

NATURAL RESOURCES MANAGEMENT FOR SUSTAINABLE DEVELOPMENT

Dr. Sandhya Jaipal*

ABSTRACT

Sustainable development of any economy can be attained if and only if the basic needs of the present generations are met without compromising those of the future generations. The criticism of economic efficiency must be broadened to encompass ecological aspects. Otherwise the natural resources of the world economy will be recklessly exploited with huge losses to be borne by the future generations. Sustainable development must also ensure equity across line. Depletion of natural resource capital poses a very serious threat to third world countries because of their population pressure and excessive dependence on primary activities.

Keywords: *Sustainable Development, Economic Efficiency, Ecological Aspects, World Economy.*

Introduction

In recent times there has been growing awareness regarding role of environment in development, environment and natural resources were abundant and underutilized. The degradation of these resources was relatively a slow process. Scientific advancements revolutionized production processes in agriculture and industry. Productivity in these sectors increased at the cost of productivity of the eco-system. Environmental problems vary from country to country and are global, regional national as well as local in nature. These include the problems of green-house effect, acid rain, desertification, deforestation, soil erosion, contamination of water resources and pollution. There has been growing awareness for broadening the development policies so as to minimize environmental costs and also for restoration of natural resources as far as possible.

Land Degradation

Land degradation includes not only erosion, but also loss of soil fertility due to loss of vegetation, nutrient depletion, water logging and structural decline. In case of India, such loss is as high as 50% of total land area. There is no specific statistical information regarding land degradation caused by loss of vegetation, nutrient depletion and structural decline. The problem of water and wind erosion is significant in India. Wind erosion is mainly restricted to desert part of the country. The most widespread hazard-water erosion is caused by excessive exposure of bare land due to poorly managed logging operations, indiscriminate land clearance, faulty farming system, bare fallowing, over-grazing and inadequate management of ran off. Besides this soil erosion has many side effects. Part of the eroded soil gets deposited in drainage channels, irrigation canals, and reservoirs. It reduces their capacity and causes floods during the rainy season and draughts during the dry season. The problem of soil erosion is responsible for increase in frequency and severity of floods in India. Water logging and salinity is mainly caused by badly designed and managed irrigation systems. Unlined canals and other water channels, use of excessive irrigation than crop requirement and poor quality of ground water (when used for irrigation) can lead to salinity of soil. The problem of water logging and salinity is very serious in India. Increased water logging and salinity severely reduces productivity of land.

* Associate Professor, Sociology, S.D. Government College, Beawar, Rajasthan, India.

Forests, Wild Life and Biodiversity

India's eco-system is facing a heavy pressure on account of a number of factors including commercial logging, conversion of forest land into agricultural land, grazing of domestic livestock, fuel and fodder collection, burning of forest, hunting and development projects. There are many reasons for the loss of original habitat. These include destruction from clearing and burning of forests, conversion of natural eco-systems for agriculture, desertification of green lands, reclamation of wet lands, poaching and illegal exploitation of animal and plant wealth. Besides urban and industrial development and pollution are important factors for losses of eco-system. Genetic erosion, which is the end result of biodiversity loss, can result from mono-cropping practices in agriculture and animal husbandry. Due to adoption of high yield varieties of crops, many varieties of crops have been lost.

Causes of Natural Resource Degradation in India

The main causes of natural resource degradation in India include growing pressure of population, increasing inequalities, failure of market forces and systems which encourage short-term exploitation rather than long-term conservation. Institutional factors are also responsible for mismanagement of resources. There is no straight forward link between population and natural resource degradation. But the population pressure has been mainly responsible for problem of poverty in India. There is a two-way link between poverty and environment. The environmental degradation contributes to poverty through worsened health and by constraining the productivity of those resources upon which the poor rely, and poverty restricts capacity of poor to acting in ways which are damaging to the environment. Besides the demographic pressure directly exacerbates problems of environmental degradation.

High population growth means growing demand for basic requirement of food and fuel. To maintain current per capita production, the cereal output will have to increase at the rate of population growth. Given the shortage of agricultural land, output increases will have to be attained by increases in yield and institutional improvements. This is an enormous target for a country like India. Huge buffer stocks of food grains are not due to excess production due to the fact that a large proportion of Indian population does not have enough purchasing power to meet their requirements. Increasing income inequalities are also responsible for environmental degradation. On the one hand, a large proportion of population has control over small proportion of country's resources. This results in an increase in the pressure on natural resources. The minority population which has control over most of country's resources plays more active role in degradation. These are the people who are responsible for neglect of the environmental issues as they are mainly interested in short-term profits. They want more dams, power, mineral for industry and urbanization irrespective of environmental costs. Thus, population pressure and economic inequalities significantly influence natural resources degradation.

Institutional weaknesses are even more pronounced in forestry. Because of colonial background the forests in India were managed for long time only as sources of raw material for industry. Though comprehensive legislations have been passed but a lot has to be done as far as the implementation is concerned. Technical issues in forestry have lagged far behind agriculture.

Policy Implications

The strategy for natural resource management must address the short-term as well as long-term needs. For attaining sustainable growth, various factors responsible for degradation will have to be tackled. In case of land, various technologies which can prevent degradation are known. Farmers should be made aware that through soil and water conservation, productivity can increase by 15% to 20%. Technologies for arresting desertification are being developed. Special species of plants should be planted in these areas. Large irrigation projects should be abandoned in favor of small and medium sized projects. Planning should aim at sustainable development in case of agriculture. The agriculture policy should be integrated with various policies for tackling the problems of poverty and population. Institutional reforms in agriculture can play an important role in conservation.

There should be integrated approach towards various environmental policies relating agriculture, forests and bio-diversity. Important policy changes have been adopted in case of forest sector. Active involvement of local people is very important. It has been recognized that forests can be protected only with the help of active participation of local people. Main objectives of the policy include: An increase in the total land area under forests to one-third of total; ban on felling of trees in natural forests; wood substitution (use of alternative materials and fuel); large scale forestation on those private, corporate, communal and government lands which are not suitable for agriculture; a major shift in the supply of industrial wood from state forest to farm and industrial forestry; the supply of needed forest

products to tribal forest users; an expansion of conservation and protected areas. Recently government has issued a notification of new environmental assessment procedures which should provide a much sounder regulatory basis for this important aspect of environmental management. For tackling various technical issues in agriculture, forestry and biodiversity there is a need for strengthening search and development in these areas.

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