



Conserving forests and biodiversity

6

Forests render numerous goods and services and help maintain the earth's life-support systems. They conserve soil, maintain the water cycle, control floods and droughts, enhance environmental quality, have a micro-climatic effect, and sequester carbon. In India, forests play a vital role in the sustenance of about 170 million people and 250 million cattle living around 31 million hectares of forests in 170 000 villages. The productivity of forests plays a very important role in poverty alleviation for the population that depends on forest produce for sustenance.

Forests play an important role in mitigating climate change. India's recorded forest area is 76.52 million hectares, which is 23.28% of the country's total geographical area. Over 90% of the forest area is under public/government ownership and is managed by the forest departments of the state governments. These forests harbour over 71 000 species of animals and over 40 000 species of plants. Of these, 9000 plant species have medicinal value for the human and cattle population.

The growing stock of the country (including natural forests, forest plantations, and areas other than natural forests) is 4740.8 million cubic metres with an annual increment of 87.62 million cubic metres. Impressive achievements have

also been recorded with respect to tree plantations, with a coverage of over 25 million hectares of degraded forests and non-forest areas achieved during 1980–98 (MoEF 1999). Thereafter, about 1.5 million hectares of wasteland are being afforested annually, resulting in marginal increase in forest cover.

Conservation of wildlife and its habitat has been accorded highest priority for the long-term ecological and environmental security of the country. India has constituted about 4.6% of its geographical areas into protected areas and a chain of 89 national parks and 489 wildlife sanctuaries has been established over 15 million hectares of dense forestland. It has launched an ambitious Wildlife Action Plan (2002–16) to achieve excellence in conservation of protected areas.

Policy framework

India has had an ancient tradition of protecting forests and conserving biodiversity, which continues to be reflected in its plans and policies. The Indian Forest Act (1927), the Wildlife Protection Act (1972), and the Forest (Conservation) Act (1980) provided the legal framework. The National Forest Policy of 1988 emphasized the principles of environmental stability and ecological balance and initiated a process by which India's forest wealth was treated as an environmental and social resource rather than as a revenue or commercial resource. Its main objectives include the following.

- Maintaining environmental stability through preservation and, where necessary, restoration of ecological balance
- Conserving the natural heritage of the country by preserving natural forests with a vast variety of flora and fauna, which represent the remarkable biological diversity and genetic resources of the country
- Increasing substantially the forest/tree cover in the country through massive afforestation and social forestry programmes especially on denuded, degraded, and unproductive lands
- Increasing the productivity of forests to meet essential national needs
- Encouraging efficient utilization of forest produce and maximizing substitution of wood

- Creating a massive people's movement involving women, for achieving these objectives and minimizing pressure on existing forests.

The National Forestry Action Programme translates these objectives into issue-based programmes. This is a comprehensive work plan for sustainable development of Indian forests for the next 20 years, which focuses on the following.

- Protection of existing forest resources
- Improvement in forest productivity
- Reduction in total demand
- Strengthening of policy and institutional framework
- Expansion of forest area

With support from the MoEF, the ICFRE (Indian Council of Forestry Research and Education) has formulated the National Forestry Research Programme, which sets the priorities for research.

The National Afforestation and Eco-Development Board has been created to promote regeneration of degraded forestlands and ecologically fragile areas. Its efforts are complemented by the activities of the National Wasteland Development Board (MoEF 2002).

During the Tenth Five-Year Plan period (2002–07) India has planned to increase its forest and tree cover to 25% of its geographical area, which will be beneficial for addressing climate change.

National institutes, such as the ICFRE, the Forest Survey of India, the Wildlife Institute of India, and the Indian Institute of Forest Management are involved in activities related to climate change mitigation issues.

Public and private sector initiatives

Both public and private sectors – comprising individuals, companies, cooperatives, and industry – are playing key roles in the management of forests. Indian coal companies, like the CIL (Coal India Ltd), undertake plantation in coalfields and reclamation and afforestation of mined-out areas with native

species, thereby helping in carbon sequestration. In case forestland is used for a mine, the CIL provides non-forestland of an equivalent area with funds for re-afforestation or regenerates twice as much degraded forestland. Private tree plantations, including agro and farm forestry in block and line plantations, currently cover over six million hectares (MoEF 1999). The private sector has also demonstrated its ability to enhance the productivity of wastelands and is dominant in the areas of wood harvesting and processing.

Rural communities have been practising tree planting in their farms, homesteads, and village woodlots to meet household requirements of fuel, poles, timber, and medicinal plants. Conservation efforts are being pursued in various parts of India in the form of agroforestry, community forestry, farm forestry, interface forestry, village woodlots, block plantations, strip plantations, improved fallow, alley cropping, and



road/canal/railway-track plantations. There also exist several sacred groves, which have been retained in their original undisturbed states.

People's participation

The effective and meaningful involvement of local communities is a vital element in evolving sustainable forest management systems in the country. The Eighth and Ninth Five-Year Plans gave priority to the promotion of people's participation in forest conservation efforts through JFM (joint forest management). The JFM approach links forest development with socio-economic incentives and broader patterns of natural resource use. It aims at developing partnerships between fringe forest user groups and the forest department on the basis of mutual trust and jointly defined roles and responsibilities with regard to forest protection and development. The local user communities manage the resource jointly with the government and also share the benefits.

This approach has resulted in active participation of the people in forest conservation, including development and implementation of micro-level plans. At present, about 14.25 million hectares of forest area are being managed under the JFM programme through over 64 000 joint forest management committees formed by the families living in forest fringe villages in 27 states (MoEF 2002). This programme utilizes the intimate traditional knowledge that rural people, especially women and tribals, possess about forest species, their growth characteristics, their utilities, and medicinal values. The JFM programme has not only improved the condition of forests and reduced encroachment but has also resulted in higher incomes for local people.

