



RESEARCH ARTICLE

POPULATION, ENVIRONMENT AND DEVELOPMENT RELATIONSHIP: A REVIEW

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ABSTRACT

At world level population-development-environment relationship has great environmental significance. Population, environment and development are inseparable. Resources, both physical and human create the physical as well as cultural environment. Physical environment provides the essential survival elements to human population as well as to the world community. Cultural environment, prepared by us determines the existence of other population groups. Population size, generally determined by the environment influences the environment again. Population and environment maintain their coexistence by feedback process. Development refers to the social upliftment. This trio-relation has created great debate from last few decades. Scholars are made attempt to solve the controversy and try to come in conclusion. Literature survey has been made to give light on this relation.

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INTRODUCTION

Ever increasing human population creates pressure on the natural resources especially. The 20th century has experienced an extreme world population growth from 1.6 billion to 6.1 billion since 1950 (United Nations, 2001, p. 5). Rapid reduction in mortality rate is expected to cause of population growth in the 2nd half of the 20th century. To meet the food demand landuse and land cover at present have been changed rigorously. Therefore, cultural landscape has been transformed by direct human activity. Especially, after the Industrial Revolution a visible change has been taken place at global scale. Landuse of an area is directly related to the landforms and their properties. Therefore, landuse is direct outcome of physical environment. Man can modify the crop combination pattern, its intensity, yield rate *etc.* At the primitive stage environment controlled landuse directly but at present it also acts but indirectly. India also is not excluded from these effects. During British colonial period huge land modification and transformation have been taken place in the form of rapid deforest, industrialization, urbanization *etc.* Intensification and expansion of agricultural land use have caused huge land transformation in India mainly after the Green Revolution (1960s). Some effects of these two phase changes are expected as soil erosion, loss of biodiversity, unevenness of Monsoon rain *etc.*

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Landuse-Landcover (LULC) study is given priority by scholars in connection to keep the balance of environment and population. LULC study gets a new dimension with introducing models and environmental impact analysis. There is controversy between environment and development. Therefore, literature survey has been made to understand and analyse the environment-population-development relation. Dabelko (2011) has mentioned some case studies on population- environment link. In Philippines, integrated programmes like IPOPCORM (Integrated Population and Coastal Resource Management) has launched in 2001 to enhance family planning services mainly for the populated coastal communities which are suffering by rapid population growth. With the help of Govt. and local community the programme promotes economic aquatic development like seaweed harvesting as a measure to recovery of environment. In Nepal connection between population growth and woodland degradation has been identified. For rapidly growing Terai region alternative energy sources like biofuel, cook stoves are promoted which have saved women labour and time both. In Uganda and Ethiopia linkage between population growth and environmental degradation is observed (pp. 15-18). He has also mentioned that worldwide demographic change causes climatic change. According to him, developing countries of Asia, sub-Saharan Africa are growing by population, modernizing economically *etc.* rise greenhouse gasses emission (p. 11). Martino and Zommers consider environment and development are inseparable. In this work interrelation between surging population and environmental degradation is analysed.

These are considered as a constraint of future development. They have mentioned some aspects of good development like increasing the asset base and its productivity, empowering poor people and marginal community, taking long-term perspective to establish equity *etc.* The authors have emphasised the urgency of sustainable development. This work provides an overview of environmental challenges and indicates opinions on the way forward. Clay and Reardon have given emphasis on the triple challenge of population growth, declining agricultural productivity and natural resource degradation. According to them these are inseparable from one another. To achieve the economical and environmental sustainability under the present situation right analytical tools and strategic approach are required. Schwirian (1969) discussed the general pattern of population growth, relationship between population growth and economic growth. Population explosion is caused due to dramatic reduction of mortality. Industrialization brought changes in social and economic structure. In several countries gap arise between population growth and per capita income (population growth > 2 percent and per capita income < 2). According to this work, a slower population growth would bring economic progress. This work is concluded with some suggestive measures of population control policy. Darrat and Al-Yousif (1999) have mentioned the controversy regarding population growth and economic development. Three alternative thoughts are explained here. The first is the "Orthodox" or "Malthusian" holds that population growth causes to poverty. The second is the "Revisionism" views that higher population growth increases the human capital which positively contributes economic development. The third one, "Transition" says that population growth, partially is itself driven by income changes. This theory focuses on the improvement of labour forces with introducing technical skills. Twenty developing countries are quantitatively analysed and "the results reveal the presence of a potent cointegrating (long-run) relationship between population and economic growth". Therefore, for the developing countries it is very important to understand such a long-run linkage. This paper is concluded that "in the early stage of economic development, population expansion is more a consequence rather than a cause of poverty". Finally, the authors suggest implying appropriate policies in any given country on the basis of its requirements.

CAEP (Chinese Academy of Environmental Planning) and TERI (The Energy and Resources Institute), (2011), their joint act discusses on synthesis of common and uncommonness of these two countries and environment and development of China and India in detail. Both of these countries have been experiencing higher emission of greenhouse gasses due to rapid urbanization and industrialization. These cause climate change regionally and globally. China and India are leading the Clean development mechanism (CDM) project. This project allows the developing countries in achieving their sustainable development aims. This work reveals that to get ecologically sustainable development India and China need to conserve resources, justified pay at different levels users and polluters, maintain health of the environment and finally cooperation of these two countries. Lakshmana (2013) has accepted that for Asia Pacific region rapid population growth and continuous economic development are responsible environmental pollution.

In this paper two causes are mentioned *i.e.* proximate (population growth, poverty, population density) and ultimate (economic development, urbanization, industrialization) cause as environmental threats. He has shown a region-wise variation of effects of population and economic growth on environmental degradation in India. The paper concludes that 'rapid population growth is directly responsible for higher environmental degradation' mainly in the central, eastern and northern region. But the western, northern and southern region of the country have faced environmental degradation due to economic development. Suggestion is raised on the policy prescriptions to reduce environmental damage. Dovers and Norton have made review on the population-environment-development debate and shows an approach to sustainability. According to them per capita energy consumption is the best indicator of environmental load.

Conclusion

Carrying capacity of an area determines the resource-population-development relationship. This trio-relation varies region to region. Therefore, when resource potentiality exceeds the existing population than population growth will not create pressure and vice-versa. They *i.e.* population-development-environment cannot be isolated from each other. It can be said that population growth and environment are not always constraint for long-term development.

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