Ecological Issues, Forest Management And Dalits - A Study

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"Nature has enough to sustain all, but nothing to satisfy the greed of a few".

- M.K. Gandhi

1. Introduction

The population explosion, especially in developing countries tends to multiply the demand for consumer goods necessitating the production of such goods to be increased. Industrialization with advanced technology ends with increased relative burden on the various residuals such as air, water, forest etc. The squandering of biological capital viz., soil, rivers, forests, plant and animals leads to ecological imbalance which in turn leads to eventual degradation of environment. With development of Science and technology, the growth of population and spread of industrialization effected the tremendous change in the natural environment thereby posing danger to the physical, mental and social health of man. According to the guidelines of the environment Act, the areas in which polluting industries should not be located include major settlements, coastal areas, ecologically sensitive areas, forest land, prime agricultural land etc. Time has come when we must look upon clean air, water, healthy forest cover and animals as resources and every bit is as precious as gold or petrol. We can not make a choice between development and forest protection. Hence, to achieve sustainable forest development, we must evolve an appropriate forest policy to develop our economy.

Deforestation has led to destruction of wild life, soil erosion, loss of soil fertility, recurring floods and formation of deserts. Major cities have recorded a substantial loss of forested areas around them. For instance, Delhi has registered a staggering 60 per cent decline of close forest cover between 1972-1990. Hence, unchecked felling of trees causes change in the climatic conditions, shortage of fuel and waste lands etc., naturally upsets the ecological balance. Therefore, we must look seriously on the issues such as deforestation, forest fuels, Dalits inhabitants in the forests etc to take forward and sustain the natural forestry in order to make our country greener through vanmahotsava.

The total forest cover in India is 6,33,400 sq.km, which is 19.27 percent of the total geographical area of our country. But out of this, dense forest is only 11 per cent. The Indian forest inhabitants are mostly dalits and tribals. Dalits are the saviours of forest. They protect the trees by worshipping and conserving them. Notwithstanding the fact that forest trees are well protected by the Dalits from the notorious poachers. The main focus of this paper is to develop a framework for prioritising ecological issues with forest management through Dalits participation in conserving the ecology, both at the micro and macro level. In this context, the paper attempts to examine the basic ecological issues, management of forest and the role of Dalits in promoting Forestry and ecological Development. This paper is organised into six sections which includes the introductory section. Section II pinpoints the basic ecological issues. Section III discusses the forest scenario in India. Section IV examines the forms of forests in India. Section V analyse the role of Dalits in conserving forests and Section VI deals with the summary, conclusions and policy implications.

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2. Ecological Issues

It is gratifying to note that during the past decade or so, ecological economists have become increasingly aware of the importance of environmental issues for the success of development efforts. It is now codified that the interaction between poverty and environmental degradation can result in a self-perpetuating process in which, as a result of ignorance or economic necessity, people may destroy or exhaust the resources which are vital for their survival. Ecological decay can further impede the pace of economic development by imposing high costs in terms of health related expenses and the reduced productivity of resources. Further, severe environmental degradation due to population pressures on marginal land had caused much damage to farm productivity and thereby per capita food production adversely affecting the poor. They also suffer from the non-availability of sanitation and clean water which is believed to be responsible for 80 percent of diseases world wide. Thus, to secure environmentally sustainable growth, consensus is growing among ecological economists that environmental considerations and costs should form an integral part of policy initiatives.

Pearce - Warford Model

Pearce and warford have attempted environmented accounting as

\[ \text{NNP#} = \text{GNP} - D_m - D_n \]

Where, NNP# is sustainable national income

\( D_m \) is the depreciation of manufactured capital assets and

\( D_n \) is depreciation of environmental capital - the monetary value of environmental decay over the course of a year.

Todaro Model

Todaro model is a better measure model to calculate net loss of environmental assets i.e., if an environmental resource is destroyed or damaged. What advantage this model can generate lies in creation of resource with greater value to neutralise the damage.

\[ \text{NNP#} = \text{GNP} - D_m - D_n - R - A, \]

Here \( D_m \) and \( D_n \) are as before under pearce - warford model, \( R \) is expenditure required to restore environmental capital and \( A \) is expenditure required to avert destruction of environment capital.

World Bank caution on Ecological Problems

The world Bank cites the following environmental problems that would damage the health and yield of large number of people in developing countries,

a) One-third of the world's population has inadequate sanitation and one billion are without safe water.

b) 1.3 billion people are exposed to unsafe conditions caused by smoke and other pollutions.

c) 300 to 700 million women and children suffer from severe indoor air pollution from cooking fires.

d) Soil erosion can cause annual economic losses ranging from 0.5 to 1.5 percentage of GNP.

e) One-quarter of all irrigated land suffers from salinization.

f) Tropical forests, the primary source of livelihood for about 140 million people, are being lost at a rate of 0.9 per cent normally.
Ozone Instability

The NASA scientists discovered that the Ozone Sheath protecting us from harmful ultraviolet radiation has ruptured more than ever before, but most of us continue to treat it as a matter of concern only for those busy waving banners and dressed up as trees. Further, the NASA findings show that the ozone hole has grown to thrice the size of the United States. An international agreement was reached in 1987 banning the use of ozone-destroying chloro-fluoro carbons (CFCs). Ozone is unstable; it breaks down and forms again. Even though the use of CFCs in products like refrigerators and aerosols has dwindled, these long-living chemicals are expected to go on damaging the ozone layer for decades. More distressingly, the ozone hole is touching the tip of South America. Ozone depletion causes skin cancer and cataracts. It is also harmful for plants and microbes. The precious layer has been thinning dramatically over Antarctica - and more recently, over the Arctic - for the last 18 years. 15 years after the hold was first discovered over the Antarctic, the effects of uncontrolled CFC use are taking their toll.

3. Forest Scenario in India

Forest include all lands classed as forests under any legal enactment dealing with forest or administered as forests, whether state owned or private, and whether wooded or maintained as potential forests land. The area of crops raised in the forests and grazing lands or the area open for grazing with in the forests should remain included under the forest area. In India, forests distribution is significantly uneven and unequal. Maharashtra (Western Ghats). Madhya Pradesh, Uttar Pradesh and Orisa have more forests cover than other states and union territories. Andaman and Nicobar, Arunachal Pradesh, Mizoram, Tripura, Jammu and Kashmir and Himachal Pradesh do have more than 50 per cent of land under forests. Since most of India has tropical monsoon climate, our forests are broad based with deciduous forests like sal and teak. Trees like pine, fir and deodar are found in the coniferous forests.

We get a variety of products from the forests. The foremost is obviously wood or timber for construction; firewood for fuel; soft wood for paper; for cellulose and for synthetic fibers. Forests supply us with many other products such as - bamboo for cane and furniture, fodder, grass, lac and other resins, medicinal herbs, spices, tendu leaves, dyes and tanning material. Tropical deciduous forests have rosewood and sandal wood trees from which decorative articles are made. Forests provide sericulture. The muga and tussar silks are made from the silk cocoons in the forests of Madhya Pradesh and Assam. Forests provide wild honey and material for cottage industries. Forests also help seepage of water under ground, reduce surface run off and hence control floods. They provide shelter for our wild life. They attract clouds, help give more rain to a region. Treading along a forest path can be informative and educative.

4. Forms of forests in India

Forests are one of the most important natural resources. Forests are large areas rich with natural vegetation, where trees are not planted by man but grow on their own. In India, the best forests are in places with heavy rainfall. The following are the main types of forests found in India.

a. Tropical Evergreen Forests.

These forests are found where the annual rainfall is more than 200 cm, that is, on the western ghats and parts of the north eastern states. The trees are very tall with huge crowns. The trees grow very close to each other. Therefore the rays of the sun hardly reach the ground. Bamboo, teak, ebony and rosewood flourish here.

b. Tropical deciduous monsoon forests
Forests of this kind cover a large area of the Peninsula and northern India, where the rainfall is from 100 to 200 cm. In the dry seasons the trees shed their leaves. The important trees in these forests are sal, teak, mango, neem and peepal trees.

c. Thorn and scrub forests

The dry forests are found in parts of the Great Indian Desert which includes Punjab, Haryana and Gujarat where the rainfall is only between 60 to 100 cm. Thorny trees like the babul and kikar are common. In Rajasthan area, the scrub forest merges into desert vegetation of cacti and thorny bushes.

d. Mangrove forests

These are salt tolerant forests mainly found in the tropical and sub-tropical coastal areas. Mangroves occur along the Indian coastline in the Ganga, Delta region, in sheltered estuaries, backwaters and salt marshes. In the Ganga delta they are called Sundarbans, after the Sundari trees that grows there. In Tamil Nadu, Mangrove forests are found in Vedaranyam and Pichavaram.

e. Himalayan forests

While most forests depend upon the amount of rainfall, the Himalayan forests depend upon the altitude and temperature too. In a valley, the forests can range from the bamboo forests as in the Terai region, to coniferous forests to alpine meadows, according to altitude.

5. The Role of Dalits in Conservation of forests

Only one third of the population of India is working, with the others being dependant on these bread winners. Dalits in India are mostly agricultural labourers. They solely depend lands for their livelihood. They are born in debt, lives in debt and dies in debt. They are mostly illiterate and ignorant. The population of India consists of diverse races, groups, tribes and religions. There are tribal people like the Bhils, the Bhotias, the Irulas, the Todas, the santhals and the Mundas. The dalits in the forest areas eke out their living by mostly rearing livestock animals. They also take part in agriculture. The dalits are rural inhabitants in the forests. The economic and social problems of Dalits are plenty which includes unemployment, poverty, illiteracy, housing, indebtedness etc.

The National forests policy (1988) recognises the value of forests, and also the rights of the local population mostly dalits and tribes who live in forests. It further endorses the fact that forests can be conserved only with the active participation of the dalits. It aims at conservation of biodiversity by protecting various kinds of habitats. The people in a small village in Chamoli district (mostly dalits) in Uttar Pradesh started the chipko movement against deforestation in 1973. The Dalits people mostly women and children had cling to huge trees or hugged trees which meant to be felled. The contractors had to go away without cutting down the trees. Here, the dalits unitededly saved many trees to click off the chipko movement.

When Dalits set their minds to conserve trees, anything can be achieved. For Instance in Anapatpur district in Andhra pradesh is a place called Timbaktu. It was a stretch of abandoned, desolate land. It is reported that a young couple, members of young India project (mostly dalits) have started changing all that. They planted their 32 acres of land with trees. The soil type has changed, hrt just here but in the surrounding 800 acres of the villages. The results of their experiment showed that the groundwater level has been rising, conservation and eco - restoration have been adopted, Also, the silent valley movement was against a hydroelectric project in the dense evergreen forests of western Ghats. The proposed dam would have resulted in the submergence of these forests that were home to many rare species of plants and animals. Hence, conservation of forests resources is essential for animal and human survival.
The distribution pattern of forest area across the states reveals a significant status. It ranges from 1:37 percent in Haryana to 89 percent in Mizoram. The quality and quantity forests in an important factor for sustaining the ecological balance as well as the local population (Dalits). About 40 per cent of crown density is considered as dense and the rest comes under open forest category. The states that have possessed 66 percent of forest cover are all north-eastern states excluding Tripura and Sikkim. In 1995, using remote sensing technique, National Remote Sensing Agency (NRSA) has published a set of area under forests statistics, which shows the degraded forest area across the states. It clearly reveals that at the all India level around 28 per cent of total forest is degraded. The report further suggest that the degradation could be due to the Influence of biotic reasons. The NRSA report firmly indicates that conservation of forests could be done through the participation of local forest inhabitants namely, dalits.

**Joint Forest Management (JFM)**

The National forest policy (1988) envisages peoples involvement in the development and protection of degraded forests as a permanent resource base to fulfill the requirements of fuel wood, fooder and small timber to local people as well as to develop the forests for improving the environment. Accordingly, the ministry issued guidelines in 1990 to involve the village communities in the development and protection of degraded forests on the basis of their taking a share from such areas. The concept of Joint Forest Management (JFM) was initiated by developing appropriate mechanisms. So far, 27 states have issued resolution for JFM. As on the year 2002, 14.28 million ha., of forests lands in the country are being managed and protected by around 64,000 committees covering the large local inhabitants. The activities under JFM programme are monitored by JFM cell of the Ministry. A committee is also constituted by the Ministry for preparing a JFM Scheme for the 10th five year plan in order to ensure a long term success. The contribution of forestry sector to GDP in India is estimated at Rs.26,329.8 crores (Prabakaran, 2004).

**6. Summary and Conclusions**

Increasing exploitation and destruction of forests, especially in the hilly regions is leading to heavy erosion of top soil, erratic rainfall and frequent floods. Overgrazing and over-exploitation has led to shortage of firewood, and is changing the balance in the biosphere. India has only 2 per cent forest land of the World but supports 16 per cent of the World Population. Increased population explosion and the resulting domestic needs leading to heavy pressure on forests. Further, the threat to fauna and flora and biological diversity is due to urbanisation and industrial development. Degradation of fragile ecosystem such as mangroves, wetland breaches and hill areas for reasons such as over exploitation, lack of tree cover, ill advised agricultural practices and indiscriminate building activities. Hence, forests are exploited for herbs, medicinal plants, lack and resin etc. There are thousands of plants endemic to India that we cannot afford to lose. A wave of concern for forest and environment swept across the developed countries in the sixties and reached its climax in the late seventies with the celebration of the forest day, earth day and Vanmahotsava Day under the auspices of the Government, United Nation and People's forum.

The concern has grown mainly due to the deterioration of the forests cover by increasing industrialisation. Unlike the rich, the poor cannot afford to protect themselfs from evacuation and exploitation in the forests. These people are called "ecology refugees".

**Policy Implications**

The Supreme Court has made environmental education mandatory in educational institutions right from primary level upto university level. As a result of increasing awareness, the grow more trees campaign and
conservation of forests becomes slowly visible in the rural areas. But the extent to which the country's forest wealth will be utilised will largely depend on the policy followed by its government in respect of it. The forest policy of our government so far has been dominated by two main considerations, viz., 1) revenue from forests and 2) the necessity of conserving them on climatic and other physical grounds. Owing to a lack of co-ordination between the forests and agriculture departments, the primary needs of the agriculturists have not been sufficiently met. The minor produce of the forests could also be used by the agriculturists for carrying on a large number of subsidiary industries such as lac culture, extraction of turpentine, preparation of dyeing materials, rope and mat-making. Thus, it is not merely a matter of preserving the ecological balance but of safeguarding the livelihood of lakhs of Dalits people.

Eco-efficiency has become an important issue during new mergers and acquisitions when companies are wary of inheriting another party's liabilities. It also confirms many tangible advantages in the form of low insurance premiums, better borrowing terms particularly at the time of issuing new equity, gaining a market edge over rivals etc, besides non-tangible gains like increased employee morale, huge savings on "green" taxes, levies and fines, lower operational and waste disposal costs and an enhanced corporate profile. A growing number of companies are now annexing 'eco-audits' of their market operations to their annual financial statements.

"SHE" management (Safety, health and Environment) is the prime need of the hour. It is time that the Authorities, Industries, Technical organisations and all other stakeholders set goals to achieve a satisfactory level of harmony between environment and development. The Draft National Environment Policy (NEP, 2004) seeks to stimulate partnerships of different stakeholder, namely, public agencies, local people, the investment community and international development partners in harnessing their respective resources and strengths for environment management. The NEP lauds the traditional role of the local community in preserving the environment. The NEP further claims that since antiquity, forest dwelling tribes had generally recognised traditional community rights over the forests, on account of which they had strong incentive to use the forests sustainably and to protect them from encroachers.

Suggestions for Forests Ecology

1. The area under forests should be raised as per the National Forest Policy.
2. The commercially more useful trees should be planted on a large scale in the forests.
3. Growing forests for preservation of wild life.
4. To promote and allot more funds for forest research.
5. The concept of farm forestry should be made popular among the farming community (Dalits) to meet fuel requirements.
6. The customary rights of local people (Dalits) including tribals to meet their bonafide domestic needs will be safeguarded.
7. Forest produce should not be supplied to industries at concessional rates.
8. No forest areas should be put to non-forestry use.
9. More funds should be made available to promote social forestry.
10. More Ecological protection through enforcing strict laws and conservation of national parks, sanctuaries and biophere reserves should be ensured.

In sum, positive government policies and embracing of new environmentally friendly ethics can go a long way
in providing a healthier environment, a more vibrant economy and higher quality of life for all. Above all, ecological balance is an indispensable condition for sustainability in development.

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