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Population, Poverty and Environmental Dilapidation: A Theoretical Analysis

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Abstract

This paper is an attempt to find out the causality between population, poverty, and environmental dilapidation in Himachal Pradesh. The population, and environmental relations advocates that poverty is the consequence of environmental degradation, while population pressure exacerbates both poverty and environmental degradation. However, the effects of the poverty on the environmental degradation are found indecisive after the empirical analysis of these variables. Himachal Pradesh government repeatedly announce its commitment to become the Green State of India through nurturing renewable energy, clean industries, sustainable tourism models and other developmental polices. However, this ideal model turned out to be more of green- washing with the need of increasing economic development of the state.

Introduction

Since Himachal Pradesh experiences a vagaries of nature in the form of landslides, cloud bursts, flash floods, snow avalanches and droughts year after year, natural hazards have become a matter of immediate concern for the government of the state according to the report of the the Department of Environment, Science and Technology, mountains are highly vulnerable to natural disasters. This problem is ascribed to the blind race of economic development over the years at the cost of upsetting the ecological balance of various physical processes. “The increased pressure on the mountain environment has contributed in some measure to environmental problems such as landslides, land subsidence, removal of vegetation and soil erosion. According to one estimate, about 58.36% of the land is subjected to intense soil erosion, the majority of which is located in the Himalayas and Himachal Pradesh, which forms part of the Western Himalayas, is environmentally fragile and ecologically vulnerable,” the report says. Moreover, the brittle ecosystem of the mountain State coupled with large variations in physio-climatic conditions has rendered it vulnerable to the vagaries of nature. The incidence of cloudbursts in the last few years has been unprecedented. Notwithstanding, the continuous efforts made by the Government to cope with natural hazards through relief and rehabilitation measures, landslides and snow avalanches continue to inflict widespread harm and damage to human life as well as property. The roads that are the State’s lifeline are repeatedly damaged, blocked or washed away by one or other acts of nature. In the circumstances, the Government has to divert the already scarce resources of the state for relief and rehabilitation measures. Himachal Pradesh is prone to 25 out of 33 types of hazards identified by the Government of India. Moreover, the State is also confronting the emerging threats of climate change, and man and animal conflict. The report asserts that an attempt was made to develop a vulnerability matrix for the State as a whole. The overall vulnerability of the State on the basis of the matrix clearly suggests that the districts of

Chamba, Kinnaur and Kullu, and parts of Kangra and Shimla, fall in the "very high" vulnerable risk status. Similarly, the districts of Kangra, Mandi, Una, Shimla, and Lahaul and Spiti, fall in "highly" vulnerable risk status. The districts of Hamirpur, Bilaspur, Solan and Sirmour fall in the "moderate" vulnerable risk status. The report says qualitative weightage was given on a scale of 0-5 for different hazards such as earthquakes, landslides, avalanches, industrial hazards, construction type, and density of population. A district-wise matrix was prepared by evaluating the risk severity. The evaluation also gave weightage to the density of the population likely to be affected. The matrix includes the evaluation of hazards likely to be induced on account of developmental works such as hydel projects, roads, and industries. According to the report, in case of earthquake vulnerability, the devised matrix shows the districts of Kangra, Hamirpur and Mandi fall in the "very high" vulnerability category. The districts which fall in the "high" earthquake vulnerability category are Chamba, Kullu Kinnaur, and a part of the Kangra and Shimla districts, whereas the "moderate" and "low" vulnerable districts are Una, Bilaspur, Sirmour and Solan, Shimla, and Lahaul-Spiti respectively. The landslide vulnerability in the case of Chamba, Kullu, Kinnaur, and parts of Kangra and Shimla districts is 'high', followed by Kangra, Mandi, Bilaspur, Shimla, Sirmour, and Lahaul-Spiti districts falling in the 'moderate' category. The areas falling in the 'low' vulnerable category are the districts of Una, Hamirpur, and Solan. The avalanche hazard vulnerability map suggests that the districts of Lahaul-Spiti and Kinnaur are in the 'very high' vulnerability status, followed by Chamba, Kullu, and part of Kangra and Shimla as 'moderate' vulnerable areas. The flood hazard vulnerability map indicates that the areas in the districts of Chamba, Kullu Una, and Kinnaur fall in the "highly" vulnerable category, whereas the Lahaul-Spiti, Mandi, Shimla, Kangra, Hamirpur, Bilaspur, Solan, and Sirmour districts fall in 'moderate' and 'low' vulnerability areas.The report says qualitative weightage was given on a scale of 0-5 for different hazards such as earthquakes, landslides, avalanches, industrial hazards, construction type, and density of population. A district-wise matrix was prepared by evaluating the risk severity. The evaluation also gave weightage to the density of the population likely to be affected. The matrix includes the evaluation of hazards likely to be induced on account of developmental works such as hydel projects, roads, and industries. According to the report, in case of earthquake vulnerability, the devised matrix shows the districts of Kangra, Hamirpur and Mandi fall in the "very high" vulnerability category. The districts which fall in the "high" earthquake vulnerability category are Chamba, Kullu Kinnaur, and a part of the Kangra and Shimla districts, whereas the "moderate" and "low" vulnerable districts are Una, Bilaspur, Sirmour and Solan, Shimla, and Lahaul-Spiti respectively. The landslide vulnerability in the case of Chamba, Kullu, Kinnaur, and parts of Kangra and Shimla districts is 'high', followed by Kangra, Mandi, Bilaspur, Shimla, Sirmour, and Lahaul-Spiti districts falling in the 'moderate' category. The areas falling in the 'low' vulnerable category are the districts of Una, Hamirpur, and Solan. The avalanche hazard vulnerability map suggests that the districts of Lahaul-Spiti and Kinnaur are in the 'very high' vulnerability status, followed by Chamba, Kullu, and part of Kangra and Shimla as 'moderate' vulnerable areas. The flood hazard vulnerability map indicates that the areas in the districts of Chamba, Kullu Una, and Kinnaur fall in the "highly" vulnerable category, whereas the Lahaul-Spiti, Mandi, Shimla, Kangra, Hamirpur, Bilaspur, Solan, and Sirmour districts fall in 'moderate' and 'low' vulnerability areas.

The rapid population growth is 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 extensification 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. All these practices causing degradation and depletion of environment with multiplying ratio. Poverty is amongst the consequences of population growth and its life style play major role in depleting the environment either its fuel demands for cooking or for earning livelihood for their survival. The unequal distribution of resources and limited opportunities cause push and pull factor for people living below poverty line that in turn overburdened the population density and environment get manipulated by manifolds.

Aim and Objective

The aim of this paper is to examine impact of population growth on various facets of environment which is being degraded in Himachal Pradesh.

Population Growth and Environmental Degradation

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. Poverty is said to be both cause and effect of environmental degradation. The circular link between poverty and environment is an extremely complex phenomenon. Inequality may foster unsustainability because the poor, who rely on natural resources more than the rich, deplete natural resources faster as they have no real prospects of gaining access to other types of resources. Moreover, degraded environment can accelerate the process of impoverishment, again because the poor depend directly on natural assets. Lack of opportunities for gainful employment in villages and the ecological stresses is leading to an ever-increasing movement of poor families to towns. Mega cities are emerging and urban slums are expanding. Such rapid and unplanned expansion of cities has resulted in degradation of urban environment. It has widened the gap between demand and supply of infrastructural services such as energy, housing, transport, communication, education, water supply and sewerage and recreational amenities, thus depleting the precious environmental resource base of the cities. The result is the growing trend in deterioration of air and water quality, generation of wastes, the proliferation of slums and undesirable land use changes, all of which contribute to urban poverty.

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, 38 percent 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.

Trends in Poverty and its Environmental Effects in India

Most of India's poor live in rural areas and are engaged in agriculture. India, with a high density of population relative to resources, faces developmental challenges in alleviating massive poverty and deprivation, and in raising the quality of life of poor people. The growth performance of states has crucial implications in poverty reduction, which is an important objective of the economic policy. India's poverty reductions through the anti-poverty and employment generation programmes along with overall economic growth-planning efforts have helped to reduce the poverty ratio in the country. The people below the poverty line have declined from 55 percent in 1973 to 26 percent in 1999-2000 for India as a whole. Nineteen states and union territories have lesser percentage of population below poverty line than the national average. There are wide interstate variations in the poverty ratios of different states. The poverty ratio in Orissa at 47.15 percent is about eight times that in Punjab (6.16 percent). Almost half the population in Orissa and Bihar is below the poverty line. On the other hand there are 14 states, which have less than 20 percent of population below the poverty line. The highest percentage of population below poverty line found in Orissa, Bihar and Madhya Pradesh whereas the lowest percentage of population below poverty line found in Jammu and Kashmir, Goa, Punjab, Himachal Pradesh and Haryana. Poverty is said to be both cause and effect of environment degradation. The poverty and rapid population growth are found to coexist and thus seems to reinforcing each other. The poor people, who rely on natural resources more than the rich, deplete natural resources faster as they have no real prospects of gaining access to other types of resources. Poorer people, who cannot meet their subsistence needs through purchase, are forced to use common property resources such as forests for food and fuel, pastures for fodder, and ponds and rivers for water. Moreover, degraded environment can accelerate the process of impoverishment, again because the poor depend directly on natural assets. It also contributes to environmental degradation through over exploitation of natural resources like land and water. The deterioration of natural resources and unsafe living conditions affects the environment and health of the poor people.

Degradation of Land/Soil

Direct impacts of agricultural development on the environment arise from farming activities, which contribute to soil erosion, land salination and loss of nutrients. Leaching from extensive use of pesticides and fertilizers is an important source of contamination of water bodies. Intensive agriculture and irrigation

contribute to land degradation particularly salination, alkalization and water logging. It is evident that most of the land in the country is degrading, thus affecting the productive resource base of the economy. The estimated area of land affected by soil erosion and land degradation in India varies state to state and it varies 0.1 percent in Goa to 21.6 percent in Rajasthan. Soil erosion results in huge loss of nutrients in suspension or solution, which are removed away from one place to another, thus causing depletion or enrichment of nutrients. Besides the loss of nutrients from top soil, there is also degradation through the creation of gullies and ravines, which make the land unsuitable for agricultural production.

Continuous Diminution of per Capita Forest Land and Agricultural Land

The population growth has resulted in a downward trend in per capita availability of forest and agricultural land since the 1950s. Per capita availability of forests in India is much lower than the world average. The per capita availability of forest land declined from 0.124 hectares from 1960-61 to 0.071 hectares in 1998-99 - a level that is extremely low compared to the world standards. The growth of population is expected to be faster than hoped for improvements in forest cover as well as quality. Over the last ten years, despite governmental initiatives of joint forest management, tree grower's co-operative movements and other efforts tangible results are still to be observed, and forest depletion and degradation is still increasing. Similarly, the per capita availability of agricultural land in rural areas has decline consistently from 0.638 hectare in 1950-51 to 0.271 hectare in 1998-99 and is expected to decline further as population continues to grow.

Global Warming Resulting Climate Change

The country's large population resulting fast increasing energy use plays an important and growing role in global warming. Global warming can have major physical, environmental and socioeconomic consequences, which can be both positive and negative. The estimation of these impacts is complex and marked with uncertainties. Climate change would cause changes in 14 precipitation patterns, ocean circulation and marine systems, soil moisture, water availability, and sea level rise. These would make an impact on agriculture, forestry and natural eco-systems like wetlands and fisheries. Also with rising temperatures, and subsequent increasing heat stress and alternation in patterns of vector-borne diseases, the global population would be more vulnerable to health problems, causing disruptions in settlement patterns and large-scale migration. All these would have significant socio-economic consequences (Compendium of environment statistics, 2000).

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. 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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