land has fewer scopes and relies mostly on vertical improvement that is supported by technical development in the field of agriculture i.e. HYV seeds, Fertilizers, Pesticides, Herbicides, and agricultural implements.

Population is an important source of development, yet it is a major source of environmental degradation when it exceeds the threshold limits of the support systems. Unless the relationship between the multiplying population and the life support system can be stabilized, development programs, howsoever, innovative are not likely to yield desired results. Population impacts on the environment primarily through the use of natural resources and production of wastes and is associated with environmental stresses like loss of biodiversity, air and water pollution and increased pressure on arable land. Human population issues are extremely important when it comes to our way of life and our future on this planet. Environmental degradation is a result of the dynamic inter-play of socio-economic, institutional and technological activities. Environmental changes may be driven by many factors including economic growth, population growth, urbanization, intensification of agriculture, rising energy use and transportation. Poverty still remains a problem at the root of several environmental problems.

2. OBJECTIVE

The objective of this paper is to examine impact of population growth on various facets of environment which is being degraded, every now and then, gradually in India.

3. ANALYSIS

Population growth and economic development are causing several serious environmental problems in India. These include pressure on land, deforestation and water scarcity and water pollution.

HOUSEHOLDS WITH AVAILABLE AND SAFE DRINKING WATER

Access to safe drinking water and proper sanitation is both a right and a basic need. Access to safe drinking water in many households is non-existent or inadequate and remains an urgent need. The percentage distribution of households having safe drinking water facilities is presented briefly. In India, in 1981, 38percent of households were access to safe drinking water facilities which was increased to 62 percent of households in 1991. About 27 percent and 75 percent of rural and urban households were access to safe drinking water facilities in 1981

increased to 55 percent and 81 percent of rural and urban households in 1991 respectively. The situation in rural areas is much worst.

The households in eleven states and five union territories were access to safe drinking water more than the national average, and the households in 13 states and two union territories were access to safe drinking water below the national average during 1991. More than 50 percent of households in 13 states and 5 union territories were access to safe drinking water in rural India as compared to 21 states and 6 union territories in urban India. In India, almost all surface water resources are contaminated and unfit for human consumption. The impact of drinking water pollution is more severe on the poor. The problems have become more acute in the slum areas where such basic necessities of life are either non-existent, or are inadequate and very low in standard. The diseases commonly caused due to contaminated water are diarrhea, trachoma, intestine worms, and hepatitis. Inadequate access to safe drinking water leads to intestinal mortality and intestinal diseases.

HUGE STRESS ON LAND

India confronts severe pressure on agricultural land. Over the past fifty years, while India's total population increased by about 3 times, the total area of land under cultivation increased by only 15.92 percent from 118.75 to 141.23 million hectares. Despite past expansion of the area under cultivation, less agricultural land is available to feed each person in India. The extent of agricultural intensification and extensification is characterized by increase in cropping and irrigation intensity and higher use of chemical fertilizers, pesticides and insecticides. The process of agricultural extensification and intensification is leading to land degradation, overexploitation of underground water resources, increased use of chemical fertilizers leading to water pollution.

Ground Water Resources, Water Scarcity and Water Pollution

Out of the total replenishable ground water; about 84 percent is made available for agriculture and livestock, the rest 16 percent is made available for domestic consumption, industrial use and power generation. The amount of water available per person has declined in recent decades primarily because of population growth and water scarcity is projected to worsen in the future. The water pollution in India comes from three main sources: domestic sewage, industrial effluents and run off from activities such as agriculture. The increasing river water pollution is the biggest threat to public health. The diseases commonly caused due to polluted water are cholera, diarrhea, hepatitis, typhoid amoebic and bacillary, dysentery, guinea worm, whereas scabies, leprosy, and trachoma are some of the diseases associated with water scarcity. All these could be attributed to the rapidly increasing population and lack of water resources. Inadequate access to safe drinking water and sanitation facilities leads to higher infant mortality and intestinal diseases.

4. CONCLUSION

The result of high population growth rates are increasing population density, increasing number of people below poverty line and pressure on natural resources which contributes to environmental degradation through over exploitation of natural resources. The study reveals that rapid population growth continues to be a matter of concern for the country as it has manifold effects, most important being land degradation and soil erosion, deforestation and declining per capita land, forest and water resources. From the various effects of human beings

on environmental degradation, discussed in this paper, it appears that if human beings want to exist on earth, there is now high time to give top priority to protect natural resources and environment. Moreover, the environment protection should not be a responsibility of government alone but local people and leaders should be encouraged to make dedicated efforts to eradicate the environmental problems.

Special efforts should be made for informing and educating the people and local leaders about the adverse effects of large population through specially designed Information, Education and Communication (IEC) activities. In order to increase green cover and to preserve the existing forests, afforestation and social forestry programmes should be implemented at the local level. There is a need for preventive and curative measures to control water pollution due to chemical fertilizers, pesticides and other wastes. More emphasis should be laid on compulsory environmental education at the school level in order to make people aware of the environment protection. The environment protection should not be a responsibility of government alone but local people and leaders should be encouraged to make dedicated efforts to eradicate the environmental problems.

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