The Economic Journal of Nepal, Vol. 24, No. 3, Issue 95, July - September 2001 © DOE-TU

Environmental Implications Of Poverty And Development

S. S. P. Sharma*

INTRODUCTION

Enormous literature shows the nexus between poverty, environment and development. Important surveys include Dasgupta and Maler (1993), Dasgupta (1996) and Duraiappah (1996) which have identified that the close association between poverty and environmental degredation. The competing ends and the limited means have also given rise to the phenomenon of intensive use of the natural resources by the advent of science. Undoubtedly, the science has made the distant truth as reality and explored, the ways of care for human well-being which has been definitely causing damage to the universe in unlimited bound. Now-a-days the perennial deprivation of natural resources by means of various uses prophecy the peril of life on this earth. The world as a whole now began to reckon the pros and cons of indiscriminate exploitation of natural resources for the only save of segmented part of the universe meaning thereby the domination by *haves* at the cost of *have-nots*. The competition of survival in between *have - nots* and the lure of affluence of the *haves* brings forth the global phenomena of environment consciousness, meaning thereby the friendly relation with the whole complex of climatic, soil, water and biological factors on which we all subsist, and on which our entire agricultural and industrial development depends.

One of the fundamental causes of both poverty and environmental degradation is the level of population relative to the resource base and the high rates of growth of population in the developing countries, Roy (1996). Thus, rapidly growing population pressure on the resource-base is alleged to be the main cause of marginalisation and environmental degradation. Exhaustible and renewable natural resources serve as inputs into the production of many goods and services. If the composition of output and the methods of production were immutable, then damage to the environment would be inextricably linked to the scale of global economic activity. But substantial evidence suggests that development gives rise to strutural transformation in what and economy produces, and societies have shown remarkable ingenuity in harnessing new technologies to conserve scarce resources. Regarding deprivation Sen (1999) is of the view that is not ultimately a lack of opportunity to lead a minimally acceptable life, which can be influenced by a number of considerations, including personal income, but also physical and environmental characteristics.

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* *Dr. Sharma is Principal, Wazirganj College, Magadh University, Gaya, Bihar, India.*

INCIDENCE OF POVERTY AND THE ENVIRONMENT

It is popular among policy makers in the development field to clain that poverty leads to environmental degradation.The statement is, of course, a loose one, as they do not state whether a constant level of poverty leads to a worsening environment, or whether it increases in poverty that cause the degradation. We begin by considering the second. There are a few studies that have documented a temporal association between increased poverty and increased environmental damages.

A very issue of interest is the casulity. Is an increasing poverty, caused by any one of a number of factors, that results in the degradation, or is it degradation, following natural disasters or policy-induced changes, that results in increaed poverty. But even before one can address that there is a more basic question of fact. What correlation is there between changes in poverty and changes in the ambient environment ? The literature does not pose the question in quite that way. In fact we could not find a single development related study that had documented an increase in poverty and correlated it with a change in the ambient environment. Given the central role, such a hypothesis should have in this area, this is a surprising omission. Hence it cannot be said with any certainty that increases in poverty are correlated with increases in degradation, let alone that they are the cause of the degradation.

India accounts for about 14 percent of the world's population and about 25 percent of that of developing countries. The country represents about 38 percent of the poor in developing countries (Dev 1992). The incidence of poverty is the highest among agricultural labour households. Even at the state level, it is found that the incidence of poverty is highest among the agricultural labour households. In 1986-87 only 16 percent of the rural population had access to piped drinking water; about 37 percent used tube well/handpump and 39 percent depended upon pucca wells. Rapidly growing pupulation pressure on the resource base is alleged to be the main cause of marginalisation and environmental degradation. Two versions, direct and indirect of the population thesis can be identified. The first direct is that rapid population growth leads directly to marginalisation of labour as the growth of the supply of labour outpaces demand. The second indirect version is that population growth has given rise to a rapid growth of food demand, which in turn has led to the adoption of policies focussing on maximising food production to the neglect of the environment adversely affecting poverty through marginalisation of labour.

Both versions have been criticised on the grounds of treating population growth as exogenous to poverty and by implication to environmental degradation. Thus, as Dasgupta and Maler (1993) have indicated, under the conditions of destitution and growing environmental degradation increasing exertion of labour is required to scrape a living out of the harsh environment. In this context also, the inefficient use of

technologies can have adverse consequences for the environment and poverty.

RELATIVE PICTURE OF RICH AND POOR

The Invironment of the poor is more degraded than the invironment of the rich. This implies that, in a cross section of communities, the level of the ambient environment will be superior in a richer community than in a poor community or, to be more precise, a poverty affected community will have a more degraded environment than that not affected. Some cross section studies addressing this issue exist. Jaganathan (1989) looked at rates of deforestation and the level of poverty in West Java and land use and poverty in Nigeria. He found little evidence that poverty was a driving force in the deforestation or in the damaging changes in land use. He established relationship that the higher the level of poverty in any region, the lower the probability of a plot of land being under forest cover. The results, however, appear well determined but do not establish casuality. Nor do they establish that an increase in poverty will result in increased loss of forest cover.

The above example is from rural areas. For the urban environment we knew the answer. The slums and poor neighbourhoods are surely the most environmentally degraded parts of the towns and cities. But even here, systematic studies are not obvious in their results. The recent work by Brooks and Sethi (1997) have looked at community exposure to pollution or polluting activities and correlated them with the levels of poverty and found that race and poverty are both important determinants of exposure. Poverty, however, had a quadratic effect, so that at very low levels of poverty the exposure was lower than average but at levels above a threshold it was positive. Brooks and Sethi (1997) also note the significance of race, so that exposure goes up as the percentage of black people in the community increased, with no threshould affects. But no such studies are available for developing world.

ENVIRONMENTAL DEGRADATION : RICH AND POOR

The general presumption among policy makers is that a declining natural environment hurts the poorest sections of society. The vulnerable are often the users of marginal resources and also the most dependent on the common resources of the community in which they live (Dasgupta 1993, 1996). Hence, these groups that are most impacted when the deforestation, soil erosion and other negative impacts on the environment occur. This common view is probably correct, but detailed quantitative empirical evidence on how the poor are affected relative to the non-poor is not easy to find. There are some exceptions. Fuelwood scarcity has been shown to impose a greater cost on the poor than on the better-off, e.g. the time spent collecting fuelwood has a high value relative to other

components of the household's income. Research by Kadekodi (1995) has shown that, when water shortages occur as a result of misuse as natural events, it is the poor who are the most affected. However, one cannot conclude that environmental degradation always hurts the poor more than the better off. For urban pollution problems, for example, such as outdoor air quality, the poor are more likely to live closer to highly polluted areas, but the value they place on cleaner air is less than that of the rich.

There is a strand of literature (Grossman and Krueges 1995) which suggests that the relationship between GDP and the quality of the environment is *U-shaped* i.e., the quality of the environment deteriorates initially as GDP per capita increases, and then improves after a certain critical value of per capita GDP has been reached. This critical value varies with the pollutant, and indeed for some pollutants such as VOCs (volatile organic compound) there is no *turnign point*. In fact the evidence for such a relationship is mixed with some studies even showing an inverted *U curve*. This model, also referred to as the *Environmental Kuznets Curve*, can be looked at in conjunction with the original *Kuznets Curve*, which postulated a deterioration in income distribution in the early stages of economic growth, followed by an improvement later. Taking the two together one would conclude that a declining environmental quality and increasing income inequality go hand in hand as part of the development process. In the end things should work out fine, with improvements in both these indicators of human welfare.

Unfortunately, such a sanguine view is inappropriate and misleading from a policy viewpoint, First, some of the envirohmental degradation being observed, and sometimes being caused by extreme poverty, is irreversible and will never be recovered. Second, what is a long term time series relationship is being inferred from cross section inter country data, there is no reason why a particular country should follow the path characterised by a cross section of countries. Indeed, the aim should be to follow a policy based on a comparison of domestic costs and benefits of different options, taking account of their impacts on all aspects of welfare, including poverty, inequality, environmental quality, GDP and other indicators such as those used by the UNDP in its Human Development Reports. Although the *Kuznets Curve* is a useful empirical regularity, its existence is of little relevance in determining such a set of policies.

We find little evidence that environmental quality detriorates steadily with economic development. Rather, we find for most indicators that economic growth brings an initial phase of deterioration followed by a subsequent phase of improvement. For example, the World Development Report 1992 also reports an inverted *U shaped* relationship between per capita income and concentrations of sulfur dioxide a suspended particulates in city air, with turning points even lower than those suggested here. Moreover, they find that both the percentage of the population

without access to safe water and the percentage of a urban population without adequate sanitation decline steadily at all levels of income. Shafik and Bandopadhya (1992) find an inverted *Ushaped* relationship between total and annual deforestation and national income, while Seldom and Song (1994) find similarly for estaimated per capita national emissions of sulfer dioxide, particulates, oxides of nitrogen, and carbonmonoxide with somewhat higher turning points.

POPULATION EXPLOSION AND ENVIRONMENT

There are several direct and indirect mechanisms by which repid population growth influences economic development and the environment. First and foremost, the accumulation of human capital, i.e., schooling, health, and nutrition, which as we have mentioned, is adversely affected by population growth, has a profound effect on economic growth. Second in so far as rapid population growth degrades the environment, it diminishes future productivity growth of economic activities that depend on natural resources and the environment. For example, problems such as salinity and waterlagging that are the result of unmanaged use of land decrease soil quality and crop yields, thereby compromising agricultural growth.

There are three mechanisms by which population growth affects the environment. First, holding per capita income constant (WB 1999/2000) a larger population implies a greater demand for goods and services, which translates into a greater demand for energy for household uses, e.g., cooking, transport , power and industry. The resulting increas in fossil fuel emissions will typically worsen air quality and contribute to global warming. Likewise, increased manufacturing activity and solid waste may worsen water quality as well, depending upon affluent discharges.

Second, population growth in developing country, like India, is typically associated with incresed urbanisation. The change in the rural-urban composition of the population has definite adverse implications for air and drinking water quality and for the adequacy of infrastructure. Finally, rapid population growth results in a greater need for employment and livelihoods as well as in an increased demand for food, including seafood, water and timber, which increases the pressure on land and marine resources, especially in the rural areas.

Population explosion causing poverty and environmental degradation appears to be closely associated, through the imperatives of food, fuel and water and fooder production. Poverty and population growth due to falling labour incomes as increased risks of degradation. Poverty as the worst pollutant has flamed both the reproductive and productive proclivities of the poor. Yet, others see poor people as labouring and inverting under high rates of pure time preference (PTP). To infer high rates of PTP from environmental degradation linked to the production or consumption activity of poor people with negligible prospects of

consumptions growth is to suppose that preferences perfectly revealed by actions. But with scarce employment opportunities, the discount rate apparently revealed by the poor is not independent of environmental degradation-their actions are foreced, not free (Pearce and Markandya 1989).

With respect to family size, now the conventional wisdom holds that the poor have more children because children bring income from an early age, or help in labourious subsistence sctivities such as fetching water or fuel wood. But it is probable that children are a net drain on the family pot at least till age five or six with plausible discount rates, particularly the high rates the poor allegedly have, children must lower, not raise expected incomes. It is not because children can be used as workers becuse they are area produced, but because they are produced children are used as workers. For the poor, in so far as material motives matter, children help reduce the risk of destitution. It is the middle class that has a standard of living to protect by adopting a small family size. It is only when incomes rise enough to reduce the burden of insecurity that the standard of living becomes the relevant object of choice.

Poverty cannot be separated from equity, nor is population growth, as already around, independent of poverty. While unpriced or inadequately priced natural resources may well account for a larger fraction of the consumption of the poor, it is far from obvious that the absolute value of such resources consumed is greater among the poor than among the rich. As much as the poor directly dependent on natural capital for production may under distress, undermine that capital in short order, conversely, when their basic security is assured, they can contribute measurably to its maintenance both by reduced numbers and enhanced possibilites for its refurbishment. Poverty, therefore, may not be the worst pollutant; but development, *net growth par se* is surely the best contraceptive.

CONCLUSION

With a series of hypotheses, linkages between poverty, environment and development have been established. These hypotheses raise distinct issues and are relevant for different policy discussions. Yet the literature tends not to make these distinctions. Levels and rates of chage are confused as at the least not treated differently. Measurement of effects is weak, and at times virtually non-existent. Where associations are discovered, they are general, and do not tell us about how one particular factor, e.g. population growth, has affected the evolution of the social and environmental landscape in the country concerned.

In recent years some papers have started to emerge that do look at the data in a dispassionate and analytically serious way. Unfortunately most of the studies are in industrialised countries, particularly the United States.

The recent interest of the World Bank in connection with the 2001 World Development Report has a number of research efforts, which are producing some interesting and important results for developing countries. Consensus on biodiversity, climate, change and other global environmental issues will only expand over time. (WB 1999/2000). Furthermore, the growing understanding of linkages among environmental concerns will create more opportunities to exploit both synergies and trade offs, helping to foster coalitions that support concerned global action. A lot can be done to firm up the empirical understanding of low level and changes in poerty relate to changes in environmental quality, both, in urban and rural areas. Time series analyses of the linkages are few and far between.

Again there is a need to understand how both the level and rate of change of the environment varies with poverty. It is not axiomatic that the poor of less able to protect themselves against environmental pollutions. In rural areas, the environment is not necessarily deteriorating more in the poorest areas. We need to know more accurately how and where the changes are taking place.

Further, there is some evidence that the poor are most impacted when the deforestation, soil erosion and other nagative impacts on the environment occur, but detailed studies of these effects would throw up a lot of information on the mechanisms, including coping strategies that is simply lacking. Regarding economic development, growth and poverty, the literature is also well developed and is known as the Environment Kuznets Curve. It focusses on the broad linkage between growth and environmental quality. As a statistical regularity it is interesting but it is not particularly useful for policy purposes. Even if the environment improves after a certain level of per capita income has been reached, this does not imply that a particular country should wait until that level is reached before taking corrective measures. Moreover, at the micro level, measures may well be justified to protest the poor, and what holds in terms of national statistical aggregates may mask a great deal of local degradation and poverty. If anything the focus should be on the condition of the poor in society, and how their environment changes as general development takes place.

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