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OED

India: Alleviating Poverty through Forest Development

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WORLD BANK OPERATIONS EVALUATION DEPARTMENT

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India

Alleviating Poverty through Forest Development

Evaluation Country Case Study Series

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WORLD BANK OPERATIONS EVALUATION DEPARTMENT

India
Alleviating Poverty through Forest Development

Evaluation Country Case Study Series

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Table of Contents

Boxes

Tables

Figures

Foreword

This case study is one of six evaluations of the implementation of the World Bank's 1991 Forest Strategy. This and the other cases (Brazil, Cameroon, China, Costa Rica, and Indonesia) complement a review of the entire set of lending and nonlending activities of the World Bank Group (IBRD, IDA, IFC, and MIGA) and the Global Environment Facility (GEF) that are pertinent to the Bank Group's implementation of the forest strategy. Together these constitute inputs into a World Bank Operations Evaluation Department (OED) synthesis report entitled *The World Bank's 1991 Forest Strategy and Its Implementation*. This forest strategy evaluation was carried out under the overall direction of Uma Lele.

The purpose of each of the six country studies has been to understand the implementation of the 1991 Forest Strategy in Bank operations and to obtain the views of the various stakeholders in the country about the involvement of the Bank. In doing so, the study team has not only examined the Bank's forest program but also endeavored to place the Bank's activities in the broader context of what the country and other donors have been doing in the forest sector. Therefore, each country study examined the overall development of the country's forest sector. While this naturally includes environmental impacts on forests, such as degradation, biodiversity loss, and deforestation, it also encompasses the economic uses of forests, including the management of forest resources for production, the role of forest development in poverty alleviation, and the impacts of forest research and development.

The evaluation of the Bank's performance in these studies, as always in OED studies, seeks to judge whether the Bank has "done the right things" and "done things right." Here, OED also seeks to judge whether the Bank has lived up to the commitments made in its 1991 Forest Strategy. The case studies do this by examining how the Bank, using the various lending and nonlending instruments at its command, has interacted with the sector's development processes, with other donors, and with the broader government objectives of economic growth, poverty alleviation, and environmental sustainability. Thus, the studies focus on policy in the post-1991 period, but they also recognize that the Bank does not operate in isolation from its historical interactions with a country and its needs. These interactions include the Country Assistance Strategies or their predecessors, Economic and Sector Work, as well as all investments in all sectors and all policy dialogue that is pertinent to the Bank's actions and their outcomes in the forest sector. Together, these activities constitute the Bank's implementation of its forest strategy in a country.

The important questions these country studies address are as follows:

- How have the forces of development effected change in the country's forest sector?
- Did the Bank's 1991 Forest Strategy make a difference to its forest strategy in the country, or was this strategy largely a result of the Bank's historical relationship with the country, the needs articulated by the government, or a combination of both?
- Regardless of how the Bank's forest sector strategy evolved, how consistent was it with the Bank's 1991 Forest Strategy?
- How consistent was the country's own forest policy/strategy with the Bank's 1991 Forest Strategy?
- Was the Bank's overall and forest sector strategy in the country relevant to the country's needs in the forest sector, as identified by the country?
- Were the Bank's overall and forest sector activities effective from the viewpoint of the intentions of its 1991 Forest Strategy?
- Were the Bank's activities efficient?
- Did the Bank's activities achieve policy and institutional development pertinent to forest sector management?
- Are the Bank's impacts likely to be sustainable?

- What impact has the Bank's overall and forest sector strategy for the country had on forest cover and quality, poverty alleviation, and other key issues? What are the prospects for future Bank-country interactions in the forest sector, and for outcomes in the sector?

Gregory Ingram
Director
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The World Bank

Director-General, Operations Evaluation Department: *Mr. Robert Picciotto*
Director, Operations Evaluation Department: *Mr. Gregory Ingram*
Task Manager: *Ms. Uma Lele*

Acknowledgments

This report is a collaborative effort between Nalini Kumar of the Operations Evaluation Department (OED) and three country authors: Dr. N. C. Saxena, Prof. Y. K. Alagh, and Dr. Kinsuk Mitra. The report was prepared by Ms. Kumar and edited by William Hurlbut. Syed Arif Husain contributed to the analysis of the Bank's lending and performance. The study has been carried out under the overall direction of Uma Lele, Task Manager of OED's review of *The World Bank's 1991 Forest Strategy and Its Implementation*. The report has benefited from comments on earlier drafts by Robert Picciotto, Gregory Ingram, and Ridley Nelson of OED. The study team is also grateful for the comments that were provided by staff of the World Bank's South Asia Regional Office: Ridwan Ali, Jessica Mott, Irshad Khan, Ian Hill, Ethel Sennhauser, Norman Jones, Ashok Seth, Peter Jipp, Madhavi Pillai, Christopher Hoban, Lars Lund, Suryanarayan Satish, and Julia Falconer.

A workshop to discuss this case study was held in New Delhi on November 1, 1999. It was organized by the Ministry of Environment and Forests (MOEF), with active input from the World Bank's Country Department. Participants included government headquarters and field officials; members of the NGO community; representatives of the private sector, academia, and international donors; and Bank staff. A summary proceeding of the workshop (including a list of participants and agenda) and comments from the government are included in Annex M. In general, workshop participants were supportive of the findings of the report and offered constructive suggestions for its further improve-

ment. This document takes into account the comments received at the workshop. The MOEF strongly supported the observation in the report that investments in the forest sector can contribute significantly to poverty alleviation. Participants stressed the importance of an integrated area development approach to forest sector development, although there was concern that such an integrated strategy should not come at the cost of allocation of resources for the forest sector.

The team is especially grateful to Bank colleagues and the MOEF for making the country workshop a success. A sincere thanks to all workshop participants for their contributions: Rita Acharya, Parvez Ahmed, S.K. Ahluwalia, V.K. Bahugana, Sudeep Banerjee, Meenakshi Batra, Doris Capistrano, A.R. Chaddha, J.P. Chandra, V. Chitrapu, Louis Constantino, S.C. Dey, Mohan Dharia, V.B. Eswaran, Julia Falconer, P.B. Gangopadhyay, Barin Ganguly, Julian Gayfer, Arif Ghauri, Abhijeet Ghosh, A.K. Gupta, H.L. Hansing, A.K. Jha, Nandita Jain, M.K. Jiwarajka, C.S. Joshi, N.K. Joshi, D.C. Khanduri, I.A. Khan, Piare Lal, Sharad Lele, Edwin Lim, Lars Lund, Ramesh Milkana, Jessica Mott, A.K. Mukherjee, S.D. Mukherjee, S.K. Mukherjee, M.K. Nandi, C.P Oberoi, G. Pathmanathan, Madhavi Pillai, Ram Prasad, S.K. Puri, Pyarelal, P. Raghuveer, Satyanarayan Rao, S.S. Rizvi, Vineet Sarin, Moutushi Sengupta, M.K. Sharma, R. C. Sharma, S.C. Sharma, Jagdish Singh, and K.B. Thampi.

This review has benefited from wide-ranging discussions with government officials, Bank staff, numerous other stakeholders in the country, as well as field visits by OED staff. The study was also discussed at OED's Forest Strategy Review Workshop on the *Preliminary Review of The World Bank's 1991 Forest Strategy and Its Implementation* Report, held in Washington, D.C., on January 27–28, 2000, as well as from web-based consultation and an ESSD consultation on the Forest Policy Implementation Review and Strategy in Dhaka on May 16–19, 2000. The three country authors, in addition to having extensive knowledge of India's forest sector, have made field visits and held discussions within the country at various project sites. The cooperation and assistance of all stakeholders and government officials is gratefully acknowledged.

The report was produced as part of the OEDPK publication series by a team under the direction of Elizabeth Campbell-Pagé (Task Manager). Caroline McEuen (editor), Kathy Strauss and Aichin Lim Jones (graphics and layout), Diana Qualls (editorial assistant), and Juicy Qureishi-Huq (administrative assistant) comprise the publishing team.

Acronyms

APL	Adaptable program lending
CAS	Country assistance strategy
CCF	Chief Conservator of Forests
CF	Conservator of Forests
CPR	Common property resources
DCF	Deputy Chief Conservator of Forests
DFID	Department for International Development
EDC	Eco-development committee
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FAO	Food and Agriculture Organization
FD	Forest Department
FSI	Forest Survey of India
GEF	Global Environment Facility
GOI	Government of India
IBRD	International Bank for Reconstruction and Development
ICFRE	Indian Council of Forestry Research and Education
ICR	Implementation completion report
IDA	International Development Association
IFC	International Finance Corporation

IFS	Indian Forest Service
JFM	Joint forest management
FPC	Forest protection committee
FREE	Forestry Research, Education, and Extension
M&E	Monitoring and evaluation
MIGA	Multilateral Investment Guarantee Agency
MOEF	Ministry of Environment and Forests
NCA	National Commission on Agriculture
NFAP	National Forestry Action Program
NGO	Nongovernmental organization
NTFP	Non-timber forest product
OECF	Overseas Economic Cooperation Fund (Japan)
OED	Operations Evaluation Department
OP	Operational policy
QAG	Quality Assurance Group
PA	Protected area
PAD	Project appraisal document
PAR	Performance audit report
PCR	Project completion report
PRA	Participatory rural appraisal
SAL	Structural adjustment loan
SAR	Staff appraisal report
SF	Social forestry
SLSW	State-level sector-wide
T&V	Training and visit
UNDP	United Nations Development Program
US$M	US$ millions
VFC	Village forest committee
VRDP	Village resource development program
VSS	Vana Samarakshana Samithis
WWF	World Wide Fund for Nature

Methodology

This report is an attempt to evaluate India's forest sector development and World Bank assistance. It is a multidisciplinary report that examines economic, social, political, institutional, and financial issues, among others. There are no clear methodologies to analyze these complex sets of issues. In addition, there is no baseline data available on Bank projects to be able to make *before and after* comparisons. However, India maintains reasonably good data on forest cover and quality and changes therein. OED did not have the time or the resources to collect project-specific primary data, which in any case would be of little value without a baseline. The review is based on evidence from the literature; review of project documents and files; extensive interviews with Bank staff, other donor agency staff, specialists, forest officials, and beneficiaries; and field visits. The country authors, with their considerable track record of field research and in-depth knowledge of Indian conditions, contributed tremendously toward grounding the review in in-country reality. The report analyzed the *interactions* among the Bank's country assistance strategy, economic and sector work, policy dialogue, and the lending portfolio. In addition to forest projects and projects with forest components, emphasis was placed on assessing the impact of adjustment lending operations, together with the Bank's investment in agriculture, environment, infrastructure, mining, transportation, electric power, and energy.

OED has recently done three audits of forest sector projects in India. These constitute an input into this study. Field visits for these audits—two of which are completed social forestry projects, and the other a

recently closed sectorwide West Bengal Forestry project—were supplemented with field visits to sites under the ongoing Maharashtra Forestry, Andhra Pradesh Forestry, and Madhya Pradesh Forestry projects. Uma Lele visited the states of Madhya Pradesh and Maharashtra in December/January 1999 and made field visits and held discussions with a variety of stakeholders. Nalini Kumar visited the states of Andhra Pradesh, West Bengal, and Kerala in August and November 1998. She also visited Dehradun in Uttar Pradesh in connection with the Forest Research, Education, and Extension Project. OED meetings in Delhi included discussions with officials from the Ministry of Finance, Ministry of Environment and Forests, and representatives of donor organizations, including the Overseas Economic Cooperation Fund, the Department for International Development, and the Ford Foundation.

In the states, the missions met with senior forestry and animal husbandry staff, researchers and academicians at state agricultural universities, staff from the Forest Development Corporations and research institutes such as the Central Tuber Crops Research Institute, and field-level officials. The missions also met and held discussions with nongovernmental organizations such as the Society for Promotion of Wastelands Development (SPWD), the World Wide Fund for Nature (WWF), Mitraniketan, Ramakrishna Lokashiksha Parishad, the Indian Institute of Bio-Social Research and Development (IBRAD), and the Society for Protection of the Environment, with representatives of the private sector, and with Bank project beneficiaries in the villages in the various states. The visit to Dehradun included discussions with officials and technical specialists at the Forest Survey of India, Indian Council of Forestry Research and Education (ICFRE), State Forest School, Indira Gandhi National Forest Academy, and Forest Research Institute.

The evaluation uses the standard OED analytical framework of relevance, efficacy, efficiency, institutional development impact, and sustainability. Operation's goals are *relevant* if they are consistent with the country's overall development strategy and the Bank's assistance strategy for that country, and are in keeping with at least one of the Bank's broader goals of reducing poverty, protecting the environment, developing human resources and fostering private sector growth. The operation is *efficacious* if it achieves its stated physical, financial, institutional, or policy-related goals. To judge *efficiency,* an evaluator assesses results in relation to inputs, looking at the cost, implementation time, and economic and financial results. The ratings for relevance, efficacy, and efficiency are high, substantial, modest, and negligible, and

together all three determine outcomes. Outcome ratings are highly satisfactory, satisfactory, marginally satisfactory, marginally unsatisfactory, unsatisfactory, and highly unsatisfactory. *Institutional development* impact is the process of improving a country's ability to make use of its human, organizational, and financial resources. The crucial questions asked here are: Has the Bank measurably contributed to borrower capacity? Is the Bank using its relatively small resources strategically to increase human and institutional capital among its borrowers at all relevant levels, and thus to increase the ability of the countries to scale up solutions for a larger, more durable impact? The choice of ratings for institutional development are high, substantial, modest, and negligible. *Sustainability* is defined as the likelihood that the project will maintain its results in the future and could be likely, uncertain, or unlikely. The questions examined here are: Are the results from the Bank's interventions fiscally, institutionally, and financially sustainable? Are they viewed to be so by the Bank's borrower? Have sustainability issues been addressed as an integral part of the project design and implementation? Sustainability and institutional development impact determine the extent to which the outcomes will last beyond the involvement of the Bank.

Summary

India has the largest number of poor in the world, many of whom depend directly or indirectly on forests for a living. Poverty, as well as large and expanding human and livestock populations, puts unrelenting pressure on the forests of India. The consequence is severe degradation of the country's forest resources. The government has attempted to slow losses to its forests and increase tree cover through a series of programs with support from the World Bank: industrial forestry, social forestry, and, most recently, joint forest management (JFM). The Bank's involvement in JFM is the largest experiment in participatory forest management ever funded by the Bank anywhere in the developing world. This review of World Bank Group activities in India's forest sector draws lessons from the experience of these programs and is intended to help articulate a forest sector strategy for all of India that would contribute not only to the development of its forest sector but also to meeting the Bank's larger strategic goal of poverty alleviation and sustainable development.

The review is divided into two parts. Part I surveys the changing state of the forests in India. It explores causes of change in the extent and the quality of the forest cover, including the consistency and accuracy of the information on which the conclusions are based. The major conclusions of this section are as follows:

- Degradation, not deforestation, is currently the major problem in the forest sector in India, though deforestation was more important in the past.

- Data on forest cover, its rate of change, and the demand and supply of forest products are unreliable. While the database needs improvement, most observers, including the authors of this paper, believe that enough is known to support actions on various fronts.
- India's agricultural intensification has had a major positive impact, relieving pressure on marginal lands on which most of the forests remain. But urbanization, industrialization, and income growth are putting a tremendous demand pressure on forests for products and services.
- The shrinking common property resource base, the rapidly increasing human and livestock population, and poverty are all responsible for the tremendous degradation pressure on the existing forest cover.
- Although India has a well-articulated forest policy that has evolved over time, forest laws have lagged in translating the policy into an implementable strategy. Even with a well-defined forest policy, India currently lacks a strategy to meet the many diverse demands for forest products and services from the forest sector.

Part II explores the World Bank's lending and nonlending activities in India before and after the Bank's 1991 Forest Strategy. While the focus of the review is on the post-1991 period, the pre-1991 experience is also relevant for drawing lessons for the future. The Bank has invested US$830.14 million in India in 16 projects; 9 are complete and 7 are in various stages of implementation. The major conclusions of this section are as follows:

- The Bank has largely lived up to its 1991 Forest Strategy in India.
- There is considerable congruence between the Bank's 1991 Forest Paper and India's 1988 Forest Policy. Both emphasize the environmental role of forests and the need to fulfill the subsistence requirements of the local population dependent on forests. India's current forest strategy, to which the Bank has been responsive in the post-1991 period, is relevant but not sufficient. An ideal forest strategy for India would provide a balance of all the three policy phases that India has experienced since independence: industrial forestry, social forestry, and protection/regeneration.
- A large percentage of the poorest in India live in and around forests, and the Bank's forest strategy has the potential to contribute substantially to poverty alleviation in the country. Since 1992, the Bank has financed six state-level sectorwide projects that support the forest sector development strategies of individual state forest departments. The JFM strategy used in these projects

involves villagers cooperating with the Forest Departments (FDs) in forest protection in exchange for a share of the final harvest and so-called "usufruct" rights—the right to utilize the forests so long as they are not damaged or altered. A two-pronged approach is followed to involve communities: increasing the stake of the neighboring communities in the management and utilization of the forests, and creating alternative sources of employment to reduce the pressure on forests. These include work on tree planting and regenerating activities, as well as the building of sources of drinking water supply, approach roads, schools, check dams, and other facilities. India has more than 68 million tribal people, a large percentage of whom live close to the forest areas and constitute the most disadvantaged section of society based on per capita income, literacy rates, nutritional and health status, and lack of access to social and technical services. The Bank projects have the potential for alleviating poverty by building the grassroots capacity for forest protection and regeneration in the communities adjacent to forests.

- The Bank projects have been successful in promoting a major attitudinal change in the FDs toward working with the local people. The benefits of a people-oriented approach for the FD (e.g. higher rate of tree survival, protection of forest areas, improved public image) outstrips the cost to the agency.

Too few of the post-1991 projects have been completed to inform a judgment of their impact on the development of the forest sector in India. Supervision ratings show implementation progress to be satisfactory, but the performance among the states varies. Though the long-term involvement of the Bank in the forest sector has promoted important policy and institutional reforms, the Bank and India need to give far greater attention than they currently do to financial sustainability concerns and to the complex social and political realities of India. Sustainability of a participatory institutional development process is a complex issue in a highly differentiated society like India, where the poor have little voice and the FDs are starved for resources.

India is perhaps the only country in the world where the Bank has been continuously involved in the forest sector for over two decades. Over that time, the design and implementation of Bank projects have improved substantially, reflecting the considerable learning that has taken place. In retrospect, the Bank has been making four important contributions to India's forest sector:

- By bridging the budgetary gap for a vital sector, the Bank is enabling India to implement its forest strategy.
- By following a systemic approach toward building the capacity for production and management of good quality planting material, it is helping build in-country capacity for production technology generation and transfer.
- By helping change the attitude of the FD toward working with the poor in tree/forest protection and regeneration, it is helping build consensus for a new strategy of forest protection and management.
- By playing a catalytic role in bringing several policy and institutional issues to the table, it has been helping focus attention on areas in need of reform. The Bank clearly recognizes that the policy, legal, and institutional environment is not yet right in the forest sector in India. Even so, it has continued lending to the sector, clearly recognizing that it can be effective in a country of India's size and complexity only by remaining engaged and taking an incremental approach to achieving desired results. The Bank has tried to deal with policy, legal, and institutional issues in the context of individual projects, but its project-by-project approach has not enabled it to build an overarching Bank strategy toward the Indian forest sector.

This review argues that Bank lending to India has been relevant in the past and can contribute significantly to forest development and poverty alleviation in the future. However, both the Bank and India need to work toward removing the weaknesses that have hindered progress in the past. Some of the major issues that need attention in the forest sector are presented in table A; table 3.4 captures in detail the complexity of the issues and the viewpoints of the various stakeholders. The Bank needs to continue to remain active in the sector. However, more commitment is needed from the Government of India to view the Bank's involvement in the forest sector in the larger and longer-term context of poverty alleviation and not simply as a source of finance for the sector. Moreover, the Bank can bring to bear in India positive lessons of experience from other countries that will help improve the performance of the forest sector and its contribution to the economy. For example, India could benefit from what has been learned in Costa Rica about increasing the revenue-earning capacity of the forest sector.

Though what Bank forest sector projects can finally achieve depends on several factors, the recent approach toward concentrating Bank lending in selected states that are more open to fiscal, policy, and institutional

Table A. Some Major Issues in the Forest Sector

Issue	Current position in country	Position of the Bank/Bank projects	OED review
Forests as a part of a poverty alleviation strategy	Tree plantations have been part of various poverty alleviation programs of the central and state governments.	Role of forests in poverty alleviation has not been clearly appreciated.	A large percentage of those living in the vicinity of forests are amongst the poorest. The role that Bank forest sector projects can play in poverty alleviation has not been clearly recognized or articulated as a part of the Bank' s poverty alleviation strategy.
Intersectoral coordination	Interdepartmental coordination is weak at the national and state levels.	Bank forest sector projects have stressed the need for collaboration with other departments, but achievements have been limited.	There is an urgent need to develop a multisectoral approach for the forest sector. A forest strategy has to be closely integrated with and be a part of a strategy for watershed development. There is also need for integration with agriculture (for instance in the role of trees outside forests).
Sustainability concerns	Currently given insufficient attention	Currently given insufficient attention	The Bank and other donors are there for a short time and adequate provisions need to be made for continuing project related activities on project closure.
Production and marketing strategy	Current strategy has an insufficient production focus and gives inadequate attention to marketing issues, especially those related to NTFPs	Bank strategy suffers from the same limitation as the country' s	Production issues, particularly tree plantings outside the forest areas, need greater attention. It is also important to take a decision on the role of the private sector. Marketing issues, particularly those related to NTFPs need to be looked into. Further studies may be required. Government federations should be asked to compete with other traders in the open market purchase of NTFP from panchayats/Gram Sabhas. In the case of wheat and paddy, the FCI provides a support price, but farmers are not forced to sell to the FCI alone. Similarly, the role of Forest Corporations in the marketing of NTFPs can be to provide a floor price, but allow the private market to develop.

(table continues on following page)

Table A. Some Major Issues in the Forest Sector (cont'd)

Issue	Current position in country	Position of the Bank/Bank projects	OED review
Research	The state FDs realize the importance of giving attention to quality of planting material however research is faced with funding shortages.	The Bank has made one of the most important contributions to forests in India in this field but much more needs to be done.	Though the Bank has made an important contribution in the past, the whole issue of Indian Forest Service vs. technical staff affects research adversely. Research for NTFPs, tree species suitable for dry lands and development of fast-growing species that will help meet the rising domestic urban demand for wood products require greater attention. Coordination between national and state research institutes needs more attention.
Center versus state	Basic policy guidelines for forests are formulated by the MOEF (GOI), which coordinates environmentally relevant schemes and actions. Responsibility of administering the forests rests primarily with the state governments.	Bank projects give inadequate attention to the importance of having a strong center. The Bank lending has supported the state-by-state approach and has attempted to deal with policy, institutional, and sector reform issues in a particular state context.	It is important to have a strong center to assume coordination responsibility and to make a convincing case for GOI borrowing for the forest sector. A prioritization strategy is needed that identifies which issues should be handled at the center and which by the states. MOEF leadership is also required to take initiative in such areas as legal and policy reform, research coordination, and exchange of lessons learned between state level projects.
Long-term role of bilateral and multilateral donors	Currently donor funds are used as a substitute for state and central funds in several states. There is no effective coordination between the donors.	There is no effective strategy to coordinate between donors at the country level. There are few strategic linkages between the Bank' s forest sector program and agencies such as the Ford Foundation.	It is crucial for GOI to decide what role it sees for external resources in the forest sector. Does it see them as a substitute for its own and state funds, or does it think external resources should play a strategic role in the sector. Donors support can be positioned according to comparative advantage in the context of the National Forestry Action Program (NFAP).

reform may be a step in the right direction. The Bank could focus its forest lending efforts in these states. It is already doing so in Andhra Pradesh, and successes with the policy and institutional reforms in that state could serve as a model for other states. However, effective implementation requires that the Bank's forest strategy in these states be planned and implemented as a part of the overall development strategy (that integrates the agricultural, rural, and forest strategies) instead of an isolated forest effort from other sectors as has largely been the case in the past.

1

Introduction

Although India is the seventh-largest country in the world, it holds only 1.8 percent of the world's forests. But the pressures on those forests are extremely high. India's large and rapidly growing human and livestock populations (one billion and 450 million, respectively)[1] are the heaviest contributors to the unabated degradation of India's forest resources. India also has the largest number of poor in the world, many of whom depend directly or indirectly on the country's forest resources for a living. Shrinking common property resource areas, which declined by 30 to 50 percent between 1950 and 1980 (WRI 1994), also contributed to increased pressure on the forests by the landless. Add to these factors the country's steady increase in demand for industrial wood products, and one would expect to see a rapid decline in India's forest resources. But the country has invested heavily in afforestation and forest protection—even under extreme land pressure, India has been able to significantly reduce the rate of loss of tree cover since the mid-1980s.[2]

The Bank's 1991 Forest Strategy (box 1.1) has several elements in common with India's 1988 Forest Policy. Both emphasize the environmental role of forests, and the need to fulfill the subsistence requirements of the local population dependent on forests. India imposed a ban on green felling in the late 1980s, well before the controversial World Bank ban on financing of commercial logging in primary moist tropical forests. The Bank's 1991 forest paper identified two major challenges: to prevent the excessive rates of deforestation and to meet the rapidly growing demand for forest products and services by the rural

Box 1.1. Bank Forest Strategy: The 1991 Forest Paper and the 1993 Operational Policy Directive

The 99-page World Bank publication *The Forest Sector: A World Bank Policy Paper* was published in September 1991. This paper (henceforth referred to as the 1991 forest paper) represented the initial comprehensive statement of a new direction for the Bank's forest strategy. A two-page Operational Policy directive (OP 4.36, produced in 1993) reflected the policy content of the paper, and a Good Practices summary (GP 4.36) provided operational direction to Bank staff. The 1991 forest paper, the OP, and the GP are together the subject of OED's evaluation.

In today's Bank terminology, the 1991 forest paper sets out a Bank strategy and the OP defines the policy. The 1991 forest paper gave guidance on policy directions, programmatic emphases, and good practice, and it specified principles and conditions for Bank involvement in the forest sectors of its client countries. It was the first instance of significant outside stakeholder participation in the formulation of a Bank sector strategy, and it is this document which the public considers the embodiment of the new direction for the Bank's forest strategy. Both the Bank's Board and civil society were referring to this document, as well as OP 4.36, when they asked OED for an independent evaluation of the Bank's forest policy. Although the Foreword for the 1991 forest paper was signed by then Bank President Barber Conable, the Board was not asked to, nor did it, comprehensively approve the 1991 forest paper. However, it did discuss the paper and endorse specific aspects of it.

The Board-endorsed principles contained in the 1991 forest paper included the ban on financing commercial logging in primary topical forests; incorporation of forest sector issues into the general policy dialogue and country assistance strategy; and promotion of international cooperation, policy and institutional reform, resource expansion, and forest preservation. The endorsed principles also included the statement that "in tropical moist forests the Bank will adopt, and will encourage governments to adopt, a precautionary [sic] policy toward utilization…. Specifically, the Bank Group will not under any circumstance finance commercial logging in primary tropical moist forests. Financing of infrastructural projects … that may lead to loss of tropical moist forests will be subject to rigorous environmental assessment as mandated by the Bank for projects that raise diverse and significant environmental and resettlement issues. A careful assessment of the social issues involved will also be required" (p. 19). The Board also approved a specific section on conditions for Bank involvement.

Both the 1991 forest paper and the OP emphasize that the Bank will not finance commercial logging in primary tropical moist forests, and in addition, the 1993 OP adds that the Bank "does not … finance the purchase of logging equipment for use in primary tropical moist forests" (para. 1a). The OP also states that "in areas where retaining the natural forest cover and the associated soil, water, biodiversity, and carbon sequestration values is the object, the Bank may finance controlled sustained-yield forest management" (para. 1f). The 1991 paper, however, had stressed a lack of agreement on what constitutes sustainable forest management and offered three different definitions of it. However, all definitions of sustainable forest management typically include management of forests for *multiple uses* as distinct from timber production alone, to which logging normally refers. Although this provision in the OP to finance forest management under controlled sustained-yield conditions allows forest management under specific conditions (and the drafters of the OP thought this introduced some flexibility for the Bank), a survey indicates that the staff have not considered the OP to be flexible on this point. The Bank will need a clearer policy if its future lending and non-lending activities are to address issues of improved forest management relative to current logging practices in many countries, which this report argues often tend to be environmentally destructive and socially inequitable. What constitutes "sustainable" forest management will, in all likelihood, remain unresolved and specific to each location.

Based on the larger policy statement, the OP also states that "the Bank distinguishes investment projects that are exclusively environmentally protective … or supportive of small farmers … from all other forestry operations." It goes on to say that projects in the latter category "may be pursued only where broad sectoral reforms are in hand, or where remaining forest cover in the client country is so limited that preserving it in its entirety is the agreed course of action" (para. 1c). The main report for this study finds that the Bank could more usefully and proactively work with stakeholders sympathetic to reforms in borrowing countries in ensuring that reforms are in hand, rather than wait for them to occur before getting engaged in the forest sector.

poor. It laid down five principles for the Bank's involvement in the forest sector of the borrower: multisector approach, international cooperation, policy and institutional reform, preserving natural forests, and resource expansion.

The Bank's program in India has been consistent with both India's 1988 policy and the Bank's 1991 Forest Strategy, although it may not have consciously evolved from Bank policy. The Bank program is readily divided into a pre-1991 period and a post-1991 period. Before 1991, the Bank financed seven social forestry (SF) projects in India that promoted tree plantation on non-forest land to meet the fuel and fodder requirements of the local populations from outside the forest areas. In sheer plantation of new trees, this program was immensely successful. Between 1980 and 1987, the government claims to have added 18,865 million trees to the country's stock. With an estimated survival rate of 77 percent, this works out to an average of 19,500 new trees per village (Saxena 1995).

Since 1992, the Bank has provided support for six state-level sectorwide projects (SLSW) that support the forest sector development strategies of individual state forest departments. This program has shifted the emphasis in the forest sector toward preservation and regeneration (which has been having a positive impact on biodiversity) through joint forest management (JFM), in which villagers cooperate to protect forests in exchange for a share in the usufruct and final harvest. This is an institutionally challenging strategy as ownership of forest lands remains with the state while communities are involved in its protection and regeneration. A two-pronged approach is followed to involve communities: increasing the stake of the neighboring communities in the management and utilization of the forests, and creating alternative sources of employment (the Economic Development Program) to reduce the pressure on forests. These include work on tree planting and regenerating activities, as well as the building of sources of drinking water supply, approach roads, schools, check dams, and other facilities. This review examines whether current Bank projects are helping to create the collective social capital at the grassroots level for forest protection and regeneration or are merely providing a temporary solution to the problem of forest protection by paying communities to protect forest resources.

Based on its public image, JFM might appear to be the country's major strategy for managing its forest resources. Yet, according to government data, only 5.5 percent of India's forest area is currently under

JFM. Even here, there is a vast difference in the coverage under JFM and performance between states. The question, then, is what emphasis should JFM receive in a future strategy for forests? Currently JFM is mainly being used to protect and regenerate degraded forest areas. Is it also the most effective strategy for protecting forest lands under a rich forest cover?

The Bank has done a comprehensive review of the forest sector in India. Although this review recognizes the dependence of the poor on forest resources, the Bank has only very recently considered articulating forest development as a part of its rural development and poverty reduction strategy.[3] The overriding objective of the Bank Group's efforts in India has been poverty reduction, but the role that forests can play in poverty reduction has not been articulated in the past in a strategy or recognized as a part of the Bank's Country Assistance Strategy (CAS). In contrast, tree plantation has always been a part of the poverty alleviation strategy of the Government of India (GOI), as is evident from the importance given to this in some of its poverty alleviation programs. That forestry was a prominent part of the poverty alleviation strategy of the GOI but not of the Bank may well be because the Bank's 1991 Forest Paper notes the impact of poverty on forests and recognizes the need to meet the fuelwood and other wood product requirements of the rural poor as a challenge for the future. It does not, however, clearly articulate that forest sector lending from the Bank can play a clear role in poverty alleviation.

It is difficult to judge the impact of the Bank's lending in India as few of the current generation of projects have been completed. However, the Bank's forest sector involvement as a whole has been playing an important role in four respects in India: bridging the financial resource gap for a vital sector; helping achieve technological improvement in planting material; helping change the attitude of the Forest Department (FD) toward working with the people in tree/forest protection and regeneration; and playing a catalytic role in bringing several policy and institutional issues to the table. By providing financial resources, the Bank is enabling India to implement its forest strategy. By following a systemic approach toward building the capacity for production and management of good quality planting material, it is helping build in country capacity for production technology generation and transfer. Through supporting a change in attitude of the FD, it is helping build consensus for a new strategy of forest protection and management. By keeping crucial policy and institutional reform issues in the debate, it is

helping focus attention on areas in need of reform.[4] The Bank clearly recognizes that the policy, legal, and institutional environment is not yet right in the forest sector in India. Even so, it has continued with lending to the sector. The Bank's approach has used project lending to promote reform. In a country of India's size and complexity, the Bank does not have the leverage to "fix" problems in one go, so an incremental approach helps the Bank build its own understanding of the country's complex political dynamics and is likely to achieve the best results. However, the Bank's current program lacks a country strategy and a broad strategic approach to addressing and resolving issues.

This paper, a case study for the OED Review of the 1991 Forest Strategy and Its Implementation (box 1.2), is divided into two parts. The first part (Chapter 2) presents an overview of the changing state of

Box 1.2. The Operations Evaluation Department Review of the 1991 Forest Strategy and Its Implementation

OED's review of the Bank's 1991 Forest Strategy[1] has been undertaken to assess Bank experience in the forest sector—particularly since 1991—to gauge its policy intentions, implementation, and impacts. The review also examines whether the Bank's strategy remains relevant and can embrace a strategy attuned to the current realities of the forest sector. In addition to briefing the Bank's Board of Executive Directors, the review will be used as an input to an ongoing Bank-wide review of its forest sector activities being lead by the Bank's Environmentally and Socially Sustainable Development Network (ESSD).

India was selected as a case study country because it is a large, forest-poor country, and because its lending program was second in size only to that of China.

All of the case studies in this review consist of two parts—the first focusing on the extent and causes of changes in the forest sector, and the second on how the entire set of Bank instruments has interacted with the processes of the changing forest cover, and with what impact.

To the extent possible, the performance of the Bank has been assessed based on outcomes and impacts. Six classes of outcome are considered:

- Improvement in country policies and strategies with direct and indirect impacts on forests
- Institutional development including improvement of the legal framework, a redistribution of roles between the public and private sectors, and participatory approaches to decisionmaking
- Improvements in technologies
- Capacity building and human capital formation
- Improvement in the incentive structure
- Improved information, monitoring, and evaluation systems.

1. The strategy is summarized in Annex A.

the forests and explores hypotheses regarding the causes of change in the forest cover and its quality. It also gives a brief overview of the economic importance of the forests and the legal and institutional framework for the forest sector in India. The second part (Chapter 3) describes the World Bank's program in India and analyzes the impact of that program. It attempts to answer five questions: First, what impact has the 1991 Forest Strategy had on Bank lending and nonlending services in India? This discussion analyzes whether the Bank has delivered on the promise of its 1991 Forest Strategy, whether the Bank's forest strategy in India followed the principles of the Bank's involvement as laid down in its 1991 forest paper, and whether the portfolio complied with the safeguard aspects of the Bank's forest strategy. Second, is the direction provided by India's 1988 Forest Policy sufficient to cope with the diverse demands on the sector, including the need to protect the environment and biodiversity, the subsistence requirements of the rural population and the poor, and the demands of urban areas and industry? Third, what essential ingredients should a future forest strategy have? Fourth, what is the relevance and value added of the Bank's strategy to the forest sector? Fifth, what lessons can be learned from the Bank's experience?

This review argues that the Bank's current country strategy, although relevant both to India's needs and to the Bank's 1991 Forest Strategy, is inadequate to cope with all the diverse demands that India faces in the sector. India needs a balance of its three policy orientations—production forestry, afforestation, and protection/regeneration—to have an effective forest strategy, in addition to an enabling environment that promotes research and extension and private sector participation. The Bank needs to assist India with a broader forest strategy. Support for production forestry does not imply agreement with the essential features of industrial forestry, like replacement of natural forests with monoculture. It merely implies incorporation of a production-oriented approach.

PART I: FORESTS AND THE FOREST SECTOR IN INDIA

2

Changes in Forests and the Forest Sector Since 1991

How Much Forest Is There?

As in other developing countries, data on the extent of forest cover in India are inconsistent.[5] Estimates by the Forest Survey of India (FSI) and the Food and Agriculture Organization (FAO), for example, differ not only on the raw numbers but also on the trend (tables 2.1 and 2.2).[6] According to the FAO, the area under natural forests declined from 55.12 million hectares (ha) in 1980 to 51.73 million ha in 1990. Meanwhile, the area under plantations increased from 3.18 million ha in 1980 to 13.23 million ha in 1990. By FAO's calculation, therefore, total tree cover in India increased from about 58.3 million ha in 1980 to about 65.0 million ha in 1990. FSI data, in contrast, report that forest cover declined between 1993 and 1997.[7] Tables C.1, C.2, C.3, and C.4 (Annex C) show the types of forest in India, forest cover by state, and change in area under horticultural crops. While the database needs improvement, most observers, including the authors of this paper, believe that enough is known to support actions on various fronts.[8]

The inconsistencies also extend to the land categorization data. Of approximately 76 million ha of officially designated forest lands (23 percent of total land area), only about 64 million ha (19 percent) is reportedly under tree cover, about 36.72 million ha (11.17 percent) of it in dense forest (figure 2.1). An estimated 45 percent of India's land area (129.57 million ha) is categorized as wasteland, of which 47.66

Table 2.1 FAO Estimated Forest Cover, 1980–95

Year	Total Forest Cover (million hectares)
1980	58.3
1990	64.9
1995	65.0

Source: FAO

Table 2.2 FSI Estimated Forest Cover, 1987–97

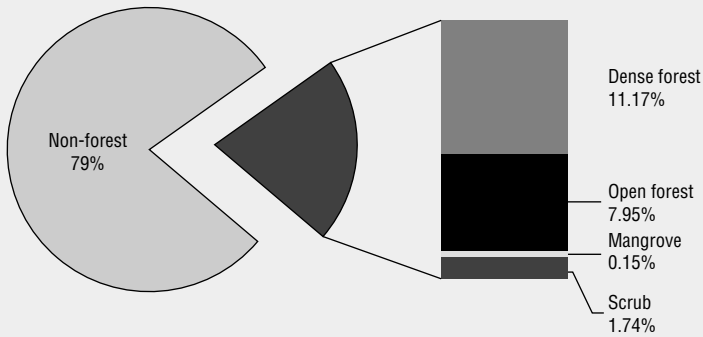
Period	Revised estimate (million ha)	Percentage of geographic area
1987	64.08	19.49
1989	63.88	19.43
1991	63.94	19.45
1993	63.94	19.45
1995	63.89	19.43
1997	63.34	19.27

Source: FSI

percent is in officially designated forest areas.[9] This estimate makes the degraded forest area more than 61 million ha, which implies that there is only 15 million ha of good forest land, or only 4.5 percent of India's total land area. From the various data, politicians, environmentalists, and other concerned stakeholders are able to choose the estimate best suited to support their position.[10]

A background paper prepared for this study (Saxena 1999) argues that the data discrepancy notwithstanding, there is evidence that the rate of decline in tree cover in India has slowed significantly since the mid-1980s. This is supported by the behavior of fuelwood prices in India after 1985, which have increased less than the general price index. Responsible for this, he says, is the ban on green felling, a decline

Figure 2.1. Actual Forest Cover, 1997 Assessment



Source: FSI.

in the importance of revenue from logging in comparison to other sources for the states, the spread of farm forestry, and the success of JFM in regenerating degraded forest lands in states like West Bengal. This optimism is supported by a Bank document:

> Forest canopy cover has held up surprisingly well under these depredations. Four biennial estimates of forest surface cover during the 1980s and early 1990s show little variation over roughly last ten years despite net removal before reforestation/ afforestation of about 3.3 m ha worth of wood annually. The proportion of forest cover accounted for by dense forest (i.e., crown cover 40 percent and above) has also increased from 59.1 percent in 1985–86 to 60.2 percent in 1987–89. Trends in "Forestry and Logging" output and prices over the last 30 years suggest that there has been some curtailment of the exploitation of forest resources since the mid-1970s.

The distribution of forest cover in India is very uneven: five states (Madhya Pradesh, Arunachal Pradesh, Andhra Pradesh, Orissa, and Maharashtra) account for more than 50 percent of the forested area. India has a network of preservation/protected areas primarily established for *in situ* conservation of flora and fauna and studies of the dynamics of natural populations under undisturbed conditions. The program has grown substantially: From 10 national parks and 127 sanctuaries occupying some 2.5 million ha in 1970, the total coverage has increased to 83 national parks and 447 sanctuaries in 1997 covering a total area of more than 15 million ha. All together, approximately 4 percent of India's land area has been set aside in parks and sanctuaries.

Two functions of India's forests are particularly sensitive to deforestation: their environmental functions (wildlife refuge, watershed protection, prevention of soil and water runoff, and groundwater recharge) and their subsistence function as fuelwood, food, fodder, and source of income for 100 million forest dwellers, half of whom are tribal people.[11] Participants at the country workshop in New Delhi noted that national economic statistics show an inadequate appreciation of the environmental role played by forests. Over the past two decades, forest degradation has both aggravated environmental deterioration and reduced the livelihood options for the rural poor.[12] Currently there is no natural regeneration in 70 percent of the forest areas and 55 percent are prone to forest fires (MOEF 1999).

What Is the Value of the Forest?

As confusing as the data on the state of the forest cover are, they are clearer than those on timber supply and demand, fuelwood, and nontimber forest products (NTFPs). This is because a large part of the extraction from the forests is unreported.

Timber Supply and Demand

Estimates of demand for industrial wood (the total of timber, pulpwood, and poles minus the subsistence demand of rural consumers for house construction and agricultural implements) vary widely (table 2.3) and there is no agreement on the extent of the demand. The lack of clarity on absolute numbers notwithstanding, demand is likely to increase by three to four times the current level in the next 20 to 30 years (table 2.3). Information on supply is equally variable. Although timber is normally obtained from government forests (box 2.1) and community and private lands, only timber extracted from government forests is reported in the national timber production statistics. These statistics show a trend toward increased demand and decreased government timber production. The recorded production of timber, however, accounts for less than half of the industrial wood demand in India.[13] The excess demand has resulted from a policy that subsidizes the supply of wood to industry. This has created high profitability and excess capacity in the saw milling and pulpwood industry, but without the incentives to increase domestic production as private producers cannot compete with government supplies. The gap between demand and supply of industrial wood so far has been met through imports. If the rising demand is to be met from domestic sources, however, the area under tree cover and its productivity will need to be substantially increased. This would require India to have a clearer and stronger strategy to increase tree production than it currently has. The government alone does not have the human and financial resources to be able to meet the domestic requirements. The private sector has to play a major role. To encourage private sector participation, the laws and pricing policies will need to change substantially.

Table 2.3 Alternative Estimates of Demand and Projections for Industrial Wood (thousands of m3)

	1980	1985	1990	2000	2015	2025
FAO	19,669	23,960	25,254			
Chandrakant et al. (high value)	14,818	18,179	22,316			
Chandrakant et al. (low value)	13,987	16,661	19,651			
NCA (high values)	26,895	35,180		64,450		
NCA (low values)	25,005	30,030		47,180		
Kumar (high values)			43,755	68,857	125,622	181,270
Kumar (low values)			30,241	45,093	78,151	110,170

Source: Kumar 1994, in Lele, Mitra, and Kaul 1994.

Box 2.1. Harvesting of Timber

Working plans have long been the basis of government forest management in India. The 1952 forest policy emphasized timber yield and revenue generation through replacement of inferior species by valuable commercial species. Working plans guided the local forest officer on the pattern of silviculture, its technique, species mix, and harvesting.

During British rule, the preparation of working plans was given a great deal of importance and often the best forest officers were posted in working plan divisions. The plans at that time were prepared every 15 to 20 years. In the early 1980s, however, the government suggested that the plans be prepared every 10 years to accommodate the life cycle of fast-growth trees. In the past 20 years, the preparation of working plans has received less attention for three reasons. First, working plan divisions are no longer prized postings. Politicians often post officers working in the territorial division to working plan divisions as a measure of punishment. Second, far greater attention was given to trees outside forests during the social forestry phase. This meant that insufficient resources were available for management of forest lands with consequent neglect of working plan preparation. In the 1980s, the ban on green felling in many states also reduced the significance of working plans.

In 1997, the Supreme Court directed that there be no harvesting in government forests without the preparation of working plans. This has led to a renewed interest in the plans. But it is still unclear how these plans are to be integrated with the activities of local communities that are engaged in forest protection through JFM.[a] Technical manuals and silvicultural practices for working plans have not yet been revised.

a. Mr. Gangopadhayaya Director, Indira Gandhi National Forest Academy Dehradun, noted in his comments at the India country workshop that the working plan is the overall umbrella within which forest management of a forest division over a period is carried out. According to him, it would be wrong to say that working plans are centrally driven and at odds with the idea of community-based management. They allow enough room to accommodate the aspirations of the local people as embodied in micro plans, particularly in the case of degraded forests. He further notes that there have been drastic changes in recent working plans and the focus is not limited to timber alone.
Source: Saxena (1999 and later communication).

Non-Timber Forest Products

NTFPs are an important source of livelihood for many Indian communities, particularly those adjacent to forests.[14] Several thousands tons of NTFPs are removed annually from India's forests (Lele, Mitra, and Kaul 1994) providing earnings that run into billions of rupees each year.[15] About 60 percent of the NTFPs go unrecorded and are consumed or bartered by about 15 million people living in and around forests (Shiva 1994). In addition, a large variety of medicinal plants are also collected from forests. Large revenues flowing to the state exchequer

from NTFPs have given the state a vested interest in marketing the products, with huge costs both to the poor who rely on gathering them for their income and to the users of NTFPs (box 2.2).

Fuelwood

The level of demand for fuelwood is similarly uncertain. Estimates of current fuelwood consumption vary by a factor of 100 percent (see Annex C, figure C.1) for three reasons. First, it is difficult to be precise about demand for an item that is mostly collected for subsistence and where substitutions occur (smaller twigs and leaves can substitute for larger sticks and logs).[16] Where fuelwood is easily accessible and the opportunity cost of rural labor is low, fuelwood substitutes for other fuels, leading to higher estimates of needs. Second, it is difficult to assess the direct and indirect impacts of causal variables such as product price, prices of substitutes, size and location of user households, price and income elasticity of demand, and likely changes in the causal variables themselves. Third, consumption of fuelwood is highly elastic in supply and varies a great deal with availability. Wood, dung, and agricultural residues together meet 95 percent of the fuel needs of rural areas. The use of dung and agricultural waste as fuel is widespread in agriculturally prosperous regions such as Punjab and Haryana, but wood continues to be the main domestic fuel in less endowed and poorer regions.[17] Consumption of wood (timber and fuelwood) in the country is substantially higher than what can be removed from forests sustainably (MOEF 1999).

What Are the Pressures on the Forest?

The causes of deforestation and degradation of forest resources in India are numerous and vary regionally. During British rule, the major cause of deforestation was the use of forest resources as raw materials for industry and construction.[18] After independence, large-scale commercial deforestation continued to meet the raw material demands of expanding industry. The rapid expansion of agricultural production also converted large areas of forest land to non-forest uses. About 2.6 million ha was converted to agriculture before the spread of the green revolution slowed the process (table 2.4). Substantial parts of the tribal belts, especially in northeastern and central India, experienced deforestation through shifting cultivation. There is no firm data on the area under shifting cultivation. Estimates range from 5 million ha to 11.5 million ha (MOEF 1999).

Box 2.2. Marketing of NTFPs

NTFPs were once used almost exclusively by forest-dwellers working as artisans and were abundantly available. Once their value as raw material for industry was recognized, however, their availability declined. Bamboo, for example, was considered a weed until the paper industry discovered that it could be pulped. As such uses of NTFPs grew, new rights were created for industrialists through long-term agreements for supply of these forest products at a low price. This created hardships for the poor artisans and forest dwellers.[a]

To safeguard the interests of the poor, in the 1960s and 1970s, the GOI nationalized trade in NTFPs. Though the nature and extent of NTFP trade nationalization varied considerably by state and product, nationalization in general required gatherers to sell the products to the FD or to an FD agent. Rather than improve the bargaining position of the poor, nationalization affected them adversely. It reduced the number of legal buyers and choked the free flow of goods. Government delays in paying the gatherers stimulated the growth of intermediaries, contractors who operated on higher margins to cover uncertain and delayed payments and to pay police and other authorities to ignore their illegal activities. On paper, the state agencies had three objectives: protect the interests of the tribals as sellers, collect revenue, and satisfy the conflicting demands of industry and other end users. In practice, a hierarchy of objectives developed where industry and other large end users had first claim on the products at low and subsidized rates. Revenue was maximized subject to this, and the interests of the tribals and poor were relegated to the third level.

The state corporations for marketing NTFPs (Kerala Forest Development Corporation, the Girijan Cooperative Corporation in Andhra Pradesh, and the Large-Size Multi-Purpose Cooperative Society in West Bengal are examples) have huge, redundant capital and personnel bases. Even on a variable-cost basis, they need huge markups to break even. Under the circumstances, they wish to pursue a completely risk-averse policy. In order to maximize their margins, the agencies buy only better quality NTFPs, thus reducing official collection. The corporations also follow a policy of first finalizing purchase transactions, then marking down the selling prices to fix the procurement prices for the gatherers. Since middlemen are involved, the actual prices received by the gatherers are usually even lower. More generally, under the current policy, these institutions have become renters. Beginning with bamboo and sal seeds, collection rights of a large number of NTFPs have been given to paper mills, owners of oil extraction plants, and large trading houses acting on their behalf. State monopoly has provided room for private monopoly, and is aiding and abetting market imperfections. Many forest protection committees feel that their profits could be enhanced by a factor of three if they had the option to directly deal with the market.

a. The total number of cane, bamboo, and basket weavers in 1981 was 0.82 million, of which 0.69 million were in the rural areas. These weavers, among the poorest people in India, have expertise and skills in processing bamboo, and making hats, baskets, and other products, but they do not have access to adequate quantities of raw material.
Source: Saxena 1999.

The awareness created by the energy crisis of the 1970s and 1980s about the importance of preserving renewable energy resources had important consequences for forests. The Report of the Advisory Board on Energy in the 1980s, for example, restricted the industrial use of wood where alternatives were available. In addition, several states imposed a ban on green felling in the late 1980s.[19] Anticipating a shortage in supply because of the ban, however, industry pushed for concessions in imports. This resulted in a relaxing of tariffs on the import of wood, pulp, and other intermediary products in the late 1980s. Further increase in domestic demand was then met largely through imports.[20] Thus, India allowed lower tariffs on forest products well before it began liberalizing its economy in the 1990s. This reflected the desire to achieve environmental conservation and to save India's forest cover.

In retrospect, industrial policy has affected forests in five ways. First, with cheap imports industry helped check deforestation since a large part of the domestic demand could be met through external sources.[21] Second, this opportunity to turn to external sources was a disincentive for investment in trees. In the promotion of farm forestry, the paper and pulp industry was expected to be the major market for light timber produced from private lands. However, since industry had the option to import raw wood products, the price that it offered to farmers was extremely low. Third, by providing industry with a subsidized supply of domestic products, the policy encouraged wasteful use of resources and reduced the profitability of investment in forests.[22] Fourth, the protectionist policies resulted in slower industrial growth and employment than might otherwise have been the case, leaving a much larger rural population dependent on rural employment with consequently greater pressure on the forests. Fifth, the comparatively lower industrial growth resulted in a lower urban demand for wood products, a large part of which was comfortably met through imports and did not create pressures for a larger increase in the production of wood. Some analysts argue that a future forest strategy should not allow cultiva-

Table 2.4. Forest Area Diverted to Non-Forest Use Between 1951–80

Purpose	Area converted (ha thousands)
Agriculture	2,623
River Valley Projects	502
Industries and Townships	134
Transmission lines and roads	61
Misc.	1,008
Total	4,328

Source: Saxena.

tion of eucalyptus and other fast-growing species on forest lands since they create competition for the private sector.[23] Others argue that lack of an effective production strategy for forest products—combined with lack of top-quality research and extension—has been the major problem in the forest sector.[24] The research and extension problems are being partially ameliorated in the Bank-supported Forestry Research, Education and Extension project currently under implementation and in the research components of the SLSW projects, but the continuing lack of an effective production strategy keeps the country dependent on wood product imports. As long as India continues to use imports to meet its rising internal demand, it also runs the risk of creating an adverse balance of payments. With strong internal demand (newsprint demand, for example, is increasing at an annual rate of 20 percent) and high timber imports that account for approximately 50 percent of recorded timber production from forest lands, India clearly needs a strong production strategy in the forest sector.

The agriculture sector is in a similar situation. Unless more reforms are introduced, the sector will not be able to contribute to relieving further increases in population pressure. Although the green revolution has now stabilized the net sown area (see Annex C, figure C.2),[25] agricultural policies that subsidize inputs have resulted in inefficiencies and wastage of water and fertilizers, causing resource degradation in watersheds. Despite the current domestic liberalization, the economy remains subject to numerous regulations and subsidies that hinder competition and internal trade and obstruct deployment of resources to more productive areas. Although agriculture deregulation has begun, crops (including tree crops) face many barriers to internal trade. Agricultural subsidies are still widespread. Irrigation and power subsidies distort cropping patterns by promoting water-intensive crops like sugarcane in relatively water-scarce areas. In addition, inappropriate pricing leads to overexploitation of surface water and groundwater, raising concerns about the long-term sustainability of agricultural production. Such water pricing and high seepage losses from poor maintenance and operations of canal works are major factors in soil degradation.

Although the percentage of people living below the poverty line in India has declined since independence, the rapidly growing population has resulted in more than 300 million poor. The high degradation pressure the poor exert on forests is well established, and a large percentage of the poor in rural areas are found in and around forests. For example, FSI 1997 data show that about two-thirds of the total forest cover is in

the tribal districts, and the incidence of poverty among the tribal people is more than 50 percent.[26] Tables C.3 and C.8 (Annex C) show the forest cover in the tribal districts and rank the states in India by concentration of poverty, size of forest cover, and size of tribal population.[27]

India's large livestock population also exerts high degradation pressure on the forests. Livestock in India increased from 292 million head in 1951 to 450 million in the mid-1990s (tables C.5 and C.6).[28] Fodder production, however, has not kept pace with that increase and the fodder requirement in the year 2000 is projected to be 844 million tons, compared with availability of 504 million tons. Grazing occurs in the majority of the forest areas and has a strong adverse impact on forest lands.[29] Further, although India's forest policies have shown concern about grazing on FD land, little attention has been given to grazing on wastelands and pastures that have been left to the management of the revenue departments and communities.[30] In the absence of clear policies, these areas have degraded rapidly, increasing the grazing pressure on forests. In such cases, public land—in this case forest land—is treated like a common property resource,[31] which complicates the protection of forests. The ease of access to forests and the population pressure have made it impossible for the FD to enforce the state's property rights. In the past, protection of forest lands by the FD was through the symbolic presence of the forest staff representing the authority of law, and people were fearful of interfering with state-owned property. This is no longer the case and the lack of capacity to enforce protection of government property has led to indiscriminate exploitation of forest areas. All this suggests that there needs to be a stronger link between agricultural and forest policies than currently exists.

Finally, forest fires annually affect 35 million hectares of forests in India and have wide-ranging environmental impacts. The nature and severity of damage depends on type of forest type and climate (MOEF 1999). Though government schemes to prevent forest fires exist in several states, their implementation is hampered by lack of funds.

Who Controls the Forests?

About 90 percent of India's 64 million ha of forests is under state ownership; the rest is community and private forests. State control over forest lands is weak and there is considerable encroachment by individuals and communities. Lack of economic opportunities are noted to be the main cause of encroachment. Approximately 1.5 million hectares of forest land is estimated to be illegally occupied for agriculture

and other uses (MOEF 1999). State ownership of forest land was not always the case. Until the end of the 19th century, at least 80 percent of India's natural resources were common property.[32] The forest area under state control has increased progressively since British times. Now, with its support for JFM, India is returning to the idea of community management, though the state retains ownership of those lands.

Indian forest policy since independence can be divided into three phases. The forest policy inherited from the British aimed to maximize the timber harvest for the state by using guards to protect the forest from the people. The second phase, starting in 1976 and characterized by social forestry, secured the supply of forest materials to industry by meeting people's needs for fuelwood, fodder, and construction timber from outside the forest areas. Forest Development Corporations (FDCs) were established in almost all states as public autonomous bodies with the primary responsibility of converting existing miscellaneous forests into high value plantations. The third phase, starting in 1988, is a 180-degree change from the earlier phases. While the 1952 policy and the 1976 National Commission on Agriculture (NCA) Report[33] stressed the importance of production forestry and achievement of national self-sufficiency in supply of wood products from the national forests, the 1988 policy treated forests first as an ecological necessity; second as a source of goods for use by the local populations, with particular emphasis on non-timber forest products; and third as a source of wood and other products for industry. The major role of FDCs was changed to rehabilitation of wastelands. The policy set the target to increase forest cover to 33 percent of India's land area. It advocated that this area be further increased to two-thirds in the hills to prevent erosion and land degradation and to ensure the stability of the fragile ecosystems.[34] Saxena (1999) notes that the striking policy reversal in 1988 suggests that there were no strong political constraints to making such a radical shift in forest policy (see Annex G for details).[35]

India's 1988 Forest Policy paved the way for the implementation of JFM. The program was further promoted by a GOI circular to all states and union territories that provided guidelines for the "involvement of village communities and voluntary agencies in the regeneration of degraded forests."[36] This document, for the first time, specifies the rights protecting communities have over forest lands, giving the protectors usufructs such as grasses, NTFPs, and a portion of the proceeds (ranging from 20 to 100 percent) from the sale of trees when they mature. The circular exhorts the state FDs to take full advantage of the exper-

tise of committed voluntary agencies for building up meaningful people's participation in the protection and development of degraded forest lands. In the ensuing years, a number of state governments have passed enabling resolutions to carry out the intent of the guidelines and started JFM programs (box 2.3). Although the national coverage of JFM is still not large, there is wide variation among states. Some states, like West Bengal and Madhya Pradesh, have made more progress. This is consistent with forests being a "concurrent subject" (box 2.4).

Box 2.3. The Birth of Joint Forest Management

Joint forest management (JFM) was born at Arabari (Midnapur District) in West Bengal. At Arabari, the initiative of a single forest officer converted 1,272 ha. of denuded *sal* (*shorea robusta,* a tree species) into a luxuriant forest. The commercial value of the forest—nil in 1972—was estimated at Rs. 90 million in 1988. At the outset, the forest officer realized that it would be difficult to regenerate and protect the forest area without the cooperation of the local people who depend on the forest for their livelihood. His strategy engaged local villagers (618 families) in joint management of the forest resources through the formation of forest protection committees. Planting *acacia auriculiformis*, cashew nuts, *sabai* grass, sisal, and eucalyptus created sustained productive employment, and villagers were given usufruct rights for minor forest products. With their basic needs met, the people cooperated in protecting the forest and helping it regenerate. The benefits from the standing crops (timber was to be harvested in the tenth year after forest protection) were shared between the Forest Department and the villagers. Since Arabari, JFM has evolved considerably and several states, Andhra Pradesh and Madhya Pradesh in particular, have come a long way in involving communities in forest protection and management. To date, 22 of the 26 Indian states, Assam being the most recent, have issued enabling resolutions to permit partnerships with the local people.

Law and Forests in India

The Indian Forest Act of 1927, adopted soon after independence, continues to be the legislative foundation of the forest sector in India. Since independence, several states have enacted their own legislation, while others amended the act to suit local needs.[37] The Indian Forest Act gave state governments the power to divert forest land to other uses. The 1952 policy, while it criticized the clause permitting this, it did not change the law, and between 1951 and 1980, millions of hectares of forest land were diverted. Central government concern with the rapid rate of deforestation resulted in the constitutional amendment of 1976 (Forty-Second Amendment), which made forests a concurrent subject (box 2.4). But by dividing the responsibility between the central and state governments, the law has added to ambiguity.[38]

The Forest Conservation Act of 1980[39] was the first legislative attempt to slow deforestation by controlling government behavior. It limited the power of the state

Box 2.4. Distribution of Power between Center and State

Forestry was a central government subject until 1935, when it was transferred to the states. It remained a state subject even after independence. Then, in 1976, it was added to the concurrent list of the Constitution, giving the center and the states shared responsibility and control over forest matters. The GOI has the power to legislate on forestry issues, but only after consulting the states. The responsibility of administering the forests lies primarily with the state governments. The relative position of the GOI, however, depends on several factors, such as its contribution to the state budget and its political strength relative to the states at a given time.

Budgets: Budget funds for forestry come from two sources: (i) state funds that are routed through the state Principal Chief Conservator of Forests and (ii) funds received by state FDs as part of centrally sponsored schemes. The latter come both from the MOEF and through the District Rural Development Agencies, which control the poverty alleviation funds (these are considerable in some states, such as Andhra Pradesh). The GOI contribution to forestry—less than 20 percent of the state plan outlay during the Eight Plan (1992–97)—is smaller than it is for other ministries, such as Rural Development and Health (where the central contribution is as high as 50 percent). Hence, the GOI's control over forestry is weaker than it is elsewhere. In the forest sector, states also negotiate directly with foreign donors for externally aided projects, which makes their relative position vis-à-vis the center even stronger.

Forest Service: State governments have full control over the subordinate state-level staff that protects forests and implements policies and budgets. The senior forest service, the Indian Forest Service (IFS), however, is controlled by the GOI. Formerly known as the Imperial Forest Service, IFS was initiated in the 1870s through recruitment of trained foresters from Europe. "Indianization" of the service began in 1922. Recruitment was stopped in 1936. The service was revived in 1966 as the third All India Service (the other two are the Indian Administrative Service and the Indian Police Service). It provides senior management personnel related to forestry in the state and central governments. The IFS has traditionally looked to the GOI for guidance, and its officers have traditionally seen state politicians as not very keen on conservation and wanting to give away forest lands for agriculture and development projects. On the other hand, they perceive the GOI to be guided by the long-term interest of the country in preserving forests.

Policy and Law: Although the states are entitled to have their own forest policies, very few states have done so. At least on paper, the states follow the GOI's Forest Policy of 1988 and the JFM Guidelines of 1990. However, four factors have limited the implementation of those two policies. First, these are non-statutory and advisory statements issued by the GOI and lack the force of law. Second, implementation of forest projects and policies is under the control of the state governments, who may have different political compulsions from the GOI. Third, what is implemented in the field is generally what is provided for in the budget, and many policy prescriptions, not supported by matching funds, remain unimplemented. Fourth, India's powerful bureaucracy has its own predilections and may act as a filter to what is demanded of it by governments. Radical and swift changes in policies may therefore take longer than expected to implement if the officers are unconvinced of the need for the changes.

Source: Saxena, later communication, and MOEF 1999.

governments to de-reserve reserved forests or divert forest lands for non-forest purposes without the permission of the GOI. A state government wanting to divert a piece of forest land to non-forest use is required by the act to identify an area of non-forest land of at least equal size for compensatory afforestation. In addition, a charge is levied. The Ministry of Environment and Forests (MOEF) was created in 1984 to monitor state compliance with the provisions of forest legislation. The ministry has proved a weak enforcer, however, and the record of compensatory afforestation in the states has been poor.[40] A 1988 amendment to the act restricted the planting of medicinal and horticultural crops in forest areas.

The basic orientation of forest law—to protect forests from exploitation by the people—has been unchanged since 1927. The law neither supports people's participation in forest protection and management nor promotes social forestry. Even though the NCA report of 1976 provided support for farm forestry, the law was not modified, leaving in place restrictions on the cutting and transport of trees from private lands. These restrictions require that written permission be obtained before certain species of trees can be cut.[41] The procedures for obtaining clearance are cumbersome, complex, and act as disincentives. Since GOI capacity to enforce these laws has been limited, however, they have also become a basis for corruption and harassment. In recent years, states have modified several of the laws involved, but the process is slow and political support often is lacking. Recent Bank projects have also pressed for changes in law but with limited success.[42]

Biodiversity Conservation

The Wildlife (Protection) Act of 1972 is a unified national act that supersedes previous state legislation and the 1927 Indian Forest Act on biodiversity conservation. The act enables and specifies the procedure for the constitution and management of areas as protected areas (box 2.5 describes the categories of protected areas). The act has been amended several times to make it more stringent. But the most significant legislation for biodiversity conservation in India was the Forty-Second Amendment to the Indian Constitution, which made the protection and improvement of the environment and safeguarding of forests and wildlife a Directive Principle of State Policy. The Wildlife Act, some argue, is outdated because it does not support recent initiatives like ecodevelopment. Through further amendments to the Wildlife and Forest Act are under consideration, it is uncertain how long the process will take.

Environmental Protection

Under the Environmental Protection Act of 1986, the potential adverse impact of any public investment project must be analyzed, and if found serious, must be addressed in an Environmental Management Plan (EMP). The Environmental Impact Assessment Notification of 1994 made environmental impact assessments (EIAs) mandatory for 29 categories of development activities (among them, river valley projects, highways, and industrial and mining enterprises) when they involve investments of Rs 500 million or more. The MOEF is responsible for giving environmental clearance for those activities. This has given the central government the ability to identify projects with serious environmental implications and insist on design modifications to mitigate negative environmental impact. The EMP provides for mandatory replacement of government forest land areas used—for example, for the construction of canals (i.e., identified degraded areas are to be planted with suitable tree species and protected with effective structural and non-structural soil conservation measures).

Box 2.5. Categories of Protected Areas

National Parks: No consumptive utilization of land or natural resources is permitted, except that which is necessary for management to achieve conservation objectives. Villages, land use rights, and privileges in National Parks must be removed and resettled.

Wildlife Sanctuaries: Conservation of biological values (species or communities) holds priority over other forms of resource utilization. Such resources may only be exploited if such activity does not detract from conservation objectives. The strength of the political support and the administrative and conservation efforts thus dictate the level of actual conservation achieved at any one time. No rights to land exist. However, people can live in a sanctuary.

Reserved Forests and Protected Forests: The principle objective is the maintenance of forest resources and not the preservation of biodiversity. However, in Reserved Forests with less intensive produce collection or grazing, wildlife values are relatively less adversely affected. In Protected Forests, the local pressures are even higher. Such forest covers play important roles as buffers and corridor areas. In this sense, they serve as "safety screens" for wildlife against humans.

Closed Areas: This category can be used to give some measure of protection to selected species in government forests. The category arose from the need to have some sort of protection in areas without adequate government lands.

Source: Mitra 1999.

What National and International Support Does the Forest Sector Receive?

Several donor agencies have provided extensive assistance to the forest sector in India, among them the Canadian International Development Agency, the Department for International Development (DFID),

the Danish International Development Agency, the International Fund for Agricultural Development, the United States Agency for International Development, the Food and Agriculture Organization (FAO), and the Asian Development Bank. The largest lenders have been the World Bank and Overseas Economic Cooperation Fund (OECF).[43] Several donors supported the social forestry program in the 1970s, and some are currently financing JFM programs in Indian states. Currently, commitments by a number of bilateral donors, including OECF and the Nordic and Scandinavian countries, are on hold because of India's testing of a nuclear device. The cutback in other external sources of finance has made the Bank's investments in the forest sector even more important.

Since 1991, the Global Environmental Facility (GEF)[44] has provided funding for biodiversity conservation and climate change projects. The World Bank has administered 70 percent of the GEF allocations to India. A GEF grant administered by the United Nations Development Program (UNDP) is assisting India in preparing its first national report to the Convention on Biological Diversity. As of January 1998, a total of US$142.38 million was programmed for India under the GEF. UNDP and FAO have supported the preparation of a National Forestry Action Programme (NFAP) by MOEF with the objective of addressing the major problems in the forest sector. This exercise was completed in June 1999.

The Ford Foundation, whose activities in India began in the 1950s, has pursued several programs in the forest sector in India and was instrumental in developing GOI support for the JFM program. The foundation has also supported pioneering work on poverty measurement and alleviation policies.

Donor coordination in the forest sector in India is generally poor. UNDP holds meetings to facilitate the exchange of ideas and experience between donors, but those meetings are few and irregular. Information exchange even between the OECF and the Bank is minimal. OECF shuns involvement in policy and institutional reforms and prefers to work at the local level. There is considerably greater interaction between the Bank and the Ford Foundation, but most of it relates to poverty programs rather than to the forest sector. This reflects the fragmented approach of the Bank's own strategy toward poverty alleviation. A strong World Bank-DFID partnership in the forest sector (in South Asia and not India alone) is evident in various forms of information sharing and collaboration and the use of common consultants. It is unclear, however, whether this partnership resulted from a strategic approach on the

part of the Bank to identify key donors/actors by comparative advantages that can be exploited for India's benefit. GOI also does not have a strategy for prioritizing the needs in the sector and then coordinating between donors. MOEF has only ensured that funds from the two largest donors do not go to the same state.

If other donors do decide to come in again, there is considerable scope for collaboration as each can exercise its comparative advantage in the sector. The linkages between the Bank's forest program and agencies such as the Ford Foundation and DFID need to be increased at the strategic level to ensure replicability of the Bank's programs by strengthening grassroots institutions.

PART II: THE WORLD BANK AND INDIA

3

The World Bank and the Forests Since 1991

What Degree of Influence Does the Bank Have?

India has been the second largest borrower from the Bank in the forest sector (after China). Total IDA commitments over 20 years of US$830.14 million (Rs 35,696.02 million at an exchange rate of Rs 43 to one dollar) have gone to 16 projects, 9 of them completed and 7 in various stages of implementation (table 3.1). This commitment is second in size only to that of the Overseas Economic Cooperation Fund (OECF) of Japan. In addition to project lending, the Bank's interactions with India include the Country Assistance Strategy (CAS), the Economic and Sector Work, as well as all investments in all sectors and all its policy dialogue which is pertinent to the Bank's actions and their outcomes in the forest sector.

Non-Lending Services

Since 1991, the CAS for India has been revised three times—in 1992, 1995, and 1997. Although poverty reduction and the promotion of sustainable use of India's natural resources are the main foci of Bank strategy in India, support for the government's program of structural reform and reforms to restore macroeconomic equilibrium was high on the

Table 3.1 World Bank Lending in the Forest Sector in India

Project Name	FY	Amount (US$M)	Closing
Madhya Pradesh Forestry Technical Assistance Project (Cr. 0609)	1976	4	Dec. 1982
Uttar Pradesh Social Forestry (Cr. 925)	1979	23	Dec. 1984
Gujarat Community Forestry (Cr. 961)	1980	37	Dec. 1985
West Bengal Social Forestry (Cr. 1178)	1982	29	Mar. 1991
Jammu and Kashmir & Haryana Social Forestry (Cr. 1286)	1983	33	Mar. 1991
Karnataka Social Forestry (Cr. 1432)	1984	27	Mar. 1992
Kerala Social Forestry (Cr. 1514)	1985	31.8	Mar. 1993
National Social Forestry (Cr. 1611)	1985	165	Mar. 1993
Maharashtra Forestry (Cr. 2328)	1992	124	Mar. 2000
West Bengal Forestry (Cr. 2341)	1992	34	Dec. 1997
Andhra Pradesh Forestry (Cr. 2573)	1994	77.4	Sept. 2000
Forestry Research and Education (Cr. 2572)	1994	47	Dec. 1999
Madhya Pradesh Forestry (Cr. 2700)	1995	58	Dec. 1999
Eco-Development (Cr. 2916)	1997	48	June 2002
Uttar Pradesh Forestry (Cr. 3018)	1998	52.94	July 2002
Kerala Forestry (Cr. 3053)	1998	39	Dec. 2002
Total		830.14	

Source: World Bank data.

agenda in the 1992, 1995, and 1997 CASs. The CASs recognize the importance of forest sector lending for natural resource management and environmental concerns, and they recognize the importance to poverty reduction of continued growth in the agriculture sector, but they do not acknowledge the special contribution that sustainable forestry can make to poverty alleviation. Adherence to the Bank's safeguard policies (including those pertaining to resettlement and rehabilitation) is stressed, and the recommended strategic approach is to pursue policies that mitigate the negative impact of developments in infrastructure, power, and other sectors on the environment. The safeguard policies (box 3.1) have major implications for private sector investment in infrastructure projects. The 1997 CAS recognizes that the Bank is seen as an important player for creating an enabling environment for private sector participation, and for pursuing community and beneficiary participation in development programs, but it does not mention forestry's role in pursuing community participation.

Box 3.1. World Bank Safeguard Policies and India's Forests

Five of the Bank's ten safeguard policies are relevant to the impact of Bank lending on forests: Environmental Assessment (OP 4.01), Natural Habitats (OP 4.04), Involuntary Resettlement (OP 4.30), Indigenous Peoples (OP 4.20), and Forestry (OP 4.36). It is difficult to assess the extent to which India's forest projects have complied with these safeguards as Bank supervision reports lack information on them.

Environmental Assessment (OP 4.01): India has stringent laws for environmental protection, some of which predate OP 4.01, which was adopted in 1989. The Environmental Impact Assessment Notification of 1994, made environmental impact assessments (EIAs) mandatory for 29 categories of development activities (among them river valley projects, highways, and industrial and mining enterprises) when they involve investments of Rs. 500 million or more. The Bank adopted OP 4.01 as a tool to improve the design and implementation of investments from a social and environmental perspective. The OP requires that projects be ranked in categories. Category A projects are those that are likely to have significant adverse environmental impacts. Category B projects are those whose potential adverse impacts are less adverse. Category C projects are those that are likely to have little or no adverse environmental impact. In all category A and B projects, the borrower is expected to consult with project-affected groups and local NGOs about the project's environmental aspects. During project implementation, the borrower is expected to report on compliance with mitigation measures and findings of monitoring programs. Since it has its own laws, India is quite advanced in the project preparation phase of environmental assessment. The real weakness is in implementation. Data on classification of projects by categories for India during the periods 1984–91 and 1992–99 show that there has been an increase in total number of projects in categories A and B. In addition, 27 projects were not classified in any category during the period 1984–91, whereas all were categorized in the period 1992–99. While this is an indication of the strengthening of adherence to the OP process, the increase in the category A and B projects can be interpreted in two ways: as evidence of stricter adherence to guidelines and an improvement in process, or as an increase in the number of projects that could have a potential negative impact on the environment. A draft report notes that "the quality of Environmental Assessments reports in India has been steadily improving. But the two major challenges are how to improve the effectiveness of the Environmental Assessment in influencing the project design and implementation."[a]

Indigenous People (OP 4.20) and Involuntary Resettlement (OP 4.30): Indigenous (or tribal) people's issues and resettlement issues are of primary importance in forestry projects. The current forestry projects have attempted to ensure that indigenous populations benefit from development projects and are not affected adversely. Covenants are also used to ensure compliance with the Bank's safeguard policies in areas like resettlement. A condition of the Madhya Pradesh and Kerala forestry projects is that no people within the protected areas be involuntarily relocated. Unfortunately, fundamental hindrances to development among tribal populations in India have often been neglected. Wherever applicable, the current projects provide for voluntary resettlement only. Even in such cases, however, implementation can be difficult. Implementation of the Eco-Development Project, for example has slowed and a complaint has been lodged with the World Bank's Inspection Panel. The pressure of population and the legal requirements related to declaration of an area as a National Park in India (Box 3.7), make resettlement issues in India very controversial.

Natural Habitat (OP 4.04): As in the case of environmental protection, India has well-defined laws for protecting biodiversity and a systematic procedure for establishing protected areas. As of 1996–97, India has 15 million ha. of national parks and sanctuaries. Through the SLSW projects and the Eco-Development Project, the Bank is supporting initiatives for biodiversity and habitat protection in the country.

Forestry (OP 4.36): The Bank's compliance with its Forest Strategy is discussed near the end of this chapter.

a. India: A Review of the Effectiveness of Environmental Assessments in the World Bank Assisted Projects in India FY 1990–97. July 1997. Social Development Unit, New Delhi.

In addition to the CAS, two major pieces of sector work have been done on the forest sector in India, one in 1978, the other in 1993.[45] Two other reports, one on gender and forestry[46] (1991) and another on JFM[47] (1998), have also been produced. Project preparation work has been supported with several technical papers and background research studies.[48] The 1978 report stressed two major tasks for the country in the forest sector over the next 25 years: improve the productivity of the Indian forests to meet the growing needs of the domestic wood products industry, and develop farm forestry to be able to meet the fuelwood, fodder, and farm timber requirements for the rural areas. The emphasis in this sector work was on replacement of natural forests with plantations, establishment of additional wood processing facilities, and research on fast-growing plantations. The public sector was to concentrate on increasing the supply of wood while the private sector concentrated on the development of processing facilities. The 1993 document, on the other hand, emphasized sustainable management, development of partnerships with nongovernmental organizations (NGOs) and villagers in forest management, stimulation of private sector involvement in forest development, improved technologies, improvement of the incentive and institutional structure, and effective implementation of forest policies. The 1991 report on women in forestry notes that women play a much greater role in the forest sector than has been documented previously and recommends strengthening of their involvement in the sector. The 1998 JFM document, focusing on two case studies,[49] attempts to develop a better understanding of the economic and financial incentives for communities to participate in JFM.

Analysis done for this study found that this sector work neglects four important points: (1) the significant contribution that tree plantations outside the forest areas have made to stabilizing the total land under tree cover;[50] (2) the close relationship between forests and poverty; (3) the special role that India's import policies have played in meeting industrial demand for wood products and preserving the forests and their negative impact on the market for farm forestry products; and (4) the limitations of the 1988 Policy as a production-oriented strategy. In addition, sector work in India has also not really helped (in terms of concrete steps that should be taken) to address the key challenges that face the forest sector e.g. the problem of financial resource mobilization for and reform of the FDs.

Relationship with Other Lending

In the pre-1991 period (1984–91), the World Bank financed 97 projects with total commitments of US$20.2 billion, while in the post-1991 period (1992–99), it financed only 80 projects with total commitments of US$15.2 billion. A comparison of Bank lending before and after 1991 (table 3.2) shows that overall lending has declined by 25 percent since 1991 and agricultural lending has declined even more sharply (by 41 percent). Lending for the environment also declined by 22 percent. In contrast, population, nutrition, and health lending, which has a direct and positive impact on poverty, has increased by 322 percent, albeit from a small base. Overall, lending for poverty reduction and human resource development is now more than 30 percent of the total Bank lending to India and may help in a minor way to reduce pressure on forests (table L.3, Annex L).

Within the agriculture sector, only forest sector and research lending have increased. Forest sector lending has increased by 106 percent and now constitutes more than 17 percent of total agricultural lending, whereas it was less than 5 percent in the period 1984–91. Though lending for the irrigation subsector has declined, its share in total agricultural lending has increased from 47 percent to 50 percent. The major decline in lending has been in the agricultural credit and livestock subsectors.

The decline in lending for irrigation and drainage is noteworthy because it reduces the speed of intensification, particularly in contrast with China, but it must be interpreted with caution. In the earlier period, the Bank financed numerous projects for the expansion and construction of surface irrigation capacity and groundwater development. This declined substantially later, in part because of the controversy over the Bank-supported Narmada Valley project. In recent years, the emphasis has been on consolidation of gains, watershed planning, greater beneficiary participation, and control of micro networks. The Bank and India have jointly prepared a series of reports on Water Resource Management in India[51] that call for a comprehensive, multisectoral approach for development and management of India's water resources.[52] Tables L.2 and L.3 (Annex L) show World Bank lending by lending instrument and primary program objective. In the period 1984–91, 42 percent of the projects were concentrated on environmentally sustainable development; 39 percent of the projects were in this category in 1992–99. In 1984–91, 39 percent of the projects were in the category of poverty reduction and human resource development; 34 percent were in this category in 1992–99.

Table 3.2. World Bank Lending to India by Sector, 1984–99

	1984–91				1992–99				Comparison by Periods	
Sector	No. of projects	Commitments (US$M)	No. of projects (%)	Commitments (%)	No. of projects	Commitments (US$M)	No. of projects (%)	Commitments (%)	Change in commitments (US$M)	Change in commitments (%)[a]
Agriculture	29	4,543.8	29.9	22.45	21	2,661.1	26.25	17.5	-1,882.7	-41
Agricultural Extension	3	200.9	[a]10.34	[a]4.42	2	189.4	[a]9.52	[a]7.12	-11.5	-6
Agriculture Credit	2	595	[a]6.90	[a]13.09					-595	-100
Annual Crops					1	106	[a]4.76	[a]3.98	106	
Fisheries & Aquaculture					1	85	[a]4.76	[a]3.19	85	
Forestry	3	223.8	[a]10.34	[a]4.93	8	460.3	[a]38.10	[a]17.30	236.5	106
Irrigation & Drainage	14	2120	[a]48.28	[a]46.66	6	1,337.5	[a]28.57	[a]50.26	-782.5	-37
Livestock	1	360	[a]3.45	[a]7.92					-360	-100
Other Agriculture	4	887	[a]13.79	[a]19.52	1	194.1	[a]4.76	[a]7.29	-692.9	-78
Perennial Crops					1	92	[a]4.76	[a]3.46	92	
Research	2	157.1	[a]6.90	[a]3.46	1	196.8	[a]4.76	[a]7.40	39.7	25
Education	3	847.1	3.09	4.18	6	1,145.5	7.5	7.54	298.4	35
Electric Power & Energy	17	5,415.6	17.53	26.75	9	2155	11.25	14.18	-3,260.6	-60
Environment	4	458.6	4.12	2.27	3	360	3.75	2.37	-98.6	-22
Finance	4	955	4.12	4.72	2	905	2.5	5.95	-50	-5
Industry	7	1,910.8	7.22	9.44	1	190	1.25	1.25	-1,720.8	-90
Mining	3	739	3.09	3.65	3	607	3.75	3.99	-132	-18
Multi-sector					2	800	2.5	5.26	800	
Oil & Gas	5	1,467.5	5.15	7.25					-1,467.5	-100
Population, Health & Nutrition	7	601.1	7.22	2.97	16	2,536.8	20	16.69	1,935.7	322
Social					3	1,062.7	3.75	6.99	1,062.7	
Telecommunications	1	345	1.03	1.7					-345	-100
Transportation	6	1,490.3	6.19	7.36	8	1,808.5	10	11.9	318.2	21
Urban Development	5	900.2	5.15	4.45	2	351	2.5	2.31	-549.2	-61
Water Supply & Sanitation	6	567.8	6.19	2.81	4	619.4	5	4.07	51.6	9
Grand Total	97	20,241.8	100	100	80	15,202	100	100	-5,039.8	-25

a. The subsector percentage calculations in agriculture are made as a percentage of agriculture lending.
Source: World Bank data.

Impact of Lending in Other Sectors on the Forest Sector Since 1991

The Bank has largely accommodated one aspect of the multisectoral approach it espoused in its 1991 Forest Strategy: It has supported projects in other sectors that impact positively on forests. The Bank has been weak, however, on designing forest sector projects as a part of a wider agricultural and poverty alleviation strategy. Annex L summarizes the overall Bank lending portfolio for India.

The impact of agricultural lending (see Annex D) on the forest sector has generally been positive. Bank projects supporting agricultural intensification, for example, have facilitated the production of large quantities of food crops from a stable land area, which is essential to reducing pressure on the forests given India's rising population. Nonlending services have also made a positive contribution. Recent sector work has emphasized integrated and better management of the country's water resources as India's vast irrigation infrastructure is performing well below its potential because of inadequate attention to operations, maintenance, and policy and institutional reform. A well-functioning and expanded irrigation system will help further increase agricultural productivity. Future strategies emphasize management and organizational reforms, greater beneficiary participation in scheme management,[53] and policies geared to the specific needs of each land type. Land under tidal swamps and coastal areas requires special water management practices, particularly drainage schemes. The land pressure in India makes it imperative that the country vigorously pursue strategies to intensify agriculture and agroforestry in its arid and semiarid zones. It is also imperative that the Bank's lending program support strategies that mitigate the adverse effects of intensification.

Projects in the environment sector have been of two types: those that provide for better water resource management and those that help build capacity to better manage the environmental dimensions of specific investment programs. Since both kinds of projects encourage water conservation and improved management of resources, they will likely have a positive impact on the forest sector. A recent hydrology project, for example, supports strengthening of the water quality database that would help in future land use planning in India. It is well accepted that one reason past lending in irrigation was less effective than predicted was lack of an efficient hydrological base for project design. While the current project is a positive step, it is unclear why such a project was not undertaken sooner.

Lending for the transport sector increased by 21 percent in the post-1991 period in comparison to the pre-1991 period. Several states are currently using Bank loans to widen and strengthen their busiest state highways and district roads. Improved access to forests is not an issue in Bank projects in India, as they generally do not provide for building of new roads. In general roads, mines, transmission lines, irrigation, and hydropower projects have a negative impact on forests when they are built in or near them. Insofar as investments in infrastructure help increase agricultural intensification their impact on forests is likely to be positive. In the energy sector, the Bank is supporting two kinds of projects: those that emphasize improvement in sector management and service delivery, and those that support development of renewable energy resources. A recent OED review[54] has noted that early energy sector projects were deficient in their treatment of resettlement and rehabilitation policies. The current projects, however, are addressing land acquisition and rehabilitation issues through improved project preparation, which often includes preparation of a Rehabilitation Action Plan prior to loan approval. The study also notes that the Bank has increased its environmental assessment work at project appraisal.

Three sectoral adjustment loans and one Structural Adjustment Loan (SAL)[55] have been approved for India since 1991. There was no adjustment lending in India until the SAL of 1991, which supported the macroeconomic stabilization and structural adjustment efforts of the GOI. The reforms focused on fiscal adjustment, promotion of direct foreign investment, deregulation of industry, trade liberalization, financial sector reform, and initiation of public sector reform. The industrial reform process was to be subject to the environmental regulations of the government. The implementation experience of the SAL revealed that the liberalization of agriculture is more problematic as the political will to implement reforms in that sector is often lacking. This might explain why liberalization in agriculture has lagged, even though the economy began liberalizing in 1991. Slow progress on removal of policies that promote inefficiencies in agriculture has major implications for future land use.

The overall impact of the infrastructure, energy, and power sectors depends on adherence to policies that mitigate adverse development impacts during implementation . The possible negative impact from laying transmission lines in the Andhra Pradesh power sector restructuring project are to be dealt with through a mitigation plan. The forest land lost due to reservoir and canal construction under the project is to

be replaced with compensatory afforestation of 1,910 ha of land. In addition, the project would develop 1,800 ha of degraded area in reserve forests and establish canal-bank plantations. The Orissa Water Resources Consolidation Project has a similar compensatory afforestation plan. Though the designs of post-1992 projects incorporate strategies for mitigating adverse environmental impacts, actual project impact depends on the effectiveness of the implementation process. In reality, states have a poor record of implementing such schemes and MOEF's enforcement capacity is weak. In addition, since compensatory afforestation provides for trees to be planted on degraded land, it is debatable how much of it is compensation in a "real" sense, as the state FDs are committed to bringing degraded lands under forest cover as a part of their forest development strategy.

Bank Forest Sector Lending

The implementation of Bank's pre- and post-1991 forest sector projects has been a tremendous learning experience, both for India and the Bank. The Bank strategy has been to support India's strategy for the development and protection of its tree resources.[56] Forest policy in India (since independence) and the Bank has passed through three distinct phases:

	India	Bank
Industrial forestry	1952–76	Before 1978
Social forestry	1976–88	1978
Priority of environment and support for joint forest management	1988 (current)	1991 (current)

The phases of India's forest policy development have strongly influenced the Bank strategy in India. As there have been phases in India's policy, there have also been phases in the Bank strategy that closely follow the country's policy shifts.

Unfortunately, policy interpretation and implementation has seen India "graduating" from one phase to the next, instead of each new phase building on the preceding one with additional components to create a more comprehensive forest strategy. Since the Bank's approach has been to support the GOI program, the Bank's forest strategy suffers from the same limitation. Still, graduation from one phase to another does not imply that the three phases are mutually exclusive. Although elements of the phases overlap, the major shift in emphasis has resulted in weak support for, and implementation of, the elements of an earlier phase. Annex B presents a time line on forestry in India.

In the first phase of forestry in India, the Bank supported only one project, the Madhya Pradesh Forestry Technical Assistance Project (Cr. 0609, approved in 1975). This project primarily developed plantations for the pulp and paper industry. During the social forestry (SF) phase, the Bank supported seven projects in various states for a total of US$345 million (table 3.1). The Bank approved its first SF project in 1979 and its most recent one in 1985. There was a break in the approval of new forestry projects for India between 1986 and 1992, though implementation of the SF projects continued. Between 1979 and 1985, one project was approved every year. After 1992, there was again a spurt in projects approved. Between 1986 and 1992, both India and the Bank rethought their forest policies—India issued a new one in 1988, the Bank in 1991. There is a striking and unusual similarity between the 1991 Bank forest paper and the 1988 Indian policy in that they assign highest priority to livelihood needs of the people and environmental functions of forests, and the lowest to commercial production of timber. With its 1988 policy, India had already moved in the direction that the 1991 Bank strategy was going to recommend. The Bank's 1991 forest paper included India among the 20 countries with threatened moist tropical forests. Since 1992, the Bank has undertaken two kinds of forest projects in India: six state-level sector-wide (SLSW) projects and two national projects (table 3.1) for a total of US$460.3 million.[57] Undoubtedly, some analysts would argue that the current SLSW projects support social forestry and therefore represent continuity in Bank strategy; however, the share of resources devoted to SF has declined considerably, and implementation progress on this component has been less than adequate.

Pre-1991 Lending

The Bank provided US$345 million in the form of six state-level and one national project (covering four states) for SF. In the Indian context, SF refers to tree plantings outside the forest areas. The major objective of the SF program was to reduce pressure on natural forests by meeting the fuelwood and other wood product requirements of the local population from outside the forest areas, whose main use remained production of commercial timber. The program had two main components: the *farm forestry* component involved growing trees on farmers' lands, and the *community forestry* component involved planting trees on village land held by the *panchayat* and on wastelands. As conceived, participation of the local population, with government support and motivation, was to be central to the design and implementation of the pro-

gram. In reality, this did not happen. Since such an ambitious program of tree plantation outside the forest areas had never been undertaken in India, the government initiated several institutional and organizational reforms to make the program effective, and mobilized external funding support. States established separate SF wings within their FDs to handle the increased responsibility. The seven Bank projects were similar in design. Project components included farm and community forestry, research, training, and fuelwood conservation measures like improved stoves and organizational support for state FDs to undertake SF. Projects after 1985 laid greater emphasis on increasing rural incomes through farm forestry, though planting on non-forest government degraded lands (including strips, such as along roadsides, canals, etc.) continued to be a significant component. All seven projects focused heavily on staffing and supported research and extension, training, farm forestry, and community forestry plantations. In addition to staff in the SFW, the projects provided for recruitment of a large number of forest extension workers and motivators at the field level. The Karnataka SF and following projects (Kerala, National SF) however, placed greater reliance on use of the already existing agriculture training and visit (T&V) system for forestry extension. The SF projects also provided for purchase of vehicles for headquarters and field forest staff and civil works on a large scale.

The farm forestry component was all along much more successful than the community forestry component, especially in terms of the sheer production of trees. This success was, however, confined to the "green revolution belt" in India. Little attention was given to promotion of tree plantations on and research in agro forestry in rain-fed areas. Eucalyptus (hybrids of *E. tereticornis*) was the most favored tree.[58] However, overproduction of poor-quality trees and liberal import of pulpwood created glut conditions leading to a fall in the price of poles. Farmers' enthusiasm to plant eucalyptus declined after 1986 (despite the considerable incentives like subsidized seedlings, extension through motivators, survival incentives, subsidies to private nurseries, etc., offered by the government), as the tree failed to generate the kind of returns farmers were expecting from its sale. The tree has been criticized for lowering the water table, competing with crops for limited soil moisture, robbing the soil of nutrients, and exposing vast areas to soil erosion. Much of the output from projects served to meet the needs of the pulp and paper industry. Hence, free and subsidized seedlings provided under the projects inadvertently subsidized the well-off farmers (those who had the land to plant trees) and industry.

Box 3.2. Design Weaknesses of SF Projects

The SF projects had several shortcomings. It would be fair to say that these were not obvious ex ante. It is only now, almost 15 years after the approval of the last project and given our improved understanding of that phase of Bank lending that one can look back and recognize those shortcomings as design weaknesses.

- Wrong selection of trees species promoted. Seedlings for market-oriented trees like eucalyptus, which did little to improve the shortages within the villages, were widely distributed. Fodder and usufruct producing trees were largely ignored.
- The projects made a wrong judgement on people's reason to participate in the SF program. It was assumed that people would voluntarily participate in a program that increased availability of fuelwood and fodder. However, the main motivating factor for people's participation was commercial profit.
- Inadequate attention to policy issues like pricing of seedlings,[60] budgetary support by state government, etc.
- Inadequate attention to institutional complexities of rural society
- Inadequate attention was given to quality of planting material and planting technology
- Given that the FD had traditionally been "policing" the forest areas to protect them from the people, it was unlikely that the whole bureaucracy could be turned around immediately to start working with the people. This low probability of getting genuine participatory behavior from the FD was not taken into account in project design.
- Training was not provided to lower-level forest staff, forest guards and rangers, who needed it most.
- Monitoring and evaluation (M&E) was accorded low priority and not understood as a tool for management but taken as a reporting tool. Even here, effectiveness constrained by shortage and frequent transfer of staff, lack of adequate training. Few relevant studies were done, and record-keeping was sporadic
- Inadequate attention to marketing issues
- The failure to recognize that training and visit (T&V), in the latter three projects, was the ultimate in paternalistic extension techniques and would not work
- Inadequate provision for inter departmental coordination
- Low priority to research resulted in poor implementation
- Inadequate provision for NGO participation and gender issues
- No mechanism for coordination with SF carried out under other state and centrally sponsored programs like Small and Marginal Farmer Program, Rural Fuelwood Program, Drought Prone Area Program, National Rural Employment Program
- Neglect of natural forests
- Little adaptation of project design according to regional requirements. What worked in one part of the country was tried in other parts with little modification.

The element of individual profit made farm forestry attractive and lack of it was the primary reason for failure of community forestry.[59] Some analysts argue that foresters and the Bank consultants who designed the projects did not fully grasp the complexity of rural power structure and assumed that the village panchayats represented the interests of all in the village. In reality, village panchayats saw the woodlots as significant sources of communal income, rather than as sources of produce to meet village needs. Hence, there was a preference for auctioning the output, rather than selling it at preferential rates or distributing it. The nature of species also tempted the panchayats to sell in the markets. Others claim that the way these plantations were managed was responsible for lack of community interest. The general plantation pattern involved temporary transfer of panchayat or government wasteland to the FD, with the understanding that the panchayat would take over management, once the woodlot was established. Experience shows that most of these lands were planted as government plantations by FD with little involvement of the people, other than in the form of wage labor. Even panchayat participation was limited to signing a letter regarding handing over of land and all the management decisions were taken by the FD. There were some exceptions in community forestry plantations that worked well. West Bengal's group farm forestry and Gujarat's experiment with tree tenure schemes, whereby poor farmers and the landless lease public lands at nominal fees and get the benefit from trees grown, are examples. Similarly, under the "Tree Patta" scheme in Andhra Pradesh, the beneficiary is given ownership rights to trees on land leased to them for 20 years. Besides usufruct rights, the beneficiary reaps the benefit when the trees are harvested.

Most of the plantation material was raised in FD-run nurseries where local villagers provided wage labor. Seedlings were distributed free, or at subsidized rates to farmers. Numerous nurseries equipped with watering facilities were established. The later projects emphasized development of a large number of small, widely dispersed nurseries.[61] The research component provided support to state agricultural universities and FDs for research on silvicultural studies and improved planting techniques. In retrospect, the research and extension (R&E) component of the SF projects was one of its least successful components. Analysts argue that had the Bank projects paid greater attention to R&E, including improving the quality of the planting material and its management on the farms in much the same way as they are currently doing in the JFM projects, the farmers would not have faced the problem of

trying to market poor, spindly trees.[62] Basic and in-service training, though an important component since state FDs had little experience to undertake participatory measures, also did not do well. This is because most of the training was imparted to senior officials, while field level staff—the ones who communicate directly with the people and are most in need of training—received little attention.

Although with hindsight it is possible to identify weaknesses in the design and implementation of the Bank projects, four findings are significant. First, the projects increased awareness about the importance of tree plantations outside the forests. SF did result in increasing the supply of wood products. Second, they induced the aloof FDs to accept that people's cooperation could be enlisted in increasing the tree cover. Third, they demonstrated a way for the country to stabilize its tree cover, even under extreme population and livestock pressure. Fourth, project implementation brought to light numerous imperfections in wood markets, in the legal and procedural framework which make cutting and selling privately owned trees difficult. Had there been greater investment in research and extension and the quality of tree planting material, the SF projects would have been more successful. Reports from several areas reveal that SF plantations have nevertheless improved water conservation, provided microclimatic stabilization, and restored soil fertility. Where they have been successful, strip plantations have helped reduce gully erosion. However, environmental success stories in SF have been clouded by the eucalyptus controversy.

Before the SF phase, the state FDs had been confined to protecting forest lands. With SF, their role grew to include village wastelands and common lands. The Bank projects helped in horizontal expansion of the FDs to meet this extended role through provision for staffing, vehicles and civil works. The Operational Guidelines that followed from the Bank's 1978 policy paper noted that the key to success in achieving forestry objectives was to strengthen forest institutions. In the case of the SF projects, this resulted in increasing the size and control of forest departments, rather than enhancing their capabilities for working with the people. Though the SF projects were successful in convincing the FD staff that people were not their enemies, the state FDs were unable to transform themselves from "guardians" of forest resources to participatory sustainable managers. Little community participation was achieved in these projects. Emphasis on achievement of targets resulted in the FD doing most of the planting on community lands. The public was rarely consulted about the species to be planted. Under the farm

forestry component, what was achieved was a kind of paternalistic participation, with the FD doling out advice and telling the people to plant trees. The FD's idea of participation was getting the people to agree and go along with a project that had already been designed for them.

The Bank projects were most successful in strengthening the physical structure—staff, building, and vehicles—of an enlarged FD. They had only a limited impact on equipping them to meet their new role of working in participation with the people to meet their forest product needs from outside the reserved forest areas. Ultimately the SF projects helped the FD become a bigger bureaucracy with a wider role rather than an organization responding to new demands and expectations.

Except for the first two, the PCRs of the SF projects rate sustainability as uncertain or unlikely. Analysts argue that the primary reason for the lack of sustainability of the SF was the blind focus on tree planting, without sufficient analysis of tenure issues. This was compounded by the failure to define, establish, and publicize the rights to the maturing trees and the procedures for marketing and allocating benefits. They further argue that the project focus should have been on building social capital and capacity of communities in managing common property resources. Degradation often set in once the trees were harvested. On project closure, the state had to find ways to pay for the staff hired during the lifetime of the project. As resources were scarce internally, this was an inducement for the states to vie for additional Bank supported forest projects. It is worth noting that some states have had a more or less continuous period of Bank support for forests. The state of Uttar Pradesh has had Bank supported forest projects without a break for 14 years. The Uttar Pradesh SF project closed in December 1984. The National SF Project, covering the state of Uttar Pradesh, was approved in June 1985 and closed in March 1993.

Analysis of the Bank Program: Post-1991 Lending

State Projects

The post-1992 state projects are designed to support the forest sector development strategies of the state FDs. Table 3.3 summarizes the strategy that the projects (especially the later ones) are pursuing for different types of land under tree cover. Recognizing that a much more flexible approach is required, the later projects (Madhya Pradesh, Uttar Pradesh, Kerala) are the first phases of a two-phase, long-term support plan. Project components include sector reform, JFM, training and re-

Table 3.3 Management Objectives for Area under Different Kinds of Tree Cover

Area	Primary management objectives
Conservation areas	Conservation of biodiversity
Closed forests	(i) Maintenance of forest cover – enrichment of stocking by natural regeneration to eventually increase production (ii) Timber and NTFP production
Open forests	(i) Increase in forest cover (ii) Production of local community requirements for forest products
Private and community lands	Commercial forestry and involvement of forest-based industries
Village common lands in forest fringe areas	Production of local community requirements for forest products

Source: OED data.

search, regeneration and afforestation, technology improvement, wildlife and biodiversity conservation, fodder development, and SF. Policy and institutional reforms are emphasized to correct state-level fiscal and market distortions in the state that impede sustainable resource management. The design of the later projects (Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Kerala) reflects the experience gained from the implementation of the earlier ones (Maharashtra, West Bengal). For example, although the West Bengal Forestry Project provided for supporting works in villages, the concept was not articulated into a village resource development strategy as it is in the later projects. The Madhya Pradesh Forestry Project, on the other hand, draws a distinction between JFM and the Village Resource Development Program. The strategy of the latter combines JFM with activities and investments designed to create alternative incomes or resources in villages adjacent to forests. It denotes a combination of incentives for communities to participate and a mechanism for reducing pressure on forests.[63]

Though the basic strategy remains the same, the emphasis varies from project to project according to state requirements. In the Kerala Forestry Project, for example, JFM is only included as a pilot as the state had no experience with participatory forest management. In West Bengal, on the other hand, where its success has been established, a larger

share of project funds was devoted to JFM. Similarly, the Maharashtra project had a very small JFM component. However, all five projects clearly recognize that more than the effort of the FD is required for forest protection. Training and reorientation that changes the attitude of the FD are considered critical to the project strategy of working with other stakeholders in forest protection and management. The two-pronged strategy assumes that if resources outside forests become more productive, people will give up gathering from forests. It is important to distinguish here between a strategy that provides resources to people and encourages them to protect trees during the lifetime of a Bank project, and a strategy that encourages building grassroots social capital for conservation and protection. Implementation experience shows that the early state projects were essentially paying people to protect trees. The experience of Andhra Pradesh and Madhya Pradesh shows that some lessons have been learned and more concern is being given to building social capital with active NGO participation (see box 3.5 for an example from Andhra Pradesh). On the other hand, the nature of monitoring and evaluation dilutes the effort to build genuine grassroots participation as the emphasis shifts to achievement of targets. Institutional factors and conflicts within the JFM strategy also handicap the collective social capital-building process (box 3.3).

The SLSWs, like most Bank projects, have used covenants to support implementation. Setting date restrictions makes it easier for supervision missions to monitor implementation progress. Covenants are also used to ensure compliance with the Bank's safeguard policies in areas like biodiversity protection and resettlement. The condition in the Madhya Pradesh and Kerala forestry projects that no people within the protected areas be involuntarily relocated is an example. However, adherence to a covenanted implementation schedule, especially in areas like institutional reform, can be counterproductive, as in the restructuring exercise of the West Bengal Forestry project (box 3.4).

Only one sector-wide project, West Bengal Forestry, has been completed so far. The rest are in various stages of implementation (see Annex C, table C.9a). Only the Maharashtra SLSW has ever been rated as a problem project, and that was in the early years of its implementation. Apart from the discontinuity and frequent change of staff, the project objectives were poorly articulated—the absence of detailed strategies to achieve them is particularly notable. In addition, supervision was weak and indecisive, particularly in the first two to three years, and was characterized by discontinuity in the Bank task management, con-

Box 3.3. Conflicts and Constraints in JFM

Conflicts

Territorial conflicts between two neighboring groups or even between two hamlets of the same village are the most common conflicts encountered in JFM. This occurs because communities are engaged in forest protection without demarcation of community boundaries, which often do not match the administrative divisions.

Management conflicts arise when the FD tries to fit the boundaries of the community-managed forest with the existing administrative boundaries for its own convenience, or when the FD staff feel their authority is challenged when the local forest protection committee (FPC) punishes violators. Differences in the perception of and expectation for JFM also create problems. While the FD sees JFM as a convenient means of regenerating forests, the local communities view it as a means of meeting their daily need for fodder, fuelwood, and small timber.

Constraints

Weak legal and organizational framework for JFM: First, the old rights and privileges of the people (usually established in the colonial period) have continued in most degraded forests. Such rights often include free access to expensive timber. Second, more than one village may have rights in the same forest, which makes it difficult to promote village protection committees. Third, a large number of new settlers in a village (who may be the poorest residents) have no traditional rights in forests, as their ancestors did not live in the village at the time of forest settlement. These people are deprived of benefits and are compelled to obtain them illegally. Fourth, sometimes people living several kilometers from a forest have customary rights to the forest. With no possibility of getting involved in forest management, they have customarily treated these lands as an open-access resource for grazing and collecting fuelwood and NTFPs. In such situations, forest officials, while recognizing the FPC formed in a village with respect to a particular forest tract, give permission for collection of firewood from the same forest area to rights holders from other villages, who do not contribute to protection.

Legal position of FPCs vs. panchayats: Although the state government resolutions recommend the formation of FPCs, the committees have no legal or statutory basis. FPCs are recognized only by the FD; all other government departments recognize *panchayats,* making them much more powerful than the FPCs.[64] The relationship between FPCs and the village panchayats is not well-defined. The lack of legal authority may affect the power of the FPCs to check free-riding and may make it difficult for them to manage resources long-term. Thus, most successful FPCs charge fees for collection of forest produce, although this practice is strictly against the Forest Act. The legal position of FPCs needs to be defined to make them strong grassroots organizations. Linking the FPCs with the panchayats may not be feasible. Experience from 20 years of SF programs indicates that panchayats often had difficulty effectively managing community woodlots due to their inherent political nature and diverse constituencies.

Panchayats are political organizations based on the electoral system, whereas conflict can be quite harmful for the effective functioning of FPCs. Protection can work only if there is almost unanimity and consensus among the user group.

Box 3.4. The Bank Projects: Implementation Problems

The Numbers Game

The Maharashtra Forestry Project was considered a problem project for quite a while for three reasons: large disbursement lags, substandard planting targets, and delayed technical assistance.[65] The midterm review restructured the project and removed it from problem project status. The way it was done speaks volumes for the quality of the Bank's supervision. The mission improved the status of the project not by finding solutions to the causes of the disbursement lag but by canceling a part of the credit and officially revising the Schedule of Disbursements and setting the current disbursement lag to zero. Similarly, the problem of substandard planting targets was met by reducing the annual planting program by about 50 percent and by assuming that the government's improved planting and maintenance techniques would help overcome the problem. The problem of the delayed technical assistance was assumed to have been solved because by the time of the midterm review, most of the assistance contracts had been signed. Dated covenants that had any relation to the technical assistance consultancies were revised so that the project would comply with agreements in the legal documents and, hence, disbursements would not be suspended. Later supervision reports (February 1999) show that the quality of plantations continues to be poor.

The Time Game

In the West Bengal Forestry Project, reorganization of the FD was a critical implementation problem. The reorganization was meant to be time bound, but the covenanted date for completing the task—January 31, 1994—was highly unrealistic. The government order for the reorganization was issued only after a three-year delay, and it was fully implemented by April 1996. With the reorganization, field staff from the district level and below were to be integrated into one service and subdivided on geographical lines to achieve an equitable distribution of the workload. The purpose was to improve and integrate the services at delivery, i.e., in the field, with farmers and FPCs. This approach was piloted in two districts, Purulia and Kurseong. However, during implementation, the Bank was more concerned about meeting time deadlines than in learning from the lessons of the pilot. Ultimately, the reorganization did not achieve its purpose of optimizing use of department staff. Overall, by creating fissures and lowering morale, it had a negative impact on the forest organization in the state.

tradictory advice from one mission to the next, and bureaucratic rigidities within the Bank on procurement and the use of consultants.[66] Together, these problems contributed to costly implementation delays.

Current Quality Assurance Group (QAG) ratings for all active projects in India (June 1999) show that none of the seven ongoing forest projects in India is at actual or potential risk (Annex L).[67] However, implementation experience reveals drastic variation in performance between the forest projects depending on the commitment of the implementing agency.[68] In Maharashtra, discontinuity in staff made it difficult to build

commitment. Maharashtra had four principal secretaries in the first 18 months after project effectiveness. The situation worsened with a succession of task managers on the Bank side. The split management inherent in the project's organizational design—planning, monitoring, and coordination was handled by a team in Pune, while field implementation was carried out by FD and Forest Development Corporation headquartered at Nagpur—contributed to the problem. In contrast, the projects in Andhra Pradesh (box 3.5) and Madhya Pradesh are reported to be doing well. This is due to the excellent administrative leadership within the FD and immense interest taken in the project by the chief minister in Andhra Pradesh, and to a lesser extent in Madhya Pradesh.[69]

Box 3.5. Andhra Pradesh: A Success Story

Joint forest management seems to have taken root most strongly in the state of Andhra Pradesh. Several features of the Andhra Pradesh program distinguish it from other JFM programs:

- Funds for forest works are transferred directly to the village committees, increasing their sense of ownership in the forests and the program. The committees also get 100 percent of the incremental production of timber and are required to invest half of that in the village fund, thus ensuring sustainability.
- JFM is not merely confined to the Bank villages; in addition to 1,665 villages funded by the project, Vana Samarakshana Samithis (forest protection committees) have been formed in 4,606 more villages.
- The program is also being funded from the poverty alleviation budget of the Rural Development Department, which has enabled the state to scale up the efforts of the project.
- The FD, down to the lowest levels, has strong commitment to participatory methods, thanks to vertically integrated training programs and continuity of excellent leadership.
- Unlike other states, in Andhra Pradesh there is a strong emphasis on involving the press with the visit of senior officers and politicians to the villages allowing for publicity for the good work done.
- The committees have the power to dispose of timber and bamboo in the open market through auction.
- Eight hundred NGOs are participating in the project.
- Political commitment for building community participation is strong in the state and the leadership sees political mileage in vigorously pursuing the agenda for building up local communities and for decentralization.[a]

a. An evaluation by Om Consultants (1998) shows that 88 percent of the committee members have participated in the Janma Bhoomi program (a program of social mobilization started by the present chief minister), which requires people to make personal donations or provide manual labor before the government releases funds to the communities.

The design of the state projects is complex as they are attempting to deal with sector-wide concerns. However, little baseline data is available to do a before-and-after comparison. Monitoring and evaluation indicators in projects are also ill suited to measure achievement in project objectives. In current projects, while project objectives stress the achievement of results, indicators are designed to measure quantitative progress.[70] Improving public sector management is a development objective in the Uttar Pradesh Forestry Project. But the monitoring indicators measure progress by the number of training courses held, number of policy studies commissioned, number of staff trained, and similar measures. Holding training courses is a means of achieving improvement in sector management but is not in itself an indicator of improved sector management. Hence, there is a disconnect between what the project states is the objective and what the indicators measure. Since the indicators do not measure progress toward results, what a project does achieve does not do justice to what it originally set out to do. At the field level, achievement of objectives then is translated into the need to fulfill quantitative targets rather than qualitative improvements. In JFM, this dilutes the participatory nature of the strategy of working with the communities in protecting forest areas. New kinds of indicators that will measure progress in achievement of qualitative progress are required.[71] The Madhya Pradesh Forestry Supervision Mission Aide Memoire Annex 1999 observes:

> Although there have been important changes in the management of MPFD [Madhya Pradesh Forest Department], the system remains hierarchical and driven by targets. There is, therefore, a need to develop a results oriented culture, based on impact rather than achievement of physical targets. This requires defining objectives and questioning whether programs contribute to meeting those objectives: too often, programs are implemented simply because funds are available from centrally sponsored schemes or other sources.[72]

The Bank projects can be credited with providing support for a system of forest inventory and the development of tools such as computerized management and geographic information systems in the states. The SLSWs are providing for development of a sound information system for strategic planning and management. These tools will not only enable achievement of objectives under the project but also assist state FDs in their long-term administrative and forest management tasks. However, almost all the forest projects are reported to be facing delays in procurement of computer hardware and software, in civil works, and in the appointment of consultants for studies. One view is that this is primarily because the Bank procedures are complex and staff in the

field do not have adequate training to deal with these issues. Often the clearance requirements are complex.[73] In the Uttar Pradesh and Madhya Pradesh forestry projects, an effective mechanism—an Empowered Committee with delegated powers to approve procurement matters—has been developed. However, the January–February 1999 supervision report for Madhya Pradesh notes that procurement of vehicles and equipment and recruitment of consultants was well below the appraised targets. Some of the delays were because the Empowered Committee did not sanction procurement of vehicles and equipment.

Because of the projects' preoccupation with JFM and lack of attention to problems identified during the earlier SF phase (poor extension and improper coordination between departments) implementation of the SF components of the state projects has been neglected. Given the large stretches of wastelands in the country, participants at the country workshop also noted that neglect of tree plantations on non-forest land was a major shortcoming of the Bank's current projects. Bank staff comment that the two major reasons for decline in financial resource allocation to SF were the belief that subsidies should be phased out (according to them, these comprised the major element of SF project costs), and that forestry on *panchayat* and other common lands had not been successful and the FD did not have new alternative approaches. Bank staff also note that they have continued to explore ways to continue to supporting farm forestry objectives (the successful component of SF) and cite the innovative features in the Uttar Pradesh Forestry Project as an example. However, the declining resource allocation by the Bank and other donors to the SF component conveys the message to the state FDs that the SF phase is no longer important. Issues related to SF were discussed in this chapter.

The state projects have been criticized for inadequately addressing NGOs, tribal concerns, and gender.[74] In the Madhya Pradesh Forestry Project, NGOs have complained that the project is violating the Bank's Operational Directive on indigenous people. OED believes that Bank projects do show an incomplete appreciation of tribal concerns. Yet the criticisms show insufficient appreciation of the complexity of the task these projects are attempting. Change from a command-and-control style of forest management to one that involves participation of stakeholders is a major institutional change that cannot be accomplished overnight. In addition, the projects have to handle the delicate issue of potential strife between the tribal poor and the non-tribal poor who also live around the forests and may feel slighted by perceived preferen-

tial treatment of the tribal population. Conflict resolution and consensus building are clearly essential where there is intense competition for highly scarce resources.[75] The important question, then, is have the Bank projects been sufficiently proactive in acknowledging the existence of these conflicts and bringing together ways of resolving them? As it is currently staffed, the Bank does not have much expertise in this area.[76] It is not clear that current supervision resources are either sufficient or have been used efficiently to set priorities in addressing social and institutional issues, and not just technical concerns. However, the Bank could consider mobilizing outside advice on a regular basis on handling these issues in a politically, culturally, and socially sensitive way. Such examples would provide institutional lessons both for the Bank and the state governments on how to be far more skillful in the future in addressing conflict resolution and consensus building.[77]

National Projects

Research Issues and the Forestry Research, Education, and Extension (FREE) project. Forest research in India lags behind other developing countries such as China and Brazil. A freestanding project in forest research was approved for India in 1994. The research components of the SLSW projects, devoted to improving the production and management of improved planting stock, are reported to be doing well, though dissemination of results has been insufficient. As noted in Chapter 1, the Bank has made an important contribution to building research capacity in the country.[78] The Bank's approach has been to provide for improvement in the quality of planting stock and development of sound policies (including efforts to privatize nurseries), to guide the FD to manage and protect the forests effectively. Improvement in seed quality, sources, and handling; nurseries; plant propagation; silvicultural management; and fire protection are central to the research agenda. Support has also been provided for building necessary infrastructure and facilities. However, the Bank has not been able to help solve some of the fundamental issues in forest research in India. Many of these could have been addressed in the FREE project (box 3.6), but they were not, partly because of resistance among top management of the Indian Council of Forestry Research and Education (ICFRE) to initial Bank advice and Bank willingness to go along with ICFRE resistance. ICFRE, established in 1986, is the national umbrella organization for forest research in India. It coordinates the activities of several institutes, centers, and research stations all over the country.

Box 3.6. Fundamental Issues in Research[a]

- Research and technology development currently is not integrated into the strategy for forestry development. ICFRE has done valuable research in some states, but it is spotty and variable and the institution has so far been unable to provide national leadership in research. The states have endeavored to do their own research, also with some good results, but those efforts could have been made more effective and productive had ICFRE been able to facilitate better linkages with other state, national, and international organizations. This is partly a problem of location. Were ICFRE located in Delhi instead of Dehradun, with its director responsible to the MOEF, it might have been able to take a stronger leadership position.[b]
- The private sector is ahead of the public sector in forestry research, but mechanisms to ensure that the benefits of that research are used in state-funded programs are currently insufficient.[c]
- Research is not currently driven by problems encountered in the field.
- Research is currently organized according to contiguous states when it ideally should be organized by agroecological zones.[d]
- The incentive framework is not geared towards high-quality research. This could be a major reason why forestry research has lagged behind agricultural research in India. The very existence of a forest service like the IFS has hindered research development. Administrators do not run agricultural research. In forestry, important positions in research institutes are occupied by officers of the IFS who are frequently transferred and, hence, are not able to keep up with recent scientific advances. The presence of the IFS officers in higher research positions means that technical staff engaged in forestry research have fewer opportunities for promotion.
- Current projects give inadequate attention to research in NTFPs, production, and processing, which should be high on the state research agenda, though given the large number of NTFPs this is a challenging task.
- Dissemination of research through field-level functionaries does not receive adequate attention.
- Development of new technologies for rainfed areas is a priority for the country but is not given adequate attention in the research agenda.

a. Bank staff, in their comments, note that several points raised in this box are being addressed through the National Forestry Research Plan that is being developed through a participatory prioritization process under the FREE project.
b. That ICFRE now also incorporates a forestry university means that staff who should be devoted to full-time research have to spend substantial time teaching. This has worked against the promotion of a research agenda (Uma Lele Personal communication with Norman Jones June 1999).
c. Bank staff note that some good work is being done by forest corporations like the Andhra Pradesh Forest Development Corporation (clonal plantation program) and several state forest research institutes.
d. Mitra, in a later communication, has clarified that the institutes are assigned (by ICFRE) responsibilities of adjoining states only. In addition, each one of them is given a set of subject areas (based on the most important issues in the region). As a result, some regional issues remain outside the scope of research of the nearby institute or any other ICFRE institute. This also sometimes leads to duplication of research among institutes working on issues in two distantly located but similar agroecological zones.

The FREE project is financing the development of ICFRE as the main body responsible for planning and coordinating forest research in India. The objective is to initiate a long-term process of strengthening India's research system, improve the system of forest education, and facilitate extension of research findings. The project is also supporting research to develop and test methods for biodiversity conservation and the creation of a forest university on the pattern of agricultural universities in India. The implementation experience of the FREE project has not been easy. The midterm review mission classified it as a problem project because of poor project achievements, poor disbursement, procurement delays, staffing constraints, and failure to comply with critical legal covenants. The technical consultancy contract with Winrock has not been effective. In addition, the implementation of the eco-development component of the project has run into problems because of the latest Supreme Court order (see box 3.7). Despite these problems, the FREE project has brought improvements to many facets of forest technology. This could be regarded as a "small beginning." Since India was so far behind in forest research to begin with, and since forest research in the world context has been changing so rapidly, India still has a long way to go.

Biodiversity Issues and the Eco-Development Project. Each of the five state projects and the FREE project has a component to develop a strategy for biodiversity conservation, both inside and outside the protected areas. Project funding includes support for research studies, habitat, and infrastructure (long-distance telephone network, power fencing, camp sheds, and watchtowers) improvement. GEF and the International Development Association (IDA) are financing mutually dependent activities in the Eco-Development Project, which is a program of targeted intervention to conserve biodiversity in seven globally significant protected areas in India.[79] Eco-Development is a demonstration project. If its conservation and development strategy is effective, the government will expand it to cover other protected areas. In fact, Bank staff comment that such an expansion is already taking place.[80] The Eco-Development Project has two main thrust areas: improvement in protected area management and involvement of local people. The strategy is to conserve biodiversity by addressing the impact of the local people on the protected area and vice versa. Implementation of the Eco-Development Project has not been smooth. A complaint was also lodged with the Inspection Panel of the World Bank that the project has not attended to tribal people's issues in Nagerhole, one of the seven globally significant sites in which it is operating.

Box 3.7. Controversial Issues in Biodiversity Conservation

- The conservation community considers the project too development- and people-oriented, while advocacy groups believe that the GOI and the Bank have put the interests of the wildlife before those of the people.
- Critics question whether voluntary resettlement under the project is truly voluntary as the FD has gradually been pressuring communities to relocate by denying them rights inside the protected areas. Within the boundaries of National Parks there are no rights of any kind (no right of abode, grazing, or even on immovable property, no customary rights), although people can still live there. When the government wants to declare an area a National Park, it issues a notification of intent. Then due process is followed to extinguish all rights to the area. People living inside the area are relocated. Only after all rights are removed can an area be declared a National Park. Since resettlement issues are often very controversial, notification of many protected areas as National Parks has been delayed.
- A sizable tribal population (16,000 families) lives inside the area denoted as a National Park in Nagerhole, one of the seven sites in the Eco-Development Project. This is in violation of the Wildlife Act and has generated a controversy that resulted in a request for inspection by the World Bank's Inspection Panel.
- Country-level analysts are also convinced that eco-development is still unclear in the minds of most, and the issue requires further debate and conceptualization. [a] In the Andhra Pradesh project, tremendous progress has been achieved on this component. Even then, understanding of eco-development appears to be unclear as noted in the midterm review (Jan-Feb 1997): "… the Mission strongly feels that certain areas of the program activity need further careful attention. In particular it is necessary to ensure that there is a clear understanding of the concept and objectives of eco-development among all staff, participating NGOs and EDCs (Eco-development Committee) to avoid the danger of eco-development becoming a more rural development type program, without the direct linkage to improved PA [protected area] protection and reduction of dependency on PA resources, that constitute its central rationale. The Mission noted that in some cases, eco-development investments were not focused on addressing the actual pressures on the PA, rather it was being directed to achieving social welfare of the local communities. While this may be a noble goal, it is not the objective of the project. It is important that APFD [Andhra Pradesh Forest Department] staff understand the basis for determining which investments are eligible for financing under the eco-development component and ensure that the PRA [participatory rural appraisal] exercises being conducted are focused on the mutual interactions between the PA and local community dependencies. APFD staff should avoid the use of the open-ended PRA approach that is usually used in general rural development programs and assign a more focused PRA approach that is specifically targeted at addressing PA dependencies. They must ensure that investments are directly targeted to households on the basis of their current dependence on PA resources, rather than be focused on poverty reduction or other social development objectives, which is not the goal of this project."
- A recent Supreme Court order that requires states to complete within one year the determination of rights and acquisition of land rights in sanctuaries has the potential of jeopardizing the Eco-Development Project.

a. Regional staff say there has been a dramatic and positive progress in eco-development during the past two years, and there is no lack of clarity in that state now.

In the Eco-Development Project, the Bank is dealing with an issue that is new both for the Bank and the FD, and inherently controversial. Analysts have voiced concern about the practicality of managing and implementing the activities contemplated under the project. They note that issues like adequacy of staff and infrastructure have not been given sufficient attention in the project. Who will do it? Does the present staffing level and infrastructure have the capability to implement a scheme that in some cases has doubled annual budgets and also, presumably, workloads? To what level will the FD subcontract implementation to other agencies and departments (will it need further resources in vehicles and staffing?) and how much will the FD do itself? To what extent are different sections of forest bureaucracy already overloaded?[81] The challenge before the Bank and the GOI is to reconcile conservation with development and poverty alleviation. The project supports a participatory process to plan and implement voluntary resettlement on an experimental basis. However, critics argue that relocation assumes sufficient land resources are available in the immediate vicinity of protected areas, when in reality the most scarce resource in India is land. Project implementation has been slow for a variety of reasons: lack of smooth flow of funds from the center through states to project sites, delays in staffing/contracting specialists, multiplicity of task managers involved leading to lack of continuity, and the complaint filed with the World Bank's Inspection Panel.

How Has the Bank Fared on Key Sectoral Issues?

Policy, Institutional, Legal Issues

The Bank's 1991 Forest Paper notes that the Bank will assist governments in identifying and rectifying policy failures that encourage deforestation and inhibit sustainable land use. Analysts argue that one of the major contributions of the Bank in India has been its leverage in getting several politically unpopular and controversial policy and institutional reforms issues on the table. The Bank's approach has been to push for policy reforms in the context of its project lending. In the post-1992 period, the projects support a wide range of activities intended to overcome policy, institutional, and technological hurdles that impede growth in the sector. Reduction or abolition of subsidies (not only on seedlings but also on intermediate products),[82] clear benefit-sharing arrangements for JFM, modification in timber felling and transit rules, and amendment of the land revenue code[83] are examples of reforms supported by

the projects. However, because many of the projects are currently in the early stages of implementation it is not possible to say much about progress on this front. Annex H describes the policy, institutional, and legal reforms supported in the Madhya Pradesh Forestry Project.

The Bank has been successful in introducing action on some issues but not others. Table 3.4 summarizes the key macro, policy, and institutional issues that are important to the forest sector. The Bank's position on the issues listed has been distilled through a review of Bank documents and interviews with Bank staff working in the forest sector in India. The "field viewpoint" information reflects the judgment of some of the country authors and does not always represent a consensus view from the country. As most of these issues are extremely complex and require more in-depth study than is within the scope of this review, the table simply draws attention to the issues without suggesting a future strategy. The "OED review" information draws on the experience of other country studies (Brazil, Cameroon, China, Costa Rica, and Indonesia) to extract lessons.

Process

Even when the emphasis on issues is right, the effectiveness of the Bank is limited by the lack of a strategic approach to the issues. This shortcoming has occurred because the Bank has tried to deal with policy, legal, and institutional issues in the context of individual projects, but has not given clear attention to an overall national strategy for pursuing these reforms. Time and resource pressure to prepare projects in accordance with deadlines further complicate the matter. The Bank currently does not strategize about which issues it should tackle at the level of the center and which can more appropriately be handled at the state level in the context of state-level projects. Four problems have been identified:

1. *Inadequate recognition by India of the importance of policy/ institutional reform to the lending program*. Civil servants in India associate "development," especially when it is funded through external sources, with spending money. Changes in policy and law are not seen as integral to the development process because they have no direct financial implications. Hence, they are pursued in parallel with the lending program (when they are pursued at all) rather than as part of that program.
2. *Ineffective mechanism for identifying issues and suggesting solutions.* When the Bank wants to initiate a policy reform it generally

appoints a consultant (foreign or Indian) who produces a report on, for example, ways to improve personnel administration. Often, the state administration does not take ownership of the approach or the recommendations of the consultant. In addition, preparation and completion of the consultant report takes a long time. By the time the state receives the report, the project is about to end. The reach of the consultant within the organization is limited to middle-level officials, and senior management takes no interest in the report. They are also not convinced that foreign consultants, with limited knowledge of India, can understand the complexities of government functioning, or can make effective suggestions that have not already been made. Thus, it is impossible to bring about fundamental reforms in the political economy of governance through consultant reports.

3. *Weak intersectoral coordination of the reform process.* No government department functions in a vacuum or is independent of the general political and administrative culture. Problems caused by poor administration are common to all development programs. Therefore, when Bank-financed projects attempt to deal with institutional development only in one sector—by tinkering with instruments that are internal to the department, such as training, management information systems, changes in formats, computerization, etc.—desired changes do not follow. The Bank needs to look at policy and structural issues that affect the working of all government departments in the entire state, and for which the instruments of control are exercised at the government level. Unless larger issues of governance are raised, reforms within a sector are not feasible. The Bank is involved in several development sectors, all facing administrative problems similar to those in the forest sector. Hence, the Bank could be more effective in introducing practical reform ideas as a part of its overall policy dialogue rather than making it a condition to be met for each project. Since the Bank's total annual assistance to India is substantial, it is in a good position to influence governance. The CAS emphasizes the Bank's role in improving governance through the strengthening of civil society. However, serious attention to these issues requires a concerted and coordinated Bank effort. Individual task managers working with middle-level management in the context of individual projects are not in a position to achieve policy reforms without strong and consistent support from the

Table 3.4. Policy Issues with Implications for the Forest Sector

MACRO POLICY ISSUES

SHOULD THE BANK LEND FOR PROJECTS IN A COUNTRY ONLY IF THE POLICY AND INSTITUTIONAL ENVIRONMENT IS RIGHT?

- Current position in country
  The Bank has been lending to the forest sector in India fully aware that the legal, policy, and institutional environment is not entirely conducive to balanced development of the forest sector.
- Position of the Bank/Bank projects
  The Bank's approach is to take incremental steps in India—to push for relevant institutional, policy, and legal reform in the context of project lending and its policy dialogue. This clearly recognizes that in a country of India's size and complexity it is not possible to fix all the problems at once. But the Bank has taken a project-by-project approach rather than an overarching strategic approach to the forest sector.
- Field viewpoint
  The Bank has helped bring attention and action on issues that are politically unpopular, such as sector reforms. This would not have happened without the Bank's support.
- OED review
  Given the size and complexity of India, and the fact that Bank lending is a minute percentage of total government spending, the Bank does not have the leverage to get the policy and institutional environment right before it can begin lending to the sector. However, the Bank has not taken a strategic approach in bringing attention to crucial reform issues. In addition, what leverage the Bank could have had has not been used because it has not seen involvement in forests as a part of its long-term poverty alleviation strategy. MAJOR ACTION/DECISION: WORLD BANK

INTERSECTORAL COORDINATION AND LAND USE PLANNING

- Current position in country
  Interdepartmental coordination is weak at the national and state levels.
- Position of the Bank/Bank projects
  (1) Bank forest sector projects have stressed the need for collaboration with other departments (animal husbandry, agriculture for extension), but achievements have been limited; (2) The SLSW projects have a component for dealing with fodder development, but specific strategies to deal with the pressure livestock exert on forest land are needed; (3) The Bank has made an insufficient attempt in its watershed development projects to bring together agriculture and forestry in a watershed approach; (4) The current effort in the forest sector has not been developed as part of an overall development effort for a particular area.
- Field viewpoint
  (1) The impact of watershed treatments in Bank projects has been impaired by poor coordination between line agencies, and there has been a marked absence of user participation in land treatment planning and its implementation; (2) Bank projects need to give more attention to coordination between the forest and animal husbandry departments for managing livestock pressure on forests; (3) Due to a tradition of competition for land between the agriculture and forest departments, both have viewed agroforestry with suspicion. Some FDs have even banned agroforestry on forest lands by law.
- OED review
  The Bank's 1991 Forest Strategy highlights the importance of a multisectoral approach. The importance of this approach in dealing with forces (inside and outside the forest sector) that affect the forest sector is reemphasized here. The policy's recommendations remain valid. However, the Bank has not effectively followed a multisectoral approach in forestry in India. Forest strategy has to be closely integrated with agriculture (for instance in the role of trees outside forests) and rural development (role of local institutions and watershed development). MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS

Table 3.4. Policy Issues with Implications for the Forest Sector (cont'd)

FORESTS AS A PART OF THE POVERTY ALLEVIATION STRATEGY

- Current position in country
  Tree plantations have been part of the various poverty alleviation programs of both the central and state governments.
- Position of the Bank/Bank projects
  (1) The current CAS has not included forests in its poverty alleviation strategy. The role that forests can play in poverty alleviation has not been clearly appreciated; (2) The forest sector projects focus on getting the participation and involvement of populations living adjacent to forest areas in forest protection, in effect, targeting the poor. Although the participants are self-selected they usually come from populations that include the poorest.
- Field viewpoint
  (1) The role that forests can play in poverty alleviation has neither been stressed nor monitored in Bank projects; (2) Bank projects do not sufficiently deal with tribal issues; (3) The critical importance of gathering and self-employment in the lives of the poor is often overlooked in the design of Bank projects; (4) Leasing forest land to the poor to combine private incentives with supply of technology from the FD is not a feasible solution because: (a) a large amount of uncultivated land with the poor has not been brought under tree cover for a number of reasons; (b) privatization may not promote environmentally sustainable species mix; (c) privatization in favor of some may create social tensions; and (d) it may interfere with watershed development and comprehensive land use planning.
- OED review
  (1) A large percentage of those living in the vicinity of forests are tribals. Data show that the incidence of poverty is more than 50 percent among the tribals; (2) The role that forest sector projects can play in poverty alleviation needs to be clearly recognized and forests should be part of the Bank's poverty alleviation strategy. MAJOR ACTION/DECISION: WORLD BANK

COMMON LANDS

- Current position in country
  (1) There is lack of clarity on tenure issues for common lands; (2) Insufficient attention has been given to developing a policy for treatment of common lands.
- Position of the Bank/Bank projects
  (1) Community plantations on common lands were a major component of the social forestry projects; (2) The current forest sector projects include tree plantation on common lands as a part of social forestry, but attention to this component has declined since 1991 as the experience of the SF phase was not favorable.
- Field viewpoint
  (1) Integrated land use planning is not being attempted in Bank projects; (2) Where common lands are being treated, benefit-sharing arrangements for usufruct have not been clearly defined; (3) Bank projects have a limited understanding of how to deal with common resources in general and commonly owned land. They also pay inadequate attention to land tenure issues related to common land or to the distribution of benefits arising from community efforts on plantations on degraded non-forest land.
- OED review
  (1) Attention to these has declined since 1991; however, the problem of dealing with common lands is too complex to be neglected; (2) Should be developed as part of an integrated forest program. MAJOR ACTION/DECISION: WORLD BANK; GOI AND STATE GOVERNMENTS

ROLE OF PRIVATE SECTOR

- Current position in country
  (1) India's 1988 forest policy treated forests first, as an ecological necessity; second, as a source of goods for use by the local populations, with particular emphasis on non-timber forest products; and third, as a source of wood and other products for industries and other non-local uses. It stimulated

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Table 3.4. Policy Issues with Implications for the Forest Sector (cont'd)

farm forestry by stating that, as far as possible, forest-based industry should meet its raw material needs by establishing a direct relationship with the farmers. Although it is discouraged, several forest products continue to be supplied to industry at subsidized rates. A large part of industrial demand for timber is met through imports; (2) Leasing arrangements for the private sector on government forest land is not possible under the Forest Conservation Act.

- Position of the Bank/Bank projects
  The Bank has asked that the policy of leasing forest lands to the private sector be reviewed.
- Field viewpoint
  (1) Leasing forest land to the private sector is not a feasible policy because it will compete with the private farmer who may then not find an adequate market for his output. Furthermore, the private sector is not interested in leasing public wasteland; (2) Leasing of forest land to industry is not desirable because the private sector should have to meet its raw material requirements from farmers. Moreover, it may eventually lead to loss of government control over that land, which may be diverted to other uses.
- OED review
  This is a major policy issue which needs attention at the highest level of government. MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS

LONG-TERM ROLE OF BILATERAL AND MULTILATERAL DONOR SUPPORT

- Current position in country
  (1) World Bank and other donor funds are currently used as a substitute for state and central funds in several states; (2) There is no long-term policy for continuation of activities once a Bank project is over; (3) There is no effective coordination between the donors to prioritize the needs of the sector; (4) Once a project is approved, there is no difference for the state between GOI and external funds since the foreign exchange risk and interest burden is borne by the GOI.
- Position of the Bank/Bank projects
  (1) There is no effective strategy to coordinate between donors at the country level. UNDP holds meetings, but as yet there is no effective coordination strategy; (2) There are few strategic linkages between the Bank's forest sector program and agencies such as the Ford Foundation.
- Field viewpoint
  Coordination between various donors is lacking.
- OED review
  (1) It is crucial for GOI to decide what role it sees for external resources in the forest sector. Does it see them as a substitute for its own and state funds, or does it think external resources should play a strategic role in the sector; (2) An effective strategy of coordination between donors can be to India's advantage if the GOI uses lending according to the comparative advantage of the donor. For example, the Ford Foundation has been effectively working with grassroots NGOs throughout India in conducting research, training, exchange of information, and grassroots input into policymaking. There is scope for immense collaboration between the Ford Foundation and the Bank on these issues in the context of forest lending. MAJOR ACTION/DECISION: GOI

INTERNATIONAL TRADE—IMPORT OF FOREST PRODUCTS

- Current position in country
  (1) Since the late 1980s, India has lower tariff rates on forest products in comparison with other imports. This has: (a) enabled a large part of the increasing demand for forest products to be met from external sources; (b) helped preserve forests; and (c) taken away a part of the market from farm forestry.
- Position of the Bank/Bank projects
  In promoting farm forestry the Bank has rightly insisted that marketing and other restrictions be removed to promote production; however, the Bank has not truly grasped the implications of the free import policy for reducing the market for products from farm forestry.

Table 3.4. Policy Issues with Implications for the Forest Sector (cont'd)

- Field viewpoint
  (1) The existing policy towards forest products allows the free import of pulp, which has a negative impact on the market for farm forestry; (2) India's Forest Policy does not provide incentives for increasing domestic production of trees.
- OED review
  (1) Currently a large part of the domestic demand is met through imports and will continue to be if India does not develop an effective production strategy for meeting the increasing urban demand; (2) There is a case for leveling the field between imports of different products (forest and other products) for two reasons: so that import competition can be reduced, and so they do not, in the long run, create foreign exchange problems. MAJOR ACTION/DECISION: GOI

SECTOR POLICY ISSUES

CENTER VERSUS STATE
- Current position in country
  (1) Basic policy guidelines for forests are formulated by the GOI through MOEF, which coordinates environmentally relevant schemes and actions; (2) The responsibility of administering the forests rests primarily with the state governments.
- Position of the Bank/Bank projects
  (1) Past attention to the importance of having a strong center has been inadequate in Bank projects. The Bank's lending has supported the state-by-state approach and has attempted to deal with policy, institutional, and sector reform issues in a particular state context; (2) There is recent realization that there is no policy/analytical capability at the center. Some issues can be tackled only at the center and some only at the state level. A forest sector project to deal with issues at both levels has been proposed, but the Bank has not fully grasped the implications of a weak MOEF. The MOEF has not been able to make a strong case for lending to the forest sector, which is currently in danger of being suspended.
- Field viewpoint
  MOEF currently does not have the capacity to coordinate the activities of the states in the forest sector or to take the lead in policy, legal and institutional reform.
- OED review
  (1) It is important to have a strong center to assume coordination responsibility. A prioritization strategy is needed that identifies which issues should be handled at the center and which by the states; (2) In a demand-driven Bank, it is important to have a strong capacity in the MOEF to make a convincing case for GOI borrowing for the forest sector; (3) MOEF leadership is also required to take initiative in such areas as legal and policy reform, research coordination, and exchange of lessons learned between state level projects. This could have enormous implications for efficiency in a Bank project. For example, several foreign consultancies are part of each Bank project. Quite often, the same kind of consultancy, e.g., for research or planting material, is undertaken for each project separately. It would be more efficient if the learning experience between states could be coordinated and shared and that a foreign consultancy contract for one issue is undertaken only once for all projects. MAJOR ACTION/DECISION: GOI

LEGISLATION AND POLICY
- Current position in country
  Forest law in India has evolved to support the state's role in protecting forest land from exploitation by the people. The law has not kept pace with policy changes, however. Farm forestry restrictions with a negative impact on incentives to plant trees remain; also, although the JFM program is supported by GOI policy, it has no legal basis; and the state FDs still use working plans, which were an appropriate planning technique when the role of forestry was confined to timber production. Working plans have been used for about 130 years, but there has been no substantial change in their

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Table 3.4. Policy Issues with Implications for the Forest Sector (cont'd)

content and style. These working plans were prepared by the state FDs and approved by GOI for a period of 15 to 20 years. Under a Supreme Court ruling, no forest area can be worked unless it is covered by a working plan. However, the working plan is antipathetic to participatory and flexible planning (some participants at the country workshop thought this was not true). Since they are therefore unsuitable for the current forest sector strategy, the concept of the working plan needs to be examined and, if necessary, changed.

- Position of the Bank/Bank projects
  Bank projects have had some success in removing restrictions related to transport and tree felling that discourage tree plantations outside forests. Although the Bank projects have supported JFM, the legal issues related to JFM have not received sufficient attention. However, recent Bank documents recognize the need for attention to this issue.
- Field viewpoint
  (1) The state government resolutions recommend FPCs as functional groups. However, these committees have no legal and statutory basis, and it may be difficult for them to manage resources long-term. FPCs are recognized only by the FD; all other government departments recognize panchayats. Their relationships with the statutory village panchayats will need to be sharply defined; (2) In the context of JFM, the institutional links between political decentralization, in the form of Panchayati Raj, and administrative decentralization, in the form of JFM committees promoted by the Bank projects needs to be studied. This is important because the Bank has even in other development projects, such as drinking water, health, watershed development, and primary education, relied upon committees that are independent of panchayats. The Bank has promoted different committees, one for forests, a second for drinking water, and a third for education, and all may be distinct from panchayats.
- OED review
  These issues should be given priority and pursued at the highest level of government. MAJOR ACTION/DECISION: GOI WITH STATE GOVERNMENTS FOLLOWING UP WITH STRONG IMPLEMENTATION

PLANTING OF EUCALYPTUS AND OTHER FAST-GROWING SPECIES ON FOREST LANDS

- Current position in country
  Current policy allows planting of eucalyptus and other fast-growing species on forest lands.
- Position of the Bank/Bank projects
  Current Bank projects support plantations of eucalyptus and other fast-growing species on forest land. For example, the Uttar Pradesh project, approved by the Bank in 1997, still encourages eucalyptus for government forests.
- Field viewpoint
  Popular species for farm forestry, such as poplar and eucalyptus, should not be grown on forest lands, which should give more priority to multipurpose and usufruct-based trees. This will also help reduce competition between farmers and government, and help the producers get a better price.
- OED review
  This important policy issue needs to be sorted out. MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS

RESEARCH AND QUALITY OF PLANTING MATERIAL

- Current position in country
  (1) The state FDs realize the importance of giving attention to quality of planting material; (2) Research is faced with funding shortages; (3) The whole issue of Indian Forest Service versus technical staff affects research adversely.
- Position of the Bank/Bank projects
  The Bank has made one of the most important contributions to the forest sector in India in this field. The Bank projects emphasize improvement in planting stock. The Bank believes that one of the most

Table 3.4. Policy Issues with Implications for the Forest Sector (cont'd)

important contributions to be made to improving forest productivity, particularly in farm forestry, is the use of improved planting material. This requires the use of selected seed and seedling production using modern nursery techniques. A number of states have successful planting material improvement programs, but the extension of these programs to ensure that the majority of material planted is of high quality is a major issue for improving forest productivity in the future.

- Field viewpoint
  The Bank projects have perhaps been most successful in helping improve quality of planting material. However, sufficient attention has not been given to the need to change species to those required for people's participation.
- OED review
  (1) Recognize that improvement in planting material has been one of the most significant contributions of the Bank; (2) More attention is required in research on NTFPs and species suitable for dry lands; (3) More research is also required on development of other fast-growing species that will help meet the rising domestic urban demand for wood products; (4) Greater coordination between national and state research institutes is required; (5) The Bank needs to discuss with MOEF the state of forest research and extension and the policy and institutional issues that are not addressed under the Research and Extension project. MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS LESSER DEGREE: WORLD BANK

MARKETING OF FOREST PRODUCTS—INCLUDES TRADE IN NTFPS

- Current position in country
  (1) Numerous restrictions on marketing of wood products remain; (2) Currently, trade in a number of NTFPs is nationalized; (3) Several GOI studies have examined the issue.
- Position of the Bank/Bank projects
  (1) Bank projects have not paid adequate attention to marketing issues; (2) A major weakness of all Bank projects in linking forestry with the interests of the poor has been the inadequate focus on NTFPs; (3) Recent documents suggest that the Bank has grasped the importance of these issues. Current Bank projects recognize the importance of increasing NTFP returns, but attention to identifying the basic problems and encouraging governments to provide a permanent solution remains inadequate; (4) The Bank projects have tried to introduce policy and institutional reforms to solve this problem. They note the need for leveling the playing field to encourage private sector participation in marketing of NTFPs.
- Field viewpoint
  (1) State agencies marketing NTFPs have reached a stage where they are unable to play the roles for which they were intended. The policy framework wherein a state monopoly was considered necessary to counteract severe market imperfections has also become counterproductive and is encouraging market monopolies; (2) If the poor are to enjoy the fruits of their labor (and of the forests that they protect), a drastic overhaul of the policy framework is necessary to make it consistent with India's 1988 policy objectives; (3) Denationalization can solve the problem in areas where gatherers and producers are vocal and organized, with low levels of poverty and long experience in marketing. Where they are poor and unorganized, denationalization may be a necessary but not a sufficient condition. This is because several aspects of trade in NTFPs weaken the position of the sellers: restrictions on the free movement of NTFPs, even non-nationalized NTFPs; unavailability of market information; lack of access to a wider market; poverty of the gatherers; a large number of intermediaries; lack of processing; seasonality of collection. Studies are required to determine what is best for these regions; (4) Government federations should be asked to compete with other traders in the open market purchase of NTFP from panchayats/ Gram Sabhas. Just as it does for the procurement of wheat and paddy, the FCI provides a support price, but farmers are not forced to sell to the FCI alone. Similarly, the role of Forest Corporations in the marketing of NTFPs may be to provide a floor price, but they should also allow the private market to develop. Vigilance should be exercised to ensure that traders do not pay a price less than that announced by the government.

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Table 3.4. Policy Issues with Implications for the Forest Sector (cont'd)

- OED review
  Not given sufficient attention in the past. OED supports the arguments in the Field Viewpoint. MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS

LACK OF CLARITY ON SHARING OF BENEFITS

- Current position in country
  Although state FDs are beginning to realize the importance of this issue, it does not yet receive sufficient attention. Even in the JFM projects lack of clarity persists.
- Position of the Bank/Bank projects
  There is more in the post-1992 projects on this issue in comparison to projects in the social forestry phase, but even now there is less clarity and understanding than required.
- Field viewpoint
  Clarity on this issue extremely important to give FPC members a sense of ownership of the JFM program and for ensuring sustainability in the future
- OED review
  Clearer benefit-sharing arrangements are crucial for the future success of JFM. MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS

REVENUE EARNING CAPACITY OF FOREST SECTOR

- Current position in country
  Studies have been undertaken, but the issue has not received sufficient government attention.
- Position of the Bank/Bank projects
  (1) The Bank projects have raised this issue, but attention to it has been inadequate; (2) There are examples from the forest sector projects in states where revolving funds and other schemes have been successful, but these are still few.
- Field viewpoint
  n/a
- OED review
  (1) Conservation can be brought together with forest management and financial resource mobilization in a variety of ways—opening national parks to the public, charging user fees, differential fees to national and international tourists, taxing polluters, ecotourism, etc.; (2) The Costa Rica case study has valuable lessons to offer India. Costa Rica is one of the few countries that promotes reforestation through incentives such as tax credits, direct payments, and subsidized payments that have benefited landowners large and small. MAJOR ACTION/DECISION: GOI AND THE STATE GOVERNMENTS

GROWING TREES ON DEGRADED LAND

- Current position in country
  The social forestry program supported the growing of trees on degraded common lands; the JFM program supports growing trees on degraded forest lands.
- Position of the Bank/Bank projects
  (1) Bank projects promote JFM on degraded forest land. The efforts to regenerate degraded forest have surpassed the expectations of technical experts; (2) On degraded non-forest land, Bank projects promote social forestry. However, attention given to planting trees on degraded land outside the forest areas has declined since 1991 as this component was not successful during the social forestry phase.
- Field viewpoint
  (1) The Bank should support growing trees on degraded land rather than encourage farm forestry on land that can be put under crop cultivation. Emphasis should change from production of trees on good-quality land to rehabilitation of degraded land; (2) In subsistence regions, large areas of degraded forest are available, both with farmers and government. Therefore, the focus should be on

Table 3.4. Policy Issues with Implications for the Forest Sector (cont'd)

complementary agroforestry and watershed development on these areas; (3) Silvopastoralism is a well-recognized system of management for degraded lands and is extremely suitable and beneficial in areas of high livestock density and poor irrigation; (4) The main strategy should be: (a) in areas devoid of root stocks to provide immediate ground cover and provide fodder in the form of grass/legume and tree lopping, as well as other NTFPs and fuel, wherever feasible, in a sustainable manner; (b) in those areas where adequate root stocks promote aided natural regeneration, gap filling and enrichment planting under the JFM program; and (c) where plantations are required, promote usufruct-producing trees.

- OED review
  It is important for the Bank to coordinate with other departments and donors, especially on degraded non-forest land. The Bank should also promote further research in species of grasses and trees for dry lands. MAJOR ACTION/DECISION: GOI, STATE GOVERNMENTS AND THE WORLD BANK

STRATEGY FOR PROTECTING FOREST LANDS

- Current position in country
  There is no separate strategy for protecting reserve forests other than bringing them under JFM, although many state FDs are reluctant to bring the reserve forest lands under community protection.
- Position of the Bank/Bank projects
  The Bank's lending supports the policy of bringing all forest lands under JFM.
- Field viewpoint
  Current Bank strategy provides for alternative means of employment while forests regenerate. Economic development programs (known by different names; VRDP in Madhya Pradesh) are based on the belief that if foresters support village development in the broadest way—cattle, veterinary inputs, schools, health, water, roads, etc.—then the people will appreciate the role of forests and help protect it. This is reminiscent of the older social forestry philosophy that creation of fuelwood reserves outside forest lands will make people give up gathering from forest lands. This assumption may eventually prove naive. Empirical evidence linking prosperity with reduction in gathering is not very conclusive. By itself, poverty alleviation does not reduce dependence on open resources. Besides, whether such programs will lead to increased incomes for the poor may itself be in doubt because of their high overall cost per hectare. The experience of the past 30 years of rural development schemes (starting with Marginal Farmers and Agricultural Laborers Program of the late 1960s) shows that it is very difficult to conceive of programs on a large scale for this target group whose land base is limited. Besides, there is no evidence that the FD is aware of the past mistakes made by the development blocks in implementing these schemes. In the absence of this knowledge, the FD may repeat the same mistakes made by the Rural Development Blocks.
- OED review
  (1) JFM needs to pay more attention to sustainability issues; (2) Preliminary findings from the China country study show that control of public land and its management is being decentralized to households in that country. India is pursuing a different policy. Under JFM, land control remains with the state, but the villagers cooperate in protecting the forests and get a share in the usufruct. In forest lands then, India is not changing land rights but, rather, distributing benefits and pursuing a strategy of management of public lands with active involvement of the communities. This is institutionally more demanding than turning over control of land to the people and may have important implications for sustainability. MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS

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Table 3.4. Policy Issues with Implications for the Forest Sector (cont'd)

INSTITUTIONAL ISSUES

RELATIONSHIP OF FOREST PROTECTION COMMITTEES AND PANCHAYATS

- Current position in country
  The FPCs have no legal status.
- Position of the Bank/Bank projects
  The Bank projects have been creating FPCs in villages adjacent to forests to protect and manage forest resources.
- Field viewpoint
  Measures to sustain JFM beyond the project period have not been conceptualized. One of these is to link FPCs with statutory panchayats, and integrating the activities of such groups with other income-generating programs such as watersheds and marketing of NTFPs.
- OED review
  There is a need to define the legal positions of FPCs to make them strong grassroots organizations. However, linking the FPCs with the village panchayats may not be feasible. Some fear that it may even destroy the process of building social capital at the grassroots level, since panchayats are political organizations that do not necessarily represent the interests of the poorest and are based on the electoral system, and since conflict can be quite harmful for the effective functioning of FPCs. MAJOR ACTION/DECISION: GOI AND THE STATE GOVERNMENTS

TRAINING AND RECRUITMENT OF FOREST OFFICIALS

- Current position in country
  Currently according to civil service rules.
- Position of the Bank/Bank projects
  The issue has received greater importance since 1991. The Bank clearly recognizes that training and service conditions are not conducive to growth and development of the sector. Projects have primarily attempted to deal with them as components of state projects.
- Field viewpoint
  (1) Training and service conditions are not conducive to proper implementation of projects, policy of transfers, lack of continuity, and lack of core staff in research; (2) State FDs have had too many responsibilities thrust upon them without increasing their capability.
- OED review
  (1) Frequent transfers work against building the expertise needed to manage the forest sector (particularly in social issues); (2) Many of these issues need to be dealt with at the center with a definite strategy—quite a few as part of basic civil service reform. MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS

PARTICIPATION

- Current position in country
  (1) JFM strategy stresses the importance of involving the communities in protection of the forest resources; (2) SF also gave importance to community participation.
- Position of the Bank/Bank projects
  Though participation has improved since the social forestry phase, full collaboration and empowerment is lacking. Current Bank projects have attempted to increase participation, yet the time and resources for a genuine participatory exercise are not provided.
- Field viewpoint
  Little genuine participation in the Bank's projects.
- OED review
  (1) Cooperation and empowerment necessary to provide sustainability for forest cover protection; (2) New lending instruments like Adaptable Program Lending (APL) may be more useful for forestry lending. MAJOR ACTION/DECISION: GOI AND STATE GOVERNMENTS; DONOR COMMUNITY

Bank management as a part of an overall strategy of improving governance for environment sustainability and poverty alleviation.

4. *Poorly defined long-term process of change.* A reform process requires long association of the states and its top management with the Bank. Hence it is important to make crucial reforms part of the overall policy dialogue and not just individual project lending. A more effective strategy would be to distinguish between policy issues that can be handled within the context of an individual project and those that should be dealt with in the context of overall lending to the country or the individual state. One issue that could be part of the overall policy dialogue is continuity in staff positions. The performance of several Bank projects has been poor because of frequent transfers of senior GOI staff working on the projects, as well as changes in political leadership.

Participation

Participation has been a central theme of GOI's JFM strategy and the Bank's projects. It is widely believed that the involvement and collaboration of stakeholders can make Bank development efforts more effective and sustainable. The participation of local communities and other stakeholders in forest projects is believed to improve forest productivity, alleviate poverty, and increase environmental stability. According to the evaluative criteria (box 3.8) both the level and breadth of participation have improved in the post-1992 projects. All of them rank "high" on breadth but range between "limited" and "moderate" on level. The SF projects of the pre-1992 period involved limited participation. While they would qualify as "moderate" in terms of breadth, the level of participation in the projects would be "limited" or "very limited."

The basic strategy in the post-1992 projects has been to reorient the state FDs to provide for greater community participation in the protection and management of forest resources. The projects provide for extensive training for FPC leaders and FD staff in participatory rural appraisal. Workshops and study tours within and between states to learn from ongoing efforts are an important part of the process. However, the reluctance to delegate decisionmaking power to the communities remains. The communities are also not yet prepared to take complete ownership of the management of forest resources. To be fair, it would be highly unrealistic for the communities and the FDs to become equal partners in the short span of a Bank project. There are several reasons for this. First, after using a command-and-control approach for so long,

Box 3.8. An Evaluative Framework on Participation

This study rates participation according to two criteria: level and breadth. Five levels of participation are used: zero for no participation; 1 for information sharing (one-way communication); 2 for consultation (two-way communication); 3 for collaboration (shared control over decisions and resources); and 4 for empowerment (transfer of control over decisions and resources). Genuine participation implies some form of empowerment of the local population. The level of participation does not take into account the breadth of participation, i.e., how much of a project involves participatory mechanisms as a proportion of components, geographical coverage, etc. The breadth of participation in a project is judged on a four-point scale: 1 for extremely limited participation; 2 for limited participation; 3 for moderate participation; and 4 for high participation. To be able to rank projects according to these two criteria, a system of project classification has been developed. Each project is examined for the following factors:

- Participation in project stages: Whether it was a part of stated project objectives, project design, implementation and evaluation
- Indicators: Inclusion of participatory indicators in monitoring, supervision missions
- Methods: Social assessments, beneficiary assessments, needs assessments, surveys, participatory rural appraisals, advisory groups, informal interviews, focus groups, workshops
- Stakeholders: Communities/local rural resource users, community-based organizations/cooperatives/ local institutions/associations, local NGOs, international NGOs/research institutions, indigenous peoples, women groups, local/district/state/government representatives, commercial private sector.

it is not easy for the FD to recognize communities as equal partners in a short time, nor is it easy for the communities to accept such responsibility when they have never had it (or not had it for a long time). Second, the FD still has the final responsibility for forest lands and JFM is not supported by law. The FDs feel insecure that if too much authority is given to the communities, the state may lose control over the land. Third, the basic training for the forest service ingrains in them a culture of superiority. On the other hand, the communities consist of poor, illiterate people. It is difficult for the FD staff to regard them as equal partners. It is even more difficult for them to accept that they should learn and consult with the communities in a process of participation. Vigorous training is required to change attitudes. There is comparatively greater acceptance for the concept of cooperation among FD officers who have been exposed to the idea of community participation with training early in their careers, as is visible in the younger generation of

officers. Hence, for the majority of the FD staff, understanding of participation does not go beyond "we (FD) manage and direct, you (FPC members) participate" kind of collaboration. A change to the JFM style of management, with the objective of forest protection and meeting the needs of the people, requires a totally different training and retraining, carried out at regular intervals over a long period, than is currently imparted to the forest staff and officers. This also requires strong commitment and generation of new literature to change the mindset of senior forest officers who have been used to implementing the old custodial policies, which are still consistent with the law.

> The participatory schemes on forest land … are still too much seen by [the Government] as alternative programs to generate government plantations. The participatory elements and training need to be strengthened in these components, and likewise in the VED (Village Ecodevelopment Program) program on non-forest land." Midterm Review April 22, 1996, Maharashtra Forestry Project. (The States of Madhya Pradesh and Andhra Pradesh are doing much better on participation).

The communities are not yet empowered for four major reasons: First, forest lands are owned by the FD and the communities have only de facto user rights. Bank staff note—and OED concurs—that whether the status quo is the right approach in India is a debatable issue and requires further research. One extreme view is that all forest land should be parceled out among communities; the other extreme view is that the state should continue to own and control forest land. There is much that can be learned from the experience of other countries like China in this regard, but the Bank has not generated any research on this issue. In China, control of public land and its management is being decentralized to households. Under JFM in India, land control remains with the FD, but the villagers cooperate in protecting the forests and get a share in the usufruct. In effect, JFM is an institutionally demanding strategy. Second, benefit-sharing arrangements are neither clear nor transparent, creating uncertainty in the minds of the FPC members. Third, lack of knowledge of government procedures makes it difficult for illiterate village people to participate as equal partners. Fourth, the multiplicity of complex rules and laws is not conducive to promoting participation.[84]

NGOs and the Private Sector

The post-1992 projects provide for greater NGO collaboration, especially to assist the FDs in participatory management activities in the fields of training, extension, villager mobilization, formation of village protection committees and training of women's groups, and technology dissemination. As with other aspects of implementation, the level of

NGO involvement in the later projects (Andhra Pradesh, Uttar Pradesh, Madhya Pradesh, Kerala, Eco-Development) has improved in comparison to the earlier ones (West Bengal and Maharashtra). NGO participation was limited in the West Bengal Forestry Project as the design did not make effective provisions for collaboration between NGOs and the FD. This is not the case with the later projects. The Uttar Pradesh Forestry Project provides for an NGO fund to finance the participation of NGOs in planning and implementing JFM, for training and village forest committee (VFC) capacity building. Approximately 800 NGOs are participating in the Andhra Pradesh Forestry Project. Those organizations are not only providing social intermediation services (such as creating awareness, conducting participatory rural appraisals, preparing microplans, and training) at the grassroots level, but are also helping build capacity. Detailed deliberations with the NGOs have occurred at the state level and district level in Andhra Pradesh to formulate a policy of participation among the forest protection committees, the NGOs, and the FD in evolving a support program for successful implementation of JFM. A state-level steering committee with the Principal Chief Conservator of Forests as the chairman, representatives from NGOs, and experts in the field has been constituted. The committee has finalized the activities that can be entrusted to NGOs under the project. Similar committees are being formed in districts under the chairmanship of concerned conservators of forests. These committees will finalize the modalities of releasing funds and monitoring various activities entrusted to the NGOs. Bank staff note—and OED concurs—that NGOs are not always the panacea. There are many situations where local NGOs do not already have a presence (this suggests a greater role for the Bank in helping build NGO capacity) and where other mechanisms to provide facilitation support may be more appropriate. In addition, in many situations where NGOs are associated with political parties or lack integrity, their involvement may not be constructive and may generate conflicts.

The later post-1992 projects also attempt to improve private sector participation in the forest sector. The Uttar Pradesh Forestry Project is encouraging private nursery development for support of farm forestry and private agency involvement in extension. In several states (Madhya Pradesh and Uttar Pradesh), the private sector supports farm forestry programs. In Uttar Pradesh, a private firm, Western India Match Company, has been responsible for introducing and popularizing poplar cultivation on farms. Through the special efforts of the FD in Hosangabad district in Madhya Pradesh, Central India Board Products, a particle

board factory, previously dependent on the government for raw material supplies, has started contacting farmers for plantations of su-babul (a tree species) on private land. The factory has created a market for 13,000 metric tons of su-babul in the area. This has boosted production of the tree. These efforts to involve NGOs and the private sector need to be monitored through systematic professional independent evaluators as an input into the Bank's own future of a more systematic and fine-tuned strategy of institutional diversification and development. OED is not aware of any plans by the region to systematically monitor and evaluate institutional development.

Corruption

The World Bank defines corruption as *the abuse of public office for private gain*.[85] Since state FDs control valuable timber and non-timber resources, the pressures to be corrupt are high. The innumerable controls on cutting and transporting trees also provide opportunities for corruption. No systematic studies have been done on corruption in the forest sector, as illegal logging is difficult to detect. The evidence of informal conversations with staff, NGOs, and beneficiaries suggests that the problem is widespread, but there is no evidence to indicate that corruption in the Bank projects is more or less than in other FD activities.[86]

Poverty[87]

The JFM strategy implies increasing the collective ability of the communities adjacent to forests to manage, grow, and equitably share common property resources. Since poverty is concentrated around forests, the Bank's forest sector projects have a tremendous potential for meeting the needs of the poorest (box 3.9). During the SF phase, afforestation activities were government programs in which the participation of the rural poor was largely limited to wage employment. As users of forest products, they were seen as destroying forests through overuse and overgrazing. Forest-poverty relationship was defined negatively—if people continue to be poor they will destroy forests. Only recently is the positive role that forests can play in poverty alleviation being realized—that the forests fulfill the needs of the poor who have a role to play in their protection. However, currently there is less stress on how the communities will continue to gain financially in the long run from sustained forest protection and how the FDs can earn the revenues to ensure that those programs become sustainable, and more emphasis on immediately meeting the project targets for areas brought under protec-

tion and the number of FPCs formed. Where the JFM program has more ownership, as in Andhra Pradesh and to some extent Madhya Pradesh, the benefits to the communities are likely to be greater in the long run. However, even here the need to follow a cautious approach cannot be overemphasized because frequently in situations of inequalities (as exist in rural India), control of organizations like FPCs moves to the rural political elite, resulting in a disproportionate allocation of the development resources in their favor (Lele 1981). Currently, however, a large part of the benefit to the poor has been wages. Though the regenerating forest areas have increased the physical output of NTFPs, since

Box 3.9. Forests and Poverty

A forestry program, like any other economic program, can help the poor in three ways:

Wage employment: Without prospects of wage employment, people may be reluctant to take interest in a long-gestation project. However, wage employment alone cannot justify expenditure, unless it creates productive assets that help the poor. The SF projects relied heavily on wage employment. Most of the SLSW projects provide FPC members the opportunity to work as laborers on Economic Development Program activities and in planting and regeneration in forest areas. Studies show a decline in seasonal out-migration from these areas (southwest Bengal). This is hardly surprising, as villagers are happy to stay in their villages when employment is available close at hand.

Upgrading of skills: Imparting new skills like running a nursery, grafting fruit trees, or upgrading the designs of finished products (such as those made from bamboo), leads to income generation. This is also likely to increase the self-confidence among the poor to take charge of their own communities and bargain with the political elite and government officials.

Asset creation: Trees as assets help the poor in three ways: by meeting recurrent subsistence needs for fuel, fodder, food, fiber, and NTFPs; as sources of income through sale of these seasonal items; and as capital stocks or savings banks to be cut and cashed to meet contingencies. If assets are on private lands, all three options would be open to the poor, but if these are on public lands, the questions of nature of assets, and of access to and control over the assets, would determine how benefits would be shared between the poor and others. On public land, given the socio-political realities, it is unlikely that such assets would be cut and sold by the poor (at least not legally). At best, these can provide low-grade fuel obtained from gathering leaves, fallen branches and twigs, NTFPs, and leaf fodder in times of grass scarcity.

The Bank's projects have been most successful in providing wage employment and less effective in upgrading skills and creating assets. Since these benefits are not monitored, the only way to tell what is happening on the ground is through the words of Bank task managers and FD officials.

adequate attention to marketing issues is lacking, the benefit from increased production has not as yet trickled down sufficiently to the poor. Still, given the important role that NTFPs play in the lives of the poor, their potential for poverty alleviation is enormous. In projects like West Bengal Forestry there have been other environmental gains to the poor from forest regeneration, but these are difficult to quantify or measure (for example, Mangroves have significant benefits for flood control).

NTFPs

NTFPs are important to the poor, particularly tribal people. The returns to the poor from these products could be increased in one of three ways: increased NTFP production (through greater protection during the initial years of regeneration), improved access to NTFPs, and higher returns to NTFPs through proper marketing.

Bank projects have insufficiently dealt with these issues. The West Bengal Forestry Project recognizes the importance of collecting NTFPs as the principal incentive to forest dwellers for mobilizing community management, yet does little to help the Government of West Bengal improve the marketing framework for the NTFPs collected from the project area. The Staff Appraisal Report for the Andhra Pradesh Forestry Project reiterates the concern for poor users of NTFP, "Usufructuary benefits should be provided to the tribal communities primarily, and after saturation of their requirements, to non-tribals" (p. 46). However, without sufficient monitoring it is difficult to know whether tribal needs are really being met. In recognition of the conditions of the tribals, the Kerala Project Appraisal Document (1998) recommended that controlled marketing of NTFPs be phased out. However, the government has not made any changes so far in the monopoly rights given to parastatals. The current arrangement—government control over marketing of important NTFPs—does not ensure adequate returns to the poor. But state governments have vested interests in not losing control of the marketing of NTFPs, given the revenues to be made publicly and privately, often at the cost of the poor.[88] As for several other issues, the Bank's presence in the sector has helped focus attention on the important role that NTFPs play in the life of the poor. Recent Bank sector work (1993 and 1998) shows an appreciation of the important role that an increased flow of NTFPs plays in increasing community participation in forest protection and management. However, the Bank sector work and projects have not yet contributed sufficiently to building a

Box 3.10. Silvicultural Practices for Bamboo

Bamboo is an important crop in Madhya Pradesh, Andhra Pradesh, and Maharashtra. But the productivity and quality of many bamboo stands has been depressed by dense leaf litter, which suppresses the growth of new shoots and poses a fire hazard during the dry season. If the stands were routinely cleaned and thinned, the danger of fire would be reduced, productivity would increase, and a regular flow of green bamboo would be available to the artisans who use it.

The FD's traditional bamboo harvesting policy maximizes dry bamboo output for paper mills rather than green bamboo output for artisans. Whether by design[a] or because of lack of funds the present practice of leaving bamboo clumps *unworked* reduces productivity, and is anti-artisan. Present silvicultural practices ban the felling of green bamboo, but if bamboo forests are carefully worked and green bamboo is regularly harvested, total bamboo output would increase. Artisans who are living close to forests can be involved in management of bamboo forests, so that they extract bamboo themselves without damaging the stand. However, along with changing the technology, which would maximize the production of green bamboo, it would also be necessary to streamline the procedure for making bamboo directly available to the artisans. None of the Bank documents give attention to the procedural difficulties of making bamboo available to the artisans. The FD serves three important bamboo customers: paper mills, artisans, and non-artisan users (primarily the construction industry). Paper mills get their subsidized bamboo supply on long-term price (and supply) contracts. Building contractors and other "legitimate" users have to apply for their requirements to the FD, justify them, and then wait until the application moves through the FD labyrinth before they get an order. They normally have to wait quite a while before they get the bamboo they need. Although the details vary from state to state, the procedure is equally complicated for the artisans. First, artisans have to organize into a co-operative to qualify for bamboo supply from the FD. The Registrar of Cooperatives then has to certify the cooperative as legitimate. Then the co-op can make an application to the Chief Conservator of Forests (CCF) for an annual quota of bamboo. There may be over 200 such artisan co-ops in each of the three central states. Andhra Pradesh alone has 550 societies with 23,000 members (SAR p.5). The CCF examines the application from each cooperative, issues them an approval, and marks the application to the Conservator Forests (CF) of the relevant circle. The CF counts the number of workers in each member family of the co-op and then allots each co-op a quota. The co-op chairman then approaches the Deputy Chief Conservator (DCF) who assigns them to a range where their requirements are finally addressed. Once an annual quota is allotted, the co-op can keep drawing its requirement of green bamboo on a periodic basis upon prior payment. The entire procedure of obtaining bamboo from forests is complicated, especially for artisans outside the district, and can be completed only through involvement of contractors and agents in the whole scheme, which makes sale in the black market an attractive alternative.[b] Although the Bank has been pleading for liberalization of procedures for farm forestry (and rightly so), no such initiative has been taken for bamboo workers. As a result, both production of bamboo on private farms and access of artisans to bamboo has suffered.

a. Saxena argues that there is a practical reason that the FD does not favor the production of green bamboo. Harvesting green bamboo from the outer rings of the stands would leave completely unprotected new shoots sprouting on the inside. These are an edible delicacy for animals. Since protecting bamboo stands is nearly impossible, survival rates for the tender shoots would be negligible. This can be avoided if bamboo from the interior of a stand is removed.
b. In genuine co-ops, the incentive for the leaders is limited by the fact that they have the same claim on "residuals" as other members have. In a contractor-operated co-op, on the other hand, the contractor pays the members with wages and becomes the sole recipient of "residual claims." The contractor therefore has a strong incentive to cut through the hassle and perpetuate the regime of controls and subsidies since such regimes are the only ones that offer high rewards for cutting through the maze of rules and regulations.
Source: Saxena 1999.

strategy that would simultaneously promote increased production, improve access, and maximize returns.

Fuelwood

Fuelwood production was the major focus of the SF projects. Since 1991, however, increasing fuelwood production has not been a project objective. While this makes sense given the overall approach to the sector, project planning must take into account the fact that fuelwood is an essential commodity in rural areas and is mostly gathered. Closing an area to regenerate and protect it can have implications for women, who may have to travel farther to meet the fuelwood requirements of their families.[89] This often results in increased degradation of another area in the vicinity that may not be under protection, though Bank staff from the region think otherwise. They say that JFM has resulted in large increases in fuelwood through the initial clearing, thinning, and other operations. They further note that it is not unusual for Bank supervision missions to encounter temporary fuelwood gluts even at early stages of project implementation. The impact that protection of one area has on another area in its vicinity needs to be monitored in Bank projects as availability of fuelwood in the area under protection has enormous implications for project sustainability.

Tribal Issues

According to the 1991 Indian census, there are 68 million tribal people in India, accounting for approximately 8 percent of the population (see table C8 for a breakdown of the population by state). The Bank's Operational Directive (OD 4.20) on indigenous people's issues provides guidelines to ensure that indigenous populations benefit from development projects and that project activities do not affect them adversely. Since a large percentage of the India's tribal population lives close to forests, Bank forest sector projects have the potential to affect the lives of these people. Tribal people constitute the most disadvantaged section of society based on per capita income, literacy rates, nutritional and health status, and lack of access to social and technical services. The design of Bank projects since 1991 takes specific steps to include tribal groups among the project beneficiaries (box 3.11).

While the tribal groups may seem likely to benefit from the Bank projects, Saxena notes that project preparation does not address the basic issue of why the tribal population constitutes the most disadvantaged section of society. As an example, the 1991 census shows that the

percentage of land held by tribals in the Eastern Ghats region of Andhra Pradesh has declined significantly through distress sales or clandestine transfers. The Bank projects have not examined this problem. In the absence of detailed discussions of the larger forces of market and political power pitted against the tribals, proposed packages in Bank projects for economic rehabilitation of tribals may not be realistic. In addition, the afforestation schemes in Andhra Pradesh often ignore tribal cus-

Box 3.11. Tribal Development Strategy in Post-1992 Projects

Kerala Forestry Project*:* Tribals make up only 1.1 percent of Kerala's population, but they are the majority of the population living inside the forest areas (70 percent) and remain highly dependent on forest resources for subsistence goods. These groups are to be major participants in the Participatory Forest Management strategy. The project will involve local NGOs that have a long record of working with tribal groups.

Andhra Pradesh Forestry Project*:* According to the 1991 census, Andhra Pradesh has the seventh largest tribal population in the country. The project is financing a tribal development strategy to ensure that tribal and socially disadvantaged groups living below the poverty line receive culturally compatible social and economic benefits from the project. The project area includes areas both with concentrated tribal populations (75 percent tribal)—scheduled areas[a] under the Integrated Development Agencies—and non-scheduled areas with dispersed tribal populations (40 to 50 percent tribal). Project beneficiaries will be 700,000 households of fringe forest dwellers, of which approximately 21 percent are tribal households. Responsibilities have been divided between the ITDA and FD, though planning is being done jointly by the two departments.

Uttar Pradesh Forestry Project*:* Only two percent of the Uttar Pradesh population is classified as scheduled tribes. Tribal groups are incorporated in the JFM strategy.

Madhya Pradesh Forestry Project*:* Since Madhya Pradesh has the largest tribal population in India (23 percent of the state population is tribal) tribal development concerns are integral to the project. The population in and around forests consists largely of tribals. Tribal groups are the main participants and beneficiaries in this Village Resource Development Program (VRDP).

Eco-Development Project*:* Since 39 percent of the 427,000 project participants are tribals, their development concerns are central to the project. Teams comprising protected area (PA) staff and local NGOs use specifically focused participatory rural appraisal techniques, protected area mutual interaction assessments, which would facilitate detailed village-level planning. The project attempts to integrate tribal concerns rather than treating them as a subsidiary tribal development plan.

a. "Scheduled areas" are those areas declared by the President of India under the V schedule of the Constitution. Most of the forest areas in the State of Andhra Pradesh coincided with the scheduled areas.

tomary rights over *podu* (shifting cultivation) lands. A recent report on Andhra Pradesh by Oxfam shows that although the FD does not evict *podu* cultivators, it includes old *podu* lands within the scope of JFM, which increases the fears among the tribals that after wage earning programs are withdrawn, their food security will be in jeopardy. MOEF in its comments rightly notes that the entire issue of tribals and shifting cultivation needs to be examined in the context of traditional practices, tribal rights, forest policy, and legislation to reach a workable solution. The Bank projects assume that JFM would automatically help increase the incomes of the tribals since they would be members of FPCs. However, there is very little recognition in the Bank documents about the hardships that tribal groups face when land is brought under protection. During the period of protection, people have to limit extraction to allow for sustained supply in the future. Additional labor must be spent in the short run to collect wood from longer distances, and participation entails enforcing rules and regulations that affect the poor. Some vulnerable groups, such as head loaders, women, tribals, and the landless poor are in danger of losing their livelihoods or means of sustenance when protection of a degraded forest begins. [90] Thus, it may be useful if JFM is taken up simultaneously with development of SF and other efforts to increase productivity of land other than degraded forests: private lands, non-forest village commons, and forests remote from villages.

On the positive side, though statistical information is not available to support the perception, field visits found that tribal villages were more successful in implementing JFM than caste villages since tribal villages tend to be more socially cohesive and engage less in factional politics. In tribal villages, women's participation in JFM activities was also higher since there are typically fewer constraints on women in tribal societies. Thus, the potential for success of JFM among tribal villages is greater.

Gender

Gender issues have continued to receive limited attention in current Bank-financed projects. The intention of increasing women's participation is present in the Bank-financed projects, but they do little to address the crucial constraints that women face. The result is limited women's participation.

Merely shifting the protection role from the FD to the communities does not provide any immediate relief to women. Neither does it guarantee their increased participation. Saxena notes that protection of a degraded area under JFM often increases women's drudgery because

they have to travel a greater distance to collect their daily requirements of fuelwood and fodder; because they often have to switch over to inferior fuels like leaves, husks, weeds, and bushes; and because the gender-differentiated impact is not restricted to firewood, so it applies equally to other forest produce. Protecting sal trees with the existing technology of multiple shoot cutting puts the leaves out of reach from the ground. This affects the making of sal leaf plates, which is a common source of income for poor women in many parts of West Bengal, Madhya Pradesh, and Andhra Pradesh. Bank staff note, however, that women's participation has improved, that natural regeneration in the JFM areas is bringing fuelwood close to the doorstep of the villages, and that improved protection has increased fodder production. They observe, however, that the gender issue is deeply entrenched in Indian society and a gender revolution through forest projects in India, however desirable, would be too ambitious. Annex I highlights the four distinct occupational roles for women in the forest sector.

The Bank-financed projects have attempted to provide for women's membership in committees, but membership in committees is not synonymous with a share of rights or benefits. Both need to be ensured, not one or the other. Forced inclusion of women through legislation has not led to their genuine participation. In Madhya Pradesh, while men's participation in micro-planning in VFCs was restricted to providing information, women did not even do that. Their role was negligible. Women were not even aware of the existence of a village development fund (PRIA & Samarthan 1998). Often meetings are scheduled in the evenings to suit men, but at times when women tend to be cooking. When attending meetings, women rarely participate. It is considered against Indian culture for women to talk in the presence of men, much less to question their ideas. As a result, there is a bias in favor of those forest products of interest primarily to men. Box 3.12 notes the crucial steps that need to be taken to mainstream gender into the Bank's forest sector projects.

Non-Forest Land and Wastelands

Degradation is an equally acute problem on non-forest lands.[91] The Bank reduced its lending for SF in the post-1991 period as it considered that phase of lending to be unsuccessful. The Andhra Pradesh Forestry Project was to devote US$8.3 million to forestry development on lands outside forest areas. This was to be divided between farm forestry (also group forestry) and community forestry. However, the midterm review dropped activities related to afforestation and restoration on commu-

Box 3.12. Gender in Bank-financed Forest Sector Projects

The key to mainstreaming gender in forestry projects[a] is identifying and, to the extent possible, quantifying the potential gains that will accrue to women and the likely losses they may have to bear as a result of the planned intervention. Micro-planning provides an ideal forum for this kind of thinking. Specific issues to be considered are as follows:

- Pre-project benefits likely to be forgone by women and their households, with special attention to households headed by women: For example, when common land is to be used for tree plantations; when gathering and sale of wood from government forests is eliminated as a source of income for poor households; when the use of NTFPs is expected or likely to become commercialized; or when changing gender-specific economic interests and incentives induced by project interventions are likely to deprive women of access to previously accessible resources.
- Workload implications for women: For example, the extent of added labor required of women of various socio-economic groups for project activities (such as watering, weeding, protection); longer distances to be walked to gather fuel, fodder, and other products previously obtained from land now brought under a different production and management regime; and the effect of such additional labor requirements on women's time and labor allocation and on women's and household welfare (e.g., curtailing of time allocated to other tasks, increasing reliance on child labor).
- Probable gains to women from planned interventions: For example, the increased availability of forestry products (but check for potential conflicts arising between men and women, between commercial and subsistence users); the availability of new products for subsistence and/or market-oriented income generation; the introduction of new income-earning activities based on forest products not previously available; and the generation of wage-labor opportunities (but check for potential distortions in male-female competition for new employment).
- Difference and potential conflicts between probable gains and losses for women and those anticipated for men, households in general or the community as a whole: For example, men's strong preference for timber species crowding out women's need for fuel and fodder trees; men's preference for selling trees en block conflicting with women's need for the domestic or home-industry use of byproducts; or men's interest in cash-cropping of trees and their command over the labor of women in their household forcing women to reduce their time allocations to other family-care and/or income-earning tasks.

Given the sex-segregated and hierarchical nature of Indian society, separate women's organizations and staff are needed to work among women to instill confidence in them so that they can fight for their rights. In addition, adequate and equal representation of women is needed in village-level committees. As women in many societies still feel inhibited in expressing themselves in mixed gatherings, each committee should have a separate women's cell for raising their consciousness and for improving their skills. The quality of women's participation and the control they exercise over decision-making processes is more important than the sheer number of women present in such bodies.

a. As identified by Saxena (1999) in the background paper prepared for this study.

nal lands since no progress was made under the component. Bank staff have explained that the project required that all community forestry wood lots be handed over to *panchayats*, who refused to take them over. The FD expressed its inability to do anything about this to the midterm review mission and asked to exclude the component. The mission decided that in the absence of community ownership there was no point in continuing with a component that was provoking more resistance than support. Targets for group farm forestry also were reduced by the midterm review, despite the large potential in the state, especially in the coastal districts where a large number of farmers had resorted to casuarina planting and selling to paper mills. The midterm review of the Maharashtra Forestry Project also discontinued the wasteland afforestation program on public non-forest land.

The earlier section on "Pre-1991 Lending" included information on the implementation experience of the Bank's lending during the SF phase. There are considerable lessons that can be learned from the experience of this earlier phase of Bank lending and incorporated in a future forest strategy. First, since the major motivating factor for SF was commercial profit instead of meeting the basic wood requirements of the local population as visualized, through creation of an enabling environment and research and extension,[92] private tree plantations outside forest areas can meet a large part of the demand for wood products in the country. In this connection, the use of nontraditional species like rubber can be an important source of timber. India's 1988 policy encourages the private sector to establish direct supply links with the farmers, yet some legal obstacles on transit regulations that are a disincentive to the private sector remain and need urgent attention. Second, attempts need to be made to develop tree species that are suitable for planting in subsistence areas with enormous benefits for the country. In India, where land and water resources are scarce, agroforestry and tree plantations in watersheds in rain-fed and semiarid areas could be a part of peasants' subsistence strategies and could complement crops. Third, by correcting for the major reasons that led to failure of the community forestry component, tree plantations on common lands and wastelands can be used as an effective strategy of wasteland development (box 3.13).

Currently, even comprehensive data on the various categories and dimensions of wastelands and common property resources (a large percentage of which have degraded into wastelands) is lacking. Fourth, successful examples of group farm forestry can be replicated in other areas as an essential ingredient of a poverty alleviation strategy. This is

vital to building grassroots social capital as distinct from mere community interest in tree plantation. Fifth, SF could be used to increase the effectiveness of strategies for protection of forest areas, like JFM. The success of JFM is dependent on other rural development programs or on efforts made to increase productivity of land other than degraded forests: private lands, non-forest village commons, and forests remote from villages. If programs to make these lands productive are taken up simultaneously or before forest areas being brought under JFM, these may meet employment and income needs of the people during the period in which they are required to reduce their consumption from specific forests. Therefore, the village micro-plan should be comprehensive enough to include all elements of land management within a village, including crop and uncultivated village lands. Sixth, learning from the experience of SF clarity on benefit-sharing arrangements between the concerned village and the FD is essential.

How Has the Bank Performed?

Outcome

Relevance

The Bank's forest sector strategy in India, even though largely manifested through project lending and a project-by-project approach, has been relevant for several reasons: (1) It has helped the country bridge the financial resource gap that it faced in implementing its forest strategy; (2) It has contributed to reducing the rate of decline in tree cover through support for SF and JFM; (3) It is helping change the attitude of the state FDs toward working with communities in tree plantation, forest protection, and management; (4) It is contributing to improvement in the quality of planting stock; (5) It has helped to bring critical but politically unpopular policy and institutional issues to the table; and (6) It has the potential for positive impacts on the poorest—i.e., those living in and around forest areas. The Bank lending has had two major limitations. First, in supporting India's strategy for its forest sector, it has supported the idea of India graduating from one policy phase to the other, instead of treating each new phase as a part of an expanding forest sector strategy. As a result, even though the current SLSW projects focus attention on regeneration, SF, improved planting stock, and other production-related aspects, they have not sufficiently helped the country meet the diverse demands on the sector. Second, partly because it

Box 3.13. Some Elements of a Possible Strategy for Wasteland Development and Afforestation

A large amount of land in India is categorized as wasteland. Since degraded forest lands form a large part of the wastelands, a program for their afforestation has to be a part of the overall policy of development of wastelands (Mohan Dharia OED country workshop). Wastelands can be brought under vegetative cover (footnote 7), but the reason for their low productivity and degradation varies according to the kind of land (salinated, gullied/ravined, waterlogged, uplands with or without scrub, marshy, grazed out, etc.). The social forestry phase considered land degeneration the consequence of people's demands for fuelwood and fodder. Hence, SF stressed tree plantation and gave little attention to analyzing the reasons for poor productivity of such lands. In fact, the problem is more complex and results from deficiencies in overall land management. The need is to introduce moisture conservation and water harvesting measures along with tree plantations—to follow a watershed approach. Some kinds of wastelands can be made fit for the development of agriculture. Others, within a reasonable cost, can only be made suitable for growing grasses, shrubs, or trees, and not crops. Although the ministries of agriculture and rural development have implemented watershed projects for more than a decade, issues of people's participation and social organization have not received attention, and hence their past efforts have been unsustainable. Sustainability requires that people own, and are a part of, the development process. A future strategy for wasteland development has to combine the lessons learned from the social forestry phase as well as lessons from what was lacking in past programs of wasteland development. Lessons can be learned from success stories such as those of Jhabua in Madhya Pradesh (Annex K). A future strategy for wasteland development would need:

- Clear recognition of the need to develop these lands
- Analysis of various causes of land degradation in a particular area
- Policies have to be developed according to who owns the land. A piece of wasteland can be owned by individuals, the community, or the government. Incentives for development of privately owned wasteland are different from those under community or government control. In case of community and government land, it is essential to draw clear benefit sharing arrangements to involve local people in protection and management.
- Area- and land-specific strategies to be developed, keeping in mind what is possible for a reasonable cost
- Approach for development of wastelands should be on the basis of the entire compact micro watershed (which would include both cultivated and uncultivated lands including forest lands) rather than small pieces of wastelands scattered in different places. The development of the micro watershed would require preparation of integrated land development plans that are developed by taking into consideration the land capability, site condition and local needs of the people. User groups and others dependent directly on the watershed have to be involved in the preparation of land development plans.
- Since people's participation is essential, issues of social organization need particular attention.

Source: Saxena later communication and input from country workshop, November 1999.

did not realize it, the Bank failed to bring this to the attention of Indian policymakers as a shortcoming.

Efficacy

It is not easy to judge the efficacy of forest sector lending in India. Most of the post-1992 projects are currently under implementation. If the major goal of forest sector lending in India is protection and sustainable management of scarce tree resources, then these projects are likely to be efficacious. Table 3.5 shows an improvement in the efficacy rating for the Bank's forest sector strategy (from the country perspective) from 1994 to 1999 compared with 1991–94. This assessment is based on improvement in project design and early implementation results.

Efficiency

The Bank forest sector projects have not been efficient. Two aspects of efficiency deserve attention. First, forest sector lending is to be seen in terms of the financial cost to the borrower, and the major objective for the country. If the ultimate objective is to prevent forest deforestation and degradation and/or stabilize tree cover, then has the US$830.14 million that has been spent in forest sector projects been the most effective way to achieve that goal? Did it reach the poor? What impact have the projects had on the lives of the poor? If, on the other hand, the major objective is to reduce poverty, then, given the resource constraint, is lending to sectors other than forests a more efficient way of reaching the poor? Will a particular village be better off if the amount of money to be spent under the JFM program is simply handed over to the village to undertake other long-term poverty alleviation measures? Though monitoring and evaluation has improved, it is not certain that sufficient outcome information will be available by the end of the projects to permit assessment of impact.

The Bank forest sector projects vary widely in costs, and actual cost per village or per unit of area regenerated has not been a consideration in the design of the Bank forest sector projects. For example, the Maharashtra Forestry Project covers 150 villages with total project costs almost twice those in Madhya Pradesh, which has covered 1,150 villages in fewer years. Analysis by per hectare cost yields the same picture. Assuming that the major objective is to prevent forest deforestation and degradation and/or stabilization of tree cover, all project components (sector reform, research, NGO participation, and JFM) are inputs to achieving that goal. Under these circumstances, analysis shows that even planned cost per hectare varies significantly between projects, ranging from US$56.23 per hectare in West Bengal to an astounding

US$714 per hectare in Kerala. Although the Kerala and Uttar Pradesh projects are of similar design, they differ widely in cost.

This has implications for the financial sustainability of the projects (particularly if the costs are high), as it may be difficult for the borrower to provide funding for activities begun under the Bank project. This means that during the life of the project, there is a lot of excitement as many new opportunities for employment are created, assets such as furniture and carpets are bought, and the village elite get new forums for articulating their concerns. However, it is difficult to sustain activities once the project is completed.

Second, does the transfer of resources to the state government have implications for efficiency? In India, after a project is signed with a donor, states make provisions for that amount in their budget. After that, they claim reimbursement from the Ministry of Finance as needed. GOI bears the foreign exchange risk and pays interest to the donor. While the way resources are transferred to the state and who bears the foreign exchange risk and interest burden is an internal borrower concern, it does have implications for efficiency. In China, the provinces and counties are on-lent money by the government and they typically bear the interest and repayment burden, and sometimes the foreign exchange risk. As a result, the provinces and counties are conscious about how to best use the resources to meet the needs of the sector. Unfortunately, such consciousness is lacking in India because for the states there seems to be no difference between donor-assisted programs and other state plan programs. [93]

Institutional Development

Three levels of institutional development merit consideration: the implementing agency (the Forest Department), partnership development with other stakeholders, and grassroots capacity building for undertaking plantations and preserving forests.

Forest Department

The forest sector projects have had two kinds of effects on the state FDs. First, the projects, especially the SF projects, have helped increase the number of staff in the department. This has not necessarily been a positive development. In most states, financing the additional staff has been a huge drain on state resources when the Bank funding stopped. However, the post-1992 projects are not heavy on new staffing. Instead, they are attempting to restructure the FD to tailor it to its new role. Of the post-1992 projects only one—West Bengal Forestry—has

been completed so far, and its handling of the restructuring process was poor (box 3.3). In the later projects, modifications have been made to better handle the reorganization exercise. However, at this stage, it is difficult to say what the overall institutional impact of the reorganization exercise will be.

The other aspect of institutional development in the FD appears to be the positive change in attitude toward working with the people. This began under the SF projects, when the FD became aware of the possibility of working with people, yet it continued the traditional policing approach toward protection of the forest areas. The change, however, created an atmosphere that permitted the FD to accept the idea of a cooperative strategy for management of forest resources in the post-1992 projects. The later projects then attempted to build people's participation in protection and management of forest lands. Based on the experience of West Bengal and review of the implementation experience of ongoing projects, it is possible to say that *the attitudinal change in FD is a visible impact*. The department staff is convinced of the advantage of including people in forest protection. Field conversations with the FD staff found that before JFM they felt that the department was fighting a loosing battle. One forest guard could not effectively patrol the large number of hectares that were under his control, especially with hostility from the people. JFM has made the task of forest protection easier for the department, hence the staff conviction in pursuing it. However, this attitudinal change does not yet amount to genuine participation.

Developing Partnerships with Other Stakeholders

The Bank's efforts in building partnerships with NGOs in forest protection has been limited and can be rated as partially successful. Provisions for effective collaboration between the FDs and the NGOs (including NGO building capacity) were not given sufficient attention, particularly in the earlier SLSW projects (West Bengal, Maharashtra). The later projects (Madhya Pradesh, Andhra Pradesh, Eco-Development) have developed better working partnerships with NGOs, and their experience has been much more positive.

Although the Bank recognizes the importance of building partnerships with the private sector in forest protection, so far, private sector involvement has been limited. The state FDs are generally reluctant to lease degraded forest land to industry. One major fear is that it may lead to diversion of forest land to other uses, and states lack the politi-

cal will and the monitoring capacity to ensure that the private sector keeps its promises. This results in a low-level equilibrium of unattended degraded lands from which the society cannot benefit. The Bank needs to take the lead in undertaking studies to explore more effective models of public-private partnerships and result monitoring.

Building Grassroots Capacity

The post-1992 projects have been successful in creating thousands of FPCs in several states for forest protection and regeneration. The projects have so far not succeeded in imparting a complete sense of ownership of the JFM program and the forests among the FPC members for reasons noted earlier. Except for promoting a commercial interest in planting trees, the SF projects were not able to build grassroots capacity in villages for tree plantations.

Institutional Factors Within the Bank

One institutional aspect in the Bank affects forest sector projects. Important changes made under the Strategic Compact and Renewal Program to increase the Bank capacity and effectiveness in project implementation, allow for more effective portfolio management and enable the Bank to respond quickly to the client's needs and responsibilities:

- Presence in the field of the Bank's Country Director, as well as the International Finance Corporation's Director, to facilitate continuous and intensive dialogue with clients and reduce project preparation and supervision costs
- Decentralization of staff work to the field. This does not involve significant relocation of headquarter staff but incremental staff resources and responsibilities will be met by national staff.
- Support for new products, particularly Adaptable Program Lending (APL).

What impact have these changes had on the forest sector lending program? It is not clear why, but overall lending to the forest sector is currently in jeopardy because lending to other sectors is considered a higher priority by both the finance ministry and the country department. Even with decentralization, the positive role that the forest sector can play in poverty alleviation has not yet been clearly grasped by either. Individually, however, forest sector projects have benefited from the decentralization of staff work to the field, especially the presence of the procurement unit in the resident mission. The later projects (Uttar Pradesh, Madhya Pradesh, and Kerala) are designed to be two-phased projects on the pattern of the APL. This has the potential to improve project effectiveness.

Sustainability

There are three aspects to the sustainability of the Bank's forest strategy after the withdrawal of the Bank from lending: (1) attitudinal change brought about in FD toward working with the people; (2) future funding for activities begun under Bank projects; and (3) continued protection for forests brought under JFM component.

Attitudinal Change in the Forest Departments

The state FDs now appear to be convinced about the need for people's participation in forest resource preservation. The benefits of a people-oriented approach for the FD (e.g., higher rate of tree survival, protection of forest areas, improved public image) outstrips the cost to the agency. Hence, the attitudinal change in the FD is likely to continue even after withdrawal of the Bank.

Continuity of Activities Begun Under the Project

One of the major weaknesses of the Bank's projects has been a lack of attention to financial sustainability issues up front. What happens to activities begun under the project after the Bank withdraws? In most cases, it has not been possible for the borrower to find the resources not only to continue activities begun under the project but also to support staff added by the project. On closure of the Kerala SF project, activity by the SF wing came to a complete standstill for lack of funds. Often attention is focused on sustainability concerns in the last two years of the project cycle, as was the case in the West Bengal Forestry Project. By then, it is too late to take effective steps to ensure sustainability. None of the Bank's forest sector projects have given this aspect of sustainability enough importance to make it a part of project design. The West Bengal experience shows that voicing concern about sustainability issues at the time of supervision missions has little impact. This is an area where the lessons of earlier projects have not yet been learned. The Bank has not fully appreciated the resource constraints faced by the state governments in India. One of the major reasons the states look for external support is because of the resource crunch. Hence, how can they be in a position to support additional programs begun under the project once the project is closed? Uttar Pradesh, for example, has vied for (and received) continuous IDA support for 14 years.

Some country-level analysts argue that the Bank should only support incremental activities (i.e., activities that, through small loans or grants, provide major returns) in the forest sector in India. According to them, the central and state governments have responsibility for allocating

enough funds for basic forest sector activities. Merely by financing activities for a short period, the Bank cannot resolve basic issues. What happens is that the Bank comes in, supports projects for a while, and then leaves. It then becomes difficult for the government to continue financial support for activities after project closure. States and institutions often see the Bank projects as a means of meeting temporary fund shortages, but the basic problem of inadequate budget support for the forest sector remains. In this context, Bank assistance to help India develop a strategy for generating resources for the forest sector is crucial.

Continued Protection for Forest Areas Brought Under JFM Component

Though the Bank projects give considerable attention to JFM promotion, little thought has gone into the continuation of protection of forest resources by FPCs on project closure. Box 3.2 highlights the various conflicts and constraints that have implications for the sustainability of the JFM program. The Bank projects lack a clear strategy to ensure how the regenerated forest area is kept under forest cover in the long run. As discussed in Chapter 1, the strategy being followed under the current projects is to reduce pressure on forests by creating alternative employment opportunities in the villages and involving people in forest protection. The regenerated forest area can be kept under tree cover only if the FPC members get enough returns to compensate for the income foregone. This would mean that JFM and the Economic Development Program have to be part of one strategy of ensuring enough returns in the future. Currently this is not the case. Saxena notes that the overwhelming evidence on natural resource management projects, such as forests and watershed management, is that the benefits are not sustainable in the long term.[94] After the Bank funding ends, plantations disappear, committees are disbanded or abandoned, and the livelihood base of the poor remains only marginally improved, if at all. Part of the reason given for NGO involvement in development projects is to ensure the sustainability of a project by threading it into the fabric of the local social and economic structure. Some NGOs have ensured the sustainability of some projects by creating participatory development and negotiating conflicts before leaving the village.[95] The Bank needs to give greater attention to building NGO, FD, and grassroots capacity. Though this approach takes time and needs resources, developing grassroots social capital is the most effective way to ensure sustainability.

The Bank supervision missions show that JFM is being successfully implemented in most states. However, there are two more reasons why

the apparent success of the introduction of JFM may not be sustained unless a long-term perspective is kept in mind. First, a project brings new funds and opportunities of wage employment in a village, leading to a short-term boost in enthusiasm that is interpreted as support for the JFM methodology. Second, the poor are able to shift their pressure to another forest that is not under JFM.[96] Thus, the project area looks greener but at the cost of a non-project area, which is not visited. In any case, the possibility that a brief mission talks mainly to the affluent and educated people of the village who are not dependent on gathering (and are enthusiastic about transfer of authority for policing from the FD to them), cannot be ruled out. This colors their judgment. During the implementation of SF projects, people were quite enthusiastic about them, and the supervision missions recorded the progress as satisfactory. It was only later that their sustainability was doubted.[97]

Summary Ratings

Based on the analysis in this report and its evaluation of the World Bank program in India's forest sector, the study team has developed summary ratings for the implementation of the 1991 Forest Strategy. These ratings, presented in table 3.5, are based on OED's standard analytical framework of outcome (determined by relevance *as seen from the point of view of the borrower*, efficacy, and efficiency), institutional development impact, and sustainability (as outlined in the methodology).

Adapting the OED criteria to an assessment of the Bank's *forest sector strategy implementation* posed several challenges, primarily because investment operations are different in character than forest sector policies and strategies. First, sector strategies entail a broader set of considerations that include policies and regulatory framework, institutions, and administrative capacity. Second, sector strategies tend to evolve over time while investment projects are more predictable. Third, the review team was investigating not only *the Bank's forest sector strategy in India* but also *the strategy for forestry in India.* The latter needed an assessment of the extent to which the Bank's sector strategy for the country (consisting of the treatment of the forest sector in the country assessment strategies, economic and sector work, policy dialogue, and lending) was faithful to the Bank's 1991 Forest Strategy—*even though the forest sector strategy in India was not driven by the 1991 Forest Strategy but, rather, evolved independently of the Bank.*

Table 3.5. Summary Evaluation of the Implementation of the 1991 Forest Strategy in India

	1991–94	1994–99
Strategy Implementation		
Did the Bank forest strategy for the country change from the pre-1991 period?[a]	Yes	Yes
Was change attributable to the 1991 Forest Strategy?[a]	No	No
Was the Bank's post-1991 forest strategy for the country responsive to the needs articulated by the country?[a]	Yes	Yes
Consistency of Bank strategy		
Was the Bank strategy consistent with the CAS?[b]	Mostly	Mostly
Did the country have a forest policy consistent with the Bank's policy?[a]	Yes	Yes
Did the Bank follow the principles of its involvement in the sector?[b]		
Multisectoral Approach	Partly	Partly
International Cooperation	Negligibly	Negligibly
Policy Reform	Partly	Partly
Institutional Reform	Partly	Partly
Preserving Natural Forests	Mostly	Mostly
Resource Expansion and Intensification	Mostly	Mostly
Were participatory approaches Implemented?[a]	Yes	Yes
Was the 1991 Strategy implemented?[b]	Mostly	Mostly
Nature of Bank Interactions		
The forest sector strategy was implemented through:[b]		
CAS	Partly	Partly
ESW	Partly	Partly
Policy dialogue	Partly	Partly
Lending to forest sector	Predominantly	Predominantly
Lending to forest-related sectors	Partly	Partly
Forest conditionality in adjustment lending	Not Applicable	Not Applicable
Bank application of safeguards	Mostly	Mostly
Bank Outcomes		
Bank's forest sector strategy from country perspective:[c]		
Relevance	Substantial	Substantial
Efficacy	Modest [1]	Substantial [1]
Efficiency	Modest [1]	Substantial [1]
Is the impact of the Bank strategy in the country sustainable?[a]	Unclear	Unclear
The Bank's Impact		
Did the country improve its forest cover?[a]	Yes	Yes
Did the country improve the way it addresses forest sector issues?[b]	Mostly	Mostly
What degree of impact did the Bank strategy have on the poor?[c]	Substantial [2]	Substantial [2]
Relevance for Future Strategy		
Does the Bank's 1991 Forest Strategy seem relevant from the perspective of the country?[d]	Substantially	Substantially
Is there government demand for Bank involvement in the forest sector?[a]	MOEF: Yes MOF:Yes	MOEF: Yes MOF: Unclear
Is there demand from NGOs, the private sector, and professionals for Bank[a] involvement in the forest sector?	NGOs: Unclear Private Sector: Unclear Professionals: Unclear	NGOs: Unclear Private Sector: Unclear Professionals: Unclear
How was the country's forest policy embedded in its overall growth and poverty alleviation strategy?[e]	Well	Well

a. Ratings choices: Yes, No, Not Applicable, and Unclear.
b. Ratings choices: Predominantly, Mostly, Partly, Negligibly, Not Applicable, and Unclear.
c. Ratings choices: High, Substantial, Modest, Negligible, Adverse, Substantially Adverse, and Unclear.
d. Ratings choices: Substantially, Partly, Negligibly, No, and Unclear.
e. Ratings choices: Very Well, Well, Poorly, Very Poorly, Unclear.
1. Based on improvement in project design and early implementation results.
2. Based on evidence from field work undertaken for the review. Given the inadequacy of data and the fact that most of the post 1992 projects are currently under implementation, it is not possible to otherwise make a conclusive judgement about the impact on poverty.

Findings and Lessons

Finding: The Bank has Largely Lived Up to its 1991 Forest Strategy in India.

The Bank has made a positive contribution to stabilizing the land under tree cover in India. It has helped reduce deforestation, promoted afforestation and planting of new trees outside the forests, made efforts at biodiversity conservation and attempted to have a positive impact on the life of the tribal people. Hence, overall, the Bank can be seen to have largely complied with the safeguard aspects of the 1991 Forest Strategy.

The Bank's forest sector lending has also largely followed the principles articulated in its 1991 Forest Paper:

- **Multisectoral Approach.** The extent to which the Bank has taken a multisectoral approach to forestry is mixed. On one hand, through its normal mechanisms, the Bank has supported lending for activities that help reduce pressure on forests. On the other hand, it has not developed a coherent multisectoral approach in India. The forest sector effort should be positioned as part of the overall development effort of the rural area of which it is part.[98] This implies not only an integrated strategy that addresses forests, agriculture, and overall rural development but also strong coordination with both the GOI and the states. The post-1992 projects mainly offer piecemeal solutions, such as a fodder component that works with the Animal Husbandry Department to address grazing on forest land. The post-1992 approach has also remained centered on the Forest Department and, by putting the FD in charge of constructing physical works under JFM, has extended the role of the department beyond its core competencies. It has, in effect, converted the FD into a development agency. The Bank projects have thrust this new role on the department with little thought to several important questions: Is the FD the right agency for this effort? How would other government departments, such as Rural Development, react to the FD acting as a development agency in some villages and not others? What impact would this new role have on those other departments?
- **International Cooperation.** Through its role in implementing GEF projects, the Bank has encouraged international initiatives for the transfer of resources to assist projects that protect globally significant initiatives. The World Bank/WWF alliance, while it might eventually further this agenda as well, has a long way to go to achieve results. Alliance activities in India are designed to reinforce

the ongoing efforts in promoting joint forest management strategies through the development and dissemination of information on performance indicators.[99, 100] Broader cooperation between the Bank and the international community has so far been prevented in India as the government does not have an adequate mechanism for prioritizing the needs in the sector and then coordinating between donors. Participants at the country workshop also highlighted the importance of learning from the implementation experience of other countries. The success of an attempt at coordination will depend critically on how the government perceives the role of external resources in the forest sector. That is, does it see them as a substitute for its own and state funds, or does it think the Bank resources have a strategic role to play in the sector?

- **Policy/Institutional Reform.** The Bank has two options to carry out policy and institutional reform: It can lend for the forest sector only when the policy and institutional environment is perfect, or, it can use project lending to push for policy and institutional reform. The Bank rightly took the second approach in India, whose size and complexity prevents the Bank from correcting for all the problems before undertaking forest sector lending. This incremental approach, however, has had only limited success with the reform agenda.
- **Preserving Natural Forests.** The GOI is committed to expanding forest areas designated as parks and reserves, instituting effective management of existing ones and preventing deforestation in natural forests. Through its support for India's forest strategy, the Bank has contributed positively to preserving the natural forests.
- **Resource Expansion and Intensification.** With its support for SF and JFM, the Bank has responded positively to this, though it has limitations.

Finding: The Current Strategy India is Pursuing in its Forest Sector is Relevant but not Sufficient to Meet the Diverse Demands of the Sector.

There is a need to make fundamental improvements. This finding was confirmed by participants at the country level workshop.

Limitations of India's 1988 Forest Policy

- India's 1988 forest policy has a production strategy that leaves the private sector to meet its raw material needs from farm forestry, without at the same time taking measures to build a conducive environment for development of farm forestry. Several factors

currently discourage the private sector from investing in tree production: First, the import policy for wood products does not allow farmers to get the right price for their products. Second, the current legal framework creates cumbersome and complex obstacles to tree harvesting. Third, several lessons from the SF phase of lending have not been internalized. The development of an effective production strategy will require further research and intensive deliberations at the highest level of government.

- The 1988 Forest Policy does not effectively address the degradation pressure of the human and livestock populations nor does it effectively provide for wasteland development. A strategy that combines lessons learned from the SF phase and JFM (including development of common property resources and wastelands) might be the answer (box 3.13).

Limitations of the JFM Strategy

- The JFM strategy, while it has been effective in protecting degraded forest land, has not been effective in protecting forest lands under rich forest cover. The Bank-supported West Bengal Forestry project attempted to spread the JFM strategy to cover the luxuriant forest areas in northern Bengal but was not effective. The principle reason is that the conditions in these forests are very different from those in degraded forest areas. The major issue with luxuriant forests is what returns can be guaranteed to the communities to generate a sustained interest in protection. Because logging is banned in these forest areas, the communities cannot expect to get a share of the final harvest. Are the returns from NTFPs likely to be a sufficient incentive? If the forests are in good condition, the communities in their vicinity probably have already been getting the benefits from the NTFPs. So, what is the added advantage to the communities in entering an agreement to protect these areas? The JFM strategy has so far given such issues insufficient attention.[101]
- Sustainability concerns—even in degraded forests—also do not receive adequate attention in JFM. More attention is needed to training forest staff, officials, and communities to change attitudes and build effective partnerships.
- The conflicts and constraints in JFM in dealing with protection of forest areas and tribal and gender concerns show that forest management is a challenge in conflict management. As yet, even the Bank projects do not have a strategy to deal with such conflicts

as they regularly arise during implementation. The forest strategy needs to recognize this factor explicitly and take steps to resolve such conflicts.

Other Areas for Improvement

- Greater analytical capability and leadership needs to be built in the MOEF. Given the shift in India toward an increasingly demand-led country program, the MOEF needs to take the lead in pushing for further lending in the forest sector.
- Forest research does not get the attention it deserves. Research and technology does not form part of an integrated strategy for development of the forest sector. Neither is the incentive framework in the country geared toward high-quality research.
- The GOI needs to decide how it wants to use external resources for the forest sector. A large amount of external resources from several donors is being channeled into the forest sector, but the country lacks a mechanism to channel funds into the areas of highest priority. Lack of coordination often leads to neglect of certain crucial aspects in the sector. As an example, training of the Indian Forest Service was not on the Bank's agenda for a long time, as the Bank believed that other donors were dealing with the issue.
- India needs a well-integrated strategy for SF, wasteland development, JFM, and fodder production (an example is given in box 3.13 and Annex K). Greater intersectoral coordination between government ministries and departments is needed. This was also emphasized by participants at the country workshop.[102]
- The revenue-earning capacity of the forest sector (sustainability issues) needs particular attention. Though various studies have been undertaken, the issue has not received sufficient attention at the government level.
- Marketing issues, particularly those related to NTFPs need urgent attention.

Finding: The Bank's Aggregate Forest Sector Assistance in India Has Been Relevant, But Needs to be Improved.

- This review argues that the Bank lending to India has been relevant in the past and can contribute significantly to forest sector development and poverty alleviation in the future. The Bank needs to continue to remain involved in the sector, but more commitment is needed from Government of India to view the Bank's involvement

in the forest sector in the larger and longer-term context of poverty alleviation, and not simply as a source of finance for a resource-starved sector. The Bank, on the other hand needs to make forest sector lending a part of its long-term poverty alleviation strategy in India.

- Since the Bank has been supporting the government's strategy for the forest sector, an improved strategy at the country level will result in a more effective sectoral assistance program from the Bank. The Bank can facilitate the learning and strategy improvement process. It can bring crucial issues to the table and help mobilize the best national and international experts.
- Further, the Bank needs to integrate its agriculture, rural development, and forest sector strategies into an overall area development strategy. The Bank needs to increase coordination between sectors both within the institution and at the country level. The Bank has been lending in sectors that have indirect impacts on forests in India—agriculture, natural resource management, social, transport, energy, and industry, but without sufficient coordination during design and implementation between staff working in these sectors and staff working in the forest sector. Similarly, too little attention has been given to the wider picture, to how well the individual projects fit in with the overall country lending program. The forest sector strategy for a particular area should emerge from the overall development strategy for a particular area. [103]
- Within the forest sector, the Bank needs to make some crucial changes in its own strategy. The Bank's achievements on policy issues in the past have at best been spotty. The Bank has tried to deal with policy, legal, and institutional issues in the context of individual projects but its project-by-project approach has not enabled it to build an overarching Bank strategy for the Indian forest sector. The recent approach taken by Bank management toward concentrating Bank lending in selected states that are more open to fiscal, policy, and institutional reform may be a step in the right direction. The Bank could focus its forest sector lending efforts in these states (it is already doing so in Andhra Pradesh), and success achieved on the policy and institutional front here could perhaps serve as a model for other states. Identification and selection of the right states is crucial.
- Building an overarching Bank strategy for the forest sector also means that the Bank should identify clearly which policy issues it

can handle in a state level Bank project and which ones need to be solved at the national level, either in a national project or through policy dialogue. However, it is important to examine what this would mean—to follow a combination of a decentralized strategy with a degree of central leadership on some crucial issues—in a situation where there is division of authority between the center and the states and the center has been weak (box 2.3). The experience of countries like China, for example, may be applicable to some of the strategic issues that India faces.

- Table 3.4 provides a list of the crucial policy and institutional issues in the sector. Though there are different opinions on this, the Bank may be better equipped to bring advice on policy issues (domestic trade, marketing, and interaction between public and private sectors) to the country, in comparison with institutional concerns (reform of forest service, fiscal solvency of FD, incentives for the community, etc.). The institutional issues are extremely complex and involve intricate working relationships between the central and state governments. The Bank may not be in a position to offer the best possible advice on these issues to the country, and should instead consider mobilizing India's leading experts to help address them. In this connection, the readiness of the borrower for reform is important. In Andhra Pradesh, and to a lessor extent in Madhya Pradesh, the political commitment has been strong, but political leadership alone is not sufficient. An honest appreciation of the differing capacities and organizational abilities of different stakeholders is required. Resources, time, and staff capacity required for this exercise have to be built in to project preparation and supervision.[104]
- Recent Bank projects give attention to plantation and regeneration, but the emphasis on production has to be increased so that India is able to meet the diverse requirements on the forest sector. This would also mean that the Bank should make greater efforts to encourage private sector participation through helping build an enabling environment.
- The Bank needs to incorporate the positive lessons from the SF phase into its future lending program. Support for tree plantations outside forest areas needs continued attention if the diverse demands on the forest sector are to be met.

- The Bank has valuable experience in other countries and can bring useful advice to the Government of India from its experience elsewhere to help improve the performance and contribution of the forest sector to the economy. For example, India could benefit from what has been learned in Costa Rica about increasing the revenue-earning capacity of the forest sector.
- Fiscal sustainability and monitoring and evaluation issues need to be given more attention at the very early design stage of a Bank project. What happens to activities begun when a project ends?
- The challenges of conflict resolution and consensus building have to be explicitly recognized and provided for.
- Entering controversial areas or taking up issues like reorganization as a part of projects must be carefully thought through before the Bank makes a commitment. Does it have the expertise to get into these fields? What is its comparative advantage? Analysts argue that the Bank's involvement in controversial issues at least serves to put them on the table. However, can the Bank prevail where fundamental forces and the legal framework work against implementation? Similarly, the Bank has to weigh all the pros and cons when it makes recommendations for change in issues like reorganization of the FD. The structure of the FD in the states has, except for horizontal expansion, endured for 100 years. When it is not carefully thought through and pushed by conditionality, as in the case of West Bengal, such changes can have a major negative impact on the functioning of the implementing agency.

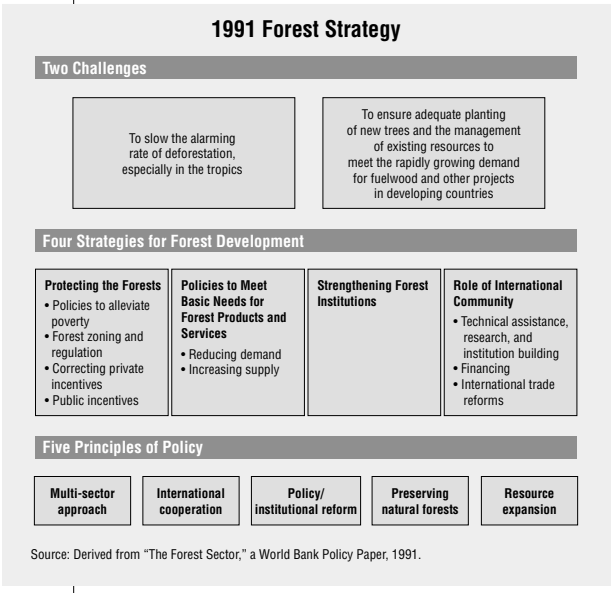
Annexes

A. The 1991 Forest Strategy

The World Bank Forest Strategy sought to address rapid deforestation, especially of tropical moist forests, and inadequate planting of new trees to meet the rapidly growing demand for wood products. These twin challenges were the consequence of five forces:

- *Externalities* that interfered with the free interplay of market forces with the potential to bring about socially desired outcomes
- Strong *incentives* to cut trees
- Weak *property rights* in many forests and wooded areas
- High private *discount rates* for those encroaching on the forests, and
- Inappropriate government *policies*, particularly concession arrangements.

The Bank's strategy, therefore, promised to promote the conservation of natural forests and the sustainable development of managed forest resources. The strategy it outlined consisted of policies to alleviate poverty, improve forest zoning and regulation, correct private incentives, and increase public investments. The strategy also proposed reducing demand through investments in research and technology, increasing the supply of essentials through farm forestry, and increasing market efficiency. Government policies and programs, the strategy said, should aim to change the incentives and institutional structures that lead to excessive deforestation and inadequate tree planting and prevent the use of good practices in forest management. Under the strategy, international cooperation and



Source: Derived from "The Forest Sector," a World Bank Policy Paper, 1991.

assistance were to ensure that global externalities were internalized locally and that the efforts of governments and international organizations were to be coordinated.

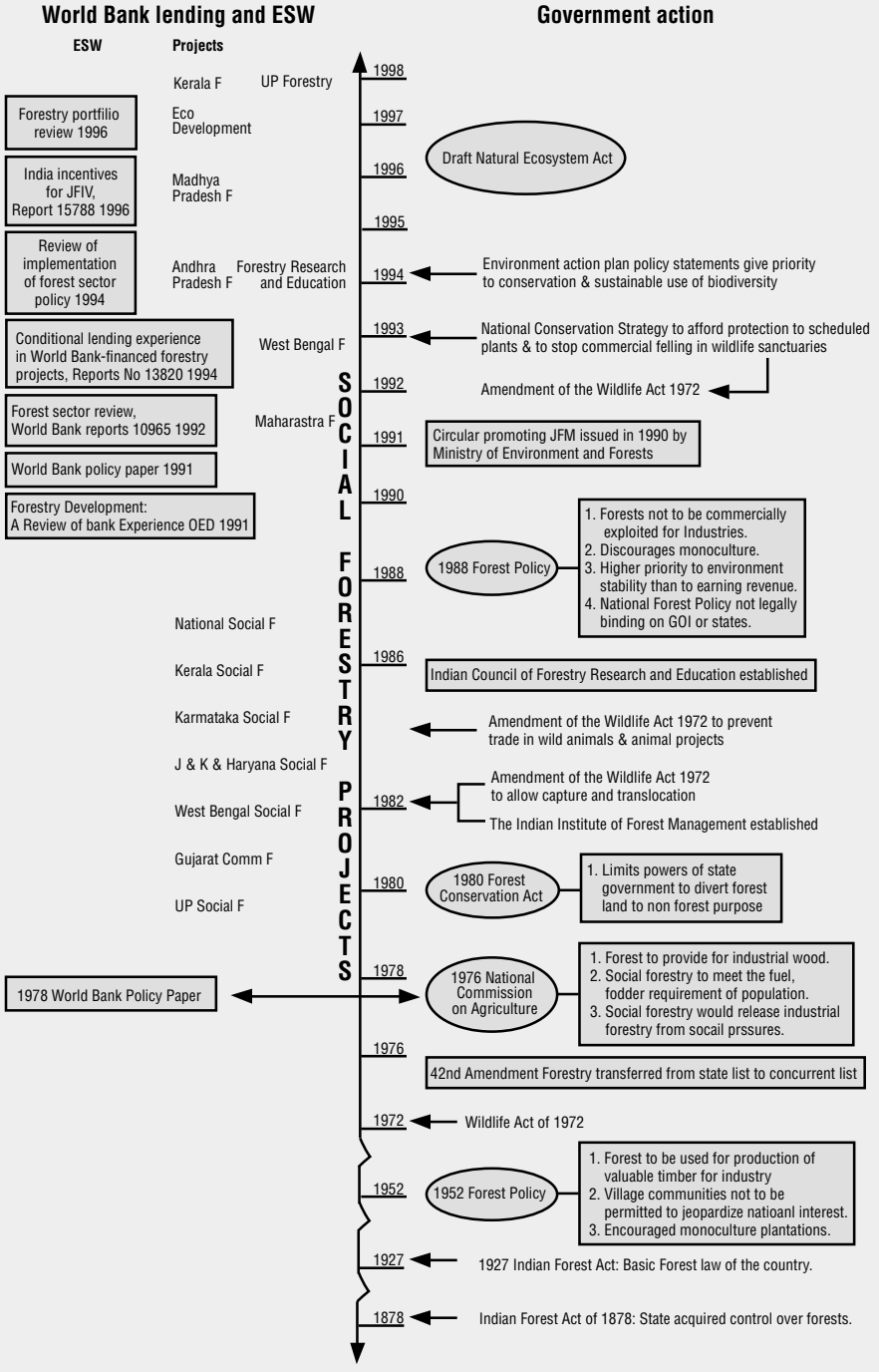
Five principles were elucidated to underpin Bank involvement in the forest sector:

- Adopt a *multi-sectoral approach* in the design and implementation of forest operations.
- Support *international cooperation* in the formulation and adoption of legal instruments conducive to sustainable forest development and conservation.
- Promote *policy reform and institutional strengthening* by helping governments identify and rectify market and policy failures that encourage deforestation and unsustainable land use.
- Finance operations that lead to socially, environmentally, and economically sustainable *resource expansion and intensification*.
- Support initiatives that *preserve intact forest areas.*

Fulfilling this commitment required five things of Bank-financed projects:

- Adoption of policies and an institutional framework consistent with sustainability and a participatory approach to the management of natural forests
- Adoption of comprehensive and environmentally sound conservation and development plans based on a clear definition of the roles and the rights of the key stakeholders including local people
- Basing commercial use of forests on adequate social, environmental, and economic assessments
- Making adequate provisions to maintain biodiversity and safeguard the interests of forest dwellers, particularly indigenous peoples
- Establishing adequate enforcement mechanisms.

B. Forestry in India, A Time Line



C. Data Tables on Forest Resources in India

Table C.1. Occurrence of Forest Types in India

Forest type	Area in sq.km.	Percentage	Occurrence
Tropical Wet Evergreen Forest	51,249	7.94	Arunachal Pradesh, Assam, Karnataka, Kerala, Manipur, Nagaland, Tamil Nadu, Andaman & Nicobar Islands and Goa
Tropical Semi-Evergreen Forest	26,794	4.15	Assam, Gujarat, Karnataka, Kerala, Maharashtra, Nagaland, Orissa, Tamil Nadu, Andaman & Nicobar Islands and Goa
Tropical Moist Deciduous Forest	236,794	36.69	Andhra Pradesh, Assam, Bihar, Gujarat, Narnataka, Kerala, Madhya Pradesh, Mizoram, Tripurs, Nagaland, Orrissa, Tamilnadu, Uttar Pradesh, West Bengal, Andman & Nicobar, Goa and Dadrs & Nagar Haveli
Littoral and Swamp Forest	4,046	0.63	Andhra Pradesh, Gujarat, Maharashtra, Orissa, Tamil Nadu,West Bengal, and Andaman & Nicobar Islands
Tropical Dry Deciduous Forest	186,620	28.91	Andhra Pradesh, Bihar, Gujarat, Haryana, Himachal Pradesh, Karntaka, Madhya Pradesh, Maharashtra, Jammu & Kashmir, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal and Kerala
Tropical Thorn Forest	16,491	2.56	Andhrs Pradesh, Gujarat, Haryans, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh
Tropical Dry Evergreen Forest	1,404	0.22	Andhra Pradesh and Tamil Nadu
Sub-Tropical Broad Leaved Hill Forest	2,781	0.43	Assam, Maharashtra, Meghalays and West Bengal
Sub-Tropical Pine Forest	42,377	6.57	Arunachal Pradesh, Himachal Pradesh, J&K, Manipur, Meghalaya, Nagaland, Sikkim, and Uttar Pradesh
Sub-Tropical Dry Evergreen Forest	12,538	1.94	Himachal Pradesh, Jammu & Kashmir, and Mizoram
Montane Wet Temperate Forest	23,365	3.62	Arunachal Pradesh, Karnataka, Manipur, Nagaland, Sikkim, and Tamil Nadu.
Himalayan Moist Temperate Forest	22,012	3.41	Himachal Pradesh, Jammu & Kashmir, and Uttar Pradesh
Himalayan Dry Temparate Forest	312	0.05	Jammu & Kashmir, and Himachal Pradesh
Sub-Alpine and Alpine Forest	18,628	2.89	Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Nagaland, Sikkim, and Uttar Pradesh
Total	645,411	100	

Source: Bank documents.

Table C.2. Distribution of Recorded Forest Area in Various State/Union Territory (sq. kms)

State/UT	Reserved	Protected	Unclassed	Total
Andhra Pradesh	50,479	12,365	970	63,814
Arunachal Pradesh	15,321	8	36,211	51,540
Assam	18,242	3,934	8,532	30,708
Bihar	5,051	24,168	7	29,226
Delhi	42			42
Goa	165		1,259	1,424
Gujarat	13,819	997	4,577	19,393
Haryana	247	1,104	322	1,673
Himachal Pradesh	1,896	31,473	2,038	35,407
Jammu & Kashmir	20,182			20,182
Karnataka	28,611	3,932	6,181	38,724
Kerala	11,038	183		11,221
Madhya Pradesh	82,700	66,678	5,119	154,497
Maharashtra	48,373	9,350	6,119	63,842
Manipur	1,463	4,171	9,520	15,154
Meghalaya	981	12	8,503	9,496
Mizoram	7,127	3,568	5,240	15,935
Nagaland	86	507	8,036	8,629
Orissa	27,087	30,080	17	57,184
Punjab	44	1,107	1,750	2,901
Rajasthan	11,585	16,837	3,278	31,700
Sikkim	2,261	285	104	2,650
Tamil Nadu	19,486	2,528	614	22,628
Tripura	3,588	509	2,196	6,293
Uttar Pradesh	36,425	1,499	13,739	51,663
West Bengal	7,054	3,772	1,053	11,879
A&N Islands	2,929	4,242		7,171
Chandigarh	31			31
Dadra & Nagar Haveli	203			203
Daman & Diu [a]				
Lakshdweep [a]				
Pondicherry [a]				
Total	416,516	223,309	125,385	765,210

a. Not available.

Table C.3. Forest Cover in Tribal Districts, 1993–97 Assessments (sq kms)

State	Forest cover (1993)	Forest cover (1995)	Change 1993–95	Forest cover (1997)	Change 1995–97	Total change 1993–97
Andhra Pradesh	29,208	29,076	-132	25,621	-3,455	-3,587
Arunachal Pradesh	68,661	68,621	-40	68,602	-19	-59
Assam	24,508	24,061	-447	23,824	-237	-684
Bihar	13,971	13,930	-41	13,872	-58	-99
Gujarat	8,306	8,270	-36	8,230	-40	-76
Himachal Pradesh	2,772	2,772	Nil	2,776	4	4
Karnataka	10,424	10,435	11	10,445	10	21
Kerala	9,368	9,368	Nil	9,366	-2	-2
Madhya Pradesh	101,022	100,895	-127	98,709	-2,186	-2,313
Maharashtra	27,772	27,769	-3	29,168	1,399	1,396
Manipur	17,621	17,558	-63	17,418	-140	-203
Meghalaya	15,769	15,714	-55	15,657	-57	-112
Mizoram	18,697	18,576	-121	18,775	199	78
Nagaland	14,348	14,291	-57	14,221	-70	-127
Orissa	25,760	25,720	-40	25,424	-296	-336
Rajasthan	6,065	6,140	75	6,149	9	84
Sikkim	3,119	3,127	8	3,129	2	10
Tamil Nadu	6,815	6,812	-3	6,809	-3	-6
Tripura	5,538	5,538	Nil	5,546	8	8
Uttar Pradesh	1,313	1,310	-3	1,310	Nil	-3
West Bengal	4,429	4,474	45	4,509	35	80
A&N Islands	7,624	7,615	-9	7,613	-2	-11
Daman & Diu	1	1	Nil	1	Nil	Nil
Total	423,111	422,073	-1,038	417,174	-4,899	-5,937

Table C.4. Area Under Horticulture & Plantation Crops (in ha thousands)

Crop	1970 –71	1995 –96	% change
Fruits	1,450	3,045	110.00
Mango		1,033	
Banana	225	433	92.44
Apple		217	
Sugarcane	2,589	4,373	68.91
Tobacco	431	395	-8.35
Tea	354	480	35.59
Coffee	135	299	121.48
Rubber	203	508	150.25

Table C.5. Livestock Population in India 1950–92 (millions)

	1951	1961	1972	1982	1992*
Cattle	155.3	175.5	178.3	190.8	195.9
Buffaloes	43.4	51.2	57.4	69.0	75.5
Sheep	38.4	40.0	40.0	48.1	55.6
Goats	47.1	60.9	67.5	94.7	112.6**
Horses, ponies	1.5	1.3	0.9	0.9	NA
Pigs	4.4	5.2	6.9	9.6	10.5**
Camels	0.6	0.9	1.1	1.0	NA
Others	1.3	1.1	1.1	1.8	NA
Total	292.0	336.10	353.20	415.90	450.10
Ruminant livestock units (no.)	999.5	1150.3	1207.9	1376.2	1461.1

Source: Singh 1994.

Table C.6. Human and Livestock population of India, 1951–91

Year	Human population (millions)	Livestock units (millions)	Livestock units (per capita)
1951	361.1	999.5	2.7
1961	439.2	1150.3	2.6
1971	548.2	1207.9	2.3
1981	685.2	1376.2	2.0
1991	843.9	1461.1	1.7

Source: Singh 1994.

Table C.7. Prospective Land and Water Resources in India

No/Variable	1991 –92	1996 –97	2001 –02[a]	2006 –07[a]	2010[a]
Population (millions)					
Planning Commission	856	938	1016	1099	1171
UNSKILLED (FAO)	874	955	1042	1130	1223
Net area sown (mm. hec.)					
Planning Commission estimate	140	141	141	141	N.A
Revised		141	141	141	141
Gross area sown (mm. hec.)					
Planning Commission estimate	182	191	197	203	N.A
Revised	183	191	197	205	211
Gross irrigated sown (mm. Hec.)					
Planning Commission estimate	76	89	102	114	N.A
Revised	64	78	92	107	114
Cropping Intensity					
Planning Commission estimate	1.30	1.35	1.40	1.44	N.A
Revised	1.30	1.35	1.40	1.45	1.50
Gross irrigated area as % of gross area sown					
Planning Commission estimate	41.5	46.9	51.7	56.0	N.A
Revised	35	41	46	51	54

a. Interpolated or extrapolated from implied trends.
Sources: Perspective Planning Division, Planning Commission; Towards 2010 FAO,Rome; Revised projections by the authors.

Table C.8. States by Concentration of Poverty, Size of Forest Cover and Population of Tribals

	Ranking by		
Ranking	Concentration of poverty (NSS data)	Size of forest cover (sq. km).	Population of tribals (1991 Census)
1	Bihar	Madhya Pradesh	Madhya Pradesh (15.4 million)
2	Orissa	Arunachal Pradesh	Maharashtra (7.32 million)
3	Assam	Andhra Pradesh	Orissa (7.03 million)
4	Uttar Pradesh	Orissa	Gujarat (6.62 million)
5	West Bengal	Maharashtra	Rajasthan (5.48 million)
6	Madhya Pradesh	Uttar Pradesh	Andhra Pradesh (4.2 million)
7	Maharashtra	Karnataka	
8	Tamilnadu	Bihar	
9	Himachal Pradesh	Assam	
10	J&K	J&K	

Source: 1991 Indian Census, NSS Data 1993-94, and FSI 1997.

Table C.9a. World Bank Annual Review of Portfolio Performance (ARPP) Ratings for Forest Sector Projects, 1994–97[a]

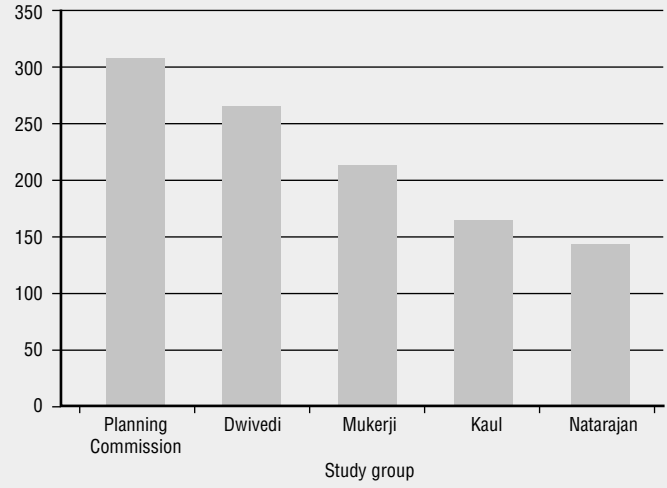
Project Name	ARPP fiscal year	Development objective status	Implementation progress status	Problem project	Compliance with legal covenants	Project management performance	Availability of funds	Procurement progress	Environment /resettlement	Financial performance
Maharashtra	1994	S	U	Y	HS	S	HS	S	NR	NA
Forestry	1995	U	U	Y	HS	S	HS	S	NR	NA
	1996	S	S	N	S	S	HS	U	NR	NA
	1997	S	S	N	S	S	HS	S	S	S
	1998	S	S	N	S	S	HS	S	S	S
	1999	S	S	N	S	S	S	S	S	S
West	1994	S	S	N	S	S	S	S	HS	S
Bengal	1995	S	S	N	S	S	HS	S	HS	S
Forestry	1996	S	S	N	U	S	S	S	HS	S
	1997	S	S	N	S	S	S	S	HS	S
	1998	S	S	N	S	S	S	S	HS	S
Andhra	1994	S	S	N	HS	HS	HS	HS	HS	NR
Pradesh	1995	S	S	N	HS	S	S	S	S	S
Forestry	1996	S	S	N	S	S	S	U	S	NR
	1997	S	S	N	S	S	S	U	S	NR
	1998	S	HS	N	HS	HS	HS	S	S	NR
	1999	S	S	N	S	S	S	S	S	S
Madhya	1995	S	S	N	HS	HS	HS	NR	NR	NR
Pradesh	1996	S	S	N	HS	HS	HS	HS	NR	NA
Forestry	1997	S	S	N	S	HS	HS	U	S	S
	1998	S	S	N	S	HS	HS	U	S	S
	1999	S	S	N	S	HS	HS	U	S	S
Uttar	1998			N						
Pradesh.	1999	S	S	N	S	S	S	S	NR	S
Forestry										
Kerala	1998			N						
Forestry	1999	S	S	N	NR	NR	NR	NR	NR	NR

a. This data not available for the period before 1994.
S: Satisfactory; HS: Highly Satisfactory; U: Unsatisfactory; Y: Yes; N: No; NR: Not Rated; NA: Not Applicable

Table C.9b. World Bank Annual Review of Portfolio Performance (ARPP) Ratings for National-Level Forest Sector Projects in India, 1994–99

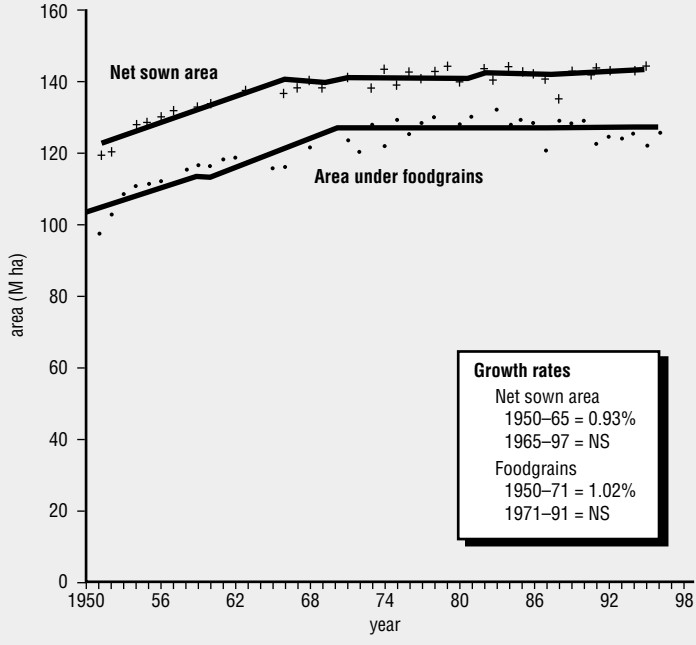
Project Name	ARPP fiscal year	Development objective status	Implementation progress status	Problem project	Compliance with legal covenants	Project management performance	Availability of funds	Procurement progress	Environment/ resettlement	Financial performance
Forestry Research	1994	S	S	N	HS	HS	HS	NR	NR	NR
Education & extension	1995	S	S	N	S	S	HS	HS	NA	NA
	1996	S	S	N	S	S	HS	S	NA	NA
	1997	U	U	Y	U	U	S	U	N	S
	1998	S	S	N	S	S	U	S	S	S
	1999	S	S	N	S	S	U	S	S	S
Ecodevelopment	1997	S	S	N	S	S	S	S	S	S
	1998	S	S	N	U	U	S	S	S	S
	1999	U	U	Y	U	U	NA	S	S	S

Figure C.1. Alternative Estimates of Annual Fuelwood Consumption in India (million metric tons)



Source : Dwivedi 1994.

Figure C.2. Trends in Net Sown Area and Area Under Foodgrains, 1950–97



Source: GOI, 1998.

D. Projects in Agriculture, Environment, Infrastructure, and Energy Sectors in the Period 1992–99

Agriculture

The agriculture portfolio included six irrigation projects. Three are state projects that emphasize comprehensive water resource development in a state (Haryana, Tamil Nadu, and Orissa). Project components include system improvement and farmer turnover, capacity building in water planning and environmental management, modernization, research, institutional strengthening, and resettlement and rehabilitation. Beneficiary participation linked with cost recovery is integral to service improvement in the three projects: India's policy of realignment means turning over canal irrigation to associations of farm, industrial, and urban water users. The fourth project is in Andhra Pradesh (AP III) and is primarily helping the state government to improve productivity and incomes of farm families in two areas by completing irrigation works and a social improvement program begun under an earlier project (AP II). A sodic land reclamation project in the state of Uttar Pradesh would help reclaim about 45,000 ha over seven years; 39,000 ha would be devoted to production systems under wheat and rice; 3,000 ha would be put under salt-tolerant horticulture and another 3,000 ha under tree plantations for fuel and fodder. The sixth project supports improvement of rural infrastructure and agricultural services in the state of Assam.

Environment

There are three projects in the environment sector: an environmental capacity building project, a pollution waste management project, and a hydrology project that supports improvement in the hydrological database. The 1998 Water Resources Management Review notes the need for further professionalization of data and information systems in the country with emphasis on training and improvement in equipment. The World Bank/Netherlands–assisted hydrology project was approved in 1995 to support the large spectrum of activities required for the purpose. Eight states and five central agencies are participants in the project, which supports a six-year effort to improve India's technical and institutional capability. In the 1990s, the Bank also approved two watershed development projects, one for the hills and the other for the plains. These projects follow an integrated watershed management approach that includes the treatment of arable and nonarable community lands

and forests through direct involvement of farmers and their families.[2] This approach ensures low-cost sustainable resource protection over extended periods. These two projects were to be the first of several innovative approaches planned in the near future to use proven cost-effective techniques to check soil erosion, conserve moisture, stabilize agriculture, and lay the foundation for sustainable crop production in key rain-fed areas. Afforestation, silvipasture development, and agroforestry are important components as the projects bring out the complementary relationship between agriculture and forestry in a watershed approach. Recent Bank reviews of watershed management experiences, land tenure issues, social forestry projects, and wealth of international literature on the subject of common property resources (CPRs) has singled out CPRs as the most problematic lands for watershed management. Even when treated, they tend to decline soon afterwards. An Integrated Watershed Project II is under preparation.

Transportation

The transportation sector has eight projects. Most of these projects support the central government program to improve the country's transport infrastructure. Several states currently are using Bank loans to widen and strengthen their busiest highways and district roads.

Energy

The Bank has supported nine projects in the electric power and energy sector between 1992 and 1999. Four of these are state-level projects that support a program of restructuring of the power sector. A Renewable Resources Development Project was approved in 1993. It provides resources for private sector development in small hydro, wind, and solar energy. The Bank is also administering a GEF-supported Alternative Energy Project that provides for the development of commercial markets for alternative energy technologies. The project has emerged from the joint UNDP/World Bank Energy Sector Management Assistance Program (ESMAP)[3] review of the government's program on non-conventional energy sources in 1988.

Table E.1. Summary Information on States with SLSW Projects

			Type of forest cover			Actual forest cover			Total project cost				
Project	Area (km^2)	% of land area of country	Dense forest (km^2)	Open forest (km^2)	Man-groves (km^2)	Area (km^2)	% of land area of state	% of forest area in country	IDA (US$M)	Gov't (US$M)	Bene-ficiaries (US$M)	Total (US$M)	Closing date
Maharashtra Forestry	307,690	9.3%	23,622	22,397	124	46,143	15%	7.2%	124	18		142	Mar 31, 2000
West Bengal Forestry	88,752	2.7%	3,557	2,669	2,123	8,349	9.4%	1.3%	34.9	9.2		44.1	Dec 31, 1997
Andhra Pradesh Forestry	275,068	8.36%	23,048	19,859	383	43,290	15.7%	6.8%	77.4				Sept 30, 2000
Madhya Pradesh Forestry	443,446	13.4%	82,745	48,450		131,195	29.6%	20.7%	58	9.3		67.3	Dec 31, 1999
Uttar Pradesh Forestry	294,411	8.9%				33,994	11.5%	5.37%	52.94	7.87	4.20	65.01	Dec 31, 2002
Kerala Forestry	38,863	1.18%	8,454	1,880		10,334	26.6%	1.6%	39	7.5	0.5	47	Dec 31, 2002

F. Alternative Positions on Policy Issues Concerning Raw Material Needs of the Paper Industry in India

Contributed by Dr. N.C. Saxena
A Field Viewpoint (see Chapter 3, "How has the Bank Fared on Key Sectoral Issues?")

The paper industry in India used 3.2 million metric tons (mT) of wood and bamboo in 1990, comprising 2.2 mT of indigenous production and 1.0 mT of imports. In June 1990, Mr. Hari Shanker Singhania, then Chairman of the Development Council for Paper and Pulp industry, prepared a report showing that pulpwood demand was likely to increase from 4 to 8 million mT between 2000 and 2015, while indigenous production would increase only from 2.5 to 3.3 million mT.

Assuming even low productivity[4] of 4 mT per ha per annum, the 8 mT of demand can easily be met from 2 million ha. Although there are many ways this could be accomplished, this paper argues that farm forestry is the best source of raw material for the paper mills, as it not only encourages planting of trees outside forests but also helps reduce pressure on government forests.

We consider below the issues arising out of raw material supplies to paper mills from four sources: government forests, imports, farm forestry, and captive plantations.

Supplies from Government Forests

The forest policy before 1988 in India encouraged plantations for industry. Between 1952 and 1980 more than 3 million ha of plantations were established, most of it to meet industrial needs (CSE 1982). The use of bamboo for paper manufacture accelerated from a low of 58,000 mT at the end of the Second World War to over 5 million mT by 1987 (Hobley 1996). Between 1960 and 1980, several states clearcut natural forests and planted eucalyptus in their place. Since 1960, the output of eucalyptus from government forests in Uttar Pradesh, for example, has increased from negligible to more than half of the total timber output from those forests (UPFC 1990).

Until very recently, highly privileged prices have been the standard practice for industries. In Madhya Pradesh in 1981/82 industrialists paid the Forest Department 54 paise for a 4-meter bamboo, while forest dwellers paid a little over Rs 2 a bamboo supplied by the Forest Department (CSE 1985:91). The Uttar Pradesh Forest Corporation (UPFC) has calculated that during 1983/84 the actual cost of raising eucalyptus in government forests was Rs 220 per mT, whereas it was supplied to the Saharanpur

paper mill at Rs 140 per mT, and to the Nainital mill at Rs 196. The market rate for equivalent quality of eucalyptus, as judged from the auction prices, was Rs 500–700 per mT during the above period.[5] Although the subsidy has been greatly reduced lately, it continues in many forms. In 1995, for instance, the UPFC sold bhabbar grass at Rs 72.50 per quintal to rope-makers, but to industry at Rs 40 per quintal. In Andhra Pradesh, the price that the Forest Department received for bamboo sold in the open market ranged from Rs 800–1,200 per mT in 1990/91, compared to Rs 550 for bamboo supplied to the industry.

The figures in table F.1, from Tamil Nadu, show that administered prices increased every year and that the sharpest increase occurred in 1996/97.

Many states still heavily subsidize bamboo for industry. Despite the prescription in the 1988 forest policy that forest dwellers will have first charge on the forest produce, the poor in Orissa have to meet their need for bamboo by stealing, while industry gets subsidized bamboo and has the first charge. From one depot (in 1995), the author noted the disposal of bamboo as follows:

To industry	33,60,000 pieces (roughly at 15 paise apiece)
Through open auction	27,275 pieces (Rs 10 –13 apiece)
Sent to other divisions	2,892 pieces
Local sale to cultivators (tenants)	350 pieces (at Rs 4.30 per piece)
Sale to artisans	nil

Table F.1. Prices for Pulpwood and Wattle Bark (Rs per mT)[a]

Year	Bluegum	Euc. grandis	Debarked wattle-wood	Pine wood	Euc. hybrid	Bamboo	Wattle bark
1990/91	965	830	680	-	510	380	2,200
1991/92	1,065	920	690		520	380	2,300
1992/93	1,175	1,015	760	840	575	420	2,530
1993/94	1,295	1,120	840	925	635	465	2,785
1994/95	1,425	1,235	925	1,020	700	515	3,065
1995/96	1,570	1,360	1,020	1,125	770	570	3,375
1996/97	2,748	2,380	1,785	1,969	1,348	1,140	4,725
1997/98	-	-	1,785		1,348	-	4,135

a. Rates are for standing crops. Harvesting and transport is by industry. Additional 5 percent administrative charges are also collected from industry. To avoid losses, weight worked out on the basis of stacked volume converted to weight based on a fixed formula or actual weight at weigh bridge which is higher in the quantity to be paid for.

The Bank has rightly insisted that supply of forest products to industry should not be subsidized. Its 1993 review[6] states that "Concessional pricing of produce from public forests limits the incentives to develop industrial farm forestry plantations. Some state governments have continued these practices despite GOI's policy that industries should pay market prices. In West Bengal timber prices to large industries in 1991 were about 60 percent of auction rates, though the quantities available for allotment did not by far meet the requirements. The Maharashtra government supplied plywood logs in 1991 at US$131 per cum in circumstances where the market price was US$442 and it sold bamboo from public forests at about Rs 250 per ton while market price reached Rs 700–800 per ton."[7]

Subsidies distort the market price, which does not cover the full opportunity cost of production (e.g., capital appreciation, working capital, and administrative overhead). Other problems include depressed prices for private tree growers and diversion of supplies to the open market for windfall profits, and increased opportunities for rent seeking in fixing contract terms. The impact of committed subsidized supplies to industries has been criticized in Bank reports (Mott 1998), as it:

- Results in low capacity utilization
- Prevents technological advances
- Leads to undesirable practices such as black-marketing and corruption
- Discourages private tree plantation
- Distorts markets
- Costs the state valuable revenue
- Leads to unhealthy competition between the state and farmers.

It is therefore recommended that the committed supply be abolished, that raw materials be supplied at competitive market prices, and that industry be encouraged to promote farm forestry. These need to be pursued with the states.

Imports

The government also has been encouraging the import of logs and pulpwood by providing relief from customs tariffs. Timber (in log or sawn form) and pulp have been included under Open General Licence (OGL), and private entrepreneurs are permitted to make their own arrangements for import. Hardwoods are mostly imported from Brazil, Indonesia, Malaysia, Myanmar, Papua New Guinea, Singapore, and Vietnam. Coniferous woods, though in small quantities, have come from Austria, Canada, Finland, France, Russia, and the United States. Pulp is

being imported from Australia, Brazil, Canada, Chile, Finland, Indonesia, Norway, Portugal, Russia, Sweden, Thailand, and the United States. As imported timber is cheaper than locally grown timber, liberalized imports have helped to conserve forest resources and check prices in the timber market.

Imported timber is used mostly by the building and construction industry, plywood industries, and the railways. The imported timber has also benefited a large number of saw mills, particularly in urban centers and around sea ports. There has been a quantum jump in recent years in the import of timber. In 1989/90, total imports were estimated at. 1.5 million m^3 (Singh, Ashbendu 1992, p. 72). The total value of imports in 1995/96 reached Rs 50 billion, and the quantity imported may well be 50 percent of recorded timber production from forest lands. In addition, 1–1.5 million m^3 of pulp, which is almost 50 percent of the present consumption, is imported. Although timber imports may continue, the desirability of importing pulpwood in the face of high potential of indigenous production deserves reexamination.

Farm Forestry

Like the Forest Departments, farmers have also shown great enthusiasm for planting eucalyptus. However, the demand from other sectors for farm wood was not enough to sustain production, and industry preferred imports or subsidized supplies from government. In Haryana, the total consumption of poles for construction by households in 1985/86 was 66,090 m^3, which is only 2.3 percent of the total supply of 3 million m^3 wood from farm forestry (NCAER 1987). As the demand from industry for pulpwood was not enough to absorb supplies from the three sources available to industry—imports, government forests, and farm lands—prices started falling. In 1986, the Haryana paper mill was buying eucalyptus from the farmers at Rs 440–460 per mT at the factory gate. At the same time the price dropped to Rs 330 in 1988, the factory started imposing a quality cut of 10 percent, reducing the effective price to Rs 300 (Athreya 1989). If inflation of 8 percent is taken into account, the fall in prices during 1986–88 amounts to almost 40 percent. The fall in price is indicative of limited demand. The problems that villages remote from paper mills have had in disposing of their produce has been amply documented in some field studies (Aulakh 1990; Khare and Rao 1991).

A fall in pole prices has been noticed in several regions, where eucalyptus planting by farmers had been popular. In Gujarat, the price of an

Table F.2. Price of Eucalyptus Poles in Major Markets in Gujarat (in Rs./piece)

Year	Ahmedabad	Bharuch	Mehsana	Rajkot	Kuchch	State
1985	35	35	46	41	37	39
1986	31	30	39	41	35	35
1987	24	37	41	40	35	35
1988	23	39	39	29	35	33
1989	24	46	34	25	40	34

Source: World Bank 1993.

eucalyptus poles of 35–40 cm girth and 3–4 meter length has fallen from Rs 39 to 34 during 1985–89 at current prices, as shown in table F.2.

A World Bank/ USAID team assessed the retail price of eucalyptus poles in Feb-March 1988 in the north Indian markets at Rs 400 a ton (USAID 1988), a fall from the earlier price of Rs 500 a ton. In Chandrakona (West Bengal), one of the largest eucalyptus market in eastern India, the price of eucalyptus poles of 30 cm girth fell from Rs 25 to 18 during 1988–90 (IIM 1991). In the same area, the farm-gate price for a similar product fell from Rs 26.70 in 1985 to Rs 10.20 in 1989 (Singh and Bhattacharjee 1991). In the Punjab, poles that sold for Rs 200–300 per piece in 1984/85 sold for Rs 40–45 per piece after 1988 (Khare and Rao 1991). If inflation of 8 percent per annum is taken into account, the price in 1988 was only 15 percent of the price in 1984.

The decline in the price of eucalyptus poles in West Bengal in nominal terms (if inflation is taken into account, the fall in prices would be even more drastic) is documented in table F.3.

Table F.3. Changes in the Price of Eucalyptus Poles in West Bengal

Girth of tree (16 ft. long) in inches	Dia. of pole (16 ft. long) in inches	Market price (Rs. per pole)				
		1985	1986	1987	1988	1989
9	3	15	15	13.5	12	12
12	4	28	28	25	24	22
15	5	58	58	52	50	48
18	6	100	105	96	90	82
21	7	125	125	110	105	100
24	8	160	128	125	115	115

Source: World Bank 1993.

These figures clearly show farmers' keenness and capacity to supply eucalyptus to industry. Industry sources also report that the profitability of paper mills has considerably improved in the past 10 years due to a fall in prices.

The success of farm forestry seems to have influenced the general price of fuelwood throughout the country.

Table F4. Prices of Pulpable Bamboo, Wood, and Grasses at the Factory Premises (Rs/air dry mT, 10% moisture)

	Eastern India		Western India		Northern India		
Year	Bamboo	Wood	Bamboo	Wood	Euca	Bhabar	Khair
1993–94	1630	1280	1310	1670	1425	2170	985
1994–95	1700	1285	1320	1575	1725	2370	1025
1995–96	1935	1325	1465	1725	2240	2650	1120
1996–97	2450	1420	1610	1800	2375	4400	1645
1997–98	2470	1540	1715	1920	2820	4500	1710

Source: Paper Mills Association.

Although the supply of eucalyptus to industry both from farms and forests has gone down a great deal in the last five years, the price of pulpwood has not increased, except in northern region, as table F.4 shows.

In many farm forestry programs, such as those in Orissa and Andhra Pradesh, where bamboo could grow quite well on homesteads and other such lands with good moisture (such as tubewell enclosures), bamboo was given no special emphasis. The area where bamboo grows—both forest and private lands—must have declined in the past 30 years. On the other hand, the area where eucalyptus grows has increased considerably. Despite these problems, industry sources say that the profitability of paper mills has considerably improved in the past five years.

Leasing of Forests to Industry

With a view to ensuring a regular supply of raw material to industry, the World Bank has recommended that industry grow raw material on degraded forest lands allotted to them. This suggestion is problematic and needs to be discussed in detail.

The Bank has been consistent in arguing for private sector investment in reforestation and forest management activities.[9] It would like the "forest based industry to be entrusted with the full responsibility for creating and managing their resources of supply outside the government's forest lands; promoting closer links between industries and private forest producers; creating captive plantations under the responsibility of the FDCM; or setting up joint ventures involving the FDCM, local people and the major industrial concerns" (p.29, Annex 1 to Maharashtra Forestry Project). Paragraph 5.2 states, "Maharashtra must nevertheless agree to provide such leases and an assurance to that effect is therefore recommended." The SAR for the Andhra Pradesh

project (pp. 8–9) states, "the industries would prefer to lease large, contiguous tracts of land from government. Since there are vast areas of degraded forests and FD cannot afford to bring them all back into production in the short-term, development with the involvement of the private sector would be a solution."

In May 1996, the Forest Corporation of Madhya Pradesh invited tenders to lease forest lands to private industry for 30 years, but the Government of India turned down the proposal. The Uttar Pradesh SAR (p. 9) states, "Private sector involvement in existing commercial plantations in forest reserve land was considered, but GOI legislation does not permit the leasing of reserve forests to the private sector."

The paper and pulp industry would be the principal beneficiary, either directly or via the Forest Development Corporations (FDCs), of the Bank's proposal. The concept, *prima facie*, is quite appealing: The government has wastelands but lacks funds, while industry has both capital and technology and is therefore best suited to afforest degraded lands. In the process, the poor get jobs. So, why should one object?

Industry involvement in the reclamation of barren wastelands such as the deserts of Rajasthan, the Bhal lands of Gujarat, the ravines of Madhya Pradesh, and the saline lands of Uttar Pradesh should be welcomed. The total area of such lands is estimated to be 20 million hectares. In fact, several state governments had in the past offered such non-forest barren lands for lease, but industry showed no interest. The state laws relating to land ceiling in Rajasthan, Madhya Pradesh, and Gujarat are liberal enough to grant exemption on such leases from ceiling limits. The official paper from Madhya Pradesh (PRIA 1998) states: "The state government has taken a policy decision to lease out non-forest revenue wastelands to the companies/Societies/Industry to raise forestry, sericulture, horticulture and other forest produce to the industry, tree plantation activity particularly to augment industrial supplies on thirty year lease basis.… Land under tree plantation is exempted from the provisions of the land ceiling Act."

Despite the initial high cost of reclamation, these lands have the advantage of being available in contiguous patches and hence are amenable to achieving economies of scale. The Department of Wasteland Development in the GOI has recently started an investment promotion scheme that gives a 25 percent subsidy to any industry that reclaims wastelands. Besides, these degraded lands do not support the livelihood needs of the poor, so handing them over to industry does not exacer-

bate social tensions. Industry sources say that to be internationally competitive, plantations must be on good quality lands in a single, contiguous patch. Such lands would necessarily be good quality forest lands away from habitations, not degraded forests with tree density between 10 and 25 percent. Such degraded lands may have a low tree density, but satisfy the fuelwood, fodder, and livelihood needs of about 100 million people.

In fact, these lands are degraded because they suffer from extreme biotic pressure, and require neither capital investment, nor higher technology, but protection and recuperation, which can be done only by working with the people, a task for which industry has neither expertise nor patience. The West Bengal experience shows that about 3,300 peoples' forest protection committees have regenerated more than 450,000 hectares of sal forests at little extra investment, simply by protection and the promise of sharing wood and non-wood products with them. If lands on which peoples' livelihoods are dependent are given to industry, they may have to employ muscle power to keep people at bay, thus escalating social tensions, which are already quite acute in several forest and park areas.

Industry requires forest lands with a soil depth of at least one meter. Such fertile lands, even when not having much tree cover, would regenerate on their own without much cost. Thus, regeneration would be a cheaper economic option than plantations. However, it would not produce species of interest to industry. Besides, industry has no credible plan to resolve the demands that local communities have over such lands. As such, any leasing of forest land is likely to result in hardships and oppression for the local communities which have historically depended on such lands for meeting their basic needs.

The inclusion of industry in such forests will raise short-term and quick-growing species in place of the multilayer mixed forests that are obtained through regeneration. The ecological and environmental implications need to be taken into consideration. Using forests for growing raw material for industry will set the clock back to the 1960s, showing that nothing has been learned from the mistakes of the past 30 years of trying to create plantation forests, which were ecological disasters, besides completely alienating the people and leading to faster degradation.

If industry produces its own raw material, to whom would farmers sell? Where is their market, if not industry? Sixty percent of farm land

is owned by affluent farmers who are market-oriented and can be trusted to fulfil the requirements of industry. They are even prepared to produce teak, if the government removes restrictions on cutting and moving teak trees on private lands. Leasing would adversely affect the farm forestry program, which is one of the cheapest and most sustainable methods of producing wood. Leasing degraded forests to industries would deprive the farmers of even that opportunity of taking up tree farming.

The industry's claim that it would create additional production is not true, as afforestation would be at the cost of tree planting efforts by farmers on privately owned degraded lands, tubewell enclosures, and homesteads, where the social cost of production is minimal, as these lands are of no use for cultivation. The argument that farm forestry would compromise food security is irrelevant, in the face of empirical evidence of significant tree plantation by farmers on lands that were not suitable for agriculture. Farmers exploit their own family labor (which is unpaid), and therefore can produce wood cheaper than industry. Farmers harvest their trees during the lean agricultural season and thus are able to achieve further savings in costs by spreading family labor inputs more evenly throughout the year. In fact, the government policy of subsidizing bamboo production on forest lands for supplies to industry acts as a deterrent to cheaper production on homesteads. The suggestion of the Bank means giving land almost free of capital cost to industry, thus involving subsidies worth several thousand million rupees. In light of new liberalization policies of the government, such subsidies on non-merit goods are undesirable.

Thus, the Bank's proposal to allow industry to use government forests for industrial plantations is against two groups of people: thousands of farmers who would be deprived of a market for agroforestry, and millions of voiceless forest dwellers who would be denied access to NTFPs and other biomass that they gather.

The introduction of the Panchayat Act in tribal areas,[9] where most forests are located, will render leases to industries of forest lands illegal and unconstitutional, as the spirit of the act favors local ownership and control over natural resources in Schedule V areas. In any case, involving industry in the afforestation of government forests is against the Forest Conservation Act and the Forest Policy, both on grounds of management and species choice. Even the Forest Department is prohibited from establishing plantations of cashew or rubber on forest lands, so how can private industry be allowed to raise monocultural plantations?

The Bank proposal, in view of the legal difficulties involved in the direct leasing of forestlands to industry, suggests that the management of degraded lands should remain with government corporations, but private companies may invest their money in the plantations. If government banks have not found the activities of these corporations worthy of investment, why would private companies do so? Forestry, being a long-gestation activity, requires stable tenure. What is being proposed by the Bank is that land, management, and funding sources should remain with three different parties: land with government, management with FDCs, and capital with private industry. With such a high degree of tenurial insecurity, the risk for the investor would also be very high, unless there is an unwritten and unstated understanding between the parties. High transaction costs and good administration do not go together.

Finally, degraded forest lands with crown densities of 25–40 percent are not likely to be available in contiguous patches, as these are likely to be interspersed with better-quality forests. Therefore, industry should be asked to establish links with farmers who will produce raw material if given a remunerative price, in ways similar to the linking of poplar-growing farmers with a match factory in northern Uttar Pradesh. This experiment shows that, with technological backup, timber trees suitable for sawing can be raised on farm lands within eight years. In fact, farmers' enthusiasm for growing poplar has enhanced supplies enough to lead to the establishment of several plywood factories in that area, thus providing considerable downstream employment.

A similar relationship with farmers is being tried by the ITC-run Bhadrachalam Paper Mills in Andhra Pradesh. The company increased its output from 42,000 metric tons in 1979 to 94,000 metric tons in 1995 without any increase in supply from natural forests. This was made possible entirely through wood obtained from farmers. The mill produces improved seeds, grows the seedlings in its nurseries, and gives them to the farmers for planting. The company is also selling clonal plants at Rs 6 a seedling, and has found that those farmers who paid a higher price for their seedlings took better care of their plants and survival was as high as 95 percent. Farmers get crop loans from the banks and extension service from the mill. This example shows that improved planting material can improve productivity from 7 to 20 m^3/ha/year. The mill guarantees the farmers a minimum price, although farmers are free to sell their produce to anyone. NABARD has rightly insisted on free choice for farmers, although industry would like the farmers to be bonded to them. The farm forestry project was formally approved by

NABARD in June 1989 and refinance assistance was sanctioned. The project envisages planting 1,500 ha of marginal agricultural land (owned by individual farmers) with fast-growing tree species (such as eucalyptus and casuarina) in eight districts. Trees are planted along field bunds, boundaries, and irrigation channels in rows, and as blocks combined with intercrops.

Even small farmers can benefit from being linked with industry. Whether an activity would be economically viable for small and medium holdings depends on two factors: divisibility of inputs and scale of economy. Tree planting requires divisible inputs, such as seeds, fertilizers, water, and labor. It is quite feasible to plant just a few trees on a small piece of land. Economies of scale favor small-scale production, as it requires family labor in the off-season (for harvesting at least), uses land with little opportunity cost, and can be taken up along with agriculture in appropriate agroforestry models. The only disadvantage with small farmers is that of risk, which can be overcome by offering the farmers proven technology and extension services.

There certainly could be transitional problems in building up communications by industry with farmers. These issues were noticed in the case of supplies of eucalyptus from farms to paper mills. First, many mills are designed for bamboo, not eucalyptus. Because of a shortage of bamboo, the mills are closed, or running at low capacity. Unfortunately, many farm forestry programs, such as those in Uttar Pradesh and Andhra Pradesh, give bamboo no special emphasis. Second, many others requiring wood are located in the east and south, where forest lands are located and where eucalyptus plantations were first started on forest lands. For them to transport wood over a distance of more than 1,000 km from the northwest would be uneconomic. Hence, the paradox of abundant availability of raw material in the north and west part of the country is created, and low-capacity utilization of mills in the east and south of the country continues. A practical solution would be to split the processing units, establish a new pulp-making plant close to farm forestry areas, and transport pulp to the paper mill. If pulp can be imported from as far away as Canada, surely it can be moved from Punjab or Haryana, where a pulp-producing mill can be located, to central and eastern India, where paper mills are located. Third, buying small lots from a large number of dispersed farmers requires setting up a new marketing infrastructure, whereas paper mills like to get large-scale consignments from a few sources. And last, it is not easy to obtain

government permission to move wood bought from private sources, as some states impose restrictions on the transport of wood.

These are temporary problems, however, and mills, with the help of government, can sort them out. Wherever paper mills are active in buying from farmers, they are able to buy almost all the eucalyptus the farms produce. In the Kolar and Bangalore districts of Karnataka, where the interest of farmers in growing eucalyptus continued for a longer period than in northwest India, a study shows that most farm eucalyptus is being bought by paper mills. In Kolar, 97.5 percent of privately grown eucalyptus was marketed, of which 97 percent went to the Harihar Polyfibres. In Bangalore, 92 percent was marketed, all to the same paper mill. A similar preference in favor of the paper mill was noticed in the village of Bagwala (about 20 kms from a paper mill in district Nainital, Uttar Pradesh) in early 1991, as almost the entire produce from the village was reaching the mill gate. Of the total wood arrivals in the Lalkuan wood market, located 7 km from the paper mill of Nainital, almost 90 percent was being sold to the mills (Saxena 1994). This was perhaps because traders were able to achieve a large turnover if they supplied to the mills.

It is a myth that industry cannot deal with farmers directly. For crops such as sugarcane, potatoes, rice, and cotton, industry has been working with farmers for decades. No industry imposes a condition that farmers are bound to sell to that industry, as is being demanded by the paper industry in India. Such a restriction would mean exploitation of the farmers, and must be opposed.

The 1993 review states, "Forest industries can alleviate raw material shortage to some extent by linking up with farm forestry and /or by growing their own supply. A mechanism is needed that will allow non-government entities to assist in the rehabilitation of degraded forest lands. There is limited scope for industries to access public wastelands for tree planting since most have alternative uses or are encroached." Twenty million ha of non-forest land is lying barren in India. It is the degraded forest, not barren lands, that have alternative uses.

Summary

Table F.5 summarizes the impacts of the four options for supplying raw material to industry in light of the overall goals of reducing deforestation and improving tree cover outside forests.

Table F.5. Impact of the Four Options for Supply of Raw material to Industry on Forests and Tree Planting Outside Forests

Subsidized supply from forests	Leads to under-valuation of forests, corruption and creation of over-	Discourages tree planting outside forests
Imports which are duty-free	Capacity reduces pressure on forests	Discourages tree planting outside forests
Captive plantations by the paper mills on degraded lands	Would not be taken up unless heavily subsidized by the state	Negative
Farm forestry	Reduces pressure on forests	Encourages tree planting outside forests

G. Factors that Supported Policy Reversal in 1988

For more than a hundred years before 1988, India's forests were managed as the exclusive property of the government for the production of timber and industrial raw materials. Analysts offer five explanations for the radical change in forest policy in 1988.

1. In the past, the justification for bringing forests under government control was to save land from unregulated overexploitation by the local people. This policy was based on the assumption that the government is capable of enforcing its property rights. In effect, it required that people should be afraid of interfering with the state-owned property and that a symbolic presence of the forest staff would be a sufficient deterrent to breaking the law. With increasing population and awareness, it is debatable whether these assumptions are still valid. Hence, the shift to a people-oriented strategy in which people have a share in forest management was called for.
2. The popularity of eucalyptus among farmers increased the availability of pulpwood at a cheap price for the paper industry, and liberalized imports of timber and pulpwood eased the supply for the industry. With new sources of supply, it was no longer considered crucial for the industry to depend on forests.
3. The growing realization of the importance of environmental protection combined with awareness that if steps are not taken to prevent loss of forest cover urgently it may be too late.
4. From the early 1970s, intellectuals and activists have picked up the long-standing grievances of forest-dependent communities. Consequently, in the past two decades the working of the Forest Department has come under close scrutiny. It has been demonstrated that state policies, by promoting commercial forestry, contributed significantly to the decimation of biological diversity and to an increase in soil erosion and floods (CSE 1985; Gadgil and Guha 1992). The press, armed revolts, and political movements in the countryside have been pressing the demand for greater community control over forest land. Several heavily forested districts in Andhra Pradesh, Maharashtra, and Madhya Pradesh have witnessed an armed rebellion, called the Naxalite Movement. One of the main demands of the Naxalites is better community control over forest resources. In Bihar, in 1978, local people protested in what is called the "Tree War" against the replacement of natural forests by teak plantations (CSE 1982). Even today, the Jharkhand (meaning "land of trees") movement calls for the creation of a

separate state in the central region of India. There have also been peaceful and non-political forest movements in the country. In many places during the 1970s people on their own initiative started protecting forests, of which CHIPKO is a well-known example.

5. International pressure has also shifted policies in favor of preserving biodiversity and meeting the livelihood needs of the poor.

H. Reforms in Post-1991 Projects: Madhya Pradesh Forestry

Policy Reforms

1. Limit the sale of forest produce below market price to correct the disincentives that local communities face in protecting and managing forests.
2. Remove disincentives on the planting of trees on private land by removing restrictions on the felling of trees on private land and on the transit of wood.
3. Remove disincentives to private sector participation in the marketing of NTFPs by phasing out the role of the FD in NTFP collection.
4. Correct the inefficient use of resources by phasing out industrial supplies from government to industry.

Institutional Reforms

5. Promote the efficient use of staff through the development of effective interdepartmental coordination.
6. Tap the comparative advantage of NGOs in planning and implementing participatory activities.
7. Promote and develop a client-oriented approach in the FD by promoting a new vision in the department and empowering staff to make situation-specific decisions.
8. Improve management information systems and feedback from M&E.
9. Promote efficiency by modifying management structures to avoid overlapping responsibilities.
10. Promote skill mix and specialization in staff related to needs of the sector through training and specific staffing policies.
11. Take steps to link research with key problems in the sector and improve seed stocks, planting methods, and nursery practices.

Legal Reform

12. Take steps to review existing legislation to bring it into conformity with national policy.
13. Revise government regulation of JFM to give adequate representation to women and the landless.

I. Gender Issues in the Forest Sector

The literature reveals four distinct occupational roles for women in the forest sector: gathering, wage employment, managing, and production.

Gathering

Gathering is an important economic activity for poor women. Their relative status within the family is higher in well-forested villages, where women make a larger contribution to household subsistence and cash income (ILO 1985; ILO 1986). Deforestation consequently has an adverse impact on their economic and social status. Diminished supplies force women to cut down on their consumption, as they must market a greater proportion of their collection (Fernandes et al. 1988: 116,124). As the tree line recedes, they must travel farther for collection and eventually male adults take over the activity. The decline in consumption and increased drudgery results in deterioration of women's physical health. Medicinal herbs that were once available have meanwhile been displaced by deforestation and the preference for monoculture forests. The incidence of night blindness, dental caries, anemia, gum bleeding, and other diseases increases. None of the Bank projects have identified such issues or advocated the planting of medicinal herbs on forest lands.

Women as wage employees

Forest staff and contractors prefer to use women for some forestry operations, like nursery work and tendu leaf collection. But women often get lower wages than men for similar work, are not paid regularly, and may be harassed if they complain. In the best implemented JFM program, unequal wages were noticed (OXFAM 1998). Hardly any rules exist for regulating working hours, safety precautions, provision of latrines, job recruitment, leave and other benefits, training policies, productivity-linked bonuses, insurance against accidents, shelters, civic amenities, arrangements for the care of children and infants, or medical care. The Bank projects have not proposed actions on these issues.

Studies show that half of the block plantation by farmers during 1980–85 in the Bank projects of Gujarat and Uttar Pradesh was on previously cropped lands (IIPO 1988: 61). A similar conclusion was reached by an ILO study, which estimated that 50 percent of the land covered under the farm forestry component was good agriculture land (1988: 17). How did this affect female employment? By planting trees on land previously used for agricultural crops, female labor tends to get

displaced (ILO 1988: 21; SIDA 1988). A study of eucalyptus plantation in Tamil Nadu under the farm forestry program (FAO 1989) on lands that were previously being used for groundnut cultivation, found that women's employment in groundnut cultivation declined in favor of men's employment to dig pits and clear trees for the eucalyptus cultivation. Averaged over a rotation cycle of 10 years, total employment per ha per year dropped from 112 to 45. Female employment dropped from 100 days to nil, while male employment rose, but only from 12 to 45.

Women as managers in community forestry

In community plantations, who gains and who loses has been affected by the choice of tree species. Fodder is crucial to the economy of Indian villages. Logically, therefore, the land laws of most of the states forbid the use of grazing lands for purposes other than producing grasses and fodder. Yet under the Bank projects non-browsable species like eucalyptus were planted on community lands in Gujarat (PEO 1987), Karnataka (Brokensha 1988), and Uttar Pradesh (IIM 1985) thus depriving poor women of an important resource. Women tend to lose not only fodder but also other benefits from the trees themselves. A World Bank/USAID team after touring Uttar Pradesh, Gujarat, Himachal Pradesh, and Rajasthan in Feb-March 1988 found that commercial species planted by the Forest Department on grazing lands tempt the panchayats to sell these, rather than distribute them in the village (USAID 1988).

Table I.1. Representation of Women in JFM Committees

State	Eligibility for membership in general body	Minimum number of women in managing committees (MC)	Benefit-sharing entitlements
Andhra Pradesh	1 female & 1 male per household	3 out of 9-13 members	Unspecified
Madhya Pradesh	1 representative per household	Not specified	Equitably among members
Maharashtra	Unspecified	2 out of 11 members	Among members
West Bengal	Joint membership of husband & wife	Not specified	Either husband or wife

Source: Sarin 1994.

Women's needs are not reflected in the choice of species in forest plantations

Some social forestry projects provided for the appointment of women extension workers who are to help in approaching and involving women. A study of Madhya Pradesh showed that the Forest Department had only 9 women extension assistants out of the total of 273, and only 49 female forest workers out of a total of 882. At the level of forest extension officers and higher, there were no women. But wherever women forest workers were active, village women not only knew about the general issues concerning social forestry programs, but they were more cost efficient in nursery management. Even among the NGOs, those groups that had separate female staff were more successful in organizing women's activities (USAID 1985).

J. How Many People Are Economically Dependent on Forests?

Knowledge about the number of people who depend on forests in India is weak. Some estimates say close to 200 million persons, but there is substantial double counting in such estimates. At the other extreme, India's National Accounts Data estimates that in 1980 only 250,000 persons were working in the forestry, logging, hunting, and trapping sectors. If marginal workers are added, this figure increases to 345,000.

The National Sample Survey (NSS) estimates the workforce in India using information it collects on both principal and subsidiary workers. These estimates are able to correct to a major extent the undercount of the workforce in the population census. The labor force participation rates were collected from the fiftieth round of the NSS for 1993/94 both by principal and subsidiary occupations. Unfortunately, the data do not detail the breakdown by sector. This is available from the full count of the Census of India. If the total workforce is built up by the NSS surveys and the census count used for sectoral breakdown, a new series can be constructed. The workforce dependent on forestry and logging derived by this procedure is estimated at 5.32 million in 1993 and the rural workforce is 4.92 million. In this procedure, 3.0 million workers in 1993 are dependent on collection of uncultivated materials in the forest sector, which would correspond to minor forest produce. Of these, 2.93 million were in the rural areas, of which 2.1 million were women. Another 3.85 million workers were engaged in the cultivation of medicinal plants, but not all of these would be in forest areas. The plantation sector employed 94 million workers. Estimates of more than 100 million seem to be on the high side.

The definitions used in measuring the Indian labor force and counting workers are some of the most comprehensive in the world and sometimes confusion is created by comparing them with other countries. It is therefore useful to describe the concepts behind the estimates we are using to compare with the census data of workers. In the NSS for 1993, the main concepts were those used since the 1972/73 Survey on Employment and Unemployment, following the Report of the Expert Committee on Unemployment Estimates, otherwise called the Dantwala Committee. The persons surveyed are classified into activity categories based on the activities they pursued during three specified reference periods: one year, one week, and each day of the week. Based on these three periods, three different measures are calculated.

Our estimate of the number of workers concerns only their "usual status." In this approach, the activity on which a person spent relatively more of the preceding 365 days is considered the "principal usual status" activity of the person. Accordingly, a person is "working or employed" if he or she was engaged for a relatively longer time during the past year in one or more work activities (economic activities). The person is considered "seeking or available for work" or "unemployed" if he or she was not working but was either seeking or was available for work for a relatively longer time during the past year. If the person was engaged in non-economic activities for a relatively longer time of the reference year he or she is considered "out of labor force." The specific activity category is determined by the amount of time spent, i.e. the activity on which most time was spent is the usual status activity. A person categorized as "worker" or "employed" on the basis of the principal status is called a "principal status worker" or "principal status employed." A person categorized as a nonworker (i.e., unemployed or out of labor force) who pursued some economic activity in a subsidiary capacity is called a "subsidiary status worker" or "subsidiary status employed." These two groups—principal status workers and subsidiary status workers—together constitute "all workers" according to the usual status classification.

For female workers who collect firewood or minor forest products there is a separate classification. The entire spectrum of human activity falls in two categories: economic and noneconomic activities. The economic activities have two parts: market activities and non-market activities. Market activities are those that involve remuneration to those who perform them, i.e., activity performed for pay or profit. These are essentially production of goods, including those of government services, etc. Non-market activities are the production for personal consumption of primary products and own-account production of fixed assets.

The term "economic activity," as adopted in the fiftieth round survey, includes:

- All market activities performed for pay or profit that result in production of goods and services for exchange.
- Of the non-market activities, it includes all agricultural sector activities that result in production (including gathering of uncultivated crops, forestry, collection of firewood, hunting, fishing, etc.) of agricultural produce for consumption; and activities relating to the production of fixed assets for personal use, which include construction of houses, roads, wells, etc., and of machinery, tools,

etc. for household enterprise and the construction of private or community facilities free of charge. A person may be engaged in own-account construction as either laborer or supervisor.

Persons who are engaged in any economic activity or who, despite their attachment to economic activity, have abstained for reason of illness, injury or other physical disability, bad weather, festivals, social or religious functions, or other contingencies necessitating temporary absence from work constitute workers. Unpaid helpers who assist in the operation of an economic activity in household farm or nonfarm activities are also considered workers.

There is only one more complexity that needs to be noted.[10] Gender-sensitive social scientists had raised the issue that females also collected firewood, etc., but not as an economic activity. To make sure that such activity is not lost, it is measured outside the labor force as Code 93 in "out of labor force activities" as follows:

Out of labor force activities:

91 Attended educational institutions
92 Attended domestic duties only
93 Attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, etc. for household)
94 Rentiers, pensioners, remittance recipients, etc.
95 not able to work due to disability
96 Beggars, prostitutes, etc.
97 Others
99 Infants of age 0-4 years

Table J.1 shows that a figure of 100 million forest-dependent workers can be derived only if all workers in the plantations and livestock sectors are shown as dependent on "forests." Since "gathering of fodder from forests" is a separate activity, this procedure will be wrong. The population *economically dependent* on forests is therefore much less than some interest groups claim.

Recent Developments

National Account estimates at present do not include the firewood used for cremations in India or wood used as fuel in industrial processes, particularly in the unorganized sector. The National Account probably underestimates the amount of firewood by about Rs 5,000 million. These issues are being worked on and will change the level of output and GDP from the forest sector, but will not make a substantial difference to the growth rates. Thus, at 1980/81 prices, industrial wood—

which was placed at Rs 9,130 million in 1980/81—declined to Rs 4,610 million in 1990/91 and to Rs 3,930 million in 1993/94. It went up to Rs 4,160 million in 1995/96, but the declining trend is clear, despite some increase in the mid-1990s. Discussions with the state governments suggest that in 1996/97 and 1997/98 this increase continued and the period 1993–97 may show an annual growth rate of around 5.5 percent, but the level of 1990/91 may just be reached again. Annual growth rates of around 2 percent in firewood (around the population growth rate) and a decline in minor forest products continues through 1997/98.

Table J1. Principal and Subsidiary Workers 1993; Selected Categories and Total (in tens of thousands)

	Rural			Total		
Industry	Male	Female	Total	Male	Female	Total
Floriculture & horticulture	4.61	2.04	6.65	5.03	2.38	7.41
Fodder	0.25	0.15	0.41	0.30	0.18	0.48
Medicinal plants and other Agricultural production	26.27	7.96	34.23	28.88	9.62	38.50
Plantations	477.30	438.76	916.06	484.77	455.79	940.56
Livestock	422.17	355.18	777.35	435.04	367.13	802.17
Hunting, trapping, and game propagation	4.75	1.27	6.02	5.21	1.53	6.74
Forestry and logging	96.98	42.38	139.36	103.06	45.82	148.88
Planting, replanting and conservation of forests	44.19	5.03	49.22	47.16	6.02	53.17
Logging	17.36	6.10	23.46	18.36	6.77	25.13
Firewood/fuelwood by exploitation of forest	2.27	2.22	4.49	2.42	2.46	4.87
Gathering of fodder from forest	0.66	0.53	1.19	0.74	0.63	1.37
Uncultivated materials in forests	8.72	20.59	29.31	9.00	20.96	29.96
Forest services	2.38	7.91	31.69	25.38	8.98	34.36

Source: Census 91 and N.S.S. 93/94 as explained in text.

K. Jhabua (Madhya Pradesh)—A Success Story

The undulating topography of Jhabua ensures rapid runoff of rainwater, so post-monsoon water is almost nonexistent. As the uplands are used for cultivation without terracing, the humus and fertile topsoil has been lost and soil erosion has accelerated. Free grazing has further affected the vegetative cover of the land. By 1985, the district appeared to be an ecological disaster.

But the Watershed Development Program has changed this over the past 13 years. A decentralized and time-bound mission, the program aims to improve 120,000 ha over several watersheds through augmentation, conservation, and optimum utilization of soil and water resources. The low cost and wide use of indigenous technology, such as checkbunds, boulder-checks, and gully plugs, coupled with people's participation, have been the hallmarks of the program. Extensive pasture development has been undertaken between contour trenches and in the bottom of the hills from where the villagers get their fodder. As vegetation checks soil erosion and enhances groundwater recharge, wells in the village have more water. People have started installing water pumps for crops. Migration rate has fallen drastically and Jhabua has become a fodder surplus district, selling fodder even to Gujarat.

The cost of treating one ha of land through watersheds is Rs 3,000.

Relevance of watershed approach to forest sector projects

The main point to be noted about Jhabua is that about 30 percent of the geographical area is declared as forests, although more than 80 percent of it was highly degraded until 1985. The JFM approach to forests got a boost from the strong technological and people-oriented approach of the watershed program. People were enthusiastic about protecting forests because they saw the link between protection of uplands with their crop production.

One of the least understood but most useful concepts is the complementarity between forests and agriculture. If it is strengthened, the local community develops a stake in the preservation of forests, which can deter individual attempts at encroachment or degradation. Traditional agroforestry patterns reflect farmers' own perceptions of complementarity between trees and crops, but the issue of complementarity between forests and agriculture is wider than that between trees and crops. To enrich this complementarity, one of the main objectives of forest management should be the preservation of soil and moisture.

Soil and water conservation measures such as contour trenching, vegetative bunding, and small check-dams can enhance soil moisture and the accumulation of topsoil, accelerating the rehabilitation of the microenvironment. This by itself helps in regeneration and ensures better survival of plants. However, fund allocation in the Bank projects for soil conservation measures do not appear to be adequate. What is most important is that Bank projects only look at forest lands in isolation from both non-forest wastelands and crop lands. Productivity of any one kind of land cannot increase in the rain-fed uplands unless integrated planning of all the three kinds of lands is done together.

Most funds for watershed development are spent by the Ministries of Agriculture and Rural Development. They should rehabilitate lands in the upper catchment first for at least three reasons (Farrington et al. 1998): First, so that the landless and the poor who depend on upper slopes can benefit; second, so that groundwater recharge begins at the earliest point; and third, so that by the time the lower catchment is treated, any debris and erosion running down from the upper catchment has been minimized. However, upper slopes are typically under the control of the FD, which does not permit other departments to operate on its lands. The Ministry of Rural Areas and Employment has recently permitted its funds to be used in watershed schemes by the FD, but a similar initiative is also needed from the Ministry of Agriculture.

The objective of the Bank should be "To enable rural people in forested regions to prevent, arrest and reverse degradation of life support systems, particularly land and water, so as to produce biomass in a sustainable and equitable manner." At present, the three life support systems—land, water, and forests—remain unintegrated administratively and managerially. Therefore, the Bank should strive for integrated planning at the village level through peoples' participation. Linking the future of forests with crop lands and groundwater recharge alone will ensure sustainability of Bank efforts.

L. World Bank Lending Portfolio for India

This annex analyzes the general World Bank lending history for India. The analysis covers a 16-year period from 1984 to 1999, which has been divided into two periods, a pre-Forest Policy period (1984–91) and a post-Forest Policy period (1992–99). This division permits comparisons between the two periods.

In the pre-policy period, the Bank financed 97 projects with a total commitment of US$20.2 billion, which made India the largest recipient of Bank lending, representing 13.6 percent of the total Bank lending. The largest share, 27 percent, was allocated for 17 projects in the electric power and energy sector. The agriculture sector had 29 projects that received about 22 percent of the lending. The industrial sector followed with seven projects for 9 percent of the lending. The transportation and oil and gas sectors each had about 7 percent of the total commitments. There were also four projects in the environment sector with commitments of about US$459 million, which is slightly above 2 percent of the total lending. The distribution of project lending for India by sector is presented in table L.1.

In the post-policy period, Bank lending commitments to India decreased by 25 percent, making India the second largest recipient with 8 percent of the total Bank lending. Eighty projects were financed with total commitments of US$15.2 billion. The commitments to the agriculture sector decreased by 41 percent, reflecting 21 projects and US$2.7 billion. Lending to the electric power and energy sector decreased by 60 percent and involved 9 projects with commitments of US$2.2 billion. Environment sector lending also declined by about 22 percent with three projects with commitments of US$360 million. The Bank financed no oil and gas sector projects during the period. The transportation sector was one of the few sectors in which lending actually increased, by 21 percent, with 8 projects and commitments of US$1.8 billion. The distribution of project lending by sector and its comparison to the pre-policy period is presented in table L.1.

There were no Bank-financed adjustment lending operations in the pre-policy period. There were four such operations in the post-policy period that accounted for almost 10 percent of the total lending. The remaining 90 percent was allocated for 76 projects that involved different types of investment lending instruments and commitments of US$13.8 billion. A breakdown of Bank lending by lending instruments is shown in table L. 2.

Table L.1. World Bank Lending to India by Sector, 1984–99

	1984–91				1992–99				1984–91—1992–99	
Sector	No. of projects	Commit-ments (US$M)	No. of projects (%)	Commit-ments (%)	No. of projects	Commit-ments (US$M)	No. of projects (%)	Commit-ments (%)	Change in commitments (US$M)	Change in commitments (%)
Agriculture	29	4,543.8	29.90%	22.45%	21	2,661.1	26.25%	17.50%	-1,882.7	-41%
Education	3	847.1	3.09%	4.18%	6	1,145.5	7.50%	7.54%	298.4	35%
Electric power and energy	17	5,415.6	17.53%	26.75%	9	2155	11.25%	14.18%	-3,260.6	-60%
Environment	4	458.6	4.12%	2.27%	3	360	3.75%	2.37%	-98.6	-22%
Finance	4	955	4.12%	4.72%	2	905	2.50%	5.95%	-50	-5%
Industry	7	1,910.8	7.22%	9.44%	1	190	1.25%	1.25%	-1,720.8	-90%
Mining	3	739	3.09%	3.65%	3	607	3.75%	3.99%	-132	-18%
Multisector					2	800	2.50%	5.26%	800	
Oil and gas	5	1,467.5	5.15%	7.25%					-1467.5	-100%
Pop. health and nutrition	7	601.1	7.22%	2.97%	16	2,536.8	20.00%	16.69%	1,935.7	322%
Social					3	1062.7	3.75%	6.99%	1,062.7	
Telecommunications	1	345	1.03%	1.70%					-345	-100%
Transportation	6	1,490.3	6.19%	7.36%	8	1,808.5	10.00%	11.90%	318.2	21%
Urban development	5	900.2	5.15%	4.45%	2	351	2.50%	2.31%	-549.2	-61%
Water supply and sanitation	6	567.8	6.19%	2.81%	4	619.4	5.00%	4.07%	51.6	9%
Grand total	97	20,241.8	100.00%	100.00%	80	15,202	100.00%	100.00%	-5,039.8	-25%

Table L.2. World Bank Lending to India by Lending Instrument, 1984–99

		1984–91				1992–99				1984–91—1992–99	
Lending Type	Major Lending Instrument	No. of projects	Commit-ments (US$M)	No. of projects (%)	Commit-ments (%)	No. of projects	Commit-ments (US$M)	No. of projects (%)	Commit-ments (%)	Change in commit-ments (US$M)	Change in commit-ments (%)
Adjustment	Sectoral adjustment loans					3	950	3.75%	6.25%	950	
	Structural adjustment loans					1	500	1.25%	3.29%	500	
	Adjustment total					4	1450	5.00%	9.54%	1450	
Investment	Adaptable program loans					2	270	2.50%	1.78%	270	
	Emergency reconstruction loans	2	560	2.06%	2.77%	1	246	1.25%	1.62%	-314	-56%
	Financial Intermediary loans	4	1205	4.12%	5.95%	1	700	1.25%	4.60%	-505	-42%
	Specific investment loans	67	14,318.2	69.07%	70.74%	68	12,236	85.00%	80.49%	-2,082.2	-15%
	Specific investment & maintenance	24	4,158.6	24.74%	20.54%	1	126	1.25%	0.83%	-4,032.6	-97%
	Technical assistance loan					3	174	3.75%	1.14%	174	
	Investment total	97	20,241.8	100.00%	100.00%	76	13,752	95.00%	90.46%	-6,489.8	-32%
Grand total		97	2,0241.8	100.00%	100.00%	80	15,202	100.00%	100.00%	-5,039.8	-25%

Table L.3. World Bank Lending to India by Primary Program Objective, 1984–99

	1984–91				1992–99				1984–91—1992–99	
Sector	No. of projects	Commit-ments (US$M)	No. of projects (%)	Commit-ments (%)	No. of projects	Commit-ments (US$M)	No. of projects (%)	Commit-ments (%)	Change in commitments (US$M)	Change in commitments (%)
Economic management	13	3,232.9	13.40%	15.97%	13	3242	16.25%	21.33%	9.1	0%
Environmentally sustainable development	41	10,592	42.27%	52.33%	31	5409	38.75%	35.58%	-5183	-49%
Poverty reduction and human resource development	38	5,287	39.18%	26.12%	27	4579.8	33.75%	30.13%	-707.2	-13%
Private sector development	4	1020	4.12%	5.04%	5	1551.8	6.25%	10.21%	531.8	52%
Gender analysis	1	109.9	1.03%	0.54%	4	419.4	5.00%	2.76%	309.5	282%
Grand total	97	20,241.8	100.00%	100.00%	80	15202	100.00%	100.00%	-5,039.8	-25%

An overview of Bank lending by its primary program objectives in the pre-policy period shows that 42 percent of the total projects were concentrated on environmentally sustainable development. Poverty reduction and human resource development was the primary objective of 38 projects, which reflected 26 percent of the total commitments within this period. Economic management was the primary goal for 13 projects and represented 16 percent of the total commitments. Four projects focused on private sector development as their main objective and involved 5 percent of the total commitments.

In the post-policy period, the trend continued with 39 percent of the total projects focusing on environmentally sustainable development. Poverty reduction and human resource development was stated as the primary objective of 27 projects and involved 30 percent of the total commitments. Economic management was the primary objective of 13 projects and 21 percent of the total commitments. The primary program objectives for both of these periods are presented in table L.3.

Forest and Forest Component Projects in India

In the pre-policy period (1984-91), the Bank approved three direct forest projects with total commitments of US$224 million, which is slightly above 1 percent of total commitments to India. Given that the Bank financed a total of 41 direct forest projects with total commitments of US$1.68 billion, the direct forest lending to India represents 13 percent of these commitments and 7 percent of these projects.

In the post-policy period (1992-99), eight projects were approved with commitments of US$460 million reflecting a 106 percent increase in direct forest lending to India. However, forest lending constituted only 3 percent of the total lending to India. During the same period, the Bank financed a total of 34 direct forest projects with commitments of US$1.72 billion, of which India received 27 percent of the commitments and 24 percent of the projects. The breakdown for direct forest projects by country and region is presented in table L.7.

In addition to the direct forest projects, numerous operations classified as non-forest projects have forest components. These “indirect forest projects” or “forest component projects” are found in various subsectors of agriculture and recently in the subsectors of environment, particularly in natural resource management subsector.

In the pre-policy period, the Bank financed 32 forest component operations with total project commitments of US$1.94 billion of which US$291 million was committed for forest-specific activities. India had

three such projects with total project commitments of US$858 million with only US$17 million allocated for the forest-specific activities.

However, in the post-policy period, the overall number of forest component projects substantially increased to 94 projects with total project commitments of US$6.2 billion of which US$1.79 billion was related to forest activities. This increase is also reflected in India, which had three component projects with total project commitments of US$196.7 million, out of which US$179 million was for forest-specific activities. The distribution of forest component projects is presented in table L.8.

OED Evaluated Operations in India

The Operations Evaluations Department (OED) has evaluated 96 projects that exited the India portfolio between 1992–98. They were assessed on their outcome, sustainability, institutional development impact, bank performance and borrower. The projects had net commitments of US$13.1 billion (1996 dollars).

The outcome of 64 projects was rated satisfactory, based on their relevance, efficacy, and efficiency—67 percent of the total projects and 75 percent of the total commitments. Sustainability was rated likely for 44 projects—46 percent of the projects and 63 percent of the total commitments. Institutional development impact was considered substantial for 32 projects—33 percent of the projects and 35 percent of the total commitments. The ratings for all OED-evaluated projects by sector and subsector are presented in tables L.4a–L.4c.

Analysis of Bank performance on project identification, appraisal, and supervision shows that project identification was judged satisfactory for 77 projects—80 percent of the projects and 79 percent of the commitments. Project appraisal was rated satisfactory for 51 projects—53 percent of the projects and 66 percent of commitments. Project supervision was rated satisfactory for 70 projects—73 percent of the projects and 81 percent of the total commitments.

Analysis of borrower performance on project preparation, implementation, and compliance indicates that project preparation was rated satisfactory for 66 projects—69 percent of the projects and 82 percent of the total commitments. Project implementation was considered satisfactory for 63 projects—66 percent of the projects and 78 percent of the total commitments. Finally, project compliance was rated satisfactory for 64 projects—67 percent of the projects and 71 percent of total commitments.

Table L.4a. Overall Performance Ratings for OED Evaluated Projects, 1992–98

	Evaluated projects		Outcome satisfactory			
Sector/Subsector	No. of projects	Net commitments (US$M)	No. of Projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)
Agriculture	28	1,766.26	18	1,230.93	64	70
Agricultural credit	1	26.56				
Agriculture extension	2	109.46	2	109.46	100	100
Forestry	4	191.39	4	191.39	100	100
Irrigation and drainage	15	853.93	8	489.31	53	57
Livestock	1	191.55	1	191.55	100	100
Other agriculture	3	212.84	2	164.05	67	77
Research	2	180.53	1	85.17	50	47
Electric power and other energy	20	3,678.97	10	2,415.88	50	66
Distribution and transmission	2	417.00	2	417.00	100	100
Electric power and other energy	2	151.33				
Hydro	3	292.15				
Other power and energy conversion	2	599.34	1	572.98	50	96
Thermal	11	2,219.15	7	1,425.90	64	64
Finance	4	743.9	3	546.67	75	73
Financial adjustment	3	454.67	2	257.44	67	57
Financial sector development	1	289.23	1	289.23	100	100
Industry	7	1,911.24	6	1,573.89	86	82
Fertilizer and other chemicals	3	755.9	3	755.9	100	100
Industrial restructuring	1	282.32	1	282.32	100	100
Other industry	3	873.02	2	535.67	67	61
Mining	4	551.38	2	470.01	50	85
Mining and other extractive	4	551.38	2	470.01	50	85
Multisector	2	599.12	2	599.12	100	100
Economic management	1	300.26	1	300.26	100	100
Trade policy reform	1	298.86	1	298.86	100	100
Oil and gas	5	1,246.97	5	1,246.97	100	100
Oil and gas adjustment	1	45.94	1	45.94	100	100
Oil and gas exploration and development	3	745.35	3	745.35	100	100
Oil and gas transporation	1	455.68	1	455.68	100	100
Population, heath, and nutrition	7	439.35	6	342.14	86	78
Targeted health	7	439.35	6	342.14	86	78
Social sector	1	199.24	1	199.24	100	100
Social sector adjustment	1	199.24	1	199.24	100	100
Telecommunications	1	183.07	1	183.07	100	100
Telecommunications and informatics	1	183.07	1	183.07	100	100
Transportation	5	1,083.24	3	591.66	60	55
Highways	1	129.77				
Ports and waterways	1	304.29	1	304.29	100	100
Railways	2	627.2	1	265.39	50	42
Rural roads	1	21.98	1	21.98	100	100
Urban development	5	218.79	2	47.9	40	22
Other urban development	1	72.7				
Urban development adjustment	1	47.69	1	47.69	100	100
Urban environment	1	32.55				
Urban management	2	65.85	1	0.21	50	0
Water supply and sanitation	7	460.98	5	400.47	71	87
Rural water supply and sanitation	1	10.02				
Urban water supply	6	450.96	5	400.47	83	89
Grand total	96	13,082.51	64	9,847.95	67	75

Table L.4a. Overall Performance Ratings for OED Evaluated Projects, 1992–98 (cont'd)

Sustainability likely				ID impact substantial			
No. of projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)	No. of projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)
5	506.41	18	29	9	828.88	32	47
1	81.57	25	43				
3	233.29	20	27	5	391.7	33	46
1	191.55	100	100	1	191.55	100	100
				1	111.39	33	52
				1	85.17	50	47
11	2,571.54	55	70	5	934.41	25	25
2	417	100	100	1	233.31	50	56
1	68.85	33	24				
1	572.98	50	96				
7	1,512.71	64	68	4	701.1	36	32
3	546.67	75	73	3	546.67	75	73
2	257.44	67	57	2	257.44	67	57
1	289.23	100	100	1	289.23	100	100
6	1,573.89	86	82	5	1,270.36	71	66
3	755.9	100	100	3	755.9	100	100
1	282.32	100	100	1	282.32	100	100
2	535.67	67	61	1	232.14	33	27
2	470.01	50	85	2	145.07	50	26
2	470.01	50	85	2	145.07	50	26
1	298.86	50	50	1	300.26	50	50
				1	300.26	100	100
1	298.86	100	100				
5	1,246.97	100	100	1	155.34	20	12
1	45.94	100	100				
3	745.35	100	100	1	155.34	33	21
1	455.68	100	100				
4	187.36	57	43	1	61.64	14	14
4	187.36	57	43	1	61.64	14	14
1	199.24	100	100				
1	199.24	100	100				
1	183.07	100	100				
1	183.07	100	100				
2	287.37	40	27	1	21.98	20	2
1	265.39	50	42				
1	21.98	100	100	1	21.98	100	100
1	0.21	20	0				
1	0.21	50	0				
2	147.49	29	32	4	299.9	57	65
2	147.49	33	33	4	299.9	67	67
44	8,219.09	46	63	32	4,564.51	33	35

Table L.4b. Bank Performance Ratings for OED Evaluated Projects, 1992–98

	Evaluated projects		Identification satisfactory			
Sector/Subsector	No. of projects	Net commitments (US$M)	No. of Projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)
Agriculture	28	1,766.26	24	1,458.36	86	83
Agricultural credit	1	26.56	1	26.56	100	100
Agriculture extension	2	109.46	2	109.46	100	100
Forestry	4	191.39	4	191.39	100	100
Irrigation and drainage	15	853.93	12	594.82	80	70
Livestock	1	191.55	1	191.55	100	100
Other agriculture	3	212.84	2	164.05	67	77
Research	2	180.53	2	180.53	100	100
Electric power and other energy	20	3,678.97	16	2,682.54	80	73
Distribution and transmission	2	417.00	2	417.00	100	100
Electric power and other energy	2	151.33	1	150.13	50	99
Hydro	3	292.15	3	292.15	100	100
Other power and energy conversion	2	299.34	2	599.34	100	100
Thermal	11	2,219.15	8	1,223.92	73	55
Finance	4	743.9	4	743.9	100	100
Financial adjustment	3	454.67	3	454.67	100	100
Financial sector development	1	289.23	1	289.23	100	100
Industry	7	1,911.24	6	1,573.89	86	82
Fertilizer and other chemicals	3	755.9	3	755.9	100	100
Industrial restructuring	1	282.32	1	282.32	100	100
Other industry	3	873.02	2	535.67	67	61
Mining	4	551.38	2	214.49	75	39
Mining and other extractive	4	551.38	2	214.49	75	39
Multisector	2	599.12	2	599.12	100	100
Economic management	1	300.26	1	300.26	100	100
Trade policy reform	1	298.86	1	298.86	100	100
Oil and gas	6	1,246.97	5	1,246.97	100	100
Oil and gas adjustment	1	45.94	1	45.94	100	100
Oil and gas exploration and development	3	745.35	3	745.35	100	100
Oil and gas transporation	1	455.68	1	455.68	100	100
Population, heath, and nutrition	7	439.35	5	249.14	71	57
Targeted health	7	439.35	5	249.14	71	57
Social sector	1	199.24				
Social sector adjustment	1	199.24				
Telecommunications	1	183.07	1	183.07	100	100
Telecommunications and informatics	1	183.07	1	183.07	100	100
Transportation	5	1,083.24	4	953.47	80	88
Highways	1	129.77				
Ports and waterways	1	304.29	1	304.29	100	100
Railways	2	627.20	2	627.20	100	100
Rural roads	1	21.98	1	21.98	100	100
Urban development	5	218.79	3	113.54	60	52
Other urban development	1	72.7				
Urban development adjustment	1	47.69	1	47.69	100	100
Urban environment	1	32.55				
Urban management	2	65.85	2	65.85	100	100
Water supply and sanitation	7	460.98	4	352.04	57	76
Rural water supply and sanitation	1	10.02				
Urban water supply	6	450.96	4	342.04	67	78
Grand total	96	13,082.51	77	10,370.53	80	79

Table L.4b. Bank Performance Ratings for OED Evaluated Projects, 1992–98 (cont'd)

Appraisal satisfactory				Supervision satisfactory			
No. of projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)	No. of projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)
12	990.51	43	56	16	1,048.14	57	59
2	109.46	100	100	1	60.39	50	55
2	73.94	50	39	3	155.51	75	81
4	323.64	27	38	8	487.66	53	57
1	191.55	100	100				
1	111.39	33	52	2	164.05	67	77
2	180.53	100	100	2	180.53	100	100
10	2,259.94	50	61	16	3,050.96	80	83
2	417.00	100	100	2	417.00	100	100
1	150.13	50	99	1	1.20	50	1
				2	167.18	67	57
1	572.98	50	96	2	599.34	100	100
6	1,119.83	55	50	9	1,866.24	82	84
3	546.67	75	73	4	743.9	100	100
2	257.44	67	57	3	454.67	100	100
1	289.23	100	100	1	289.23	100	100
6	1,573.89	86	82	6	1,573.89	86	82
3	755.9	100	100	3	755.9	100	100
1	282.32	100	100	1	282.32	100	100
2	535.67	67	61	2	535.67	67	61
1	133.12	25	24	4	551.38	100	100
1	133.12	25	24	4	551.38	100	100
2	599.12	100	100	2	599.12	100	100
1	300.26	100	100	1	300.26	100	100
1	298.86	100	100	1	298.86	100	100
4	1,201.03	80	96	5	1,246.97	100	100
				1	45.94	100	100
3	745.35	100	100	3	745.35	100	100
1	455.68	100	100	1	455.68	100	100
6	346.35	86	79	5	249.14	71	57
6	346.35	86	79	5	249.14	71	57
				1	199.24	100	100
				1	199.24	100	100
1	183.07	100	100	1	183.07	100	100
1	183.07	100	100	1	183.07	100	100
2	627.20	40	58	3	649.18	60	60
2	627.20	100	100	2	627.20	100	100
				1	21.98	100	100
2	47.9	40	22	3	113.54	60	52
1	47.69	100	100	1	47.69	100	100
1	0.21	50	0	2	65.85	100	100
2	179.37	29	39	4	328.37	57	71
2	179.37	33	40	4	328.37	67	73
51	8,688.17	53	66	70	10,536.90	73	81

Table L.4c. Borrower Performance Ratings for OED Evaluated Projects, 1992–98

	Evaluated projects		Preparation satisfactory			
Sector/Subsector	No. of projects	Net commitments (US$M)	No. of Projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)
Agriculture	28	1,766.26	15	1,105.22	54	63
Agricultural credit	1	26.56				
Agriculture extension	2	109.46	2	109.46	10	100
Forestry	4	191.39	3	155.51	75	81
Irrigation and drainage	15	853.93	6	356.78	40	42
Livestock	1	191.55	1	191.55	100	100
Other agriculture	3	212.84	1	111.39	33	52
Research	2	180.53	2	180.53	100	100
Electric power and other energy	20	3,678.97	14	3,116.26	70	85
Distribution and transmission	2	417.00	2	417.00	100	100
Electric power and other energy	2	151.33	1	150.13	50	99
Hydro	3	292.15	2	223.30	67	76
Other power and energy conversion	2	599.34	1	572.98	50	96
Thermal	11	2,219.15	8	1,752.85	73	79
Finance	4	743.90	3	546.67	75	73
Financial adjustment	3	454.67	2	257.44	67	57
Financial sector development	1	289.23	1	289.23	100	100
Industry	7	1,911.24	7	1,911.24	100	100
Fertilizer and other chemicals	3	755.9	3	755.9	100	100
Industrial restructuring	1	282.32	1	282.32	100	100
Other industry	3	873.02	3	873.02	100	100
Mining	4	551.38	3	481.96	75	87
Mining and other extractive	4	551.38	3	481.96	75	87
Multisector	2	599.12	2	599.12	100	100
Economic management	1	300.26	1	300.26	100	100
Trade policy reform	1	298.86	1	298.86	100	100
Oil and gas	5	1,246.97	5	1,246.97	100	100
Oil and gas adjustment	1	45.94	1	45.94	100	100
Oil and gas exploration and development	3	745.35	3	745.35	100	100
Oil and gas transporation	1	455.68	1	455.68	100	100
Population, heath, and nutrition	7	439.35	6	342.14	86	78
Targeted health	7	439.35	6	342.14	86	78
Social sector	1	199.24	1	199.24	100	100
Social sector adjustment	1	199.24	1	199.24	100	100
Telecommunications	1	183.07	1	183.07	100	100
Telecommunications and informatics	1	183.07	1	183.07	100	100
Transportation	5	1,083.24	3	649.18	60	60
Highways	1	129.77				
Ports and waterways	1	304.29				
Railways	2	627.2	2	627.2	100	100
Rural roads	1	21.98	1	21.98	100	100
Urban development	5	218.79	3	113.54	60	52
Other urban development	1	72.7				
Urban development adjustment	1	47.69	1	47.69	100	100
Urban environment	1	32.55				
Urban management	2	65.85	2	65.85	100	100
Water supply and sanitation	7	460.98	3	227.8	43	49
Rural water supply and sanitation	1	10.02				
Urban water supply	6	450.96	3	227.8	50	51
Grand total	96	13,082.51	66	10,722.41	699	82

Table L.4c. Borrower Performance Ratings for OED Evaluated Projects, 1992–98 (cont'd)

Implementation satisfactory				Compliance satisfactory			
No. of projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)	No. of projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)
18	1,298.85	64	74	14	941.15	50	53
				1	26.56	100	100
2	109.46	100	100	1	49.07	50	45
3	155.51	75	81	2	73.94	50	39
9	550.41	60	64	6	350.81	40	41
1	191.55	100	100	1	191.55	100	100
1	111.39	33	52	2	164.05	67	77
2	180.53	100	100	1	85.17	50	47
11	2,742.83	55	75	11	2,347.95	55	64
2	417.00	100	100	2	417.00	100	100
				2	151.33	100	100
1	572.98	50	96	1	875.98	50	96
8	1,752.85	73	79	6	1,206.64	55	54
3	546367	75	73	4	743.90	100	100
2	257.44	67	57	3	454.67	100	100
1	289.23	100	100	1	289.23	100	100
7	1,911.24	100	100	7	1,911.24	100	100
3	755.9	100	100	3	755.9	100	100
1	282.32	100	100	1	282.32	100	100
3	873.02	100	100	3	873.02	100	100
2	470.01	50	85	4	551.38	100	100
2	470.01	50	85	4	551.38	100	100
2	599.12	100	100	2	599.12	100	100
1	300.26	100	100	1	300.26	100	100
1	298.86	100	100	1	298.86	100	100
5	1,246.97	100	100	3	745.35	60	60
1	45.94	100	100				
3	745.35	100	100	3	745.35	100	100
1	455.68	100	100				
4	228.88	57	52	6	340.6	86	78
4	228.88	57	52	6	340.6	86	78
1	199.24	100	100	1	199.24	100	100
1	199.24	100	100	1	199.24	100	100
1	183.07	100	100	1	183.07	100	100
1	183.07	100	100	1	183.07	100	100
2	287.37	40	27	2	287.37	40	27
1	265.39	50	42	1	265.39	50	42
1	21.98	100	100	1	21.98	100	100
3	113.54	60	52	3	120.60	60	55
				1	72.7	100	100
1	47.69	100	100	1	47.69	100	100
2	65.85	100	100	1	0.21	50	0
4	352.04	57	76	6	360.41	86	78
				1	10.02	100	100
4	352.04	67	78	5	350.39	83	78
63	10,179.83	66	78	64	9,331.38	67	71

Table L.5 Quality Assurance Group Projects at Risk Ratings for all Active Projects in India, June 1999

	Active projects		Actual problem			
Sector/Subsector	No. of projects	Net commitments (US$M)	No. of Projects	Net commitments (US$M)	No. of projects (%)	Commitments (%)
Agriculture	20	2,526	2	361	10	10
Agricultural extension	2	190				
Annual crops	1	106				
Fisheries and aquaculture	1	36	1	36	100	100
Forestry	7	410				
Irrigation and drainage	6	1,338	1	325	17	24
Other agriculture	1	194				
Perennial crops	1	55				
Research	1	197				
Education	6	1,317				
Education adjustment	2	577				
Primary education	3	484				
Vocational education, training	1	256				
Electric power and other energy	6	1,865				
Distribution and transmission	3	820				
Hydro	1	485				
Other power and energy conversion	2	560				
Environment	4	451				
Environmental institutions	1	50				
Natural resources management	2	235				
Pollution/waste management	1	166				
Finance	2	655				
Financial sector development	2	655				
Industry	1	190				
Other industry	1	190				
Mining	2	580				
Mining and other extractive	2	580				
Population, heath, and nutrition	13	2,104	2	359	15	17
Basic health	5	993				
Targeted health	8	1,111	2	359	25	32
Social protection, etc.	2	563	1	20	50	4
Other social sector	1	543				
Social funds and assistance	1	20	1	20	100	100
Transportation	6	1,069	1	150	17	14
Highways	4	858	1	150	25	17
Railways	1	94				
Rural roads	1	117				
Urban development	1	105				
Urban development adjustment	1	105				
Water supply and sanitation	4	431				
Rural water supply and sanitation	1	92				
Sewerage	1	192				
Urban water supply	1	87				
Water supply and sanitation adjustment	1	60				
Grand total	67	11,856	6	890	9	8

Table L.5 Quality Assurance Group Projects at Risk Ratings for all Active Projects in India, June 1999 (cont'd)

Potential problem				Not at risk			
No. of projects	Net commit-ments (US$M)	No. of projects (%)	Commit-ments (%)	No. of projects	Net commit-ments (US$M)	No. of projects (%)	Commit-ments (%)
				18	2,165	90	86
				2	190	100	100
				1	106	100	100
				7	410	100	100
				5	1,013	83	76
				1	194	100	100
				1	55	100	100
				1	197	100	100
				6	1,317	100	100
				2	577	100	100
				3	484	100	100
				1	256	100	100
				6	1,865	100	100
				3	820	100	100
				1	485	100	100
				2	560	100	100
1	50	25	11				
1	50	100	100				
				2	235	100	100
				1	166	100	100
				2	655	100	100
				2	655	100	100
				1	190	100	100
				1	190	100	100
				2	580	100	100
				2	580	100	100
				11	1,745	85	83
				5	993	100	100
				6	752	75	68
				1	543	50	96
				1	543	100	100
1	306	17	29	4	613	67	57
1	306	25	36	2	402	50	47
				1	94	100	100
				1	117	100	100
				1	105	100	100
				1	105	100	100
				4	431	100	100
				1	92	100	100
				1	192	100	100
				1	87	100	100
				1	60	100	100
2	356	3	3	59	10,610	88	89

Table L.6. Quality Assurance Group Risk Ratings Flags by Sector for India

Sector	No. of projects	Effectiveness delays	Compliance with legal covenants	Management performance	Counterpart funds	Procurement progress	Financial performance	Enviro/ resettlement problems	Slow disbursements	History of past problems	Risky country	Risky subsector	Economic management	Golden rule
Agriculture	20	0	3	1	1	1	2	1	7	2	0	0	0	0
Education	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Electric power & energy	6	0	0	0	0	0	2	0	4	0	0	1	0	0
Environment	4	0	1	2	0	2	0	0	2	1	0	0	0	0
Finance	2	0	0	1	0	0	0	0	1	0	0	0	0	0
Industry	1	0	0	1	0	0	0	0	1	0	0	0	0	0
Mining	2	1	0	0	0	2	0	0	0	0	0	0	0	0
Pop., health & nutrition	13	1	1	0	0	4	0	0	4	1	0	0	0	0
Social protection, etc.	2	1	1	0	0	0	1	0	0	0	0	0	0	0
Transportation	6	0	1	2	1	3	0	0	3	1	0	0	0	0
Urban development	1	0	0	0	0	0	0	0	0	0	0	1	0	0
Water supply & sanitation	4	0	0	0	0	0	0	0	2	1	0	1	0	0
Total number of flags	67	3	7	7	2	12	5	1	24	6	0	3	0	0

Table L.7. World Bank Forest Project Lending by Country, 1984–99

Region/ country	1984–91 No. of projects	1984–91 Commit-ments (US$M)	1984–91 No. of projects (%)	1984–91 Commit-ments (%)	1992–99 No. of projects	1992–99 Commit-ments (US$M)	1992–99 No. of projects (%)	1992–99 Commit-ments (%)	1984–91—1992-99 Change in commit-ments (US$M)	1984–91—1992-99 Change in commit-ments (%)
AFR	17	425.8	41.5	25.3	3	53.2	8.8	3.1	-372.6	-88
Benin	1	5.4	2.4	0.3					-5.4	-100
Burundi	1	12.8	2.4	0.8					-12.8	-100
C.A.R.	1	19	2.4	1.1					-19	-100
Côte d'Ivoire	2	111.3	4.9	6.6					-111.3	-100
Ethiopia	1	45	2.4	2.7					-4.5	-100
Gabon					1	22.5	2.9	1.3	22.5	
Ghana	1	39.4	2.4	2.3					-39.4	-100
Guinea	1	8	2.4	0.5					-8	-100
Kenya	1	19.9	2.4	1.2					-19.9	-100
Madagascar	1	7	2.4	0.4					-7	-100
Malawi	1	16.7	2.4	1.0					-16.7	-100
Mali	1	6.3	2.4	0.4					-6.3	-100
Nigeria	1	71	2.4	4.2					-71	-100
Rwanda	1	14.1	2.4	0.8					-14.1	-100
Tanzania					1	18.3	2.9	1.1	18.3	
Uganda	1	13	2.4	0.8	1	12.4	2.9	0.7	-0.6	-5
Zambia	1	22.4	2.4	1.3					-22.4	-100
Zimbabwe	1	14.5	2.4	0.9					-14.5	-100
EAP	9	722.7	22.0	43.0	6	577.9	17.6	33.6	-144.8	-20
Cambodia					1	5	2.9	0.3	5	
China	3	404.2	7.3	24.0	3	550	8.8	31.9	145.8	36
Indonesia	2	54	4.9	3.2					-54	-100
Lao, P.D.R.					1	8.7	2.9	0.5	8.7	
Malaysia	2	15.5	4.9	0.9					-15.5	-100
Myanmar	1	25	2.4	1.5					-25	-100
Papua New G.					1	14.2	2.9	0.8	14.2	
Philippines	1	224	2.4	13.3					-224	-100
ECA	1	35	2.4	2.1	5	244.9	14.7	14.2	209.9	600
Albania					1	8	2.9	0.5	8	
Belarus					1	41.9	2.9	2.4	41.9	
Bos.-Herz.					1	7	2.9	0.4	7	
Croatia					1	42	2.9	2.4	42	
Poland					1	146	2.9	8.5	146	
Yugoslavia	1	35	2.4	2.1					-35	-100
LAC	3	102.8	7.3	6.1	5	85.6	14.7	5.0	-17.2	-17
Argentina					2	35.5	5.9	2.1	35.5	
Brazil	1	48.5	2.4	2.9					-48.5	-100
Guyana	1	8.8	2.4	0.5					-8.8	-100
Haiti					1	26.1	2.9	1.5	26.1	
Mexico	1	45.5	2.4	2.7	1	15	2.9	0.9	-30.5	-67
Nicaragua					1	9	2.9	0.5	9	
MENA	2	69	4.9	4.1	4	220.5	11.8	12.8	151.5	220
Algeria					1	25	2.9	1.5	25	
Morocco	1	49	2.4	2.9	1	100	2.9	5.8	51	104
Tunisia	1	20	2.4	1.2	2	95.5	5.9	5.5	75.5	378
SAR	9	326.8	22.0	19.4	11	540.2	32.4	21.4	213.4	65
Bangladesh	1	28	2.4	1.7	1	49.6	2.9	2.9	21.6	77
Bhutan	2	6.6	4.9	0.4	1	5.4	2.9	0.3	-1.2	-18
India	3	223.8	7.3	13.3	8	460.3	23.5	26.7	236.5	106
Nepal	2	48.5	4.9	2.9					-48.5	-100
Pakistan					1	24.9	2.9	1.4	24.9	
Sri Lanka	1	19.9	2.4	1.2					-19.9	-100
Grand total	41	1,682.1	100.0	100.0	34	1,722.3	100.0	100.0	40.2	2

Table L.8. World Bank Investment Operations with Forest Components, 1984–99

	1984–91						1992–99					
Region/country	No. of projects	Total commitments (US$M)	Forest component commitments (US$M)	No. of projects (%)	Total commitments (%)	Forest component commitments (%)	No. of projects	Total commitments (US$M)	Forest component commitments (US$M)	No. of projects (%)	Total commitments (%)	Forest component commitments (%)
AFR	16	281.1	90.2	50.0	14.5	31.0	20	718.1	219.0	21.3	11.6	12.2
Benin							1	14.1	14.1	1.1	0.2	0.8
Burkina Faso	1	16.5	16.5	3.1	0.8	5.7						
Burundi	1	10.0	1.0	3.1	0.5	0.3						
C.A.R.	1	8.0	2.7	3.1	0.4	0.9						
Cameroon	1	21.5	0.5	3.1	1.1	0.2						
Chad							1	5.3	3.3	1.1	0.1	0.2
Comoros	1	5.0	0.9	3.1	0.3	0.3						
Eq. Guinea	1	6.0	5.9	3.1	0.3	2.0						
Ethiopia							1	200.0	3.4	1.1	3.2	0.2
Ghana							2	27.4	27.4	2.1	0.4	1.5
Guinea Biss.	1	3.7	0.7	3.1	0.2	0.2						
Kenya							1	60.5	34.7	1.1	1.0	1.9
Madagascar	1	26.0	26.0	3.1	1.3	8.9	2	76.0	13.8	2.1	1.2	0.8
Malawi	1	46.7	9.9	3.1	2.4	3.4	1	12.4	10.2	1.1	0.2	0.6
Mali	1	24.4	2.0	3.1	1.3	0.7	2	40.4	21.5	2.1	0.7	1.2
Mauritania							1	18.0	1.2	1.1	0.3	0.1
Mozambique	1	22.0	3.4	3.1	1.1	1.2	1	30.0	3.5	1.1	0.5	0.2
Niger	2	40.8	4.2	6.3	2.1	1.5						
Nigeria							2	67.5	5.7	2.1	1.1	0.3
Rwanda	1	11.5	2.1	3.1	0.6	0.7						
Senegal							2	52.2	4.2	2.1	0.8	0.2
Somalia	1	19.0	9.8	3.1	1.0	3.4						
Sudan	1	20.0	4.7	3.1	1.0	1.6						
Uganda							2	51.8	13.5	2.1	0.8	0.8
Zimbabwe							1	62.5	62.5	1.1	1.0	3.5

Table L.8. World Bank Investment Operations with Forest Components, 1984–99 (cont'd)

Region/country	1984–91 No. of projects	1984–91 Total commitments (US$M)	1984–91 Forest component commitments (US$M)	1984–91 No. of projects (%)	1984–91 Total commitments (%)	1984–91 Forest component commitments (%)	1992–99 No. of projects	1992–99 Total commitments (US$M)	1992–99 Forest component commitments (US$M)	1992–99 No. of projects (%)	1992–99 Total commitments (%)	1992–99 Forest component commitments (%)
EAP	2	152.0	6.0	6.3	7.8	2.0	29	3,188.8	617	30.9	51.4	34.5
China	2	152.0	6.0	6.3	7.8	2.0	15	2,556.5	304.9	16.0	41.2	17.0
Indonesia							7	298.3	87.7	7.4	4.8	4.9
Lao, P.D.R.							1	20.7	0.4	1.1	0.3	0.0
Malaysia							1	70.0	70.9	1.1	1.1	4.0
Papua New G.							1	27.0	27.0	1.1	0.4	1.5
Vietnam							4	216.3	126.8	4.3	3.5	7.1
ECA	2	220.0	9.6	6.3	11.3	3.3	7	282.4	73.8	7.4	4.5	4.1
Georgia							1	4.4	1.9	1.1	0.1	0.1
Latvia							2	29.0	9.2	2.1	0.5	0.5
Lithuania							1	7.0	0.5	1.1	0.1	0.0
Romania	1	180.0	0.6	3.1	9.3	0.2						
Russia							1	110.0	15.4	1.1	1.8	0.9
Turkey							2	132.0	46.9	2.1	2.1	2.6
Yugoslavia	1	40.0	9.0	3.1	2.1	3.1						
LAC	5	360.0	151.1	15.6	18.5	51.9	24	1,351.0	547.5	25.5	21.8	30.6
Bolivia							3	47.7	28.1	3.2	0.8	1.6
Brazil	2	180.0	125.3	6.3	9.3	43.1	4	442.0	231.2	4.3	7.1	12.9
Chile	1	75.0	22.2	3.1	3.9	7.6	2	26.5	2.9	2.1	0.4	0.2
Colombia							1	39.0	39.0	1.1	0.6	2.2
Dominican R.							1	3.0	1.2	1.1	0.0	0.1

(table continues on following page)

Table L.8. World Bank Investment Operations with Forest Components, 1984–99 (cont'd)

Region/country	1984–91 No. of projects	1984–91 Total commitments (US$M)	1984–91 Forest component commitments (US$M)	1984–91 No. of projects (%)	1984–91 Total commitments (%)	1984–91 Forest component commitments (%)	1992–99 No. of projects	1992–99 Total commitments (US$M)	1992–99 Forest component commitments (US$M)	1992–99 No. of projects (%)	1992–99 Total commitments (%)	1992–99 Forest component commitments (%)
LAC (cont'd)												
Ecuador							2	40.0	4.8	2.1	0.6	0.3
Haiti							1	21.5	21.5	1.1	0.3	1.2
Honduras							3	104.8	104.8	3.2	1.7	5.9
Mexico							2	418.0	35.0	2.1	6.7	2.0
Nicaragua							1	30.0	2.2	1.1	0.5	0.1
Panama							1	22.5	6.7	1.1	0.4	0.4
Paraguay							1	50.0	8.0	1.1	0.8	0.4
Peru	1	40.0	2.8	3.1	2.1	1.0	1	51.0	7.1	1.1	0.8	0.4
Uruguay	1	65.0	0.8	3.1	3.3	0.3						
Venezuela							1	55.0	54.9	1.1	0.9	3.1
MENA							7	346.3	113.0	7.4	5.6	6.3
Algeria							1	89.0	89.0	1.1	1.4	5.0
Egypt							1	22.0	7.3	1.1	0.4	0.4
Morocco							3	175.0	7.1	3.2	2.8	0.4
Tunisia							1	27.5	4.8	1.1	0.4	0.3
Yemen							1	32.8	4.8	1.1	0.5	0.3
SAR	7	931.4	34.1	21.9	47.9	11.7	7	322.4	218.9	7.4	5.2	12.2
Bangladesh	1	24.5	4.6	3.1	1.3	1.6	1	53.0	3.1	1.1	0.9	0.2
Bhutan	1	9.0	1.4	3.1	0.5	0.5						
India	3	857.8	16.9	9.4	44.1	5.8	3	196.7	179.0	3.2	3.2	10.0
Nepal	1	19.1	2.6	3.1	1.0	0.9						
Pakistan	1	21.0	8.6	3.1	1.1	3.0	3	72.7	36.8	3.2	1.2	2.1
Grand total	32	1,944.5	291.0	100.0	100.0	100.0	94	6,209.0	1,789.9	100.0	100.0	100.0

OED-Evaluated Agriculture Sector Operations

The ratings for the lending operations evaluated in the agriculture sector are slightly below the entire portfolio ratings for project outcome and sustainability. However, the ratings for institutional development impact are comparable to the entire portfolio ratings. A total of 28 operations with commitments of US$1.8 billion were evaluated in the agriculture sector. The outcome of 18 projects was rated satisfactory—64 percent of the projects and 70 percent of the commitments. The sustainability rating was likely for 5 agriculture projects—18 percent of the projects and 29 percent of commitments. The institutional development impact was rated substantial for 9 projects—32 percent of the projects and 47 percent of the commitments.

Bank performance on project identification was satisfactory for 24 agricultural projects—86 percent of the projects and 83 percent of the commitments. Performance on project appraisal was rated satisfactory for 12 projects—43 percent of the projects and 56 percent of the commitments. Performance on project supervision was rated satisfactory for 16 projects—57 percent of the projects and 59 percent of commitments. The project appraisal and supervision ratings in the agriculture sector projects are lower than the ratings for the entire portfolio, but project identification ratings are higher.

Borrower performance on project preparation was deemed satisfactory for 15 agricultural operations—54 percent of the projects and 63 percent of the total commitments. Project implementation was satisfactory for 18 projects—64 percent of the projects and 74 percent of the total commitments. Finally, project compliance was considered satisfactory for 14 projects—50 percent of the projects and 53 percent of total commitments. The project preparation and compliance ratings for the agriculture projects were lower than the ratings for the entire portfolio, but project implementation ratings were comparable.

OED-Evaluated Forest Sector Operations

OED evaluated four forest operations with commitments of US$191 million. The outcome of all four projects was rated as satisfactory. Sustainability was rated as likely for one project—25 percent of the projects and 43 percent of the commitments. Institutional development impact was rated substantial for none of the projects. It is difficult to compare the percentage of forest project ratings with those of the agriculture sector or the overall portfolio as the number of evaluated projects is very small.

Bank performance on project identification for forest sector operations was satisfactory for all four projects. Project appraisal was rated satisfactory for two projects—50 percent of the projects and 39 percent of commitments. Project supervision was considered satisfactory for three projects—75 percent of the projects and 81 percent of commitments.

Borrower performance on project preparation for the forest sector was satisfactory for three operations—75 percent of the projects and 81 percent of the total commitments. Project implementation was considered satisfactory for three projects—75 percent of the projects and 81 percent of the total commitments. Finally, project compliance was considered satisfactory for two projects—50 percent of the projects and 39 percent of total commitments.

OED-Evaluated Operations with Forest Components

The only forest component project OED evaluated was Karnataka Power II, an electric power and energy sector project with net commitments of US$26 million. The OED ratings show that this project performed very poorly in all rating categories except for Bank performance at identification, which was rated satisfactory.

Quality Assurance Group Risk Ratings for All Active Projects in India

Overall Portfolio Ratings

The Quality Assurance Group (QAG) maintains a database of all active projects that identifies the risk level of the projects. The rating has three levels: actual problem, potential problem, and not at risk. A project's rating is based on current supervision reports, which indicate project performance based on effectiveness delays, compliance with legal covenants, management performance, availability of counterpart funds, procurement progress, environment/resettlement problems, slow disbursements, history of past problems, risky country, risky subsector, and economic management problems.

As of June 1999, the World Bank had 67 active lending operations with total commitments of US$11.9 billion. Of these, QAG rates 59 operations—88 percent of the total projects and 89 percent of the total commitments—as "not at risk." Six operations (two projects in the agriculture sector, two in the population, health, and nutrition sector, and one project each in the social sector and transportation sector) with commitments of US$890 million are rated as "at risk." An additional

two projects (one project each in social and transportation sectors) with commitments of US$356 million are rated as "potential problems." Using a 10 percent cutoff rate in terms of the project performance indicators, the most significant flags in the overall portfolio are slow disbursements, procurement progress, management performance, and compliance with legal covenants.

Agriculture Project Ratings

The agriculture sector has 20 active operations with commitments of US$2.5 billion. The performance of the agriculture sector is comparable with the overall portfolio performance: 18 projects are rated as "not at risk"—90 percent of the projects and 86 percent of the total commitments. The most significant risk rating flags at the 10 percent cutoff rate are slow disbursements, compliance with legal covenants, history of past problems, financial performance, and shortage of counterpart funds.

Forest and Forest Component Project Ratings

All seven active forest projects, with US$410 million in net commitments, are rated as "not at risk." In addition, there are four active forest component projects with net commitments of US$645 million. Three of these component projects are rated as "not at risk" with commitments of US$595 million—75 percent of the projects and 92 percent of the commitments. The fourth project, with commitments of US$50 million, is considered as a "potential problem."

M. Summary Proceedings of New Delhi Workshop

New Delhi, November 1, 1999

Background

In November 1999, the Operations Evaluation Department held three workshops, one each in India, China, and Brazil, three of its six case study countries. The purpose of the workshops was to obtain the views of stakeholders regarding the Bank's involvement in the country's forest sector. The draft country report was circulated to participants in advance so that they had an opportunity to read and reflect on the report before the workshop.

Overview of the Workshop

The India country report *Alleviating Poverty Through Participatory Forestry Development: An Evaluation of India's Forest Development and World Bank Assistance* was discussed with a range of stakeholders in a workshop held in New Delhi on November 1, 1999. The workshop was organized by the Ministry of Environment and Forests (MOEF) with active input from the World Bank's Country Office. It was opened by Mr. Edwin Lim, the World Bank Country Director for India. There were approximately 45 participants, including government headquarters and field officials, members of the NGO community,[11] and representatives of the private sector, academia, and international donors, as well as Bank staff. A list of invitees and participants, the workshop agenda, and comments from the government (MOEF) is included in this annex.

A presentation by the OED team was followed by comments from MOEF, which expressed interest in further borrowing for the sector and outlined a reform agenda for improving the performance of the sector. Mr. Lim thanked OED for its independent evaluation and good work as an input into the Bank strategy for the country. He commented on the long-term presence of the Bank in the forest sector in India and noted the decision made by Bank management 18 months ago to pause and evaluate the Bank's experience in the sector before going on with further lending. He drew attention to a number of crucial issues that need examination in a future lending program in forestry. Among these were fiscal sustainability, conflict resolution, inter-sector relationships, and governance. He concluded by saying that expression of interest in borrowing by the government of India for the forest sector was a neces-

sary but not sufficient condition for Bank involvement in the sector. The World Bank needs to be selective and lend in those areas where it can have the greatest impact on poverty reduction in the country. He highlighted the importance of moving away from a project approach to a program approach in forestry.

There was excellent, high-quality discussion on the OED report at the workshop. According to the workshop agenda, participants were to break out into groups so that each of the country workshops would provide answers to a similar set of questions from the stakeholders' perspective. The questions included: What were the most important issues addressed in the OED country case study draft? What important issues were missed in the report? What areas need attention in the future? (see Agenda). However, participants at New Delhi opted to stay in the plenary and made extremely constructive comments on the report. The diverse state backgrounds of the participants provided a rich exchange of regional perspectives. Comments from participants from states like Tamil Nadu, which do not have a Bank project, added to the depth of the discussion. It was apparent from the workshop that the Indian states are clearly ahead of MOEF and the Bank and are eager to do more. Among international donors, DFID, the Ford Foundation, and Japanese officials attended the meeting.

A subsequent workshop, was held by the Bank's South Asia Region the following day to discuss the Bank's forest sector strategy in India. This workshop involved many of the participants that had attended the OED workshop. As on the previous day, Mr. Lim opened the workshop and noted the important role that the Bank can play in the forest sector as part of its poverty alleviation strategy in India. He asked the two OED authors from India to state what, in their view, should be the strategy in view of the OED study to which they had contributed.

Comments on the Report

There was almost universal appreciation regarding the quality of the OED report and participants offered various constructive suggestions for its further improvement. Some expressed concern that a professional forester was not associated with the review. Others expressed concern that the title of the report suggested that the evaluation needed to provide greater attention to the broader spectrum of strategies that the Bank has pursued in India. Some participants also felt that the OED report needed to give greater attention to the role of the international community. Others noted the importance of giving more attention to

the role played by the Forest Development Corporations. Representatives of other international donors (DFID and the Ford Foundation) expressed agreement with the findings of the OED review and felt that it would be beneficial to them.

In general, the MOEF agreed with the findings of the OED country study and strongly supported the observation that investments in the forest sector contribute significantly to poverty alleviation (see comments from government). It noted that substantial investments need to be made in the forest sector to achieve the various objectives of the 1988 National Forest Policy. A National Forestry Action Plan (NFAP) has been prepared by MOEF for planning forestry development in India. NFAP is a comprehensive strategy and action plan in conformity with the provisions of the 1988 forest policy for the sustained development of India's forests over the next 20 years. It is estimated that an investment of US$32 billion is required in the next 20 years to achieve the target of bringing about a third of the geographical area of India under tree/forest cover.

Several substantive issues related to the forest sector were raised by workshop participants:

- *An integrated approach to forestry*. There was a major debate among participants on the need for integration and coordination between various sectors in following a watershed approach toward development of the forest sector. Several participants suggested that a program of tree plantations cannot be considered apart from watershed and wasteland development. Participants stressed the importance of an integrated area development approach to forest sector development though there was concern that such an integrated strategy should not come at the cost of allocation of resources to the forest sector.
- *Trees outside the forests.* Participants noted with concern the inadequate attention given to tree plantations outside forest areas on community and other lands in the recent Bank-supported projects. They felt that given the vast spread of Indian wastelands the importance of tree plantations outside forests cannot be overemphasized.
- *Importance of improvement in technology.* Participants emphasized the need of supplementing the JFM strategy with technology improvement in the sector. They noted that low productivity and low quality of growing stock has been a characteristic feature of Indian forestry.

- *NTFPs.* The need to give greater attention to NTFP issues was universally acknowledged. It was recognized that problems are greater than simply those related to market failure. Development of NTFPs needs to be made an integral part of the research agenda in all states. Participants also noted that NTFPs should be divided into two categories—major and minor NTFPs. A fragmented approach to the marketing of major NTFPs may not work, as negotiating skills among the poor are lacking.
- *The need for increased financial investment in the forest sector.* This was universally recognized.
- *The importance and future role of JFM.* Representatives of other donors raised questions about the importance of JFM in a future strategy for the sector, as JFM is only one means of conservation. Other workshop participants also noted the need for improvement in the current JFM strategy even in well-performing states like Andhra Pradesh.[12] The process of consulting adequately with the village communities is still given insufficient attention and micro plans, as drawn up, are not suited to catering to the specific needs of different sections of the community that the regenerated forests are meant to sustain. Neither do the micro plans indicate how sustainable use and management will be ensured on physical completion of a Bank project. In addition, the need for greater training among field staff implementing the JFM approach was emphasized. Participants noted that forest department staff are not yet comfortable in working with NGOs and do not respond positively to criticism. Participants also noted that shrubs, bushes, and grasses are given less importance in a JFM strategy than they deserve and play a major role in arresting erosion, promoting soil and water conservation, and in meeting NTFP needs of the local population.
- *Learning from the experience of other nations.* Participants emphasized the importance of learning from the experience of other countries in the field of participatory management of resources. Countries like the Philippines have promoted community management of forests through special instruments like Community Forest Management Agreements, where benefit sharing is on the basis of a long-term agreement.
- *Issue of conflict resolution.* Participants noted that conflict resolution is a wider issue than viewed in the OED report. Some groups are not able to voice their problems. It is important that these

interests are not unattended. Some participants also recommended using the term "conflict harmonization" or "conflict synergization" rather than conflict resolution.

- *Logging ban*. Factual corrections were also offered. Even in those states where a ban on green felling exists, harvesting of forest produce is not banned. Participants noted that the ban on green felling should not be interpreted to imply no scientific management of forests.

Attachment 1: List of Invitees
(asterisk indicates participants)

Ministry of Environment and Forests

Shri Vishwanath Anand
Secretary

Shri C.P Oberai*
Inspector General of Forests

Shri Vinod Vaish
Special Secretary

Ms. Malti Sinha
Additional Secretary

Shri K. Roy Paul
Additional Secretary

Shri S C Sharma*
Addl Inspector General of Forests

Shri M.K.Sharma*
Addl Inspector General of Forests

Shri S.K. Mukherjee*
Director
Wildlife Institute of India

Shri D. Pandey Director
Forest Survey of India

Shri P.B. Gangopadhyay*
Director
Indira Gandhi National Forest Academy

Shri Ram Prasad
Director
Indian Institute of Forest Management

Shri P.K. Sen
Director (PT)

Ms. Mira Mehrishi
JS (NAEB)

Shri M.K. Jiwrajka*
DIGF (EAP)

Dr. Parvez Ahmed*
DIGF (FP)

Shri V.K. Bahuguna*
DIG (FPD)

Shri A.R. Chaddha*
DIGE (SU)

Shri D.C. Khanduri*
DIGF (RT)

Shri Ujjawal Chowdhary
Director (IC)

Shri S.K. Puri*
Director (NAEB)

Shri H.L. Hansing*
Deputy Secretary

Ministry of Finance

Shri Govindarajan
Additional Secretary
Department of Economics Affairs

Rita Acharya*
Deputy Secretary
Department of Economics Affairs

Mr. Abhas Jha
Deputy Secretary
Department of Economics Affairs

World Bank, OED and Consultants

Mr. Edwin Lim*
Country Director

Ms. Uma Lele*
OED, World Bank

Ms. Nalini Kumar*
OED, World Bank

Shri Y.K. Alagh*
Member of Parliament
Rajya Sabha

Dr. N.C. Saxena*
Secretary,
Planning Commission

Kinsuk Mitra*
Winrock International

Mr. Irshad Khan*
Senior Forestry Specialist
World Bank

Mr. Juergen Blaser
Senior Forestry Specialist
Environment and Socially
Sustainable Development Network
World Bank

Ms. Julia Falconer*
World Bank

Ms. Jessica Mott*
World Bank

Mr G. Pathmanathan*
World Bank

Mr. Luis Constantino*
World Bank

Mr. Lars Lund*
World Bank

Ms. Madhavi Pillai*
World Bank

Other Donor Organizations

Mr. Bayani Aguire
Country Representative
United Nation Development Programme
(UNDP)

Mr. M.B. McGeever
Ambassador
European Union
Delegation of European Commission

Mr. Peter Rosenegger
FAO Representative in India

Mr. Hiroshi Oita
Chief Representative
Japan Bank for International Cooperation

Shri Vineet Sarin*
Japan Bank for International Cooperation

Mr. Ramesh Milkana
Program Officer
Embassy of Sweden

Mr. Walter Zahn
Director
GTZ, Germany

Mr. Julian Gayfer*
Forestry Adviser
Department of International Development
(DFID)

Mr. Arif Ghauri*
Department of International
Development (DFID)

Dr. Janet Seeley
Department of International Development
(DFID)

Ms. Moutushi Sengupta*
Department of International Development (DFID)

Meenakshi Batra*
Department of International Development (DFID)

Ms. Doris Capistrano*
Program Officer
Ford Foundation

State Governments and Government Organizations

Shri B.S.Basvan Director
Lal Bhadur Shastri National Academy for Administration

Shri S.D. Mukherjee*
Principal Chief Conservator of Forests
Government of Andhra Pradesh

Shri V.P. Jauhari
Principal Secretary Forests
Government of Andhra Pradesh

Shri P. Raghuveer*
Conservator of Forest
Government of Andhra Pradesh

Shri Munindra
Deputy Conservator of Forests
Government of Andhra Pradesh

Shri Pradeep Khanna
Conservator of Forest
Government of Gujarat

Shri J.P.L. Srivastava
Chief Conservator of Forest
Government of Haryana

Shri S.K. Pande
Principal Chief Conservator of Forests
Government of Himachal Pradesh

Shri K.B. Thampi*
Chief Conservator of Forest
Government of Kerala

Shri Sudeep Banerjee*
Forest Secretary
Government of Madhya Pradesh

Dr. R.C. Sharma*
Managing Director
M.P.S.M.F.P. Co-operative Federation Limited

Shri Satish Tripathi
Forest Secretary
Government of Maharashtra

Shri A.K. Jha*
Conservator of Forest
Government of Maharashtra

Shri C.S. Joshi*
Conservator of Forest
Government of Maharashtra

Shri V.C. Sacheti
Principal Chief Conservator of Forests
Government of Rajasthan

Shri Abhijeet Ghosh*
Conservator of Forests
Government of Rajasthan

Shri V. Chitrapu*
Principal Chief Consevator of Forests
Government of Tamil Nadu

Shri K.N. Singh
Principal Chief Conservator of Forest
Government of Uttar Pradesh

Shri S.K. Ahluwalia*
Conservator of Forest
Government of Uttar Pradesh

Shri N.K. Joshi*
Chief Conservator of Forest
Government of Uttar Pradesh

Shri N.K. Nandi*
Managing Director
West Bengal Forest Development Corporation

M.S. Satyanarayan Rao*

Academics and NGOs

Shri Chandi Prasad Bhatt
Dasholi Gram Swarajya Mandal

Shri Mohan Dharia*
VANRAI

Shri V.B. Eswaran*
Chairman
SPWD

Shri S.C. Dey*
Secretary General
Global Tiger Forum

Mr. Samar Singh
Secretary General
World Wide Fund for Nature (WWF)

Dr. R.K. Pachouri
Director
TERI

Shri S S Rizvi*
Consultant
World Wide Fund for Nature (WWF)

Shri Shekhar Singh
Director
Indian Institute of Public Administration

Shri V.R. Patil

Shri AK.Mukherjee*
Foundation for Forestry and Rural Development

Shri Barin Ganguly*
Foundation for Forestry and Rural Development

Shri J.P. Chandra*
Executive Director
WIMCO Seedlings Limited

Shri Raj Chaurasia
Chief General Manager (Raw Material)
Ballarpur Industries Limited

Shri S.B. Roy
IBRAD

Shri Sharad Lele*
Project Director
Institute for Social and Economic Change

Shri Pyarelal*
Vice President (Plantations)
ITC-Bhadrachalam Paper Board Limited

Shri G. Raju Director
VIKSAT

Shri Jacob Thundyle President
People's Rural Education Movement

Mr. Barry Underwood
Chief Executive
Aga Khan Rural Support Programme

Shri K. Vishwanathan
Director
Mitra Niketan

Ms. Nandita Jain*
Mountain Institute

Ms Madhu Kesna
PRADAN

Attachment 2: Workshop Agenda

SCOPE Convention Center CGO Complex
1st November, 1999 PROGRAM

0900-0930	Registration
0930-0940	Introduction of Participants.
0940-1010	Presentation of OED Case Study — Opening remarks by Ms.Uma Lele, OED, Case Study presentation by Ms Nalini Kumar, OED and Comments by Dr. Y.K. Alagh, MP, and Dr. N.C. Saxena, Secretary, Planning Commission
1010-1020	Views of Ministry of Environment & Forests
1020-1030	Views of Ministry of Finance
1030-1040	Views of Country Director, World Bank
1040-1100	Tea/Coffee
1100-1200	Discussion on Case Study
1200-1330	Working Groups 1. Most important issues addressed in draft Case Study. 2. Important issues missed in the draft Case Study. 3. Priorities/areas of importance identified for future programs.
1330-1430	Lunch
1430-1530	Plenary — Presentation of reports by working groups and concluding session.
1530-1600	Informal discussions over Tea

Attachment 3: Comments of Ministry of Environment and Forests (MOEF) on Operations Evaluation Department (OED), World Bank's Report on Evaluation of India's Forest Development and World Bank Assistance

I. General Comments on the Report

1. The Ministry of Environment and Forests (MOEF) by and large concurs with the conclusions reached in the report. The MOEF strongly believes that investments made in the forestry sector contribute significantly to poverty alleviation in India. The Ministry concurs that World Bank's involvement in forestry sector in India has been of significant assistance in (1) bridging the budgetary gap to implement country's forestry strategy; (2) capacity building of the Forest Departments; (3) introducing improved technology in forestry; (4) accelerating the process of peoples' participation through Joint Forest Management; and (5) promoting institutional reforms in the forestry sector.
2. MOEF reiterates that substantial investments need to be made in forestry sector to achieve various objectives of National Forest Policy, 1988. A National Forestry Action Plan (NFAP) has been prepared for perspective planning for forestry development in India. It is estimated that an investment of Rs.1,339,028 million (US$32 billion) is required in the next 20 years to achieve the target of bringing one-third of the geographical area of India under tree/forest cover. The present level of investments in the sector is quite low and needs to be increased manifold. Keeping in view various benefits accruing from investment in forestry sector including poverty alleviation, food security, self-sustaining employment potential etc., the World Bank may consider providing assistance to the forestry sector on a much larger scale than before.
3. A large part of India's population is dependent on forests for its subsistence needs. The current level of investment being made in the sector is grossly insufficient to develop and utilize the forest's potential.
4. MOEF would like to reiterate that sufficient data at macro level is available regarding forest cover and its rate of change. This data is collected, collated and analyzed by the Forest Survey of India, Dehradun on a regular basis. The analysis is made using established scientific norms and is highly reliable.
5. A number of laws have been enacted to facilitate implementation of the National Forest Policy. Significant contributions have been

made in conservation of forests by stringent implementation of these laws such as the Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986, etc. The rate of diversion of forest lands has come down from 1.43 lakh hectares annually between 1950- 1980 to around *0.25* lakh hectares annually after enactment of these Acts.

6. In view of the complex ground realities, though desirable, it would not be feasible to integrate planning and implementation of the forest strategy as a part of the overall development strategy of a state, by integrating it with agriculture, rural development, etc. Presently, statewide integrated forestry projects are being planned and implemented. MOEF has proposed certain basic changes in the project design and implementation.
7. The present system of project formulation, appraisal, sanction, review, and funding of World Bank projects does not have sufficient flexibility to deal expeditiously with bottlenecks encountered during implementation. The present procedures adopted by the World Bank, especially that of midterm review, procurement, etc., need to be recast toward a more result oriented and cost effective process. Institutionalized arrangements may be evolved for continuous review and modification of project design at the implementation stage.
8. As initiated in Madhya Pradesh and Andhra Pradesh, the projects could be designed to be implemented in two phases. Phase I could essentially be for capacity building, institutional reforms, policy analysis, introduction of new technologies, initiation for JFM, etc. Phase II could concentrate on large-scale investments in the sector for increasing sustainable productivity and consolidation of Phase I works. Both phases must be agreed to before initiating implementation of Phase I to ensure continuity between the two. Qualitative success of the projects needs to be given more importance than the quantitative achievement of targets.
9. There is a need for MOEF to play a more proactive role in project design, negotiations and evaluation. For this, a National Level Sub Project (NLSP) for capacity building of MOEF is under preparation under the World Bank-assisted FREE Project and is likely to be completed by December 1999. The Bank may consider the NLSP for capacity building of MOEF for appropriate assistance, either as a new Central Sector project or as a component of FREEP.

10. The following changes in the state sector project designing may be considered:
    - Instead of present practice of a project being prepared for individual states, projects may cover two or more states with a central sector component.
    - The MOEF shall play a key role in basic project design, negotiations, policy issues, studies/consultancies, external training/ study tours and evaluation. For this, suitable procedural changes may be made.
    - Allocating funds from one state to another (in respect of interstate projects) may be allowed if the progress in a state is not satisfactory.
    - As mentioned earlier, each forestry project may consist of two phases and in principle decision for the 2nd phase may be taken at the time of sanction of Phase I itself.
    - For each state sector project, MOEF may nominate a National Coordinator to act, inter alia, as an interface between the World Bank and the state government.

II. Comments on Specific Sections of the Report

Chapter 2

- Forest cover in India is being monitored and assessed scientifically on a continuous basis by Forest Survey of India (FSI), Dehradun, which is highly reliable and widely appreciated. The FSI report also provides reliable data on degraded forest. A detailed report giving statewide/districtwide breakdowns is published every two years.
- Responsibilities of the state and central governments with respect to forests are constitutionally delineated and there is no ambiguity.
- MOEF has been able to implement the Forest (Conservation) Act, 1980 successfully, which has resulted in a substantial reduction in the diversion of forest land for non-forestry purposes.
- As per the existing rules and regulations, the state governments are competent to make decisions on the cutting of trees in non-forest areas without seeking approval of the central government.

Chapter 3

- This is a complex issue, and detailed studies are needed to evolve a workable solution keeping in view the National Forest Policy, Forest (Conservation) Act, conservation and development of forests, guidelines regarding regularization of encroachments, etc.

- State governments do not have a vested interest in losing control of the marketing of NTFPs. Rather than revenue, conservation of forest, unsustainable withdrawals and social issues like welfare of local tribals etc. are the main considerations on which marketing strategies are decided.
- The entire issue of shifting cultivation needs to be examined in the context of traditional practices, tribal rights, National Forest Policy and Forest Acts etc. to evolve a workable solution.

Box 3.3

- Though Maharashtra Forestry Project was a problem project in the initial state, substantial progress has now been made under the project. It has not become a success by mere reduction of the physical targets.

Table 3.4

- **Forestry as a part of the poverty alleviation strategy:** This is one of the most important outcomes of the study. MOEF fully endorses and supports its views.
- **Role of private sector:** Forests are managed for the common masses. Leasing forest land to the private sector involves many complex issues. It has to be examined in totality with relation to the National Forest Policy, Forest Acts, dependence of people on forests, effect on other stakeholders, general track record of industry in India including their accountability, its effect on JFM, etc.
- **Long-term role of and multilateral support:** There is a detailed procedure for the transfer of funds to the state governments. Normally, 70 percent of the funds are transferred to the state government at a fixed interest rate, say 13.5 percent, whereas 30 percent is transferred in form of grants.

Endnotes

Chapter 1

1. 1987 Livestock Census.

2. An analytical distinction is made between *area under tree cover* and *area under forests*. This study is concerned with land under tree cover, which includes trees grown outside the forest area on communal, degraded, and private lands. By definition, land under estate crops such as rubber, coconut, oil palm, and fruit trees would also qualify.

3. A recent piece of sector work, *India Towards Rural Development and Poverty Reduction* (March 1999), considers community empowerment under joint forest management to be part of a proposed strategy of rural development and poverty reduction.

4. Analysts argue that issues like capacity building within the forest service and sector reforms would not have been attempted without the Bank's initiative.

Chapter 2

5. The Forest Survey of India estimates the gross and net deforestation biennially. The statistics regarding forest area published by other institutions are not in agreement with each other. For example, *Agricultural Statistics at a Glance*, issued by the Ministry Agriculture in 1996, gives the area under forests in 1989–90 as 67.41 million ha, FSI/MOEF gives a figure of 63.88 million ha as the actual cover in 1989, and the Forest Resource Assessment (1990) by FAO gives a figure of 64.96 million ha as the forest area of India in

1990. Depending on which figure one adopts, the rate of past (and also future) changes in the forest area will vary. (MOEF 1999, Vol.1, 28).

6. Part of the problem is that the FSI data include plantations on farms and degraded lands (whatever can be observed by the satellite), while FAO calculates the rate of deforestation only on natural forests and reports plantations separately (based on government data). The latter "reported area," as FAO calls it, is based on the number of trees planted or delivered from nurseries and assumes a survival rate of 70 percent, which some consider optimistic.

7. The FSI revised its earlier estimate of the 1995 assessment (63.96 million hectares) to exclude the area under tea gardens in Tamil Nadu. By implication, therefore, the 1997 estimate is assumed to exclude land under tea and coffee plantations.

8. In its comments on the country study the Ministry of Environment and Forests (MOEF) notes that sufficient data at macro level is available regarding forest cover and its rate of change. MOEF further notes that this data is collected, collated and analyzed by the Forest Survey of India, Dehradun on a regular basis.

9. "Wastelands mean degraded lands which can be brought under vegetative cover, with reasonable effort and which is currently lying as underutilized and land which is deteriorating for lack of appropriate water and soil management on account of natural causes." Technical Group Report of NWDB, 1986, quoted in Kadekodi and Perwaiz 1998.

10. Saxena believes that there is consensus about the area of degraded forests (defined as having a crown cover between 10 and 40 percent). He claims that 34 percent of the area notified as forests in 1997 was degraded. He notes that: (1) problems arise when changes in forest cover by state are examined; and (2) the definition of wastelands (currently lying underutilized) lends itself to broad interpretation. On the other hand, S.D. Mukherjee (Principal Chief Conservator of Forests Andhra Pradesh) in his comments on the India country study, notes that the State of Forest Report 1997 classification of all forests with a density of 0.4–1.0 as dense forest does not allow for an accurate estimate of the extent of degradation, since reduction in forest density from 1.0 to 0.4 in a particular area would still classify the area as dense forest.

11. Alagh argues that gross national product statistics show that the population dependent on forests is much smaller than often alleged (Annex J).

12. Forest degradation is more difficult to monitor than deforestation, as it is generally unobservable by satellite imagery.

13. Saxena 1994 argues that it is more reliable to use price data to get an estimate of the gap between demand and supply. Available price data show

that there has been a fall in timber prices since 1987. This seems to have happened because of the liberal imports encouraged by the government.

14. NTFP earnings commonly come from the collection of sal and tendu leaves, grasses, mahua flowers, sal seeds, lac, medicinal herbs, honey, gums, resins, oil seeds, tans and dyes.

15. One source estimates the income from NTFPs to the state exchequer at about Rs 6.5 billion (US$208) in the 1990s (A.N. Chaturevedi 1994). Another estimates the revenue contribution of NTFPs at Rs 20 billion (US$645 million) (M.P. Shiva 1994).

16. Only 15 percent of fuelwood is purchased, 62 percent is collected from forest and public lands, and the remaining 23 percent is collected from private lands (Leach 1987).

17. NCAER 1985.

18. "A great deal of Indian deforestation is the legacy of colonialism—forest loss had reached a critical point by the time India gained independence in 1947." R Haeuber 1993.

19. Before the 1988 forest policy, the emphasis was on replacing natural forests with plantations. During 1960–80, natural forests in several states were clearcut and high-value plantations planted in their place.

20. Imported timber is mostly used by the building and construction and plywood industries and by the railways. It has also benefited a large number of saw mills, particularly in urban centers and near sea ports.

21. After tariffs on timber imports were reduced (by putting them under Open General License), private entrepreneurs began making their own arrangements for import. Hardwoods were imported from Malaysia, Burma, Indonesia, Brazil, Papua, New Guinea, Singapore, and Vietnam. Coniferous wood, though in small quantities, were imported from the United States, USSR, Canada, France, Austria, and Finland. Pulp was imported from Canada, Finland, Norway, Portugal, Sweden, the United States, USSR, Brazil, Indonesia, Thailand, Chile, and Australia.

22. "Receiving resources at throwaway prices, they have little interest in their sustainable use. Theory tells us that renewable resources with high prices compared to harvesting and processing costs would tend to be overexploited. It recommends adequate levels of taxation to curb this tendency. Exactly the opposite has been done in India, with resources already susceptible to overexploitation pushed further in that direction through state-sponsored subsidies." (Gadgil 1991)

23. Saxena 1999.

24. Norman Jones personal communication with Uma Lele.

25. S.D.Mukherjee, Principal Chief Conservator of Forests Andhra Pradesh, in his comments on the country study notes that forest land was converted to agriculture even after 1980. In the state of Andhra Pradesh alone about 3,50,000 ha of forest is under encroachment for agricultural purposes. Most of these encroachments were done after 1980.

26. NCAER 1996.

27. The incidence of poverty is a widely debated issue since the transfer of resources from the Government of India to the states is partly based on the relative poverty in the states.

28. Mukerji A.K. 1994.

29. Over half of the livestock population (some 270 million) graze in the forests (MOEF 1999, Vol. 1, 31).

30. Unclear institutional arrangements for these lands also contribute to degradation. Since tenurial rights are unclear, though *panchayats* are expected to manage the lands, their control over land is not absolute. As will be seen, this has negatively affected the success of the social forestry program.

31. Numerous definitions exist. The most appropriate here is "a property on which well-defined collective claims by an exclusive group are established, the use of the resource is subtractive, having the characteristic of a public good such as indivisibility shall be termed as a common property resource." (Kadekodi and Perwaiz 1998)

32. C. Singh 1986.

33. The government-appointed National Commission on Agriculture recommended initiation of social forestry.

34. The Planning Commission classifies as "hilly" those areas with elevations of more than 500 meters above mean sea level.

35. Although the 1988 policy redefined the objectives of forest management, it did not envisage any direct role for the people in the day-to-day management of forests. It implicitly believed that government alone should control forests, albeit with changed objectives.

36. (No. 6.21/89-FP), issued in June 1990.

37. The Indian constitution in 1950 placed forests on the "state list," which means that state legislatures have the primary right to make law.

38. Ministry of Environment and Forests (MOEF) on the other hand notes in its comments that responsibilities of the state and central governments in respect of forests are constitutionally delineated and there is no ambiguity.

39. "The Act has often been justified by the central government on the grounds that the states did not resist popular pressure in permitting use of forest lands for non-forest purposes, and that they were liberal in frequently

allowing de-reservation of Reserved Forests for development schemes." (Saxena 1995)

40. MOEF in its comments notes that the ministry has been able to implement the Forest (Conservation) Act, 1980 successfully and this has resulted in substantial reduction in diversion of forest land for non forestry purposes.

41. MOEF in its comments has clarified that as per the existing rules and regulations, the state governments are competent to take decision on cutting of trees in non forest areas without seeking the approval of the central government.

42. Bank projects have achieved some success in removing restrictions related to transport and tree felling that discourage tree plantations outside forests.

43. OECF was established in 1961 by the Japanese government to promote economic cooperation with the world's developing countries. It provides bilateral government loans.

44. The GEF, created in 1991, is a multilateral financing mechanism created to address such strategic issues as climate change, biodiversity, and protection of international waters. GEF is a strategic partnership of the UNDP, United Nations Environment Program, and the World Bank.

Chapter 3

45. *India: Forestry Prospects.* Report No 1745, 1978; *India: Policies and Issues in Forest Sector Development.* Report No. 10965, 1993.

46. *Women in Forestry in India.* Policy, Research and External Affairs. Working Papers July 1991. The World Bank.

47. *Incentives for Joint Forest Management in India Analytical Methods and Case Studies.* World Bank Technical Paper No. 394.

48. Since the Bank changed from the Staff Appraisal Report (SAR) to the Project Appraisal Document (PAD) as the initial formal document on projects, much of the detailed documentation previously available in the SAR on background sector studies has been dropped. Hence, though a large amount of informal sector work may have been produced as a part of project preparation, information on it is not easily available.

49. One case study is on a mixed teak forest system in Gujarat; the other is on a sal coppice forest system in West Bengal.

50. Bank staff, in their comments, feel that sector work does appreciate the significant contribution of tree plantations outside the forest areas. They observe that it recognized free seedlings and subsidized wood prices as severe obstacles to farm forestry. The OED review finds it hard to reconcile the

appreciation of significant contribution of tree plantations outside the forest areas with the decline in interest in social forestry in the post-1991 period.

51. *India—Water Resources Management Sector Review.* A Series of Five Reports: (1) Inter-Sectoral Water Allocation Planning and Management; (2) The Irrigation Sector; (3) Rural Water Supply and Sanitation Sector; (4) Urban Water Supply and Sanitation Sector; (5) Groundwater Regulation and Management. 1998. Rural Development Unit South Asia Region World Bank in Cooperation with Ministry of Water Resources Government of India.

52. From 1951 to 1997, gross irrigated area (includes double cropping) expanded fourfold, from 23 to 90 million ha. Today groundwater irrigation comprises 39 percent of irrigated area, canal irrigation 47 percent, and other irrigation (mainly tanks) 14 percent. Since independence, the government has invested more than Rs 600 billion (US$80 billion; constant 1980 prices) in irrigation.

53. *The Bank's India Water Resource Management Sector Review* (1998) notes that two broad issues need to be addressed: competing intersectoral demands, and management of water on a river-basin basis.

54. *Meeting India's Energy Needs (1978-1998): A Country Sector Review.* June 15, 1999 OED. (draft)

55. The numbers are based on project classification by lending instrument type (table L.2).

56. This study uses "tree resources" rather than "forest resources" because until 1992 (except for the very first forestry project in 1975) the Bank provided resources only for tree plantings outside the forest areas. Since 1992, Bank resources have gone toward preservation and regeneration of forest areas.

57. This constituted 27 percent of the total Bank forestry lending and 3.4 percent of the Bank lending to India in the 1992–99 period. The states with SLSW projects are profiled in Annex E.

58. Eucalyptus yields straight poles with a good market value and has a small crown, which allows more trees to be planted per unit of area. It also causes little shading when planted on field boundaries. In addition, since it is non-browsable it is easy to protect.

59. "Community forestry…does not promise any direct individual benefit, other than uncertain access to fuel, fodder, and timber, the extent of requirement and existing method of procurement of which vary widely among the different sections of the rural populace. Moreover, the methods of distribution of such commodities being not very clear, the common man is not sure about his share from such a communal asset." (Sen and Das 1987).

60. The only major policy issue that received attention during the SF projects was the pricing of seedlings. The Bank urged that a certain number of trees (those needed to meet a family's subsistence needs) be given free and for the remainder, a price equal to full direct cost be charged. However, the state governments were reluctant to do so, especially since seedlings were distributed free under other government programs.

61. These nurseries were seen to have several advantages: easier access for farmers and hence reduced distribution costs, income and employment for operating families, reduced costs for SFW, natural extension points. The FD was to provide technical advice and supply seed, fertilizers, and other materials.

62. Personal communication between Norman Jones and Uma Lele, June 1999.

63. Regional staff in their comments would also like to draw attention to thematic supervision as a part of the learning process.

64. Representatives from states at the country workshop noted that in states like Uttar Pradesh, recently adopted JFM rules have been able to deal with several shortcomings that arise because the law has not kept pace with policy.

65. MOEF in its comments emphasizes that though the Maharashtra Forestry Project was a problem project in the initial stage, substantial progress has been made in recent years.

66. A major controversy between the government and the Bank over the award of a technical consultancy contract also led to delays as implementation was linked to technical assistance that could not be put in place on time.

67. QAG rates two of the 18 agriculture projects as at risk. Of the 67 projects in the India portfolio six are rated "at risk," two "potential problem projects," and 59 "not at risk."

68. In general, the projects in India do not show the strong sense of ownership and strategic leadership from the center (from the equivalent of MOEF in India) as in China. In a variety of ways, China is much more decentralized administratively and fiscally, although it is able to do nationwide projects by giving choice to provinces to decide whether they want to borrow from the Bank. This creates a larger scope for strategic impact. Uma Lele Back to Office Report, July 1999.

69. In Andhra Pradesh, rehabilitation of degraded forest land through people's participation is very high on the chief minister's agenda. The state chief secretary undertakes frequent review of the implementation of JFM with the district collectors. In contrast, Maharashtra is a highly industrialized and prosperous state where the forest sector is less important to the economy and the political commitment to forestry is weak in comparison.

70. Some participants at the country workshop noted that management objectives for JFM continue to be based on physical targets of forest cover, timber production, etc., and that there are no social objectives. Aga Khan Rural Support Programme, India.

71. The regional staff argue that poor M&E is due to insufficient client capability. They note that the client's capability is the only way to ensure that effective monitoring is carried out. Even if the best indicators were developed, it would be difficult to measure them as the FDs are not in a position to survey, collect, and process the data in a timely manner.

72. Bank staff note that they have made considerable effort to retrofit development impact indicators to all projects.

73. The recent decentralization of Bank staff to the field has helped in dealing with this problem.

74. These issues are discussed in much more detail later in this chapter in the sections on NGOs, tribal concerns, and gender.

75. "Conflict resolution would involve minimizing the chances of conflicts through stakeholder analyses, reviewing resource utilization patterns, designing management plans sensitive to differential interests and needs, increase transparency in decision-making process by involving local communities, etc." TERI.

76. The staff of the South Asia Region disagree. They note that social and institutional issues are a major focus of almost all the team members, especially the task managers. Although a poor mix of supervision skills was a problem for the first half of the West Bengal project, it has not been a problem during the last three years in any of the projects. The staff say they have made extensive effort and there is much more consultation on forestry projects than is common in other Bank projects. MOEF on the other hand notes that these are complex issues that require detailed study to reach a workable solution that is in keeping with the National Forest Policy and the Forest Conservation Act.

77. The MOEF in its comments notes that these are complex issues and detailed studies are needed to evolve a workable solution keeping in view the National Forest Policy, Forest (Conservation) Act, conservation and development of forests, guidelines regarding regularization of encroachments, etc.

78. Achievements in natural regeneration of degraded forests supported under JFM have surpassed the expectations of technical experts. Personal communication between Uma Lele and Norman Jones, June 1999.

79. Buxa Tiger Reserve, West Bengal; Gir National Park, Gujarat; Nagarhole National Park, Karnataka; Palamau Tiger Reserve, Bihar; Pench Tiger Reserve, Madhya Pradesh; Periyar Tiger Reserve, Kerala; Ranthambore Tiger Reserve, Rajasthan.

80. Bank staff report that guidelines and designs developed for the Eco-Development Project have already influenced eco-development activities that are supported under all the SLSW projects and eco-development efforts that are domestically financed or financed by other donors.

81. Regional staff say that concerns about staffing were raised prior to project appraisal and a central feature of project appraisal was adjusting the proposed scope of the project so that it would fit within existing FD capacity (after internal adjustments specified in carefully planned and reviewed staffing plans and incremental budgets that are referenced in the minutes of negotiation). Plans for subcontracting were also specified. They further note that level of infrastructure was a key criterion in the selection of the seven project sites. They note that the commitment required for a complex and challenging activity that is not statewide and therefore does not receive the same level of senior management attention and support is a much more important issue.

82. For example, the Kerala Forestry Project would abolish subsidies for the supply of pulp raw materials from industrial plantations to forest industries by 20 percent over five years.

83. In the Madhya Pradesh project, land revenue codes are to be amended to give the power to permit felling of dead and dying trees on private lands delegated to *panchayats.*

84. Regional staff note that the Bank-financed projects have contributed to a lower-level, but important, form of empowerment. The experience that FPC members gain in talking with local government officials has given them the confidence to approach other government officials about non-forestry problems. This form of social capital development is a very important impact of the projects.

85. World Bank 1997. *Helping Countries Combat Corruption:* The Role of the World Bank. World Bank. Washington, D.C.

86. See the concept paper on Corruption in the Forest Sector in India recently prepared by Ian Hill of the South Asia Region for details.

87. There is no baseline data available on Bank projects to be able to make before-and-after comparisons.

88. MOEF in its comments notes that the state governments do not have a vested interest in losing control of the marketing of NTFPs. Conservation of forests, unsustainable withdrawals, and social issues like the welfare of local tribes, etc., are the main considerations on which marketing strategies are decided, rather than revenue.

89. In the short run, when there are several opportunities to benefit from wage employment under a Bank project, people may be willing to live with this inconvenience. In the long run, however, when Bank funds run out, the

project closes, and employment opportunities may be fewer, people may not be willing to accept the inconvenience.

90. Bank staff note that this may be an implementation issue, especially with the very rapid expansion of JFM coverage.

91. "Estimates of land use suggest that in addition to denudation of nonagricultural lands, 85 million ha, or 59 per cent of agricultural lands suffer from soil degradation." (MOEF 1999, Vol. 1, 13). Wind and water erosion affect an estimated 146.77 million ha or 83.86 percent of the total land being degraded.

92. In 1976, the Second India Study estimated that 50 acres under plantations could meet the energy needs of a village. The Second India Revisited Study (WRI 1994) noted that research could help substantially reduce this land requirement magnitude through the development of high-yielding trees suitable for dryland cultivation.

93. The MOEF has clarified the procedure for transfer of funds to the state governments. According to them 70 percent of the funds are transferred to the state government at a fixed interest rate and 30 percent is transferred in the form of grants.

94. Saxena, in background paper for this study.

95. There are also scattered examples of communities recycling funds by setting up their own revolving funds. But such examples are still few and need to be multiplied.

96. Although the comprehensive coverage of JFM in West Bengal, Madhya Pradesh, and Andhra Pradesh may make it difficult to shift pressures to non-JFM areas.

97. Regional staff disagree with the observations in this paragraph.

98. The Madhya Pradesh Forestry Project, some regional staff note, has made some progress on this front through interagency coordination. But this approach, others say, is difficult to use in a situation where the government functions through line departments and coordination is lacking all the way down from the ministries.

99. "The Director General of WWF India is a senior IAS officer and has known the task manager (also a former forest service officer), for the forest project in the Bank's India office for many years. However, the WWF President indicated that at the institutional level, the top-down nature of the WWF/World Bank alliance has meant that staff in the Delhi office have been looking to the Bank headquarters for clearer signals, direction, and input so as to understand the nature of this collaboration. He thought that such global initiatives are fine as an expression of intent, but translating those in operational terms is another matter. It requires considerable work at the

national level given that the states in India have responsibility for forest management and, without their involvement, national targets, even if agreed to by governments, have very little meaning. He said he has made the point to WWF International repeatedly that setting 'blind targets' is not the best way to go about it. According to him, 'What is exciting in Washington is not so exciting in the countries, where implementation realities make things look different'." Uma Lele Back to Office Report, January 1999.

100. Staff from the Bank's South Asia region report that now there is much higher level of acceptance and participation for alliance activities. They explain that South Asia is fashioning a bottom-up approach in implementation to contribute to the alliance goals. A *Measures of Success* brochure issued by the Global Alliance for Forest Conservation and Sustainable Development World Bank Group/World Wide Fund for Nature notes that in South Asia the World Bank and WWF are working to improve sustainable management of forests and protected areas. Through a series of in-country workshops the program will introduce the use of performance indicators in monitoring forestry and protected areas. Another important thrust of the program is to do broad dissemination of monitoring information.

101. The Madhya Pradesh Forestry Project currently is struggling with this issue and a modified Government Order has been drafted to provide benefit sharing to communities protecting un-degraded forest areas.

102. Mohan Dharia, a workshop participant and Chairman of a recent central government high-level central policy committee on wasteland development, recommended that all resources made available for soil conservation, water conservation, minor irrigation, forests, SF, silvipasture, horticulture, and various employment programs should be pooled together for development of waste and forest lands. He further noted that the World Bank should insist that such an approach be followed by the country as it would increase the efficiency of Bank resources.

103. "Issues related to an integrated or a complimentary approach to development are areas in which important lessons can be learned from China and Turkey as exemplified by certain programs funded by the Bank (e.g. the Eastern Anatolia project in Turkey, in which the department of forestry takes the lead and yet cooperates with the departments of infrastructure and agriculture, or in China, where a number of departments concerned with agriculture, forestry, and infrastructure and village water supply or health and education cooperate." (Uma Lele Back to Office Report January 13, 1999)

104. A recent review of good practices (PREM notes, number 15, June 1999) concludes that it is a mistake to rely solely on indicators of political leadership since implementation needs the support of many other actors. Most important changes require sustained institutional effort to implement reform. They also need a successful rear guard action at levels beyond the

awareness and control of senior policymakers. Policymakers come and go, whereas reforms need to continue. For this reason, stakeholder analysis, the note argues, has received strong support in the Bank, including how to understand the interests of the stakeholders and how to involve and influence them. However, this stakeholder analysis often ignores the different capacities and organizational abilities of different stakeholders. Second, some stakeholders will be better off only in the long run as a result of reforms. There are short-term costs and uncertainties about long-term benefits.

Annexes

1. This data is not available for the period before 1994.

2. An estimated 2.5 million hectares a year (about 1 percent of India's land area) becomes wasteland because of overgrazing, deforestation, waterlogging, and inappropriate cultivation practices.

3. ESMAP is a global technical assistance program that helps build consensus and provides policy advice on sustainable energy development to governments in developing countries and transitional economies.

4. In Andhra Pradesh, the industry claims to be able to produce 20 m3/ha/yr by using clonal technology (1 m^3 of bone dry wood weighs about 0.6 mT).

5. Information is based on government records, and all prices are for dry and debarked wood.

6. In every staff appraisal report (SAR), the Bank has advocated that supplies to industry from the FD should not be subsidized, and should be based on market rates. The Uttar Pradesh Project Assessment Document (PAD) suggests that in order to increase market competition allotment price should be directly linked to market price. The Kerala PAD suggests that the FD should phase out existing sales contracts with subsidized prices and sell at market prices. However, none of the PADs have calculated the amount of subsidy and annual loss of revenue to government on this account. This has also not been taken up with the government during discussions of semiannual reports. Had this been done every year, pressure would have been on the state governments to eliminate or at least reduce subsidy, leading to a spurt in private tree plantation.

7. Annex 4 to the Project Implementation Volume 1991 of Maharashtra shows that production of pulp based on bamboo is competitive even if tariffs and preferential prices are eliminated. If subsidies are removed, the cost of pulp produced in dried form will increase from 12,595 to 13,595 Rs/metric ton, which is still less than the 13,900 Rs/metric ton that comparable imported pulp would cost with tariffs. The document then goes on to say that subsidy to paper mills amounts to several million dollars per year, but exact figures are not given.

8. No Bank report has suggested that the NGOs be permitted to actually undertake afforestation work on forest lands. Under the Forest Conservation Act, only the FD or FD-led groups can work on forest lands.

9. Extension of Panchayats to Scheduled Areas Act (Act 40 of 1996) applies to the forested districts of Andhra Pradesh, Madhya Pradesh, Maharashtra, and five other central Indian states (not Uttar Pradesh) with significant tribal populations. It gives rights of ownership over MFPs and other natural resources such as ponds and tanks to village *panchayats* and *gram sabhas.*

10. For more detail, refer to NSS 1997, Ch. 2 on "Conceptual Framework."

11. Although many NGOs were lined up and the Ford Foundation was willing to pay for them, neither the Bank nor the Ministry of Forestry was able to open an account to accept funds to pay for the NGOs. Nevertheless some paid from their own pocket and others were paid by the Ford Foundation through its other involvement with them to attend.

12. Some participants also noted that the JFM program in Andhra Pradesh was successful because rural development funds in the state were utilized for JFM.

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