Population-Poverty-Environmental Nexus: An Empirical Investigation in the Indian Context.

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Extended Abstract

The earlier view in the development-environment literature was that the environmental degradation and poverty are considered to be caused mainly by population growth because, the growth of population and increased level of consumption of natural resources lead to affect the carrying capacity of the ecosystem (Ehrlich and Ehrlich, 1987). This is based on the 'absolute scarcity' idea of Malthus which states that the 'carrying capacity' of the planet is limited and increase in consumption would result in eventual impoverishment and therefore, one has to control population growth. This is the idea articulated very much by the ecological economists even now. Similarly, poverty and inequality are considered to intensify the environmental degradation, which in turn leads to increased population growth (see, Duraiappah, 1998; Markandya, 2001). It has been theoretically demonstrated that the population-poverty nexus is mediated mainly through the degradation of environment and this has resulted in forming a 'vicious circle' between population and environment degradation especially in rural areas of developing countries. Though solution to break this vicious circle is not that much easy, one of the broader suggestions would be that making basic amenities available to the people and simultaneously, controlling population would provide answer to address this problem. Alternative view is that any deterioration in environmental resources would directly affect the livelihoods of the poorer section of the society more and therefore, the immediate need would be to address the environmental degradation issue (Kadekodi, 1995). All these ideas are based on the simple assumption that the nexus between population, poverty and environmental degradation is a straightforward one which means that addressing one problem would lead automatically to solve the other problem. However, this is a simplistic view. Rather, the nexus is mediated through complex web of factors (Leach and Mearns, 1995) and therefore, understanding the complexity of the nexus is a pre-requisite for effective policy formulation sustainable development. In this

paper, we make an small attempt to empirically analyse the complex interrelationship between population, poverty and environmental degradation in the Indian context.

In India, growth of population, environmental degradation and the poverty and inequality are the major factors affecting the sustainable development at present. Some of the empirical studies have demonstrated that on an average around 25 percent of the household income in rural areas is derived from the village commons (see Jodha, 1986), which implies that deterioration of these resources would affect the poorer section of the household more –making poverty as a permanent one. Similarly, macro level studies have established that the accumulated environmental damage amounts to more than Rs. 40,000 crores every year, which is not accounted for anywhere in the system (see Brandon and Homman, 1995). The poverty and inequality in India are major concerns and it has been estimated that 36 percent of the population in the country comes under poverty line, which is defined in terms of family income of US $ 1 per day. The nature and dynamics of poverty – environment – human development linkages in India are influenced to a large extent by the country's development paradigm, national, regional and local level policies and programmes but at present, they are highly compartmentalized. Though there is a policy concern about the linkage between these issues, this linkage has not yet been properly carved out, articulated seriously and studied systematically in the policy-making arena at the macro level in India. Therefore, the present paper would try to explore the nexus between population, poverty and environment, in the Indian context.

The broader methodology to be adopted here encompasses major components of demographic development, poverty and environmental capital and their level of advancement of reinforcement among them. Based on the secondary information, the nature and direction of the interconnectedness between different kinds of indicators of gross domestic product, human development indicators, inequality, poverty, population and environment is established so that certain concrete policy conclusions could be derived. The analysis of the nexus is carried out using mainly the secondary data on population indicators (such as growth of population, life expectancy, infant and child mortality, etc), poverty indicators (such as percentage of household below poverty line, inequality measured in terms of Gini coefficient, etc) and environmental indicators (such as rate of land and forest degradation, availability water supply and sanitation, other health related indicators such as prevalence of water-borne diseases etc). The data used are pertaining to two different time periods namely, 1990 and 2001. To understand the inter state disparity and the impact of differences on the endowment of various resources on the indicators used, we have analysed data from all the states in India. To understand the process by which the advancement is effected on the indicators used across the states, we have analysed

various kinds institutional aspects in different states (such the policies, investments in basic infrastructure, governance, etc). We used both 'business as usual scenario' and the future projections using econometric analyses within the 'general equilibrium framework'. The results are striking and basically conform to the hypothesis that the linkage between population, poverty and environment is more complex. The results broadly suggest that the nature of interaction could be explained more by the institutional process by which the issues are addressed at the policy-making level.

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