

FOREST RESOURCES MANAGEMENT IN INDIA: A STUDY

Dr. Vijaylaxmi Pareek*

ABSTRACT

This article analyses a model in respect of global timber market which studies how the supply of timber reacts to any future forecast increase in its demand. Higher demand is expected to increase prices, investments in regeneration, the establishment of plantations and expands output. Large regions of timber in regions of lower value are able to remain intact due to a larger dependence on plantation farming in productive regions, as deduced from dynamic market responses. Price, management, and harvest are most perceptible to the interest rate, access costs of forests, a rate of demand increase and the cost of plantations. Forest conservation strategies have examined. The examination predicts the system-wide implication of forest conservation in India. These policies state that the set-asides can induce net conservation, harvests increase elsewhere, particularly in natural forests. The term of Forest resource management including much more than planting plants or decrease cutting them down.

KEYWORDS: *Global Timber Market, Forest Resource Management, Forest Conservation Strategies.*

Introduction

Forest resource managers are required to a battle of insects, disease, and the threat of wildfire, all within the Federal Government's environmental regulations. Forest resource managers ensure to keep forests viable for future generations while making them profitable and finding ways to sustain them in the present. This involves keeping records on population species of tree within a forest, tree size and growth rate, places where new seedlings will be planted and more. Threats to the forest, such as insects, disease, wildfire, and over-exploitation must also be monitored by the Forest Resource Managers. Forest resource managers who are interested to execute research or affect public policy regarding forest management usually need a higher degree. Once they achieve, forest resource managers who are interested to execute research or effect public policy regarding forest, management usually need an effect. Forest resources management is a combination of forest ecology and biology, forest measurements, forest policy and administration, and courses to forecast and assess the effects of machinating. Certain important results of effective management can be apparently seen in timber, water, soils, recreation, wildlife, and a broad array of environmental values and services, such as biodiversity and healthy forest systems.

This may help to student well-rounded generalists who can succeed as professional and practice forestry in various allied natural resources management fields. Forest management also offers employment opportunities to its students. The graduates are working as professional foresters throughout the public and private natural resource managers in various public agencies, private industry, and even for nonprofit organizations. Their liabilities involve timber management, recreation planning, and environmental education. In India, sustainable forest management is being implemented on a navigator basis since 2000. The initiative, popularly known as the Bhopal-India process, has over the years an attempt endeavored to achieve a goal plan a working system for the achievement of the goals of confirmable specific to the national forestry conditions. The forests provide a large variety of economic, ecological and socio-cultural advantages for the group of people, increasing their quality of life. However,

* Principal, S.S.G Pareek P.G Girls College, Jaipur, Rajasthan, India

the sprightliness of forest management in a developing country is unique. The multiple purposes and uses of forests are quite apparent in an environment. The application and observations of criteria and indicators by the group of people in line with effective institutionalization and capability can provide us tools and ways to review the improvements in order to achieve our goals of sustainability.

This article discusses such application of criteria and defines the approach for sustainable forest management, giving a picture of the present situation in the country in order to achieve empirical of our forest resources. The intense global debate on sustainable development and sustainable management of natural resources is related back in the 1970s when there was an alarming concern regarding their depletion and degradation. Forests are an active ecosystem which includes plants, animals & microorganisms safeguarding the ecological security of the nation. Forests provide various carbon neutral timber, non-timber products such as medicines, grasses, & other various ecosystem services which are necessary for the very survival of the human race. The forest policies of 1894 & 1952 have emphasized on the production and revenue generation aspects of the forests as compared to the principal objective of National Forest Policy, 1988 was to ensure environmental solidity and maintenance of ecological balance including climatic symmetry which are crucial for sustenance of all life bearings including human beings, animals and plants. Further, the 1988 Policy acknowledged that extraction of direct economic social security must be inferior to this object.

This policy has been contributory in strengthening sustainable forest management, ecological security, and participatory forest management. Meanwhile, it must be mentioned that India has been an active participant in several international summits and conventions on the protection of forests, wildlife, and environment and stands devoted to the goals set in there. Several other objectives have also emerged during debates and deliberations in the seminars and workshops at National Level. In view of these, it has become essential to incorporate these policies, goals, and objectives in the National Forest Policy.

Goal and Objectives

The ultimate objective and goal of the present paper are to safeguard the ecological and livelihood security of the people of both present and future generations, based on sustainable management of the forests for the flow of ecosystem services in order. To achieve the national aim for eco-security, the country must have at least one-third of its total land area under forest and tree cover. Further, in the areas comprising of hills and mountains, the goal will be to maintain the minimum of two-thirds of the area under forest & tree cover. This is to prevent soil abrasion and land humiliation and also to ensure the stability of the fragile eco-systems.

The Necessity of Forest Management

The existing natural forests must fully protect and measures must be taken so as to ensure that their productivity is improved. Adequate steps will be taken to increase the forest cover on hill slopes, in a watershed of rivers, lakes and basins and ocean shores and, on semi-arid, and desert tracts. Scientific and technological interventions shall be used to increase the yield of Forest plantations so as to encourage the use of more timber so that the dependency on other high carbon footprint wood substitutes is reduced. Conservation of the natural biodiversity forests rich with resources for supervise the ecosystem and its services and to secure ecological safety of the nation. A network of National Parks, sanctuaries, preservative treasury conservation reserves, community reserves, biosphere reserves and important wildlife corridors and biodiversity inheritance sites will be strengthened and extended for adequate for the conservation of flora, fauna and total biodiversity. To supply to the needs of the rural population for fuelwood and small lumber a forestation with suitable varieties will be intensified.

Further, alternative sources of energy like the Liquefied Petroleum Gas (LPG) etc will be promoted and developed in the rural areas to demotivate their dependency on forests. Non-Timber Forest Produce (NTFP) like the medicinal and aromatic plants, resins, oilseeds, wild edibles, fibers, grass, and bamboo etc. will be managed sustainably for improving the earnings and incomes of the tribal and the other populations that is majorly dependent on the forests for their survival or livelihood.

The Indian government implements the following policy for conservation of forest:

- The Forest Act of 1878
- Control of all reserved forests
- Wildlife Protection Act 1972
- Forest Conservation Act 1980

- Forest Rights Act 2005
- Initiatives Forest Conservation Act
- 1980 Wildlife Protection Act, 1972
- Joint Forest Management, 1991
- Forest Rights Act, 2005
- Green India Mission, 2011
- National Working plan code, 2014

Above policies enable us to understand forest ecosystems, Identify the major species, both flora and fauna, in a given area, and justifying relationships among flora and fauna including the biological and physical necessities, and analyze forest ecosystems, technical forestry Plan, conduct, analyze forest inventories, including biological, physical, and social characteristics, and to communicate results in both papered and oral form. Justify the speculative structure and methodical procedure for problem-solving and to express efficient teamwork skills and moral codes. This paper is also decision-making tools and techniques to evaluate alternative forest management practices suitable for own goals and objectives

Sustainable Management of Forests

- **Reducing Threats to Forests:** The various risks to Forests due to encroachments, illegal tree fallings, forests fires, invasive weeds, grazing, etc. will be addressed within the framework of the approved Working Plan/ Management Plan and also by ensuring community participation in forest management.
- **Forest Fire Prevention:** With changes in climate and use of land, fire is being viewed as a major risk to many forests and their biodiversity. Rising frequency and intensity of forest fires and their extension in resulting in significant loss of forest purpose and related ecological events services every year. Satisfactory measures would be taken to maintain ecosystems from such forest fires. It is planned to map the susceptible areas and develop and fortify early warning systems and methods to control fire, based on anatomies technology and community participation. Also, awareness will be created about the causes and impacts of fire on forests and local livelihoods.
- **Enhance Quality and Productivity of Natural Forests:** Many of our forest ecosystems have been acceptably altered and degraded due to land conversion, pollution, over-exploitation, deforestation, and degradation etc. with adverse impact on biological diversity and livelihoods of the local population. Hence, protection and enrichment of soupy forests will be a top priority. Degraded forests will be restored by promoting natural regeneration in the first place and further by taking strict and prompt protection measures and also by planting locally suitable indigenous species for assisting the existing regeneration.
- **Increase the Productivity of Forest Plantations:** In most of the states, the productivity of the forest plantations is poor. This matter will be addressed by intensive scientific management of forest plantations of commercially important species like teak, Sal, Sheesham, poplar, Gmelina, Eucalyptus, Casuarinas, and Bamboo etc. The lands available with the forest corporations which are degraded and underutilized will be managed and steps shall be taken to produce quality timber with scientific interventions. Public-private participation models will be developed for undertaking afforestation and reforestation activities in degraded forest areas and forest areas available with Forest Development Corporations and also outside forests.
- **Protecting & Enriching the Catchments:** Various Schemes and projects which interfere with forests that cover steep slopes, catchments of rivers, lakes, and reservoirs, geologically unstable terrain and such other ecologically sensitive areas shall be restricted. The ecologically sensitive catchment areas shall be stabilized with suitable soil & water conservation measures and also by the plantation of suitable trees and grasses like bamboo etc.
- **Biodiversity Conservation Natural forests are rich repositories of biodiversity in the country**
The following steps shall be taken for the conservation of the biodiversity in the natural forests:
 - Biodiversity of the forest areas of the country will be systematically documented and surveyed and sites having exceptional taxonomic and ecological value will be conserved. In

line with the National Biodiversity Act, legal and administrative measures for the protection of biodiversity against bio-piracy will be encouraged and undertaken.

- Modern techniques of ex-situ conservation will be promoted for the preservation of Relic, Endangered and Threatened (RET) species.
- Management of forests to be as per the approved Working Plan Management of forests & forest plantations will be done as per the Central Government approved Working/Management plans, and also in accordance with the guidelines issued by the Government of India, Ministry of Environment, Forests and Climate Change from time to time.
As per the Management Plan, the private forests/ forest plantations/ tree lots will be regulated.
- Strengthen participatory forest management India has rich and varied experience in participatory forest management. National Community Forest Management (CFM) Mission will be launched to become strong this participatory approach.
This mission will have a legitimate basis and an enabling operational framework. The national, state and local level development programmers shall be coinciding in these villages. All efforts to ensure synergy between Gram Sabha & JFMC will be taken to ensure successful forest management.
- Management of Non-Timber Forest Produce: Non-Timber Forest Produce (NTFP) such as medicinal and aromatic plants, oilseeds, resins, wild edibles, fiber, bamboo, grass etc. provide sustenance to forest-dependent communities by supplementing their food and livelihood security. Such products should be managed sustainably ensuring increased employment and income opportunities for the local communities.

Value Chain approach i.e. climate-smart and market-oriented and embedded in sustainability would be made compulsory and part of the business plans related to NTFP. Strengthen Wildlife Management India has the rich diversity of wild flora and fauna housed in the varied ecosystem. Despite serious conservation challenges, the wildlife management in the country has demonstrated gains in the protection of flagship species, securing key habitats and restoring wildlife populations. However, our wildlife habitats and corridors are being constantly altered. Some of the reasons for these alterations can be increased in anthropogenic pressures, a rise in human-animal conflicts, illegal trade in wild species and climatic change impacts. Hence, there is an immediate need to renew the efforts to safeguard wildlife and secure their habitats.

Following actions will be undertaken in this regard:

- Management of Protected Areas would be strengthened for the preservation of habitats for maintaining natural biodiversity describe and also make sure the natural stride of productivity, and flow of generative excess in neighbouring areas for stride become strong the stressed habitats outside PAs. Identification and maintenance of the wildlife-rich areas and corridors outside PA's would for ensuring ecological and genetic continuity. Such areas would be effectively secured by build up forcemeat, reinstate the habitats and managing ecological corridors.
- An integral and regular part of management planning and practices include assessment of species for survival and recovery measures based on population and habitat viability.
- The conflicts of Human-wildlife have escalated over the years due to the combination of multiple factors related to habitats and population of certain wildlife species within and outside the forest. Regular spatial and non spiritual kinetic of conflicts would be assessed for formulating and implementing a state-level strategy for management of Human-Wildlife Conflicts.

The short term actions might include fast reaction, devoted teams of well-equipped and tutor staff, moveability, strong interface with health and veterinary services, rescue centers, objective and speedy assessment of damage and quick payment of relief to the victims, whereas for the long term basis the monitoring and management of the population of wildlife would be adopted within and outside forests for maintaining the balance.

- For tradable biodiversity, a strong regime of inventory, assessment of Status and sustainability will be made part of the working/ management plans.

- Strict regulations shall be imposed and monitored on the Import and trade of exotic species, their uses, and upkeep to ensure that the native biodiversity does not face genetic contamination.
- Wildlife crime and illegal trade pose a grave challenge to conservation efforts. There is an urgent need to institutionalize and further strengthen the existing central monitoring, sharing of information and online updating of data on forest/ wildlife crime. The detection, investigation and prosecution capacity shall be increased by technical support in form of the network of forensic laboratories.
- Ecotourism models would be evolve with a focal point on conservation of the sites and nature education of the visitors while augment the livelihood needs of the local communities and without compromising the profile of habitats and behavior of wildlife.
- Zoological gardens, botanical gardens, and biodiversity parks would be designed with modern and interactive methods for effective communication/interpretation about the value of plants and animals as part of the awareness creation and nature education. Zoos and rescue centers would also be used for harboring rescued species and conservation breeding. Facilitate the forest industry interface: There is a crucial need to increase growth and progress in the forest-based industry sector. This sector being labor intensive can help in increasing green jobs. Forest corporations and industrial units need to put a step forward for growing of industrial plantations for meeting the demand of raw material. Forest-based industries have already established captive plantations in partnership with the farmers. This partnership needs to be further expanded to ensure an assured supply of raw material to the industries with mutually beneficial arrangements. Further, a forum for interaction and collaboration would be set up for Forest-based industries with forestry institutions and concerned stakeholders so that a demand for trained professionals is created in the sector.

Conclusion

By optimizing the Human resource availability at all the levels, through massive capacity building efforts, reinforcing transparency and accountability measures, prompt grievance redressed and use of cutting edge technology the public service delivery system will be strengthened. Institutional restructuring so as to enable effective implementation of the policy will be facilitated wherever needed. The Human resource strategy for the forest scientists and professional foresters will aim at attracting and retaining the qualified and motivated personnel keeping in view, particularly the arduous nature of duties often in remote and inhospitable places. Opportunities for professional growth and specialization will be provided and it will be also ensured that these specializations are properly utilized.

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