IIASA Policy Brief

The Challenges for the Indian Forestry Sector

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This briefing highlights the key issues facing the Indian forestry system. It identifies major priorities and actions to help the Indian forestry system develop sustainably and meet future national needs.

Summary

■ The rapidly growing Indian economy has implications for all sectors of the economy, including forestry. The societal demands on forests are becoming more diversified and rising faster than the capacity of forests to supply them on a sustainable basis. The widening gap is one of the main causes of forest degradation and loss of forest biodiversity that is taking place on an unprecedented scale, fast eroding the very basis of the livelihood of forest-dependent communities.

■ The existing administrative structure and functions, planning and control system, and research and training methods are all geared toward securing a sustained supply of timber, mainly from state forest reserves. A move toward more comprehensive multiple-use forestry would require reorientation of forestry institutions by bringing within their mandate the production of goods and environmental services, both in and outside forests. A mismatch between the changing societal demands on forests and non-changing forestry institutions could slow down the growth or even allow the sector to stagnate, thereby accelerating forest degradation.

■ This assessment of the Indian forest sector identifies four interlinked themes as an approach that offers the greatest possibility of ensuring the sustainable development of the Indian forestry system. The themes are:

- ■ The future of Indian forestry will depend on the provision of reliable data and inventories covering all aspects of the Indian forestry system.
- ■ New data and inventories must be based on integrated assessments that take account of issues far beyond traditional forest-sector analysis and map the root causes of the degradation and depletion of forest resources.
- ■ These integrated assessments can then feed into an ongoing, institutionalized strategic planning process that results in integrated strategies and policies.
- ■ The successful implementation of this strategic plan will require the restructuring of existing governance and institutions with respect to the forest sector.

■ In essence, Indian forestry experts point to the need for an integrated concept for analysis, planning, and management of the Indian forest sector.

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Introduction

In 2007 and 2008 the International Institute for Applied Systems Analysis (IIASA) and India's Technology Information, Forecasting and Assessment Council (TIFAC) brought together key forestry experts to analyze the current trends and future challenges of the Indian forest sector. The research was published in a Special Issue of *The International Forestry Review* (IFR). Based on this work, the editor of the Special Issue, Sten Nilsson, Leader of IIASA's Forestry Program, identified four integral themes to address the problems and issues facing the Indian forestry system and the priorities necessary to enable it to meet future needs.

A recipe for progress: Four key themes

Theme 1: Data and inventories

Indian forestry experts insist that the availability, accessibility, consistency, reliability, and quality of data and information relating to the Indian forestry system should be a major concern for policymakers and scientists. Experts conclude that while the Indian forest sector is at a crossroads, the problems are compounded because of the lack of reliable information (see box: What's missing from Indian forest data?). Hence, there is now an urgent need to establish accurate inventories and to conduct comprehensive data collection.

As a first step, it is suggested that forestry experts join forces to identify exactly what data are needed. Data collection and the establishment of inventories must then be undertaken based on an integrated and systems view of the role of the forest sector in Indian society. Identifying the role that different agencies should play in data collection and distribution, especially between state and national level, is also important.

What's missing from Indian forest data?

Serious problems exist not only in the quality of Indian forest data, but in the uses to which these data are put. Examples of problem areas include:

■ There is no reliable assessment of the growing stock of trees at state level. Other deficits include a lack of data on different products from forests and a lack of increment and biomass data. It is difficult to make economic assessments and set policies without quality data and information on both the tangible and intangible benefits of forests.

■ Trees outside forests, mostly growing on private lands, are a major resource in India. Indeed, about 80 percent of all timber produced in India comes from non-forest areas under private ownership. However, there is no efficient inventory for "trees outside forests."

■ Many deficits in the Indian forestry inventory are due to the ongoing degradation of Indian forest resources. Experts suggest that socioeconomic developments have brought forest management, in very large parts of the country, to a standstill. Large tracts are devastated within short periods of time but these degraded areas are not monitored nor are inventories updated.

■ Non-timber forest products (NTFPs) are of growing importance, particularly for export. Yet there are many data gaps with respect to the production and consumption of NTFPs. Moreover, data are not collected in a uniform fashion.

■ There are scarcely any data and statistics on ecotourism, either in terms of demand or supply. To develop the forest-related ecotourism, an inventory of areas of potential interest to ecotourists is needed.

■ According to the latest assessment, the forest cover of India is 67.7 million ha with a growing stock of 4.6 billion m³. This forest cover corresponds to 20.6 percent of the geographical area but falls short of the national goal (National Forest Policy 1988) of achieving forest cover of 33 percent of the land area. But how relevant is this goal? Of the assessed forest cover of 67.7 million ha, only 5.6 million ha is very dense forest. Some 33.2 million ha is moderately dense forest and 28.9 million ha is open or degraded forest. Thus a forest cover objective needs to be combined with quality objectives.

Non-timber forest products are assuming a higher contribution to the Indian economy compared to timber. This gap is predicted to grow over time.

Theme 2: Integrated assessments

Appropriate strategies and policies to develop the Indian forest system are urgently needed, but these first require integrated assessments that take account of the likely impacts of different actions. Currently, no such assessments exist. Future assessments should look beyond the traditional forest sector and include all important aspects of the role of the forest sector in Indian society. In other words, these assessments must deal with the root causes of the degradation of Indian forest resources, such as sustenance and livelihood pressures, and cover the full range of pertinent issues, such as demand/supply of timber, non-wood forest products, ecosystem services, socioeconomic aspects, poverty.

Integrated assessments and the "systems view:" What does this mean?

Integrated assessments and the "systems view" are otherwise known as systems analysis. This is a problem-solving process in which many people take part: scientists of different, relevant disciplines, stakeholders, and decision makers. The central purpose of systems analysis is to help decision makers and public policymakers resolve the problems they face in the short, medium, and long term.

Systems analysis has both a quantitative and qualitative side. Problems are addressed from a wide variety of viewpoints, not purely scientific, and always take account of the larger context. Systems analysis is ideal for problems of such immensity, complexity, and urgency that to neglect a single aspect could be very costly, and not just in monetary terms.

These integrated assessments of Indian forest resources should have a forward-looking approach and a systems view with respect to their impact on future options. This activity should be ongoing, carried out by an independent body and start immediately. Improvements to initial analyses can be made when better data and knowledge become available (see Theme 1).

Theme 3: Strategic planning

At present there is no strategic planning process with respect to the Indian forest system. The goal, therefore, must be an ongoing, institutionalized strategic planning process with integrated and "systems view" approaches. Ad hoc processes are unsatisfactory; for example, the degradation and depletion of Indian forests are linked to population growth and poverty among tribal and rural people living in, and on the fringes of, forests. Thus, broad integrated strategies are needed that include forestry in a much broader societal, and indeed global, framework.

Forest degradation and biodiversity losses continue rapidly because of increased pressure from population growth and associated land use change. Factors such as unregulated grazing, shifting cultivation, illegal logging, and forest fires drive the degeneration of the forest resources. Clearly, this indicates the urgent need for stronger forest protection practices.
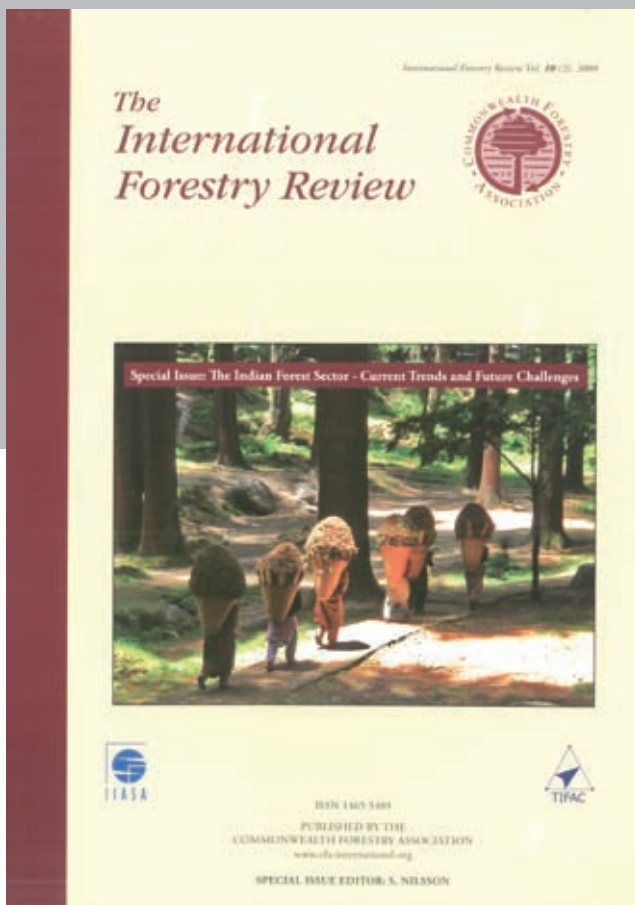
Experts suggest that the issue of biodiversity/conservation is strongly influenced by demographics, governance/institutional structures (see Theme 4) and socioeconomic conditions (poverty). However, these complex issues are politically sensitive and are thus seldom discussed in a transparent manner. As a result there is no clear strategy in respect of how to improve the living conditions of poor people and tribes living in the forests. Clear-cut strategies are needed for dealing with the degradation of natural resources.

To date, numerous efforts have been made to establish strategic planning in the Indian forest sector, such as timber trend studies, National Commission on Agriculture recommendations, and strategic planning by the Forest Survey of India. These activities have faded away over time and need to be revived to address the problems in this sector.

Theme 4: Governance and institutions

If the strategic planning (see Theme 3) process is to be implemented successfully, then existing governance and institutions must be restructured. Evidence points to a strong need for interaction between different sectors in order to achieve sustainable development of the forest sector. At present, interaction between state and national levels of governance does not function efficiently enough to produce workable strategies and policies.

Governance and institutions must, in future, operate in a more integrated way to address the root problems of the forestry sector and build more efficient links between states and the central government. The current structure is complicated and does not support this type of change.

■ Further research on a range of Indian forestry-related issues is now required and should run in parallel with the development of the four themes outlined previously: data and inventories, integrated assessments, strategic planning, and governance and institutions.

■ A critical mass of "champions" is required to effect change. Involving this body of expertise in the implementation of actions to bring about change in the Indian forestry sector could be instrumental to achieving successful conclusions.

■ Certain key trends in the Indian forest system must be taken into account when priority actions are planned. These trends include:
  ■ Non-timber forest products are assuming a higher value/contribution to the Indian economy compared to timber. This gap is predicted to grow over time.
  ■ Some 80 percent of timber production for the forest industry stems from trees outside forests. There is huge potential to increase timber and bamboo production from plantations outside forests, although this potential is seriously constrained by administrative, institutional, and governance hindrances.
  ■ The degradation/depletion of the forests is not a specific forestry problem but rather a social problem linked to population growth and poverty among tribal and rural people living in, or on the fringes of, the forests. In the absence of clear strategic intervention, these twin problems are expected to increase.

New trends in the forestry sector point to the need for new thinking in terms of governance and institutional structures. For example, there is a major potential for increased bamboo production in India, but growth is constrained for a number of reasons—forest land cannot be leased for bamboo production and private land owners are hampered by regulations involving harvesting, transport, and trade. To increase bamboo production, these legal bottlenecks must first be removed.

Legal and institutional constraints also hamper the potential benefits to be gained from tree plantations outside forests. A Central Board of Forestry was constituted in 1950 to provide guidance to the government in the formulation of policy and programs. Its importance was such that the Prime Minister occasionally acted as chair. The revival of such a high level body responsible for strategy and policymaking, as well as the institutional adaptations also required, is an example of the bold thinking that forestry experts now advocate.

Conclusions

What are the priority actions?

■ There is an urgent need to establish an integrated group of experts to identify the key strategic issues deserving attention, the assessment analysis that is needed, and the data required to support this work.

Further information

This Policy Brief is based on an in-depth analysis of Indian forests published in 2008 in a special issue of the *International Forestry Review*. Find more information and order copies at: www.cfa-international.org/IFR_India_Special_Issue.html.

In addition to the production of the special issue of the *International Forestry Review*, a workshop was held in April 2007 entitled "Economic, Societal and Environmental Benefits provided by the Indian Forests," organized by the International Institute for Applied Systems Analysis (IIASA) and India's Technology Information, Forecasting and Assessment Council (TIFAC). Information about the workshop is available at: www.tifac.org.in/abt/india_iiasa_workshop07.htm.