

# 2.4 Forest Management

## 2.4.1 Overview

One of the most important forest policy goals is to improve forest management on sustained basis. For sustainable use of forest resources, the strategy is to harness the potential productivity of forests, simultaneously maximizing net yield from afforested lands. For conceptualizing a production function, forest management essentially needs accurate predictions of output of socio-economic benefits in terms of yields for all relevant combinations of measurable forest characteristics viz., age, site, density and growth. These estimates are crucial for intelligent management decisions on optimum rotation, planting density, thinning schedule, and treatment regime. Too much removal from forests may lead to liquidation of growing stock and too little would be inefficient use of resource because available growth potential is not fully harnessed and society is deprived of immediate benefits. Such information is also required for silvicultural and environmental management and is, therefore, generated by ICFRE since long. This work is being extended to cover more species and areas of the country. Forest management plan of forest fringe areas is being developed with the aim to provide better tools for managing these areas in harmony with local socio-economic and ecological requirements. National Working Plan Code is being revisited and modified to give specific guidelines for microplanning of JFM and wildlife areas. A draft report for revised National Working Plan Code has been submitted to MoEF, Govt. of India.

Wood carving industry has great potential for export. Hurdles in the way of this industry are being examined with the goal of overcoming them. Need for demand, supply and market intelligence information system of forest produce has been

realised and effective steps have been taken at ICFRE to bring it to the doors of buyers, sellers and consumers. Successful marketing models of agriculture and forestry sectors are being analysed for their wider application in forestry. Rapid steps have been taken to apply information technology for providing internet-based information on various plant, insect and diseases.

Project under the Theme			
Projects	Completed Projects	Ongoing Projects	New Projects Initiated During the Year
Plan	03	10	04
Externally Aided	00	07	01
<b>Total</b>	<b>03</b>	<b>17</b>	<b>05</b>

## 2.4.2 Sustainable Forest Management

Soil and vegetation survey has been carried out towards the goal of preparing management plan for Asola Bhatti Wildlife Sanctuary, New Delhi.

Mathematical models have been developed to understand infestation pattern of herbivorous insect pests. Models suggest a distinct possibility of factors like protandry in regulating discrete generation cycles.

The process of identification of forest fringe villages and their socio-economic and ecological survey has been initiated which upon completion will cover 275 rainfed districts of India. Socio-economic survey of 67 villages and ecological survey of 7 villages have been completed in Jorhat, Sonitpur and Darang district of Assam. The GPS data were recorded for the villages surveyed.



### 2.4.3 Forest Economics

Data on demand, supply and market intelligence of bamboo resources has been collected and analysed in four states/ union territories of north India.

Data on non-timber forest products of chir pine has been collected from government bodies and forest dwellers. Studies are being conducted on successful marketing strategies in agriculture and forestry sectors and distribution channel of state forest departments, NGOs, farmers' cooperative initiatives, etc.

Ten wood carving centres have been selected in north India to generate information on constraints in export of carved wood products and impact on livelihood and ecology. Socio-economic, technical and technological data are also being collected.

Development and testing of questionnaire is being done to understand the marketing mechanism of *Ailanthus excelsa* and *Melia* spp. in Haryana, Punjab and western Uttar Pradesh.

Information on price of selected commercial timber species and bamboo has been collected from selected markets and forest department/ corporations on country basis. The collected information is published in the form of Timber and Bamboo Trade Bulletin.

### 2.4.4 Forest Biometrics

Fourteen sample plots have been set up for *Prosopis cineraria* and *Ailanthus excelsa* in IGNP region of Rajasthan. Measurements of trees have been taken for productivity and biometrics studies.

Sixteen permanent sample plots of teak have been laid out in Gujarat state and permission has been sought from the concerned state forest department for felling.

Twenty-seven sample plots have been laid out in teak plantations of Karnataka.

### 2.4.5 Policy and Legal Issues

A draft report for revised National Working Plan Code has been submitted to MoEF, Govt. of India along

with the annexure on "Micro Plan Process for JFM Areas" and "Micro Plan of Eco-development for Wildlife Areas". Workshop-cum-meeting was conducted and suggestions from participants were incorporated in the draft Working Plan Code.

### 2.4.6 Information and Communication Technology

Deodar (*Cedrus deodara*) and Kail (*Pinus wallichiana*) Information System is in advanced stage of development using remote sensing & GIS techniques. Text has been compiled and edited. Scanning and editing of all the diagrams, figures and photographs are complete. Deodar and kail maps of Uttarakhand state have been prepared and verified by ground truthing. The maps of Himachal Pradesh and J&K are being developed.

Survey has been completed and ground truthing is being carried out for development of GIS/RS based system for identification and monitoring of lac host belts in Chotanagpur region.

An information system has been developed for forest tree species associated insects and their management. Data have been collected for the insect pests and diseases associated with *Shorea robusta*, *Dalbergia sissoo*, *Dalbergia latifolia*, *Acacia catechu*, *Acacia nilotica*, *Albizia lebbek*, *Ailanthus excelsa*, *Bamboo*, *Tectona grandis*, *Butea monosperma*. For insect pests, information has been provided on taxonomical details, distinguishing characters, nature of damage, host range, natural enemy and control measures. For diseases, data have been uploaded for seed, nursery, plantation/natural forest and wood diseases, type of pathogen and remedial measures.

A web portal is being created for forestry research extension to provide comprehensive information on tree and shrub species of arid and semi-arid areas. Relevant data and photographs have been collected.

Data collection is in progress for development of sandalwood information system. Necessary equipment



has been procured and fields of database have been finalised.

Web database has been designed for more than 100 commercial timbers species of south India. Information about market price and supply route has also been included in the database.

Format has been finalised for the collection of information on fast growing tree species in Tamil Nadu and Kerala for development of database.

Studies are being carried out on successful information technology enabled (web 2.0) marketing strategies e.g. blogs, wikis, social networking hubs (e.g., facebook, MySpace), web-based communication modes (e.g., chatting, chat groups), special interest groups, photo-sharing, video casting and sharing, audio sharing, mashups, widgets, virtual worlds, micro blogs (e.g. twitter) etc. in several organizations viz. CIFOR, ICRAF, ICRISAT, Cisco, etc.



Flowering in *Albizia lebbeck* (Siras)



*Tecomella undulata* under Flowering (Rohida)



Flowers of *Butea monosperma* (Palash)



A Flowering Tree of *Butea monosperma* (Palash)



Flowering in *Azadirachta indica* (Neem)



Flowers of *Kigelia pinnata* (Balam Khira)

Few representative tree species used for web portal