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# East Asia Region FORESTRY STRATEGY

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East Asia Region  
**FORESTRY  
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Front cover: All photographs by William B. Magrath.

Background: Forest, Nam Theun 2 National Biodiversity Conservation Area, Laos.

Clockwise from left:

1. Four girls in a forest village are beneficiaries of the World Bank Sustainable Forestry for Rural Development Project, Laos.
2. A log loader works a mahogany plantation, Fiji.
3. Illegal loggers are apprehended while loading stolen logs, Riau Providence, Indonesia.
4. Village land-use map, Nam Theun 2, Laos.
5. A better future: Two Fijian boys stamp a log with a branding hammer to certify that it was authorized to be cut.

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# Preface

This is a consultation report. It has been prepared by the East Asia and Pacific (EAP) Region of the World Bank to guide future development and management of the Bank's work in forestry in that region. It is intended primarily to summarize for Bank management and staff the issues facing the forestry sector and lessons learned from the work of the Bank and others in forestry development; and to lay out in nontechnical terms a way forward for the Bank in this sector. On the basis of review and discussion of earlier drafts, EAP management has decided to elicit comments and reactions to the present version. The expectation is that the final version not only will be a World Bank strategy but also will contribute to the public debate about forests and forestry.

In addition to distributing this report, the World Bank will make it available on the Bank's website. The Bank also plans to convene consultations and workshops to solicit views, opinions, and recommendations from policymakers, civil society organizations, communities, professional and technical specialists, the donor community, and the commercial private sector on improving this proposed strategy. Without limiting the scope for comments, particularly useful input would address the report's *relevance*, the likely *effectiveness* of the proposed interventions, and improving *efficiency*.

**Relevance.** Is the proposed strategy relevant? Is the overall forest resource management issue of sufficient importance to East Asia and the Pacific that an explicit strategy is needed for the World Bank? Are the highlighted challenges of globalization, forest crime, the impacts of financial institutions and mechanisms, deforestation, and decentralization the most important developments affecting forests? Is the strategy's specific focus on the poor quality and limited extent of management appropriate?

**Effectiveness.** Does it seem likely that the proposed strategy will bring about positive outcomes and impacts? Can the anticipated linkages be made between the visible and measurable management performance and the underlying problems of poor governance, distorted policies, and marginalization and disenfranchisement of forest-dependent communities?

**Efficiency.** How could the impact of the Bank's efforts in forestry be increased, either through pursuit of the proposed strategy or by redirecting efforts?

Comments and reactions are welcome on any aspect of the report and can be directed to William B. Magrath, Lead Natural Resource Economist, Rural Development and Natural Resources Sector Department, East Asia and the Pacific Region, World Bank, 1818 H St., NW Washington, DC 20043, USA, 202 458-1679.

# Acronyms and Abbreviations

|               |  |                |   |
|---------------|--|----------------|---|
| <b>AAA</b>    | Analytical and Advisory Services   | <b>ERP</b>     | Economic Recovery Plan                                  |
| <b>ADB</b>    | Asian Development Bank   | <b>ESW</b>     | economic and sector work                                |
| <b>AFR</b>    | Africa Region, World Bank  | <b>FAO</b>     | Food and Agriculture Organization of the United Nations |
| <b>ASEAN</b>  | Association of Southeast Asian Nations                                     | <b>FFI</b>     | Fauna and Flora International                           |
| <b>ASOF</b>   | ASEAN Senior Officers on Forestry  | <b>FLEG</b>    | Forestry Law Enforcement and Governance                 |
| <b>BB</b>     | Bank Budget  | <b>FMAC</b>    | Financial Management Adjustment Credit                  |
| <b>CCD</b>    | see UNCCD  | <b>FMU</b>     | forest management unit                                  |
| <b>CCICED</b> | China Council for International Cooperation on Environment and Development | <b>FOMACOP</b> | Forest Management and Conservation Project (Lao PDR)    |
| <b>CDD</b>    | community-driven development   | <b>FSC</b>     | Forest Stewardship Council                              |
| <b>CI</b>     | Conservation International   | <b>FSEFI</b>   | Financial Sector Integrity Unit (World Bank)            |
| <b>CIFOR</b>  | Center for International Forestry Research                                 | <b>FSSP</b>    | Forest Sector Support Program                           |
| <b>CoC</b>    | chain of custody   | <b>GEF</b>     | Global Environment Facility                             |
| <b>CP</b>     | Cooperative Program  | <b>GEMS</b>    | Global Environment Monitoring System                    |
| <b>CTF</b>    | Consultant Trust Fund  | <b>GPAL</b>    | Governance Promotion Adjustment Loan                    |
| <b>DANIDA</b> | Danish International Development Agency                                    | <b>ha</b>      | hectare(s)  |
| <b>DENR</b>   | Department of Environment and Natural Resources (The Philippines)          | <b>IBRA</b>    | Indonesian Bank Restructuring Agency                    |
| <b>DfID</b>   | Department for International Development                                   | <b>IBRD</b>    | International Bank for Reconstruction and Development   |
| <b>DFW</b>    | Department of Forestry and Wildlife  | <b>ICDP</b>    | Integrated Conservation and Development Project         |
| <b>EA</b>     | environmental assessment   | <b>ICR</b>     | Implementation Completion Report                        |
| <b>EAP</b>    | East Asia and Pacific Region (World Bank)                                  | <b>IDA</b>     | International Development Association                   |
| <b>EASRD</b>  | Rural Development and Natural Resources Sector Unit, EAP                   | <b>IFC</b>     | International Finance Corporation (World Bank Group)    |
| <b>EIA</b>    | environmental impact assessment  |                |   |
| <b>ELF</b>    | Earth Liberation Front   |                |   |



|               |   |               |  |
|---------------|---|---------------|--|
| <b>INFORM</b> | Indonesia Forest and Media Project's  | <b>PA</b>     | Protected Area   |
| <b>I-PRSP</b> | Interim Poverty Reduction Strategy Paper  | <b>PDR</b>    | People's Democratic Republic   |
| <b>ITTO</b>   | International Tropical Timber Organization  | <b>PEFC</b>   | Pan-European Forest Certification Council                                  |
| <b>IUCN</b>   | World Conservation Union  | <b>PHRD</b>   | Policy and Human Resources Development Fund (Japan)                        |
| <b>LAC</b>    | Latin America and the Caribbean Region (World Bank)   | <b>PNG</b>    | Papua New Guinea   |
| <b>LDP</b>    | Letter of Development Policy  | <b>PRGF</b>   | Poverty Reduction and Growth Facility                                      |
| <b>LEGPS</b>  | Private Sector Development, Finance and Infrastructure Unit, Legal Vice Presidency (World Bank) | <b>PROFOR</b> | Program on Forestry  |
| <b>LEI</b>    | Lembaga Ekolabel Indonesian (Indonesia Ecolabeling Institute)                                   | <b>PRSP</b>   | Poverty Reduction Strategy Paper   |
| <b>LIL</b>    | Learning and Innovation Loan  | <b>RIL</b>    | reduced impact logging   |
| <b>m3</b>     | cubic meter(s)  | <b>Rp</b>     | rupiah (Indonesia)   |
| <b>MIGA</b>   | Multilateral Investment Guarantee Agency  | <b>RWE</b>    | round wood equivalent  |
| <b>MNA</b>    | Middle East and North Africa Region (World Bank)  | <b>SAC</b>    | Structural Adjustment Credit   |
| <b>MSP</b>    | Medium Sized Project (GEF)  | <b>SCB</b>    | state-owned commercial bank  |
| <b>MTCC</b>   | Malaysian Timber Certification Council  | <b>SDR</b>    | special drawing right (international reserve asset created in 1969 by IMF) |
| <b>NA</b>     | not available, not applicable   | <b>SECAL</b>  | sectoral adjustment loan   |
| <b>n.d.</b>   | no data   | <b>SFES</b>   | State Forest Enterprise Study  |
| <b>NFPP</b>   | National Forestry Protection Project  | <b>SOE</b>    | state-owned enterprise   |
| <b>NGO</b>    | nongovernmental organization  | <b>SPN</b>    | supervision  |
| <b>NGPES</b>  | National Growth and Poverty Eradication Strategy  | <b>Spp.</b>   | species  |
| <b>NRMTG</b>  | Natural Resources Management Thematic Group   | <b>SUFORD</b> | Sustainable Forestry for Rural Development Project                         |
| <b>n.s.</b>   | not significant   | <b>TA</b>     | technical assistance   |
| <b>NTFP</b>   | nontimber forest product  | <b>TNC</b>    | The Nature Conservancy   |
| <b>ODA</b>    | overseas development aid  | <b>TVE</b>    | Township and Village Enterprises   |
| <b>OED</b>    | Operations Evaluation Department (World Bank)   | <b>UNCCD</b>  | United Nations Convention to Combat Desertification                        |
|               |   | <b>UNEP</b>   | United Nations Environment Programme                                       |
|               |   | <b>WWF</b>    | World Wildlife Fund  |

# Executive Summary

1. Forest resources in East Asia and the Pacific are not contributing as they should to poverty reduction, economic and social development, or environmental sustainability. To the contrary, forests are subject to increasing degradation, fragmentation, and destruction. The failures of forestry are rooted in perverse policies and bad governance and the lack of disciplined and science-based management.

2. The World Bank's new EAP Forestry Strategy being proposed here has two primary intents: (1) to support governments and communities in introducing and expanding sustainable forest management, conservation, and development; and (2) to use *dialogue* and *investment* as the levers to reform underlying distortions in policy, tenure, and governance.

3. Forestry is the art and science of managing forest land and resources to produce a flow of socially and economically valued goods and services. Good forest management is not equivalent merely to written management plans and does not center only on commercial timber production. It is the purposeful, planned, and accountable use of forest resources to pursue socially endorsed goals and objectives. Genuinely sustainable management must be built on good governance, accountable institutions, and sound policies.

4. **Management is the Bank's primary entry point because it permits a focus on measurable inputs and outcomes.** Improving and extending good forest

management is the vehicle by which the World Bank can improve forestry outcomes. All governments in the Region express commitments to multiple, sustainable uses of forest resources, but few have effectively pursued concrete measures. A management focus grounds the Bank's policy and institutional reform advocacy in immediate constraints as well as in a long-term vision carried out in a prioritized sequence. Tactically, a management focus permits the Bank to look for a country's demonstrated political commitment to urgent reforms as the basis on which to calibrate investment and other support that match the pace and depth of those reforms.

5. The Bank's forestry work will be based on a **country-specific focus**. In *client countries with mature sector agendas, good lending prospects, and strong sectors*, ongoing operations and established modes of engagement are working well and provide the basis for continuing Bank engagement. In these generally forest-scarce countries, **large unmet needs in plantation and production forestry constitute the Bank's primary target**. In *client countries in which the Bank's agenda is under development, lending demand uncertain, and the sector at risk*, the Bank is focusing on **building and extending relationships**. In *countries in which the agenda is stalled, lending prospects are limited, and the sector is imperiled*, in which the Bank's forestry work has run into serious constraints and obstacles, the priority is to **implement principled reengagement**.

6. In moving ahead with implementation of this or any other strategy for forestry, determining the appropriate indicators of performance and success is intrinsically difficult. The Bank's work will not be decisive in turning around the sector. The Bank's role can be catalytic and supportive, and it will have to act in partnership with many disparate and, at times, conflicting and contentious interests. In the near term, success for the Bank in EAP forestry will be demonstrated by increased support for the Bank's participation and involvement in the sector, by recognition of the value of the Bank's perspective and experience, and by decreased contention and conflict.

### Key Issues and Drivers Changing Forestry in EAP

7. This strategy locates key current issues facing the forest sector of the Region within the broader management challenge. The strategy explores these key trends to illustrate the need for improved forest management:

#### *Globalization and China's Rapid Growth*

8. Increasingly, East Asian forestry is integrated in, and becoming a critical segment of, the global wood economy. This globalization is illustrated by the rapid rise of China as an importer of roundwood and wood products. From being a relatively minor factor until the last decade, in fewer than 10 years, China has become the world's largest importer of industrial roundwood and the second largest importer of forest products. China also has become a much larger processor and exporter of manufactured wood products, sending a large portion of its increased imports on to consumers in other countries. The controversy spawned by this growth relates to both the illegal and unsustainable origins of much of the Regional wood supply, and to the contemporaneous adoption by China of strict controls on logging. Suggestions that China's role is exploitive and destructive distract from the need for exporting countries to exert greater discipline over log production, as well as for China to continue to expand plantation production and transform the management of its

natural forests. As global markets develop, producing countries can expect both additional pressures on their resource management systems and increased demands for quality forest management from sophisticated end-use markets sensitive to the sustainability of timber sources.

#### *Timber Theft*

9. Forests in East Asia are subject to unprecedented levels of illegal logging, arson and uncontrolled conversion. Illegal activity, which is enabled and fueled by the absence of effective management, is a leading factor in the loss of forests and the degradation of the remaining resource. While concerted efforts to detect and suppress illegal logging are needed, timber theft prevention through extension of the area covered by routine, quality forest management, enabled by tenure, policy, and other reforms, is the basic need.

#### *Deforestation and Land Degradation*

10. EAP client countries are losing 2.4 million ha or approximately 0.6 percent of the Region's forest cover per year, almost 3 times the global rate. A notable exception is China, whose forest areas are growing through reforestation. While some forest conversions are to valued and sustainable uses, the fate of much of the deforested area is degradation. Of the Region's total land area of approximately 1.5 billion ha, approximately 200 million hectares (ha) already are degraded and, through various pathways, more than 2 million ha per year of forest land become degraded. Improvements in land allocation policy and administration to ensure that conversions are restricted to suitable areas and implementation of management reforms in secondary forests are critical to reverse land degradation.

#### *Perverse Forest Financing*

11. A lack of due diligence behind private-sector financing of forest industry in EAP countries, and Indonesia in particular, has contributed to a

build-up of unsustainable demand on the forest resource base. During the 1990s, international lenders and investors put over US\$12 billion into the Indonesian pulp and paper industry alone to support massive expansion of capacity and raw material demand. Superficial analyses of raw material supplies, a lack of realism regarding plantation development prospects, and disregard for the likelihood of increasing illegal logging and other problems have led investors into serious over-exposure, and the sector into excessive capitalization. The East Asian financial crisis in the late 1990s and subsequent need for intervention in banking sector restructuring have exacerbated exposure to ill-considered loans and debt, perpetuating unsustainable demands on forests.

### *Decentralization*

12. With notable exceptions (customary forest land ownership in Papua New Guinea and state government control in the federal system of Malaysia), virtually all countries in the EAP Region treat forest land ownership as a prerogative and responsibility of the national government. Central government control deepens the problem of ensuring meaningful involvement of local people and indigenous communities in forest management decisions and presents other demands on public institutions and agencies. While this high level of centralization does not seem to have produced sustainable or productive results, neither have experiments with decentralization, as occurred in Indonesia in the aftermath of the collapse of the New Order regime in the late 1990s.

### **EAP Forestry Experience: Varying Degrees of Certainty of EAP Countries**

13. Since 1970, the World Bank has invested more than US\$2.7 billion in 43 forestry operations in EAP countries. Its program of investment lending, conditionality-linked development policy lending and dialogue, and supporting technical assistance (TA) and economic and sector work (ESW) makes the World Bank the single largest source of development finance to forestry in the Region.

14. Much of the Bank's established forestry program, as well as its general rural development and economic management and poverty reduction efforts, are directly relevant to the drivers of change discussed in chapter 2. Specifically, the Bank has been or is:

- Financing the establishment of over 3.5 million ha of forest plantations to reduce demands on natural forests of timber-producing countries
- Supporting approximately 2.1 million ha of parks and protected areas in 8 countries to help conserve and manage biodiversity across the Region
- Convening the highest levels of leadership to secure commitments to strengthen forest governance and to more effectively control illegal logging and other forest crimes
- Addressing forces that are driving deforestation and unsustainable land use conversions while strengthening local development capacities through its overall rural development operations and land administration projects and its family of community-driven development and community-based natural resource management projects
- Developing and demonstrating fiduciary due diligence and corporate responsibility practices through its own environmental and social safeguards, and the economic and financial sector reforms advocated through many diverse policy and investment operations to help prevent inadvertent negative impacts of development in other sectors on forests.

Major lessons learned from implementation in the last 10 years are:

- A. The Bank needs to *be more explicit and specific in each country about the Bank's forestry goals and objectives* and on the criteria on which the country's and the Bank's success should be judged. Recent forestry experience in several countries clearly demonstrates the Bank's readiness to put forestry at the center of country relations. It also illustrates the risk of applying unachievably high and rigidly applied standards of technical practice and governance integrity. The Bank is attempting the "art of the

- possible” in forestry. Governments, Bank management, and other stakeholders need to understand and accept the risks of failures and the need to sequence and anticipate delays and shortfalls in pursuit of a long-term agenda.
- B. Experience with policy-based lending shows clearly that, while *conditionality is useful and valuable, dialogue and consensus are more important*. Policy conditions are inherently limited and inevitably subject to interpretation and dispute by both governments seeking more latitude and external observers who may for various reasons advocate greater stringency. When assessment of policy performance is played out in the public arena, the Bank can be subject to criticism and second-guessing that can extend beyond its technical competence to assault its intentions and ethics. Complementing bilateral legal and contractual guarantees with multilateral consultations involves listening to others while respecting the Bank’s fiduciary responsibilities to reach its own final assessments.
- C. *Establishing plantations in forest-deficit areas and countries is easier than developing management of intact forests in forest-rich countries*. Working on natural forest management puts the Bank in a risky and uncertain environment. It is, nonetheless, an essential area for continued Bank work. Plantation investments will not be viable and simply will not address the key constraints in forest-rich areas. The Bank has and should maintain a technically diversified forestry portfolio and should maintain and strengthen the environmental and social safeguard system that has been effective in monitoring and mitigating these risks.
- D. *“Big” forestry is not better*. However, reform of industrial concession systems, agro-industrial policies and other macropolicy considerations may be needed to create physical and policy space for small-scale, community-based management alternatives. Among the many donors and other agencies working in forestry, the Bank is one of the few that has the capacity and vision to address the deep-seated distortions in the large-scale, centralized forestry systems that dominate the sector. Focusing on large-scale industrial reform does not constitute indifference by the Bank to local issues and should not be perceived as such.
15. Specific opportunities and initiatives for the Bank in EAP at the country level can be expected to follow the results of the Bank’s previous engagement. Three groups of countries with varying performance and challenges emerge from the Bank’s experience in the sector:
- Countries in which the *agenda is mature, lending prospects for the Bank exist, and the sector is strong*, with predictable forest policies and constructive programs in place
  - Countries in which the *agenda is under development, the lending demand is uncertain, and the sector is at risk*, in which forests and forestry play a crucial role in the countries’ economies, and in which the Bank remains engaged but faces significant challenges
  - Countries in which the *agenda is stalled, lending prospects are limited, and the sector is imperiled*, in which the Bank struggles to maintain constructive involvement in the forestry sector.
16. With all its technical complexities and governance risks, forestry will continue to be controversial for the Bank. Forestry will demand senior and country management support and involvement out of proportion with the sector’s presence in the Region’s lending program. Senior management support is particularly needed in conveying to governments, observers, and critics of forestry in East Asia the centrality of the management challenge and the Bank’s intent to link improvements in management with the fundamental reforms necessary for sustainable impact. Greater public understanding in the Region and donor countries of the threats facing the forest resource and forest-dependent peoples, and the need for Bank involvement, informed risk-taking, and judgment based on demonstrated accomplishment will help secure the Bank’s continued contribution to forestry in the Region.

# Introduction

17. This strategy analyzes the challenges facing the World Bank in helping to mobilize the forestry sector in the East Asia and Pacific Region. Forestry is not contributing to poverty reduction and development in the ways in which it could and should. The result is that forest-dependent people and the forests themselves are exposed to serious risks, destruction, degradation, isolation, and deepening poverty. The waste of valuable resources and the failures of forestry can be traced to well-documented and widely understood problems rooted in corruption: ill-advised, perverse policies; bad governance; indifference; and misconceptions. These underlying problems manifest in EAP countries as an appallingly low level of forest management. Forest management includes the pursuit of production, preservation of nature, and social objectives. In both areal extent and technical quality, forest management in EAP is so limited as to be irrelevant to outcomes in the forest.

18. This problem setting was generally anticipated in the Region's last Forest Strategy in 1992. It argued that forestry reform would need to evolve as the result of an iterative process of policy dialogue and targeted investment. While the 1992 strategy is still applicable generally, the centrality of the management challenge and the opportunity that it presents has come into clearer focus. The management challenge offers the Bank the opportunity to work backward and forward simultaneously: backward to attack the root causes of poor performance and forward to improve the targeting and incidence of the benefits of forestry

reform. This clearer focus permits the Bank to recommend a revised strategy that is considerably more explicit and balanced across the mix of instruments available. It also permits the Bank to update the approach in light of the impetus provided by its 2003 revisions to the Operational Policy on Forests (OP 4.36).<sup>1</sup>

19. This report proceeds in chapter 2 to an overview of the key drivers of change in EAP forests and forestry. All of these problems are importantly and directly related to various aspects of forest management. They include the:

- Rapid globalization and the growing and changing environmental “footprint” of China in the world wood economy
- Predominance of illegal logging and growing recognition of the pervasiveness of corruption in forestry
- Widespread failure of investment analysis in the wood processing subsector to recognize the environmental, wood supply, and governance risks to forest resources and investors alike
- Forest conversion and land degradation
- Ongoing repositioning of rights, access, and control over forests among peoples, levels of government, and the international community.

<sup>1</sup> The website for the Bank's operational policies (OPs) and best practices (BPs) is <http://wbln0018.worldbank.org/institutional/manuals/opmanual.nsf/Searchexternal?OpenForm>.

20. Chapter 3 positions the forest management challenge within an overarching presentation of natural resource policy frameworks that consist of forces that drive resource mobilization, governance, and incentives. The chapter also discusses the essential elements of good forest management. Finally, it takes up forestry as the art and science of marshalling forest resources to generate sustained high levels of socially valued goods and services. Improving forest management in this overarching sense is the essential strategic objective of the Bank's engagement in the sector.

21. Chapter 4 analyzes the Bank's experience in financing and attempting to promote good forest management in EAP. It identifies three tiers of client countries: those with a mature forestry agenda, good lending prospects, and strong sector performance; those with an agenda under development, but uncertain lending demand and a forestry sector at risk; and those with a stalled forestry agenda, currently limited lending prospects, and overall weak sector performance. The discussion addresses the size, composition, and character of the project portfolio in each of these countries and trends over time. Chapter 4 also examines past applications of policy-based lending and other Bank instruments, partnerships, public

controversies and sources of criticisms, and lessons of experience.

22. Chapter 5 concludes the strategy by developing a vision of the Bank's role in forestry and suggests priorities for lending and non-lending activities. The chapter also proposes new elements for the Region's approach to forestry; and discusses the risks and costs to the Bank and its partners in relation to forestry.

23. A more detailed description of the EAP forestry sector and resource base is provided in appendix 1. It reviews recent data on forest area and rates of deforestation and plantation establishment, and on forest products consumption. This appendix also considers measures of the management status of the Region's forests, including the limited coverage of quality management plans and the small area independently recognized as sustainably managed. Appendix 2 briefly describes specific forest law enforcement operations, including the origins of forest crime and the programmatic elements of a law enforcement effort: prevention, detection, and suppression. Appendix 3 provides an overview and description of the Bank's EAP forest and forest-related project portfolio.

# Key Drivers Changing Forestry in East Asia and the Pacific

## A. Globalization and China's Growing Forestry Footprint

24. World wood markets are changing rapidly. New sources of supply from the plantation resources of the South American Southern Cone, Siberia and the Russian Far East, and Central Africa are increasing quickly. Demand for wood imports is growing worldwide, but nowhere more rapidly than China. The impact of China's emergence as a major market and the resulting policy uncertainties and other sensitivities illustrate what will be encountered as other wood-deficit countries and Regions, such as South Asia, grow and develop and inevitably demand more wood and wood-based products. Because of the management vacuum and the pervasiveness of illegal logging in supplying countries, virtually any increase in international trade volumes becomes controversial.

25. China has been a forest-deficit country for over 50 years.<sup>2</sup> Chinese per capita consumption of forest products has been among the world's lowest. Until recently, its consumption was supplied primarily from domestic sources, with, at least in some instances, increasing and significant environmental costs and consequences. Over the last 10 years, China's rapid economic development, increased integration in the world economy (particularly the world wood economy), and, at least arguably, tighter controls on

domestic forest exploitation have catapulted the country from being the seventh ranking importer of wood to the second, and the top importer of logs.

26. In 1997 Chinese imports of logs and wood products amounted to the Roundwood Equivalent (RWE) of 40.2 million cubic meters (m<sup>3</sup>). In just 6 years, this total more than doubled to 106.7 million m<sup>3</sup> (2.1). Apparently, little of these increased imports have materialized as domestic per capita consumption of forest products. Despite a total domestic increase in the range of 15 million m<sup>3</sup>, per capita consumption seems to have fallen from 0.2 m<sup>3</sup> in 1993 to 0.16 m<sup>3</sup> in 2001.

27. Part of the controversy and alarm raised by China's rapid emergence as a major importer of wood products relates to developments in Chinese domestic forest policy that reduced the share of nationally produced wood versus imported material. The Natural Forest Protection Project (NFPP) was introduced in 1997 in response to flooding in the Yangtze River

**Table 2.1 Trends in Chinese forest products imports (million m<sup>3</sup> RWE)**

|                       | 1997 | 1999 | 2001 | 2003  |
|-----------------------|------|------|------|-------|
| Timber products       | 12.6 | 20.6 | 28.1 | 40.2  |
| Pulp and paper        | 27.6 | 38.0 | 52.3 | 66.5  |
| Total forest products | 40.2 | 58.6 | 80.4 | 106.7 |

Source: Sun and others 2004.

<sup>2</sup> This section draws heavily on Sun and others 2004 and Zhu and Taylor 2004.



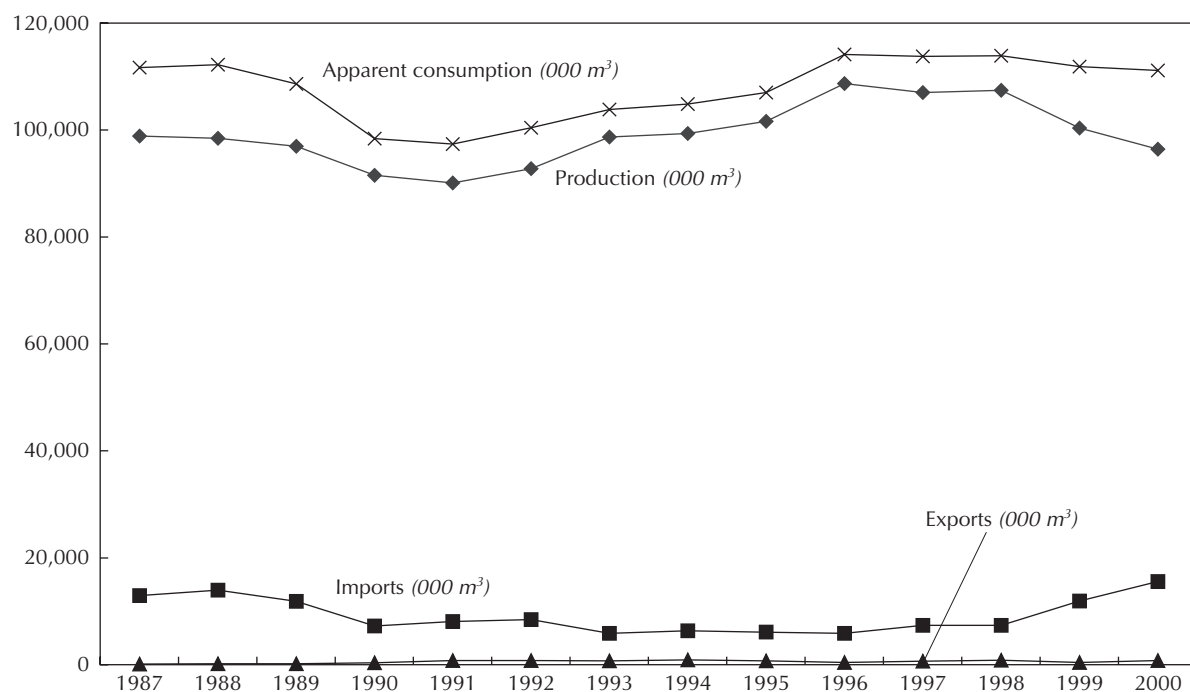
Valley and the need to restructure antiquated and dilapidated portions of the wood processing sector. The NFPP made large areas of China's natural forest inaccessible to logging. Although data on the impact of the NFPP are incomplete and sometimes inconsistent, it is clear that total national wood production fell dramatically. From highs of approximately 110 million  $m^3$  in the mid-1990s, log production fell by 20 million  $m^3$  or more (figure 2.1). Efforts to reduce logging were concentrated in the already over-exploited natural forest areas in China's Northwest Provinces of Sichuan, Hubei, and Yunnan. The timber-dependent economies of these areas were very heavily affected by the reductions in logging and saw milling.

28. Already a net wood importer, China turned increasingly to international sources of raw material, a process that continues. Chinese imports of all wood products have increased, with the greatest increases in the processed wood product categories of pulp and paper. Less widely recognized is that, as mentioned,

per capita consumption of wood products seems to have declined.

29. A part of the increase in wood imports ultimately has been channeled into re-exports, particularly in the rapidly growing furniture segment. The United States—and to a lesser extent, Japan and the European Union—is a major importer of Chinese timber products. RWE exports of furniture grew 11-fold from 1993 to 2000, rising from less than 1 million  $m^3$  to approximately 8 million  $m^3$ . In 2003 total RWE exports of timber products (not including pulp and paper) were in the neighborhood of 25 million  $m^3$ , up from less than 5 million a decade earlier. A similar increase in processing throughput occurred in paper and chips, of which exports nearly tripled over 10 years, going from less than 4 million to over 11 million  $m^3$  RWE. Thus, re-exports (approximately 27 million  $m^3$  RWE) accounted for more than one-third of the increase in imports (approximately 72 million  $m^3$  RWE).

Figure 2.1 Chinese industrial roundwood trade, 1987–2000



Source: World Bank data.

Note: This figure shows roundwood production and trade based on FAO data and is not comparable with the roundwood equivalent for all forest products shown in table 2.1.

30. Overall, considerable uncertainty remains as to what these developments really mean. Some observers suggest that, in effect, Chinese forest policies are exporting deforestation and environmental degradation. The introduction of the NFPP does generally coincide with the acceleration of wood imports into China. Nonetheless, it also is clear that the Chinese timber supply deficit was inevitable and that sooner or later there would have been a marked reduction in timber supply from the NFPP-affected areas. Adjustments to the NFPP already are occurring. Additional refinements can be anticipated whereby the generalized suspension of logging over large areas will be supplanted by more nuanced and finely calibrated harvesting prescriptions. Nevertheless, until large areas of new and/or currently immature plantation areas come on line with significant volumes of merchantable material sometime beyond the next 15 years, China will remain a significant forest products importer.

31. Chinese imports are originating in countries in which forest management standards generally are low. Again, while data are sketchy and inconsistent, table 2.2 shows China's sources of timber imports by product class and country of origin for 2002. Underlying these data are rapid increases from Indonesia, Malaysia, and Russia (Siberia and the Russian Far East), which account for over 50 percent of Chinese imports.

32. Chinese timber import expansion has had little impact on world market prices. The early increases in imports came as the late 1990s East Asian financial crisis was leading to a rapid increase in tropical logs coming on to the market and the resulting downward pressure on prices. Prices have continued to be depressed, in part because of sluggish demand in Japan, which traditionally was a major importer of tropical logs. In fact, between 1996 and 2000, the decline in Japanese logs, sawn wood, and plywood in RWE terms equaled approximately 10 million m<sup>3</sup> per year—approximately 80 percent of the increase in Chinese demand over that same period (figure 2.2).

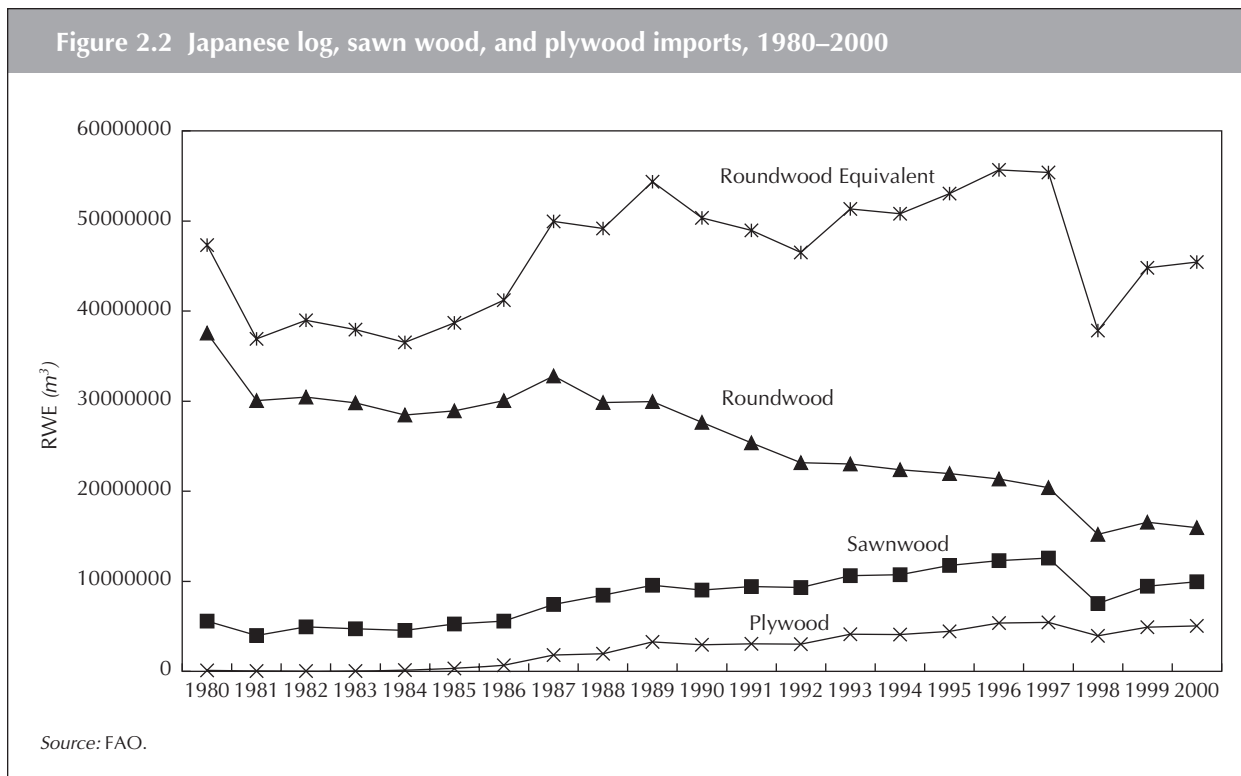
Taken as a whole, China's emergence in the global wood economy results in several key messages and implications:

**Table 2.2 Leading supplying countries by product category, 2002 (% of trade)**

| <i>Countries by products</i>   | <i>% of trade</i> |
|--------------------------------|-------------------|
| <b>Timber products overall</b> |                   |
| 1. Russia                      | 41.4              |
| 2. Malaysia                    | 10.9              |
| 3. Indonesia                   | 9.7               |
| 4. New Zealand                 | 5.8               |
| 5. Thailand                    | 3.7               |
| <b>Plywood</b>                 |                   |
| 1. Indonesia                   | 71.2              |
| 2. Malaysia                    | 15.6              |
| 3. South Korea                 | 4.2               |
| 4. Japan                       | 1.9               |
| 5. Cambodia                    | 1.5               |
| <b>Logs</b>                    |                   |
| 1. Russia                      | 60.9              |
| 2. Malaysia                    | 8.7               |
| 3. New Zealand                 | 6.7               |
| 4. PNG                         | 4.6               |
| 5. Gabon                       | 4.5               |
| <b>Wood pulp</b>               |                   |
| 1. Canada                      | 22.4              |
| 2. Indonesia                   | 21.6              |
| 3. Russia                      | 17.4              |
| 4. Chile                       | 10.4              |
| 5. USA                         | 9.7               |
| <b>Lumber</b>                  |                   |
| 1. Indonesia                   | 26.3              |
| 2. USA                         | 11.0              |
| 3. Thailand                    | 11.0              |
| 4. Russia                      | 10.2              |
| 5. Malaysia                    | 9.1               |
| <b>Paper</b>                   |                   |
| 1. Taiwan                      | 14.3              |
| 2. Republic of Korea           | 13.9              |
| 3. USA                         | 10.9              |
| 4. Indonesia                   | 9.9               |
| 5. Japan                       | 7.4               |

Source: Sun, Katsigris, and White 2004.

- *It has clarified the relative importance of fundamentals over policy drivers.* While domestic timber policies may have sped up and intensified China's new preeminence, the underlying fundamentals of population, income, and industrial development probably have been more important.
- *Historic inefficiencies and blunt-instrument policy responses to emerging scarcities in Chinese forest management policy may have accentuated the impact*



*of the fundamentals.* In retrospect, better forest management practices over the last 50 years could have transitioned China to a “softer landing” by extending and evening over time the flow of resources from the now-depleted natural forest and by accelerating and expanding the investment in man-made plantations.<sup>3</sup>

- *Irrespective of demand from China or any other country, it is forest management in the exporting country that determines environmental impact.* As discussed in the next section, it is the high likelihood that wood originating in any developing country was harvested illegally, or at least unsustainably, that underlies the concern over the growth of the Chinese wood import “footprint.” Significantly, however, this likelihood should not be seen as a concern of unique relevance to Chinese imports, but rather as part of the general global problem of weak forest management.

<sup>3</sup> However, whether this would have been possible or even more desirable is unclear. A view on this requires speculation on a wide range of considerations such as the timing of reforms in forestry vis-à-vis other sectors and world timber market developments.

## B. Illegal Logging, Corruption, and Forest Law Enforcement

33. Globally, and specifically in East Asia, illegal logging and other forest crimes seriously endanger sustainable development. In China, over-cutting is officially estimated to average more than 86 million m<sup>3</sup> per year. In the Philippines, illegal logging is estimated at 2.3 million m<sup>3</sup>, nearly half of the country’s total consumption of industrial wood, excluding fuelwood. In Cambodia, illegal logging was estimated to have peaked in 1997 at approximately 4 million m<sup>3</sup>; this amount was approximately 8 times the total sustainable yield. However, since then, Cambodia’s yield seems to have been reduced to approximately 200,000 m<sup>3</sup> or less. In Indonesia, the government estimates illegal logging at approximately 50 million m<sup>3</sup>, more than total legal production. The exact volume of illegal logging is unknowable. In addition, none of these estimates considers other forest crimes including arson, which affects up to 4 million ha annually in Indonesia alone; trade in endangered species; or agricultural encroachment.

34. These estimates of illegal timber are based on various assessments of the sources of logs (production forest versus national park), comparison of export and import statistics, or other analytics. An alternative indicator, in some ways more meaningful, could be developed on the basis of taking formally planned volume as an appropriate surrogate for legal production. On this basis, illegal logging would account for nearly all production in the Region.

35. The economic consequences have not been meaningfully assessed, but total over \$5 billion per year (table 2.3). On a Regional basis, almost all of the economic loss appears to accrue in Indonesia, in which a World Bank/WWF Alliance-funded study estimates that the public sector loses 97 percent of potential royalty income annually. However, a distinct systematic and Regional pattern of vulnerability and loss affects large and small producers alike. In some cases, the environmental damages are catastrophic. The social consequences include the corrosive impacts of corruption as well as the distortions resulting from lost public sector revenues.

36. Illegal logging and corruption in forestry long have been recognized in EAP. Only within the last 10 years have frank and open discussion become common and accepted in the context of the international debate on forestry and in relation to development assistance for forestry. To some extent, the legitimization of the topic may be related to the

increased readiness to openly address corruption and governance problems. The legitimization also relates to improved awareness of the magnitude of illegal logging and increased understanding of the ways in which illegal logging is rooted in the general neglect of forest management.

37. Illegal logging is a predictable result of a serious weakness in forest policy and resource management. Where forest management fails to perform basic control functions, undisciplined, illegal activity can be expected to develop and, if uncontrolled, dominate resource exploitation. Governments frequently contribute to forest law enforcement problems by adopting policies and legislation that conflict with the fundamental realities of the social and physical setting. Resource users act as they do—they log, set fires, clear land, and hunt—largely, if not entirely, because doing so is in their economic interest.

38. Merely imposing formal legislation, no matter how well intentioned, does not change the underlying incentives faced by resource users. Rather, formal legislation may simply artificially criminalize people and activities without impact. Many case studies of nationalization of natural resources are directly relevant to this point and frequently are cited in the literature on common property resource management. Based on observations made in these case studies, some critics have called for radical re-examination of forest policy frameworks, especially their relation to

Table 2.3 Government revenue losses from illegal logging, 1997–2002

| Country/year       | Production forest area (000 ha) | Official reported harvest (000 m <sup>3</sup> ) | Estimated actual harvest (000 m <sup>3</sup> ) | Estimated unit royalty due (\$/m <sup>3</sup> ) | Estimated royalty due (\$000) | Estimated loss (\$000) | Potential earnings (%) | Region total (%) |
|--------------------|---------------------------------|---|--|---|-------------------------------|------------------------|------------------------|------------------|
| Cambodia (1997)    | 9,335                           | 250   | –  | 54  | 13,500                        | 13,500                 | 100                    | 0                |
| Indonesia (2002)   | 104,986                         | 17,500  | 80,000   |   | 7,200,000                     | 5,100,000              | 71                     | 97               |
| Lao PDR (2002)     | 12,561                          | 270   | 270  | 110   | 32,000                        | 16,000                 | 50                     | 0                |
| Mongolia (2000)    | 10,645                          | 40  | 500  | 30  | 14,500                        | 14,000                 | 97                     | 0                |
| Myanmar (1999)     | 34,419                          | 800   | 1,700  | 100   | 170,000                       | 90,000                 | 53                     | 2                |
| Philippines (1999) | 5,789                           | 570   | 2,870  |   | 16,616                        | 13,316                 | 80                     | 0                |
| <b>Total Asia</b>  | <b>177,735</b>                  |   |  |   | <b>7,446,616</b>              | <b>5,246,816</b>       | <b>70</b>              | <b>99</b>        |

Source: World Bank estimates, various years.

forestland tenure, subsistence needs of the poor, recognition of indigenous or ancestral land rights, and the fundamental legitimacy of many national forest policies.

39. Examples of ineffective policies are forestry laws and regulations that restrict local people's access to fuelwood, domestic timber, and nontimber forest products for subsistence requirements. In many countries, governments have prohibited traditional agricultural practices, in particular slash-and-burn. Concerns about the capacity of the resource base or other management considerations may genuinely justify restrictions. However, they frequently are based on prejudice or misconceptions about traditional practices, which often is the case with respect to restrictions on slash-and-burn agriculture, or they are a subterfuge for expropriative policies aimed at transferring resources to more politically favored groups. Setting aside the injustices involved, from a law enforcement perspective, the absence of practical alternatives for the affected groups can be a major force in artificially creating a real enforcement problem.

40. Where coercive regulations are needed, a critical ingredient to successful policy is the provision of enforcement resources or other incentives that match or exceed the motivation to violate. Taken together, recent work on the political economy of forestry in developing countries yields several key lessons for improving forest law enforcement. Considerable overlap exists between these recommendations and many recommendations made in the recent literature on the economics and political economies of developing countries' forest policies. This overlap suggests that well-designed forest policy reforms can simultaneously promote economic and environmental objectives and strengthen compliance.

41. One lesson is to use resource policy to reduce as much as possible the need for enforcement, especially for public sector enforcement. Another lesson is to employ alternative tenure options that maximize holders' incentives to protect and defend the resource. Public land management options carry heavy administrative, financial, technical, and enforcement

consequences. Alternative tenures, supported by well-designed contracts and resource rent-sharing provisions, can alleviate much of the enforcement burden on the public sector.

42. Where lands are maintained under public control and management, policymakers should design and employ routine resource management practices to minimize the potential for illegal activity. Practices such as regular and predictable timber sales; and controlled access to hunting, routine patrols, and inventory work, establish the management agency's claim and authority. Without routine activities, encroachment can go unobserved and can create public expectations regarding access and use rights that may be incompatible with legal provisions and management objectives.

43. Using forest resources to reward political support is a common pattern of industrial development in both developed and developing countries. As a result, the domination of forest industries by large and influential elites is widespread. One observation stemming from the economic theory of regulation is that an enforcement agency that seeks to maximize net political support will impose the least regulatory burden on the most concentrated and well-organized segments of industry. This axiom may help to explain why crackdowns on illegal logging often focus on small-scale timber theft by the rural poor. Moreover, policies that favor large-scale, capital-intensive processing can distort the structure of the industry so that it is characterized by large and concentrated ownerships. Experience shows that these elites can take advantage of their access and influence to evade control both by recourse to higher levels of government and through corrupt means. To avoid this situation, policymakers should anticipate and consider the potential for creating or entrenching elites who will flout laws or receive preferential treatment.

44. Improving forest management and forest law enforcement in the countries directly affected by illegal logging is probably the most important and most promising direction for development assistance. With the increasing role of international trade and globalization, attention to the demand side of illegal logging

also is needed. Timber import markets vary significantly in their sensitivity to the legality of wood origin. However, European and American buyers of timber and wood-based products increasingly are discriminating between materials that can be demonstrated to come from sustainable and legal operations (this, in fact, is a major function of independent forest certification institutions) and those that do not.

45. This discriminating trend extends to the developing country importers within the EAP Region. China, for example, has signed agreements with Indonesia to reduce the entry of illegally harvested wood. Nevertheless, demand side control of trade in illegally harvested wood has yet to become effective or important in relation to the magnitude of the problem in EAP countries. Potential sanctions could be that importers of illegal wood could suffer damage to their reputations, or, in the case of re-exports of finished products, market discrimination. Greater awareness by importers of the high likelihood that wood from the Region's key exporters is illegal also could make an important contribution.

### C. Financial Systems and Forest Over-Exploitation

46. In the late 1980s, the World Bank introduced an intensive system of environmental screenings and assessments to all its potential projects.<sup>4</sup>

This system was intended to help identify, and to the extent possible, permit mitigation of unintended environmental or social damage, such as had been seen with projects such as agricultural settlement, infrastructure development, and power sector investments. Variations of these practices have been adopted by many international development agencies, export credit agencies, and private banks. Despite these innovations, however, in the aftermath of the East Asian financial crisis of the late 1990s, it became apparent that a large volume of investment had taken place in pulp and paper, particularly in Indonesia,

without adequate due diligence by investors and financial institutions with respect to either raw material supply or overall financial prospects.

47. This lack of due diligence behind private sector financing of forest industry has contributed to a build-up of unsustainable demand on the forest resource base. During the 1990s, for example, international lenders and investors put over \$12 billion into the Indonesian pulp and paper industry to support massive expansion of capacity and raw material demand. Analysis by the Center for International Forestry Research (CIFOR) has documented how superficial analysis of raw material supplies, a lack of realism on plantation development prospects, disregard for the likelihood of increasing illegal logging, and other problems have led investors into serious over-exposure, and the sector into excessive capitalization. Added to the East Asian financial crisis, and subsequent need for public intervention in banking sector restructuring, these factors, exacerbated the public sector's perpetuation of unsustainable demands on the forest.

48. By 1999 the Indonesian Bank Restructuring Agency's (IBRA) total corporate debt holdings amounted to Rp 14,154 billion (approximately US\$2 billion). Of this debt, pulp and paper represented approximately one-third (Rp 4,906 billion). Most of this pulp and paper debt originates in just three companies that had benefited from favoritism under the Suharto regime. As argued by CIFOR researchers and others, the way in which IBRA handles these debts could have greater impact on Indonesian forestry than previous reform efforts that focused directly on the forest sector.

49. Attention to due diligence in forest industry financing needs to be a particular concern of EAP in respect to operations by the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA). IFC, for example has developed ambitious targets for pulp and paper and other forest industry investments worldwide, including in EAP countries. MIGA underwriting recently was sought and rejected for a large pulp and paper project in Indonesia. The Region can and has provided

<sup>4</sup> This section draws heavily on Barr 2002.

technical and policy input on proposed operations by both institutions to help ensure that the World Bank Group is not associated with unsustainable investments.

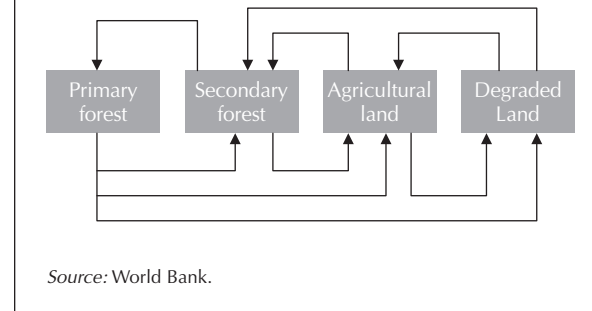
50. An important recommendation is to avoid policies that create overcapacity in wood processing, including plant approvals and below-market royalties. In country after country, excess processing capacity is a leading contributor to illegal logging. Recent history in Cambodia and Indonesia demonstrates that owners and managers of large and costly mills have an enormous incentive to keep their investments in operation. Interests of local workers and economically dependent populations also can converge with investors to condone illegal logging and reduce the scope for effective law enforcement.

#### D. Deforestation, Land Allocation, and Land Management

51. Historically, the primary means by which forests have contributed to lasting poverty reduction is through the transfer of land to agricultural production. In East Asia, however, the prospects for this transfer to continue are much more limited than the global average. For example, as reviewed by Crosson and Anderson (1992), the estimated potentially cultivable area of the developing world is approximately 2.1 billion ha, compared with actually cultivated area of approximately 800 million ha. For all developing countries, arable land potential translates into a potential reserve of 65 percent; whereas, for East Asia, less than 8 percent of the potentially cultivable area remains undeveloped. In other words, *while deforestation arguably may be a substantial and credible element of agricultural development and poverty alleviation in other Regions, it is not viable in EAP.*

52. Figure 2.3 shows the essential pathways through which forest land use can develop. Through human interference or natural processes, such as fire, primary forests can transition into various alternative covers and uses. Changes from primary forest to secondary forest or agricultural uses (including plantation forestry) can be considered acceptable and even

Figure 2.3 Pathways of deforestation and land cover conversion



desirable processes, especially if fluxes between secondary and primary forest essentially are in balance. The developmental relevance of these changes will depend on policy frameworks and institutional arrangements, many of which extend far beyond the forestry sector. The most serious challenge for environmental and development policy arises when substantial, enduring land degradation accumulates.

53. Among other things, figure 2.3 suggests the importance of “secondary forests” as a critical component of land use evolution. Conversion of natural, primary forests to other uses seldom occurs through a single catastrophic event. Most often, forests evolve through a series of natural or human interventions either to return to “primary” conditions (sometimes considered as occurring 60–80 years after logging) (FAO 1981), or to transition into some other use. When forest is replaced with *sustainable* agriculture, deforestation can be considered as a positive process of land development.

54. The land area of EAP countries totals approximately 1.5 billion ha. Approximately one-third of this area is desert, high mountain, or other inaccessible and unavailable land. In addition, areas of urban land and other land uses are relatively small. Precise and reliable data are unavailable, but table 2.4 illustrates the magnitudes and directions of change in the primary land covers of interest.<sup>5</sup>

<sup>5</sup> Estimation of these quantities is illustrative and based on data from FAO adjusted by World Bank sector studies and other sources.

**Table 2.4 Approximate trends in land cover and use in EAP (million ha/yr)**

|                      | From  |         | To        |                    |      |               | Total annual change |
|----------------------|-------|---------|-----------|--------------------|------|---------------|---------------------|
|                      | Stock | Forests |           | Agriculture        |      | Degraded land |                     |
|                      |       | Primary | Secondary | Forest plantations | Crop |               |                     |
| Forests              |       |         |           |                    |      |               |                     |
| - Primary            | 150   | –       | 4.5       | –                  | 0.1  | 0.8           | 5.4                 |
| - Secondary          | 200   | 3       | –         | 0.3                | 0.5  | 1.0           | 4.8                 |
| Agriculture          |       |         |           |                    |      |               |                     |
| - Forest plantations | 85    | –       | –         | –                  | –    | –             | 0.0                 |
| - Crop               | 200   | –       | –         | 0.8                | –    | 1.0           | 1.8                 |
| Degraded land        | 200   | –       | –         | 0.5                | –    | –             | 0.5                 |
| Annual change        |       | 3       | 4.5       | 1.6                | 0.6  | 2.8           | 12.5                |

Source: World Bank estimates, various years.

55. Table 2.4 is based on data on levels of logging, agricultural land development, forest plantation establishment and aggregate levels of deforestation, and land degradation. It reflects the basic dynamics of figure 2.3, such as the eventual evolution of “secondary forest” back to “primary forest” and generally accounts for the observed aggregate levels of change. Table 2.4 also shows the central role of secondary forests in land cover development and suggests the importance of policies to manage the post-logging fate of forest areas. To the extent that these estimates are realistic, they suggest that land will continue to accumulate in the classes of secondary forest and degraded land unless management practices are improved significantly.

## E. Decentralization and Community Tenure

56. Forestry is one of the most spatially dispersed of human activities. In at least some countries in East Asia and the Pacific, historically, it also has been one of the most administratively centralized. The State exerts an ownership claim to all forest land in Cambodia, China, Indonesia, Lao PDR, Malaysia, much of the Philippines, and Thailand. Furthermore, for the most part, administration of these lands for the State is assigned to central government agencies. Malaysia, whose federal system assigns forestry to state gov-

ernment, and Papua New Guinea, whose forest ownership is in traditional private tenure, are the major exceptions to this extraordinarily high concentration of control.

57. This concentration is largely an historical artifact of colonialism, professional forestry chauvinism, and stilted legal processes. It is reinforced and perpetuated by networks of patronage and privilege that have evolved around the prerogatives of State control. These networks and prerogatives insulate the status quo from market forces which, if allowed to operate, certainly would result in a radically different structure of ownership and control. To some degree, the concentration of control in public hands is justified as a basis for environmental protection, production of public goods, and control of externalities. While a large public role in forest land ownership and control is almost certainly appropriate in much of EAP, the decentralization and restructuring underway and the experience of developed country forestry sectors suggest that marked restructuring is inevitable and desirable.

58. One result of concentrated public control is the mismatch between incentives for effective management and access to the investment and other resources required for effective resource development. For example, this mismatch leaves enormous areas of deforested areas with no prospect for replanting or



other forms of rehabilitation. Indonesia alone is estimated to have 20 million ha of cut-over areas, with essentially no forest cover or practical forest value, much of which is occupied and used by poor communities without legal protection or public services. These 20 million ha remain under the control of government agencies. Even if land rights could be assigned to small farmers; communities; or corporate entities with skills, technology, and access to investment resources; most of these lands are in parcels that far exceed the minimum economic size required for development and rehabilitation, as forest or other uses.

59. A key problem for East Asian land administration is that large amounts of land that are classified as “forest” are used by populations engaged in settled or shifting agriculture and who also may use the land for residences and commerce.<sup>6</sup> Populations settled in these areas typically have precarious land rights, because land under forest classification is managed by government forestry departments under frameworks established for timber exploitation or protection. The problem is most serious in areas in which trees have not covered the land for decades and have been replaced by settled agriculture and settlements. Also serious is the status of shifting cultivators, often indigenous groups, who dwell in forested lands. The

<sup>6</sup> This section draws heavily on EASRD 2004b.

typical legal arrangement is a Land Code that specifies that Forestry Domain is under separate administrative arrangements, which are spelled out in a forestry law or code (table 2.5).

60. More nuanced and flexible regimes of rights are needed to address actual land use and land occupation. This regime would link use rights with management responsibilities, traditional rights with forest management plans, ownership rights with first option to buy by forest administration, or ownership of small plots with forest use rights. Reforms must confront the significant governance and management problems associated with forest administrations in the Region.

61. Land titling in the Region has focused on providing land titles to private and State holdings. The only link that titling has had with the forest sector has involved the demarcation of forest boundaries to ensure that land titles are not issued in the forest areas. This lack of title is another reason that people who live in degraded forest areas do not enjoy secure land tenure. In countries such as Indonesia, the Philippines, and Thailand, approximately one-third of the legal forest is already degraded. In addition, the historical conversion of many of these areas to agricultural and residential uses is complete. There is a strong case for titling or other accommodations covering these occupied areas. In cases in which forestry, agricultural, and residential uses overlap, a

Table 2.5 Forest domain legal issues

| <i>Country</i> | <i>Land area under forest and forest legal provisions</i> | <i>Forest domain legal issue for land administration</i>                   |
|----------------|---|--|
| Cambodia       | 56  | Existing occupation, new occupation, indigenous rights                     |
| China          | 14  | NA   |
| Indonesia      | 70  | Customary rights, existing occupation, new occupation                      |
| Philippines    | 50  | Indigenous rights, overlapping claims, existing occupation, new occupation |
| Thailand       | 23  | Existing occupation, indigenous rights                                     |
| Vietnam        | 28  | Customary rights, rights of shifting cultivators                           |

Source: World Bank data, various years.

system of use rights and management plans for the area is more appropriate. Agroforestry and community management of the remaining forest endowment may be called for in some areas. In each case, action is needed to resolve the legal limbo and precarious status of the occupants. Tenure insecurity creates a high degree of vulnerability and prevents the occupants from full involvement in managing and developing these areas. Resolving the artificial divisions between exclusive forestry domain and land administration systems for these degraded forest areas is called for in every country of the Region.

62. Over the last 20 years, public control over forest resources, particularly in developing countries, has begun to be reconsidered. Starting most significantly in India and Nepal, various formulations of community forestry have been piloted and progressively expanded, including in EAP countries. Some of these are effectively forest land tenure reform and redistribution. While transfer of documented fee simple ownership of forest land has been relatively limited, in some countries, such as the Philippines and Thailand, forms of individual and collective title have been developed and extended that functionally resemble private ownership. In some countries, community forestry arrangements resemble sharecropping arrangements whereby individuals or communities and public agencies contract various rights and obligations over management and benefit-sharing. Examples of these attenuated land reform programs include efforts in Cambodia, China, Indonesia, and Lao PDR, many of which have been developed with donor assistance.

63. As encouraging as these pilots are, generally, they have progressed slowly and partially, sometimes with the active resistance of the very public agencies charged with their implementation. Meaningful community forestry represents a redistribution of productive assets. To a large extent, especially in the South Asian context, on which most community forestry is based, degraded or otherwise low-valued forests have been the target, and redistribution even of these often is contested. Not discounting the potential value of even highly degraded areas to deeply impoverished beneficiaries, the possibility of extending community

forestry to well-stocked, commercially valuable forests is a largely unexploited possibility.

64. Overlapping jurisdictions also can be important challenges to forest management. In many countries, a Ministry of Forestry may have control of the forests per se, although it often is overridden by other ministries that have jurisdiction over, for example, roads or mining, and that use this jurisdiction to justify excessive clear felling or other unsustainable practices. The ministry with jurisdiction over protected areas sometimes is divorced from forestry. Even when it is not, having the production and protection sides of forestry management under the same ministry often promotes a clear conflict of interest and clash of objectives, usually leaving production the better off.

65. In the 1990s, the Philippines reversed a long-standing policy of state ownership of forest lands and developed regulations and tenurial instruments that allow individuals and communities to control and use forestlands and their resources. By 2000 nearly one-third of public forest lands were formally covered by some type of community-based tenurial instrument. To receive resource use rights, communities must complete a series of cumbersome procedures in advance. In addition, once rights have been granted, communities can use forest resources only after the Department of Environment and Natural Resources (DENR) has approved the resource management frameworks and annual work plans.

66. Moreover, problems and conflicts arise when different tenurial instruments—such as ancestral domain claims of indigenous groups and various forest management tenures—are issued for the same area. In other cases, local right-holders have no way of enforcing their rights against powerful outsiders, such as illegal loggers with political or military connections. As a result, despite many forest lands being formally under community-based tenurial instruments, these lands remain as they were: *de facto* open access areas.<sup>7</sup>

<sup>7</sup> See EASRD 2004b.

67. Changes also are underway at the intergovernmental levels to resolve the assignment problem for forestry at the national, provincial, and local levels. As noted, with the general exceptions of Malaysia and Papua New Guinea, national agencies have been predominant in forestry administration in EAP. In Indonesia, following the collapse of the Suharto regime and the East Asian financial crisis, an attempt was made to decentralize control over forest resources. Local authorities (*Bupatis*, heads of Kabupatens, or Regencies) were enabled to make forest land allocation decisions and quickly adopted the predatory approach of the previous central authority.

68. In the Philippines, decentralization under the Local Government Code of 1991 devolved substantial power, responsibility, and resources to local governments, including aspects of natural resource management. Yet, the DENR still takes the lead in managing natural resources. Only 920, or 4 percent,

of the DENR's more than 23,000 staff have been devolved to local governments, while 18,000 DENR staff are in Regional offices. Meanwhile, provincial and municipal governments have limited resource management capacity. For example, many municipalities do not have environment and natural resource officers. Given the ceilings on hiring and limited devolution of natural resource management functions, local governments have little incentive to fill these positions. As a result, most local governments remain dependent on the DENR and often are disengaged from local resource management. Although some local governments have assumed active roles in natural resource management, their involvement generally is due to the specific commitment of local political leaders so is neither institutionalized nor sustainable.<sup>8</sup>

<sup>8</sup> EASRD 2004a.

# The Forest Management Challenge

69. Forestry is the art and science of managing forest land and resources to produce a flow of socially and economically valued goods and services. Forestry is often misunderstood, frequently controversial, and sometimes misrepresented. Development of timber production is an important forestry specialization, but park and recreational forest management, watershed management, and wildlife reserve management also are forms and components of forestry. Improving and extending good forest management is the principal entry point and vehicle by which the World Bank can improve forestry outcomes.

## A. Natural Resource Management Framework

70. Progress in bringing forest resources under sustainable management seems to be related to a constellation of relationships. As developed in the Region's *Natural Resource Management Strategy* (1999), these can be summarized in three overarching dimensions that capture the important contributors to and foundations for progress in resource management:

- A. *Resource mobilization* arrangements that efficiently bring the right natural, budgetary, and human resources into the sector and release an appropriate share of resource rent and return on investment to other sectors

- B. *Governance* mechanisms that provide a broadly held sense of legitimacy regarding the control of resources
- C. *Incentives* that make resource users and managers appropriately aware of the scarcity of forest resources.

71. *Resource mobilization.* Securing an appropriate structure, balance and composition to the flows of resources into and out of the forestry sector is probably the most difficult challenge to forestry across the Region. Forest resources should contribute to the development agenda and should be managed to liberate land and money for use in other sectors as well as within forestry. Investment resources generated from the public and private sectors should be applied to reforest suitable land that is not generating financial or environmental returns in its current use. Furthermore, these uses should compete on a reasonably level field with other possibilities. A mix of administrative and regulatory instruments and market signals is likely to be the most practical recourse for most countries.

72. Modern public expenditure budgeting concepts, sensibly applied land-use allocation and zoning systems, public consultations, pragmatic approaches to preserve fragile areas and to protect community interests, prudent approaches to private sector investment controls and licensing, and enforcement of due diligence requirements on wood supply analysis—all of these are elements of *responsible* public forest resource policy.

73. A classic example of *distorted* resource mobilization arrangements in forestry is the policy framework of *Indonesia* in the 1980s and 1990s. On land allocation, an expensive, but nonetheless crude, national land-use planning process developed essentially artificial proposals for forest land allocation, conversion, and protection. These proposals were unrelated to sectoral development programs, genuine environmental assessment considerations, local preferences, or budget realities. The “Land Use by Consensus” system continues to drive much of the discussion of forest management in *Indonesia* but remains an artificial construct that can not deliver sustainable results on the ground. Simultaneously, *Indonesia* experimented with a Reforestation Fund system that was to operate as a levy on timber harvests and finance plantation establishment and other forest regeneration systems. As an “off-budget” mechanism, the Reforestation Fund was open to severe abuse. The reforestation levies, which are of questionable relevance when applied against selective logging harvests, were undercollected, used to support politically favored plantation projects that tended to generate poor technical results, and used to finance doubtful projects in other sectors without adequate transparency or scrutiny.

74. *Governance*. There are no countries, developed or developing, that are completely free of dispute about the control of forest resources. However, countries with generally functioning courts, respect for the rule of law, wide access to conflict resolution mechanisms, and other elements of good governance are better able to make productive and sustainable use of natural resources.

75. The extraordinary degree of attempted central government control of forest resources sets the stage for governance problems in forestry (chapter 2). The scale of the administrative apparatus needed to effectively manage large public forest estates has been consistently underestimated across the Region. Even where forest tenure is more dispersed, public controls are highly interventionist and often fundamentally counter the interests of local people and landowners. In *Papua New Guinea*, for example, landowner groups may be seriously disadvantaged in terms of marketing arrangements controlled by public agencies which are seen as captive to industrial interests.

76. However, land tenure is not the only basis for governance problems in forestry. Corruption and abuse of office are recognized realities across the Region. Transparency and disclosure standards are low, particularly in forestry, and permit secretive and collusive practices to flourish. In *Cambodia, Indonesia* and other forest-rich countries in the Region, corruption focuses on capturing rent from exploiting high-value forests, and actually seems to weaken the technical capacity of forestry institutions.<sup>9</sup> Although procurement corruption has not been identified as a major issue in Bank-financed projects, plantation operations potentially involve large procurement packages that could be susceptible to collusive practices. Even smallholder outgrower schemes could present opportunities for manipulation and kickbacks that could deprive beneficiaries of intended benefits and raise reputational risks for financiers.

77. *Incentives*. Reasonably market-oriented methods of timber sales supplemented by forest practices regulations, environmental safeguards, and public notifications systems are essential to provide assurance that forest users recognize the scarcity and value of timber, watershed services, nontimber products and services, and other forest values. Market-based mechanisms, such as payments for ecosystem services, are promising institutional innovations that could heighten awareness of forestry values. Other more conventional regulatory instruments, such as codes of logging practice, generally are relied on in most of the Region and will continue to be important and a first line of defense against abuse of the resource base. A major gap in ensuring that incentives facing forest users are appropriate is the lack of markets for the Region’s global public goods (box 3.1).

## B. Management Implications

78. Viewing the Region’s strategic objective of increasing and improving forest management through the lenses of *resource mobilization, governance, and incentives* will lead to operational engagements that differ across countries. Most important, however, is

<sup>9</sup>Kishor and Damania 2006.

### Box 3.1 Global public goods of East Asian forests

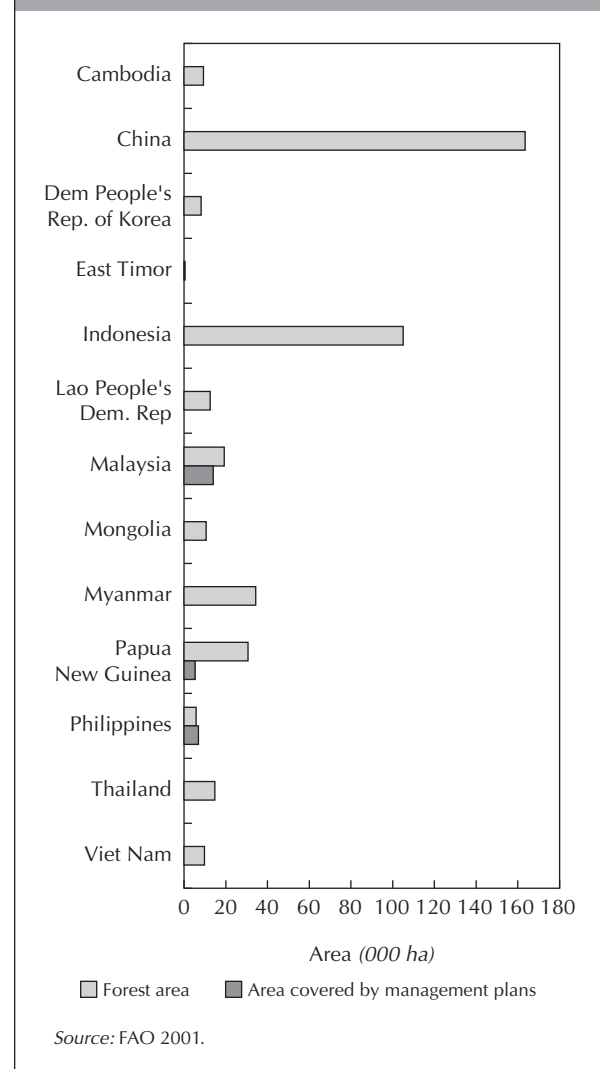
Forests provide a diverse array of goods and services. Many of these are not traded in conventional markets and, although valued by global communities, there are few effective ways for countries and local communities to be compensated for their value or the costs of conservation and protection. The lack of markets for biodiversity, climate change reduction through carbon sequestration, amenity and existence values and other qualities of forest resources presents a fundamental incentive problem.

Institutional innovations at the global level, such as the Global Environment Facility and carbon trading, are still relatively new and limited instruments for bringing global preferences and willingness to pay to bear in the allocation and management of forest resources. The Bank plays an increasingly important role in financial intermediation on global public goods through the GEF, the Critical Ecosystems Partnership Fund, the World Bank-WWF Alliance and the Bio-Carbon Fund.

realizing that the prevailing distortions are so deep that they effectively prohibit the emergence of meaningful and disciplined *forest management systems*. Without awareness of scarcity, without effective scrutiny, and with few drivers toward efficiency, government agencies, other land owners, industry, or other stakeholders have little motivation to embark on the demanding task of forest management. As discussed below, forest management should involve a range of scientific and disciplined activities to marshal resources to defined and targeted objectives. While not synonymous with written plans, the weakness of the natural resource management framework is certainly consistent with the small extent and low quality of forest management across the Region. With written management plans as basic indicator of systematic and regulated forest management, FAO estimates that approximately only 26 million ha, or 6 percent of the total forest area of EAP, is covered by written plans (figure 3.1).

79. An alternative indicator of management that is implicitly recognized by the World Bank's current Forest Policy is the area of forest certified by independent certification bodies as sustainably managed. In EAP, three reasonably well-developed certification systems have been advanced: Forest Stewardship Council (FSC), Malaysian Timber Certification Council (MTCC), and Indonesia Ecolabeling Institute (LEI). Across all 3 schemes, approximately only 1 percent of the EAP Region's total forests is considered sustainably managed. In comparison, in OECD countries, of the total forest area of approximately 800 million ha, some 78 percent is reported by FAO to be under written management plan.

Figure 3.1 Forest management plan coverage



Globally, approximately 42 percent of the forest outside of EAP borrowing countries is under written management plans. In some countries, such as Croatia, Finland, Poland, and Sweden, certifiably sustainable forest area exceeds 50 percent of the total area.

80. Increasingly, it also is recognized that many protected areas lack effective management and are threatened by degradation. Challenges that often arise are conflicts among local stakeholders, inconsistent representation due to institutional turnover, and a lack of basic funding for meetings and other management-related activities. Additional challenges include (a) unclear rights and responsibilities in the agreements; (b) communication problems between field staff and park authorities in the provincial or capital city, and communities' perception that they are not always full partners; (c) areas too large for the existing management capacity; and (d) no commitment from the local population, civil society in general, and government staff.

81. Irrespective of what specific forests or protected areas are expected to contribute to, and how tenurially or in other ways forest production and conservation are to be organized, the level of engineering and agronomic quality of forest management in EAP needs to increase and improve. In supporting improved management, development assistance can and must help correct the biases and distortions that underlie the poor performance of forestry. The specific trends and challenges emerging in forestry in EAP (chapter 2) illustrate how inadequate management, perverse policies, and institutional distortions are retarding the sector. These issues include the consistent exertion of public, bureaucratic ownership and control over areas that can not be well administered and thus limit the scope for investment and growth by small-scale, low-income producers.

## B. Elements of Forest Management

82. Within the strategic framework presented above, forest management consists of a set of eight specific elements—*objective-setting, description, prediction, prescription, consultation, documentation, intervention, and control*—necessary to bring resources under disciplined, legal, and sustainable exploitation to

achieve the desired objectives. Probably the most important element of a forest management system is the delineation of the objectives for particular areas. They should be based on the needs of the legitimate stakeholders and be reflected in the institutional mechanisms that will implement management. Based on these considerations, the remaining elements of management are more limited, but still demanding, technical problems.

### *Objectives, Stakeholders, and Institutional Arrangements*

83. Forests can be managed for a wide range of different, sometimes compatible, and sometimes conflicting, objectives. These objectives can include conversion to other uses; development for production purposes; and maintenance as natural areas for conservation, recreation, or some multiple use combination. Management can be executed under an equally wide range of institutional arrangements. These can include private ownership, various forms of direct public management, short- and long-term concession arrangements, or communal management. In fact, to a very large extent, the choice of management objectives for any forest is determined by the nature of the entity that will implement management and the stakeholders' interests that it represents.

84. As many forest uses involve externalities and public goods features, public intervention even in private forest management often is justified, even when a strict public ownership claim is not exerted. Otherwise, for private forest ownership, the choice of management objectives and the resolution of conflicts among objectives can be expected to be resolved at the level of the production unit. In cases of public land management or cases in which externalities are important, conflict resolution, consultation, and public and political processes become key. Few countries are able to avoid serious and sometimes violent disputes in the forestry sector. This statement holds true even for developed countries such as Canada and the United States, which have highly refined and regulated processes for public consultation, disclosure, environmental impact assessment (EIA), and other forms of dialogue.

### C. Other Elements of Management

85. Although the sophistication of forest management plans and programs varies with local circumstances, modern standards for forest management call for written plans that are subjected to prior review and later evaluation. These plans should be based on systematic consideration and determination of management objectives, assessment and inventory of the resource base, mapping, projection of management activities, estimation of budget and resource requirements, consultations with stakeholders, and provisions for evaluation and plan revision. This kind of planning should be expected irrespective of the natural resource management system and objective—whether production forests, parks and protected areas, community forests, or multiple-use areas. However, the level of formality, technical refinement, and precision of plans should depend, among other considerations, on the scale of management, users' needs, and operational risks. Of course, plans are not goals in and of themselves but are only instrumental in delivering management interventions and programs.

86. *Description.* Forests occur in an incredible range and diversity of circumstances, biological composition, potential productivities, risks, exposures, and established patterns of use. Any meaningful management approach involves systems, practices, and methods of data collection, analysis, and presentation that provide users, managers, and policymakers with organized, systematic, and reliable understanding of specific forests. Modern forest management practice is based on well-established statistical, biological, geologic, and other scientific principles. These principles enable meaningful classification, categorization, and differentiation as the bases for informed planning and decision-making.

87. Conventionally, most forest inventory work in EAP has focused on understanding commercial timber production potential, which derives from factors such as species composition, tree size, and distribution; factors related to site access, such as soil types, slope, and drainage; and other well-established parameters. A range of techniques and systems for data collection, including satellite imagery, aerial

photography, and ground-level surveys, can provide useful information. As this work is costly, in the design of forest inventory systems, particular attention is given to cost-effective sequencing of information collection. An example of this search for cost effectiveness is establishing hierarchical systems that move from “coarse,” small-scale (1:1,000,000 or smaller) consideration of large areas, to more detailed final engineering planning, and even to detailed mapping and measuring 100 percent of the trees within a harvesting block.

88. Increasingly, EAP forestry is giving attention to data collection and analysis related to forest characteristics and qualities other than commercial timber production. These include biodiversity studies, forest hydrology research, wildlife studies, and inventories of nontimber forest products.

89. Important relative to the quality and adequacy of a forest management system is the extent to which descriptive work is adequately funded, organized, and open to the diversity and potential values of the forests under consideration. Timber inventories may be relevant but clearly are inadequate in developing management for parks and protected areas. Likewise, areas allocated to commercial harvesting need to be assessed in terms of their nontimber values. Because perceptions of forest values can vary from stakeholder to stakeholder, mechanisms often will be needed to bring alternative understandings of particular forest areas to bear in planning and decision-making. This necessity raises, in part, the potential for innovating data collection arrangements with local communities, sometimes on the basis of traditional knowledge and sometimes by training forest communities in thoroughly modern methods of forest survey and mapping.

90. *Prediction.* A distinguishing feature of forest management is the long periods required for forest growth and regrowth. Long-term prediction, therefore, is an essential, if obviously imperfect, element in any forest management system and an almost definitional requirement for any claim that a program is sustainable. The importance of explicit efforts to predict forest outcomes derives from the need to make



and implement choices about the management practices or treatments to be applied. Usually, but not always, potential management regimes (especially those in which formal projection methods are most relevant and needed) involve the removal or harvest of trees, animals, or seeds. This predictive methodological approach directs attention to understanding the dynamics of regeneration and calls on a wide range of techniques and observations about the biology and ecology of forest systems and species.

91. Forest management systems often are chosen on the basis of their ability to reasonably mimic the natural disturbance processes experienced by a particular forest. By relying on mimicry of natural processes, the forest manager can, by extension, formulate more or less valid predictions about the results of possible treatments. Particularly important disturbance regimes in forestry are those that are *gap driven* and those that are *fire driven*. In gap-driven ecosystems, tree mortality is broadly and unevenly distributed across the stand. This uneven mortality tends to result in stands consisting of a wide distribution of species and different-sized trees. The stand evolves as individuals die and subsequent individuals are thereby released into the gap or opening. Fire, on the other hand, generally results in substantially larger, often catastrophic, disturbance to the forest; larger openings; and, in part of the natural system or where properly implemented artificially, even-aged stands of relatively uniform composition.

92. To project the future, knowledge of natural dynamics usually is supplemented by detailed knowledge of important species (in terms of variables such as growth rates and mortality), the composition of the stand, and its response to silvicultural treatments. Such knowledge often can be transferred on the basis of experience in other, similar forests and knowledge of the forest under consideration gained through descriptive studies, such as those discussed above.

93. Unfortunately, in EAP countries, systematic application of these concepts in forest management is rare. Rarer still in EAP is applying similar ecologically based concepts to assess and select wildlife and nontimber forest products use. Parallels to the

dynamics of tree and stand evolution can be found in the dynamics of wildlife populations and nontimber forest products. Sustainable exploitation can be expected or predicted where natural rates of recruitment or regeneration can be matched with the level and composition of harvests or extraction. Many traditional systems of nontimber forest products (NTFPs) use are based on customary levels of exploitation that are below the natural resilience of the forest and therefore have been able to persist. As exploitation intensifies and forest areas decline, and as competition and conflict with other forest uses increase, they increase the risk to traditional systems of exploitation and dependent communities. To mitigate these risks, much greater effort is needed to understand the processes of sustainability and to incorporate explicit consideration of future outcomes in management planning. The important point is that formal efforts to predict forest outcomes force attention to the question of sustainability and provide a meaningful basis for future evaluation.

94. *Consultation.* Forestry is a social process. Decisions about forests are not taken solely by individuals. Socially responsible and disciplined forestry provides opportunities for concerned stakeholders to participate and to express views and preferences about the determination of management objectives, choice of treatments, validity of assumptions, and values associated with different outcomes. Consultations with relevant stakeholder groups are an element of any process to resolve conflicts over management.

95. Consultations in forest management are particularly important because they provide opportunities for stakeholders to contest decisions and advise on the conduct of operations, and because through consultations, stakeholders can challenge the assumptions of planners and policymakers. *A corollary of the centralization and administrative insulation of forestry agencies in EAP is that their decisions on resource use frequently are uninformed by, and potentially contrary to, the interests and welfare of affected communities.* Indigenous and ethnically distinct communities are particularly likely to be affected by forest uses and, typically, are even more isolated than other groups from access to decision-making processes in EAP forestry.

Even where not intentionally biased or exclusive, standard practice in EAP excludes or marginalizes forest-dependent peoples from discussions of development, logging, and large-scale land conversion. As a result, EAP has many examples of community dislocation, disenfranchisement, and impoverishment resulting from poorly administered forestry.

96. The quality of social practice in East Asian forestry is very poor. The responsible agencies and firms have limited capacity and knowledge regarding how to conduct and evaluate social consultations and gaps regarding how to identify, avoid, and resolve conflicts. For example, when timber concessionaires or park protection authorities are involved in consultations, conflicts of interest can distort the value and openness of these consultations. The special vulnerability and fragility of forest-dependent communities are compelling bases for a “do-no-harm” approach to forestry and for the development of standards of prior consultation, informed consent, and compensation comparable to those in the Bank’s operational policies on resettlement (OP 4.12) and indigenous peoples (OP 4.20).<sup>10</sup> While these policies are fully applicable to Bank-financed investments, governments in the region generally do not apply these policies to their own-financed forestry management.

97. Multiple Bank efforts in EAP aim at supporting genuine community involvement in decision-making in forestry and in protecting vulnerable groups. These efforts include support for draft concession management plan disclosure and advice to community consultations in Cambodia; village forestry in Lao PDR; and the inclusion of social assessments and ethnic minority development plans and frameworks in projects in China, Papua New Guinea, the Philippines, and Vietnam. The Bank and other development agencies face difficult choices in engaging with the seriously limited and biased forestry consultations in EAP countries. While the ongoing risks to vulnerable groups are clear, the realistic prospects for rapid change in practice, even with

Bank assistance and encouragement, are limited. However, by explicitly raising expectations that forestry even outside of directly Bank-financed operations be executed in a socially responsible manner, including by private sector concessionaires and others, the Bank can support positive movement.

98. *Documentation.* Written plans that include maps and other supporting material are hallmarks of quality forest management. Along with plans, additional management documentation includes licenses, approvals, contracts, records of consultations, log lists, bills of lading, records of payment, environmental and social assessments, records related to allegations of forest crimes, and records that demonstrate all forest management system components. Obviously, management documentation as well as systems of distribution, record-keeping, and retrieval will vary with the particulars of the management system, the sophistication and needs of users, and the value of the management outcomes.

99. Adequate documentation is essential to permit evaluation of plans, monitoring of implementation, exercise of control over revenues and expenses, and detection of instances of noncompliance and illegal activities. A high degree of standardization in forms and documents facilitates implementation and can reduce and help to detect fraud and alterations. However, in much of EAP, documentation standards are low or nonexistent; and permissions and authorizations can be prepared and issued without reference to routine procedures. Consequently, fraud and falsification often go unchecked.

100. Community forest plans that address small areas and limited operations are intended primarily to record and guide forest use by local people and to assist in guarding against outside intervention. Such plans should be simple and low cost, and rely on relatively unsophisticated methodologies and formats. On the other hand, plans for large-scale industrial concessions or plantations should provide a level of detail and engineering professionalism in line with the magnitude of the operation and the value of the resources involved. Even so, to support consultation with local communities, industrial operations should

<sup>10</sup> The website for the Bank’s operational policies (OPs) and best practices (BPs) is <http://wbln0018.worldbank.org/institutional/manuals/opmanual.nsf/Searchexternal?OpenForm>.

be expected to produce documentation accessible to these community members.

101. *Intervention and control.* While most of the other aspects of forest management could be considered contributors to, or forms of, planning, ultimately, forestry involves some intervention or change from what would have resulted from strictly natural processes. Specifically, these aspects amount to physical manipulations of the forest such as logging, tree planting, other silvicultural operations (thinning, pruning), road construction, trail clearing, fire suppression, clearance or conversion, and a wide range of other operations and activities. Because of the diversity of activities potentially involved, no easily applied standards cut across the whole spectrum of management interventions. At the level of Bank strategy, the important considerations are:

- Specific interventions should be conducted in accordance with good agronomic and engineering practices.
- Activities should be applied in the framework of well-developed and specific plans.
- Adequate supervisory controls ought to be in place to ensure quality operations.

102. Forestry works, especially those related to logging and road construction on commercial scale, require a level of engineering sophistication and expertise that is seldom actually applied in East Asian forestry. As a result, excessive damage occurs to the residual stand and to roads and waterways, and worker safety is seriously endangered. Similarly, plantation and nursery quality, while not necessarily raising the same risks and hazards, tends to be weak. As a

result, costs of production are high; survival and growth are low; pest and disease risk is amplified; and returns to investment are imperiled.

103. Adequate supervision and control of forestry works depend on a specific infrastructure:

- Contractual frameworks and provisions that permit controlling agencies to demand performance (provisions for inspections and authorizations or, failing approvals, “stop-work orders”)
- Capacity of supervising agency to have physical access to field sites (mobility, communications)
- Staff with field skills and the appropriate survey and other equipment
- Supervisory arrangements and incentives for field staff to overcome opportunities for corruption.

104. In EAP forestry, the values and costs associated with clearances of log consignments, approval of road works, acceptance of plantation establishment, or other forestry field assignments usually far exceed the salaries and other legitimate compensation of staff. Combined with inadequate training, equipment, and supervision, the practical prospects for effective supervision of operations quickly can become remote.

105. Possible approaches to overcoming these problems include arranging adequate funding via channeling of the associated revenues and privatization of parts of field supervision. Use of loan revenues to support field allowances and other incentives obviously is limited to the life of operations. However, if combined with general systems, development, training, and equipment procurement can be sensible temporary measures to initiate development of control systems.

# World Bank Forestry in East Asia and the Pacific

## *Lessons from Experience*

### A. EAP Forestry Portfolio

106. Since 1970, the World Bank has invested more than US\$2.7 billion through 43 forestry operations in EAP countries. This program of investment lending, conditionality-linked development policy lending and dialogue, and support to technical assistance (TA) and economic and sector work (ESW) makes the World Bank the single largest source of development finance to forestry in the Region.

107. Much of the Bank's established forestry program, as well as its general rural development and economic management and poverty reduction efforts, is directly relevant to the drivers of change discussed in chapter 2. Specifically, the Bank has been or is:

- *Financing* the establishment of over 3.5 million ha of *forest plantations* to reduce demands on natural forests of timber producing countries
- Supporting approximately 2.1 million ha of parks and protected areas in 8 countries to help *conserve and manage biodiversity* across the Region
- Convening the highest levels of leadership to secure commitments to *strengthen forest governance*
- Helping to *restructure production forestry*, particularly in Cambodia and Lao PDR, and providing support to *improve accountability and transparency of governments and the private sectors and to more effectively control illegal logging* and other forest crimes
- *Addressing forces* that are driving *deforestation and unsustainable land-use conversions* while *strengthening local development capacities* through its overall rural development operations and land administration projects and its family of community-driven development (CDD) and community-based natural resource management projects
- Developing and demonstrating fiduciary due diligence and corporate responsibility practices through its *own environmental and social safeguards*, and the economic and financial sector reforms advocated through many diverse policy and investment operations to help prevent inadvertent *negative impacts on forests of development in other sectors*.

108. The Bank's forestry and forestry-related project portfolio during the last 10 years (1995–2004) in EAP accounts for a total investment cost of approximately US\$670 million. On the basis of the estimated share of forestry in multisectoral projects, the Bank's total commitments allocated to forestry were approximately US\$490 million. The Bank's 1995–2004 portfolio of forestry projects and projects with major forestry components consisted of 4 IBRD and IBRD/IDA/GEF blend projects; 10 IDA and IDA/GEF blend projects; 2 standalone full-size GEF projects, and 6 GEF medium-sized projects (table 4.1).

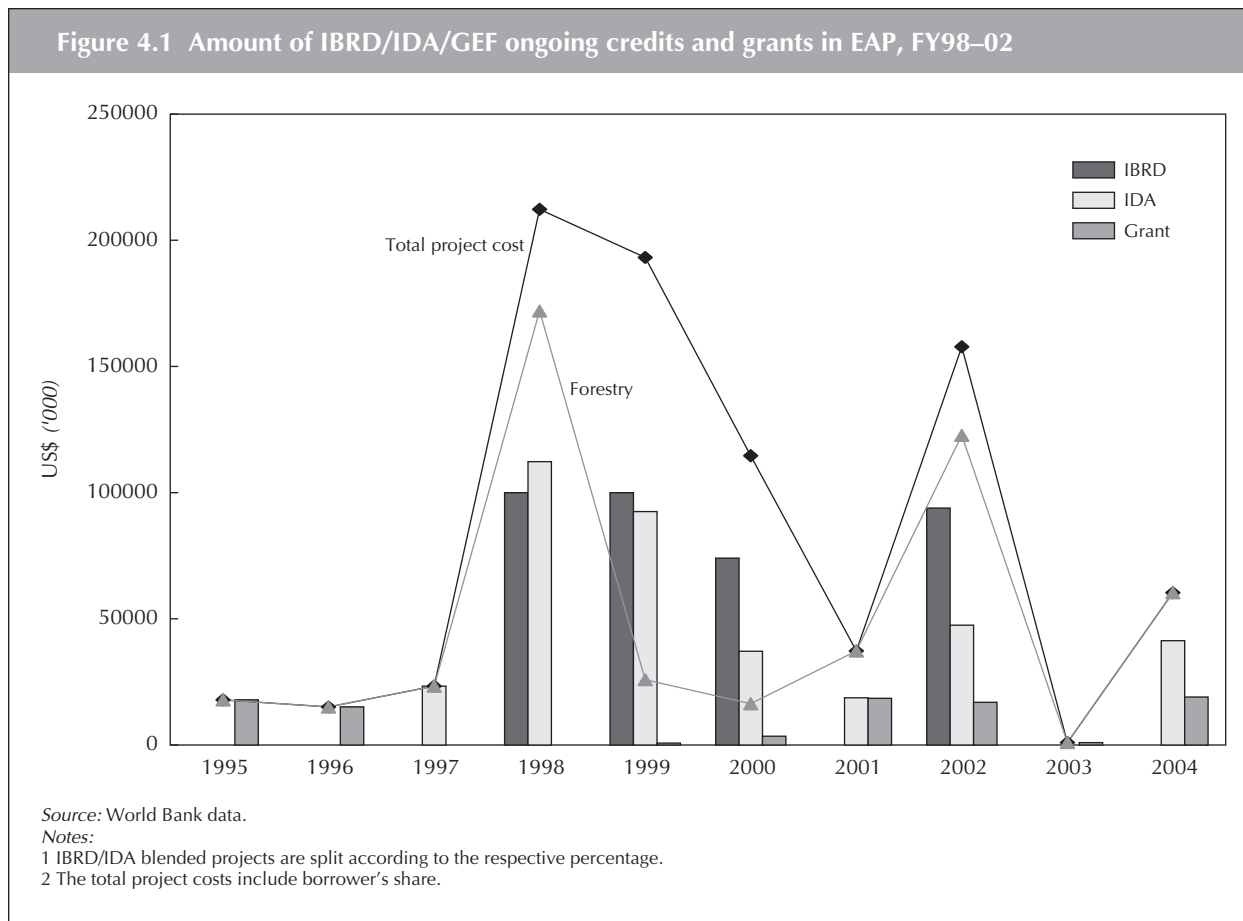
109. The Region's forestry work takes the form primarily of sector investment loans. Forestry lending

Table 4.1 Forestry and forestry-related projects approved 1995–2004

| <i>Project name</i>                                   | <i>Financier</i> | <i>Approval year</i> | <i>Share of forestry (%)</i> | <i>Total cost (\$000)</i> | <i>Forestry (\$000)</i> |
|---|------------------|----------------------|------------------------------|---------------------------|-------------------------|
| <b>Cambodia</b>                                       |                  |                      |                              |                           |                         |
| Biodiversity and Protected Area Management            | IDA              | 2000                 | 29                           | 1,910                     | 554                     |
|   | GEF              |                      | 46                           | 2,750                     | 1,265                   |
| Forest Concession Management and Control Pilot        | IDA              | 2000                 | 71                           | 5,260                     | 3,424                   |
| Structural Adjustment Credit                          | IDA              | 2000                 | 27                           | 30,000                    | 8,100                   |
| <b>China</b>  |                  |                      |                              |                           |                         |
| Nature Reserve Management Project                     | GEF              | 1995                 | 100                          | 17,900                    | 17,900                  |
| Forestry Development in Poor Areas                    | IBRD             | 1998                 | 86                           | 100,000                   | 172,000                 |
|   | IDA              |                      |                              | 112,270                   |                         |
| Second Loess Plateau Watershed Rehabilitation Project | IBRD             | 1999                 | 16                           | 100,000                   | 24,000                  |
|   | IDA              |                      |                              | 55,740                    |                         |
| Water Conservation Project                            | IBRD             | 2000                 | 4                            | 74,000                    | 2,960                   |
| Sustainable Forestry Development Project              | IBRD             | 2002                 | 100                          | 93,390                    | 93,390                  |
|   | GEF              |                      | 100                          | 16,000                    | 16,000                  |
| <b>Indonesia</b>                                      |                  |                      |                              |                           |                         |
| Kerinci Seblat ICDP                                   | GEF              | 1996                 |                              | 15,020                    |                         |
| Conservation of Elephant Landscapes                   | GEF (MSP)        | 1999                 |                              | 720                       |                         |
| Leng-Berbak Sembilan                                  | GEF (MSP)        | 2000                 |                              | 730                       |                         |
| Sangihe Talaud Islands Forests and Media              | GEF (MSP)        | 2001                 |                              | 820                       |                         |
|   | GEF (MSP)        | 2002                 |                              | 940                       |                         |
| District Upland Development and Conservation Project  | IDA              | 1999                 | 11                           | 2,940                     | 210                     |
| Financial Management Adjustment Credit                | IDA              | 2002                 | 11                           | 37,000                    | 1,870                   |
| Sustainable Forestry for Rural Development            | IDA              | 2002                 | 100                          | 10,510                    | 10,510                  |
| <b>Papua New Guinea</b>                               |                  |                      |                              |                           |                         |
| Forestry and Conservation Project                     | IDA              | 2001                 | 100                          | 18,670                    | 18,670                  |
|   | GEF              |                      | 10                           | 17,000                    | 17,000                  |
| <b>Vietnam</b>  |                  |                      |                              |                           |                         |
| Forest Protection and Rural Development               | IDA              | 1997                 | 100                          | 23,270                    | 23,270                  |
| Coastal Wetlands Protection and Development           | IDA              | 1999                 |                              | 33,810                    |                         |
| Conservation of Limestone Biodiversity                | GEF (MSP)        | 2001                 |                              | 720                       |                         |
| Green Corridor Conservation Project                   | GEF (MSP)        | 2003                 | 100                          | 1,000                     | 1,000                   |
| Forest Sector Development Project                     | IDA              | 2004                 | 100                          | 41,320                    | 41,320                  |
|   | GEF              |                      | 100                          | 9,000                     | 9,000                   |
|   | Other            |                      | 100                          | 10,000                    | 10,000                  |
| Subtotal: IBRD  |                  |                      |                              | 293,390                   |                         |
| Subtotal: IDA   |                  |                      |                              | 446,700                   |                         |
| Subtotal: GEF   |                  |                      |                              | 82,600                    |                         |
| Subtotal: Other grant financing                       |                  |                      |                              | 10,000                    |                         |
| <b>Total: Forestry portfolio</b>                      |                  |                      |                              | <b>665,960</b>            | <b>491,633</b>          |

over the last 10 years has been episodic, with large fluctuations in annual investment levels (table 4.1 and figure 4.1). This inconsistency arises from the fact that all IBRD lending and the majority of IDA credits were absorbed by the large-scale forestry operations in

China approved from 1998 to 2000 and in 2002, and in Vietnam in 2004. In other IDA-eligible EAP countries, such as Cambodia, Lao PDR, and Papua New Guinea, forestry-related investment operations have been sporadic and much smaller than in China and Vietnam.

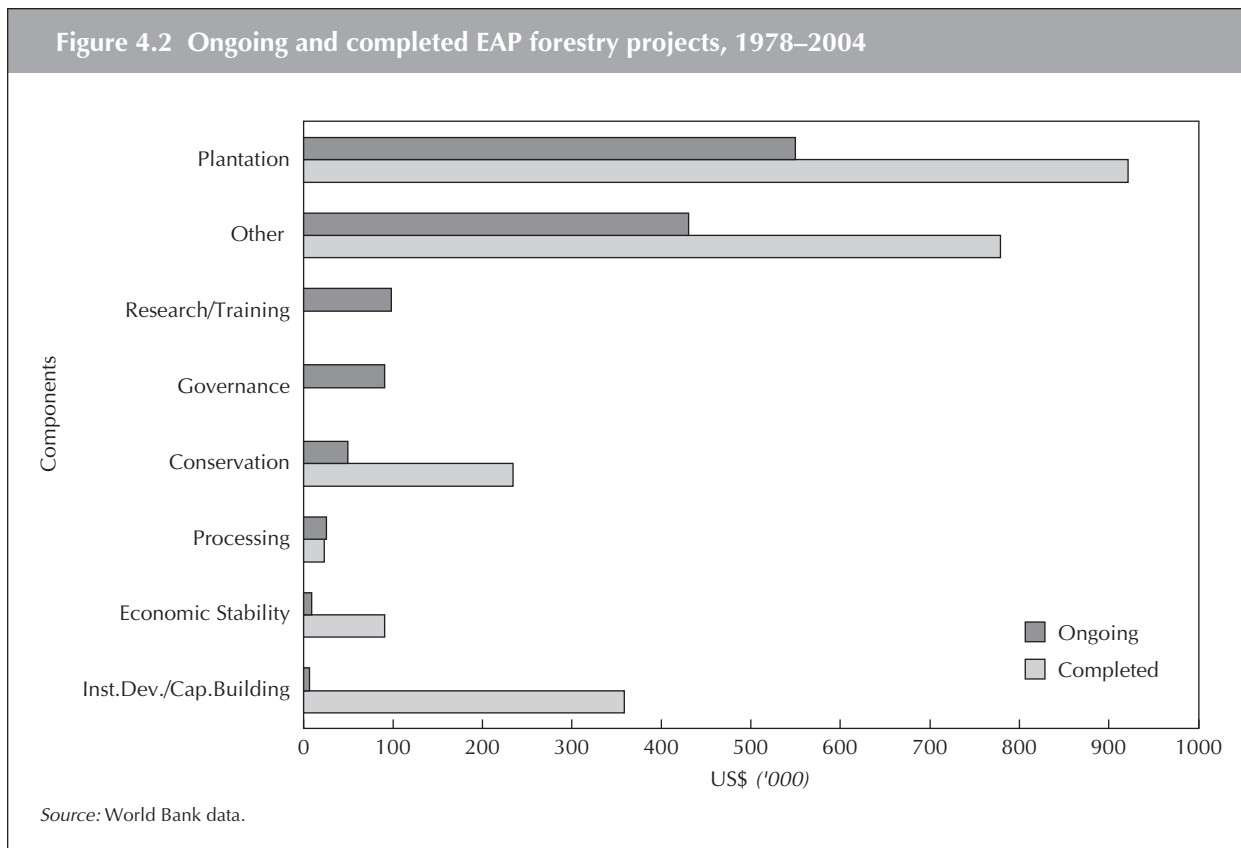


110. In some cases, forestry also has been addressed substantively in *policy-based operations*, such as in Cambodia through the Structural Adjustment Credit (SAC) and in Lao PDR through the Financial Management Adjustment Credit (FMAC). However, the overall monetary value of development policy lending is marginal. Similarly, *GEF grants* aimed at the global public good aspects of forestry, primarily forest biodiversity conservation, make up only a small share of the Region's forestry work (approximately 12 percent) and often are part of blended IBRD/IDA projects.

111. Although GEF projects and components are more broadly spread out across EAP countries, China and Vietnam account for approximately 52 percent of the total GEF grant financing in the Region. In Indonesia, based on ecological and technical considerations, much higher levels of GEF support are warranted. There, with the GEF-financed Kerinci Seblat Integrated Conservation and Development Project

closed, the Bank is operating only a small portfolio of GEF medium-sized grants with a total financing volume of approximately US\$4 million. To date, the Region has made no use of the *Bio-Carbon Fund* although one pilot operation is under preparation in China. Significantly, *the IBRD operates in almost total isolation from IFC*, even though the *IFC's Regional forestry work* totals well in excess of \$100 million annually.

112. Figure 4.2 displays changes in the subsectoral orientation of the EAP forestry portfolio and compares ongoing with completed projects (1978–2004). The bulk of the portfolio comprises plantation efforts, which are concentrated in China. The high amounts for soil conservation efforts (listed under "other") also are specific to China, mostly through the *China Loess Plateau Watershed Rehabilitation Project*. Institutional Development and Capacity Building formerly was important but has lost almost all



importance in the portfolio. Overall, this review reveals a significant narrowing of the breadth of the Bank's investment in the plantation subsector at the expense of capacity building and nature conservation. In addition, despite the high level of partnership and formal cofinancing of projects and analytic work, the Bank has serious difficulties in conveying to outside observers the impact and contribution of its engagement and policy dialogue in high-risk countries.

## B. Specific Country Experiences

113. Three groups of countries with varying performance and challenges emerge from the Bank's experience in the forestry sector:

- Countries in which the agenda is mature, the Bank has lending prospects, and the sector is strong, with predictable forest policies and constructive programs in place

- Countries in which the agenda is under development, the lending demand is uncertain, and the sector is at risk, in which forests and forestry play a crucial role in the countries' economies and in which the Bank remains engaged but faces significant challenges
- Countries in which the agenda is stalled, the lending prospects are limited, and the sector is imperiled, and in which the Bank struggles to maintain constructive involvement in the sector.

## C. Region-wide Initiatives: Forest Law Enforcement and Governance

114. The Bank's most significant Region-wide initiative has been to pioneer forest sector law enforcement and governance as subjects for international development assistance. Early on, the Bank used its convening power to sponsor two international meetings on illegal logging in the Region. A 1999 Phnom Penh workshop,

convened with Dutch assistance, was the first to bring together technical experts on law enforcement from *Cambodia, Lao PDR, Thailand, and Vietnam*. The workshop opened Regional lines of discussion, which the Government of Cambodia is pursuing through a Mekong River Commission project on control of illegal cross-border trade. A follow-up meeting in Jakarta in 2000, cosponsored by the World Bank/WWF Forestry Alliance, brought *China, Indonesia, Malaysia, and the Philippines* into the process.

115. These efforts converged at the senior policy-maker level in September 2001 in the Bank's organization of a ministerial meeting on Forestry Law Enforcement and Governance (FLEG) in Bali, Indonesia. That meeting, hosted by the Government of Indonesia and cosponsored by the US Department of State, UK Department for International Development (DfID), and others, brought together Ministers of Agriculture and of Forestry, or heads of forestry agencies, donor agencies, and NGOs. The meeting resulted in the Bali Declaration, which committed the involved governments to make stronger efforts to control illegal logging and to follow up discussions on Regional and bilateral problems. The Bank has been supporting first the Indonesian Ministry of Forestry and now the Philippines Department of Environment and Natural Resources in their roles as the first and second chairs of the East Asian Task Force on FLEG and has contributed its own knowledge management

work on log tracking and chain of custody (CoC) and timber theft prevention.

#### D. Partnerships in Forestry: Growing Trend

116. EAP is intensively partnering with others in forestry in very substantive and concrete ways, and an important measure of success is project cofinancing. Additionally, some 40 percent of what the Region lends goes to clients in the form of grants associated with the Region's forestry operations. Six of 8 ongoing projects have cofinancing. For the 6, the Bank finances \$176 million of total project costs of \$361 million, and the Region leverages for its clients an additional \$73 million from GEF and bilaterals. This cofinanced amount is equivalent to approximately 20 percent of total investment costs for these operations. Both cofinancing and cost-sharing imply strong endorsement of what the Region is doing (table 4.2).

117. Much of the cofinancing goes for TA and other "soft" activities. The largest cofinancing is for the entire *Natural Forest Management Component* of the *China Sustainable Forestry Project*. This cofinancing trend is significant for the Region's future work because natural forest management has a large element of TA and recurrent operating-type costs for which borrowers traditionally have sought grant support.

Table 4.2 Bank partnerships in ongoing EAP forestry projects (US\$ million)

| Country      | Title                                      | FY | Project cost | World Bank   | GEF         | Other cofinance | Other partners |
|--------------|--|----|--------------|--------------|-------------|-----------------|----------------|
| Cambodia     | Biodiversity and Protected Area            | 00 | 4.9          | 1.9          | 2.8         | –               | –              |
| China        | Sustainable Forestry                       | 02 | 202.0        | 93.9         | 16.0        | 15.0            | EU             |
| PNG          | Forestry and Conservation                  | 02 | 39.3         | 17.4         | 17.0        | –               | –              |
| Vietnam      | Coastal Wetlands                           | 00 | 65.6         | 31.8         | –           | 11.3            | DANIDA         |
|              | Forest Protection and Development          | 98 | 32.3         | 21.5         | –           | 5.2             | Netherlands    |
| Lao PDR      | Sustainable Forestry for Rural Development | 03 | 16.5         | 9.9          | –           | 6.0             | Finland        |
| <b>Total</b> |  |    | <b>360.6</b> | <b>176.4</b> | <b>35.8</b> | <b>37.5</b>     |                |
|              | % of project costs                         |    | 49.0         | 10.0         | 10.0        |                 |                |
|              | % of Bank financing                        |    |              | 20.0         | 21.0        |                 |                |

Source: World Bank data.



118. Another aspect of partnership is the way that Bank operational work is funded. The Region could not carry out its forestry work without the inputs of its partners. From 2000–05, the Bank spent just under \$12 million on the forestry portfolio (table 4.3). Three-quarters of this amount, or \$9 million, was spent on lending (preparation and appraisal) and \$3 million on supervision. Half of this amount, or more than \$6 million, originated outside the Bank's budget (counting GEF as "outside"). The average cost to the Bank of getting an EAP forestry project to the Board is approximately \$850,000. With annual supervision costs averaging \$65,000, the lifetime cost of a project, exclusive of the Implementation Completion Report (ICR), is approximately \$1.2 million. Typically, this cost would be split more or less evenly among the Bank and its partners.

119. Consultant trust funds (CTFs) and Bank-executed Policy and Human Resources Development Funds (PHRDs) account for roughly half of lending costs and Bank Budget (BB) for 40 percent. For supervision, BB accounts for 75 percent and CTFs for just under 10 percent. GEF is considerably more important than the FAO Cooperative Program (FAO CP) in both lending and supervision (SPN).

## E. Lessons of Experience

120. Among the many donor and other agencies working in forestry, the Bank is one of the few that has the *capacity and vision to address the deep-seated distortions in the large-scale, centralized forestry systems*

*that dominate the sector.* Building community forestry systems can be extraordinarily demanding and time intensive, and often requires extended field presence and intimate engagement at the community level. The Bank can help support the establishment of appropriate policy to support locally based forest management. However, other partners may be better positioned to address these issues at particular junctures in the development process. Focusing on large-scale industrial reform does not constitute indifference by the Bank to local issues and should not be allowed to be portrayed as such.

121. Other major lessons from the World Bank's forestry experience in EAP include:

- *No forestry regime begins to approach perfection.* Every forestry sector is marked by distortions, distrust, and inefficiencies of varying significance, consistency, and consequence. Every forestry sector can be doubted, questioned, and criticized; or viewed positively, made more effective. Success for the Bank in this sector cannot be judged solely in the absolute quantitative terms of arresting deforestation, planting areas, or collecting revenue, important as these dimensions are. Inevitably, success must be defined in more intangible terms and over a period that matches the complexity and conflict within forestry.
- *Enhancing and improving the management of forests requires iterative processes of policy and institutional engagement and investment.* The Bank's involvement is guided by evidence of progress and positive evolution in these critical

Table 4.3 Costs and sources of funds for managing the EAP forestry portfolio, FY2000–05

| Source              | Lending<br>(\$)  | SPN<br>(\$)      | Total<br>(\$)     | Lending<br>(%) | SPN<br>(%) | Total<br>(%) |
|---------------------|------------------|------------------|-------------------|----------------|------------|--------------|
| Bank                | 3,640,744        | 1,997,155        | 5,637,899         | 40             | 74         | 48           |
| GEF                 | 904,097          | 442,895          | 1,346,992         | 10             | 16         | 11           |
| FAO CP              | 325,230          | 34,900           | 360,130           | 4              | 1          | 3            |
| Other (such as CTF) | 4,144,898        | 229,874          | 4,374,772         | 46             | 8          | 37           |
| <b>Total</b>        | <b>9,014,969</b> | <b>2,704,824</b> | <b>11,719,793</b> | <b>100</b>     | <b>100</b> | <b>100</b>   |

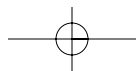
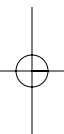
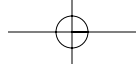
Source: World Bank data.

qualitative forestry components. Thus, it needs to calibrate its forestry engagement and exposure in specific countries; tailor its support to reform priorities; and communicate its objectives, perspective, and motivations for taking risks to external stakeholders. Where reforms take hold and deepen, the Bank can move ahead with investments across a widening range of forestry applications and technical areas. Where reforms stall, are uneven, or seem to reverse, the Bank can, as it has in the past, reconsider its investment support and refocus or resequence its efforts.

- The Bank needs to *make more explicit and specific its forestry goals and objectives in each country* and the criteria on which the country's and the Bank's success should be judged. It is essential to calibrate expectations of progress and performance and to set these against a hard-headed assessment of initial conditions and a with/without Bank comparison. Recent forestry experience in several countries clearly demonstrates the Bank's readiness to put forestry at the center of country relations. This experience also illustrates the risk of applying unachievably high and rigidly applied standards of technical practice and governance integrity. The Bank's ability to demonstrate its concern over stalled reforms and other problems with visible withdrawal of resources can be its special and unique advantage in the sector. However, disengagement is costly, disruptive, and potentially damaging to long-term country relationships. The Bank is attempting the "art of the possible" in forestry. Governments, Bank management, and other stakeholders need to understand and accept the risks of failures and the need to sequence and anticipate delays and shortfalls in pursuit of a long-term agenda.
- Experience with development policy lending clearly shows that *while conditionality is useful, dialogue and consensus are more important*. Policy conditions are inherently limited and inevitably subject to interpretation and dispute both by governments seeking more latitude and by external observers who, for various reasons, may advocate greater stringency. When assessment of policy performance is played out in the public arena, the Bank can be subject to criticism and second

guessing that extends beyond its technical competence and assaults its intentions and ethics. Complementing bilateral legal and contractual guarantees with multilateral consultations involves listening to others while respecting the Bank's fiduciary responsibilities to reach its own final assessments.

- *Establishing plantations in forest-deficit areas and countries is easier than developing management of intact forests in forest-rich countries, but plantations are not enough*. For all the political economy reasons discussed in this strategy, working on natural forest management puts the Bank in a risky and uncertain environment. It is, nonetheless, an essential area for continued Bank work. Plantation investments will not be viable and simply will not address the key constraints in forest-rich areas. Plantation forestry has potential controversies of its own, including land rights aspects and disease, pest, and other risks of monocultures or narrow planting mixes. Scrutiny of the development of genetically modified tree species also is intensifying. In a sector as contentious as forestry, experience has made it clear that the Bank must be particularly scrupulous regarding compliance with safeguard policies and with fundamentals of project quality at entry. However, there are clear resource implications for the required attention to detail and good practice. In politically charged and governance-compromised environments, task teams easily can become fully extended. The Bank has and should maintain a technically diversified forestry portfolio and should strengthen its environmental and social safeguard system that has been effective in monitoring and mitigating these risks.
- *"Big" forestry is not better*. However, reform of industrial concession systems, agro-industrial policies and other macro policy considerations may be needed to create physical and policy space for small-scale, community-based management alternatives. The Bank and the EAP Region have demonstrated competence in promoting and expanding locally based forest management systems, which clearly are an important component of future successful forestry in the Region.



# Strategic Implementation

## *Conclusions and Recommendations*

122. The World Bank's 1992 Forest Policy was prescriptive and proscriptive with regard to the elements of forest management that the Bank would support. Revisions of that policy in 2004 opened the door to World Bank financing of essentially any activity linked with sustainable forest management except in critical forest areas and related critical natural habitats. Operating at the Regional level in this policy-setting will require selectivity and balance.

### A. Program Going Forward

123. In support of the new policy, the Bank is administering a multidonor trust fund, Program on Forestry (PROFOR), which provides grant resources for analytic and knowledge work expected to lead to larger and more diverse Bank work in forestry. As a practical matter, future Bank finance to forestry, especially in EAP, will continue to focus on support to create new forest resources in the form of appropriately located and managed human-made plantations and to establish the public regulatory apparatus needed to guide private actors to sustainable outcomes.

124. An increasingly diverse range of financing sources is now available to the forestry sector beyond the conventional overseas development aid (ODA) sources and relatively long-established mechanisms such as GEF grants. The new sources include carbon offset mechanisms related to global climate change concerns, other forms of environmental service com-

pensations, and, particularly important, private sector investment. Historically, private investment has been oriented primarily toward the wood industry and processing. However, increasingly, private investment is being linked backward to resource creation, as in China, and less successfully in Indonesia (chapter 4). Through the IFC, opportunities for the Bank Group are being examined more and more aggressively and in combination with other innovative financing mechanisms.

### B. Country-Specific Focus

125. In *client countries with mature sector agendas, good lending prospects, and strong sectors*, ongoing operations and established modes of engagement are working well and provide the basis for continuing Bank engagement. In these generally forest-scarce countries, *large unmet needs in plantation and production forestry* constitute the Bank's primary target. The Bank is also attempting to expand the scope of the dialogue to other aspects of forest management. Expanding into these relatively sophisticated and more contentious subsectors will require additional resources and efforts that need to be coordinated with other aspects of the country relationship regarding financial, trade, environment, and other sector policies.

126. In *client countries in which the Bank's agenda is under development, lending demand uncertain, and the sector at risk*, the Bank is focusing on *building*

*and extending relationships.* In light of concerns that will continue about government commitment and capacity, the institution will need to take a gradual and, in some cases measured and tentative approach. In these countries, some of which are generally better endowed with natural forests, the Bank will need to opportunistically pursue areas of interest proposed by government as ways of expanding and exploiting entrées into a richer dialogue on the underlying policy problems and distortions that inhibit the forestry sector. In countries in which other government agencies outside of the forestry sector can be brought into the dialogue and other donor agencies and civil society can be developed as constituencies for change, the Bank can be even more productive.

127. In countries in which the agenda is stalled, lending prospects are limited, and the sector is imperiled, in which the Bank's forestry work has run into serious constraints and obstacles, the priority is to *implement principled reengagement.* In these countries, the Bank needs to strike a principled balance between its concerns in forestry and its general obligations to maintain ongoing country relations and operations in other sectors. Some stakeholders in forestry, notably some civil society organizations with a singular concern for forestry issues, may object to any balancing of forestry with other issues. The Bank should factor the performance of governments as a whole into its judgment of its overall country relations. It should evaluate the sources of poor performance in forestry within the government, opportunities in other sectors for working toward its core poverty reduction goals, and the long-term prospects for moving the forestry agenda forward through prolonged engagement.

### C. Regional Program

128. The main thrust of Regional work will be on *Forest Law Enforcement and Governance (FLEG).* Recent efforts by governments in the Region, particularly the Philippines and Indonesia, as well as by other donors and agencies such as the Association of South-east Asian Nations (ASEAN) and International Tropical Timber Organization (ITTO), suggest that FLEG can be revitalized. With trust funds already available

within the Bank to support Regional FLEG work, and the possibility of marrying this work with other Bank and Regional programs such as Anti-Money Laundering and Control of the Financing of Terrorist and the Regional Anti-Corruption Advisory Committee, *FLEG should become a major Regional platform for the Bank.* This work encompasses the following:

- *Country-level FLEG analytic work.* Work should assess the legal framework and overall governance setting; forest and natural resource policy generally; and the specifics of the operational crime prevention, detection, and suppression program. Work has begun in Indonesia in association with the World Wildlife Fund alliance and in Vietnam with support from the European Union.
- *Knowledge generation and management.* Building on its operational engagements, the Region should continue a selective program to document and disseminate state-of-the-art technologies and practice in forest law enforcement. The Region has prepared reports on chain of custody and log tracking and wildlife trade.<sup>11</sup> Additional work on timber theft prevention and other technical and institutional aspects of enforcement and governance is ongoing.
- *Regional policy consultations.* The Bank should continue to facilitate the Regional FLEG Task Force, which grew out of the 2001 Bank-assisted Bali Conference. As facilitator, the Bank will seek to maximize information exchange and knowledge sharing, and limit the development of new bureaucracies.
- *Linking forestry with the anti-money laundering, corruption, and governance agendas.* A largely untapped area is the connection between the Bank's agendas in forestry and governance and anticorruption. The Region is exploring with the Bank's Financial Sector Integrity (FSEFI) Unit and external partners using its established expertise in anti-money-laundering to bolster the forest law enforcement agenda. Recent clarifications on the Bank's scope for assisting in matters related to criminal prosecutions may give the Bank a broader mandate in this arena. Forestry

<sup>11</sup> Dykstra and others 2003, EASES 2005.

and other natural resource concerns also have been put on the agenda of the Region's Anti-Corruption Advisory Committee.

#### D. Operationally, the Region's Forestry Strategy Translates to . . .

- *Investment in plantation area expansion in wood-deficit areas* and as a component of ecosystem restoration where natural forest regeneration has been precluded by over-exploitation and abuse.
- *Expanded investments in natural forest management and associated biodiversity conservation*, including mapping, resource assessment and inventory, developing management plans, and strengthening planning and operational control systems.
- *Specific support for forest law enforcement and governance-strengthening* to assist countries that face the most severe threats from illegal logging and other criminal activities. The support will include a program of country-level forest law enforcement assessments, an ongoing series of knowledge management products, and continuing engagement with Regional policy processes.
- *Maintenance of well-managed environmental and social safeguard reviews* of all lending operations to pre-identify and, whenever possible, mitigate adverse impacts on forest resources and forest-dependent peoples.
- *Maintenance of a solid general rural development and agriculture portfolio* to relieve pressures to convert land to agriculture and to maintain strong relationships with the rural institutions that manage forest and land resources.
- *Conventional forestry sector and subsector studies continue to be vital components of the Bank's work on forestry*. However, these studies need to be supplemented by attention to forestry and broader natural resource concerns in general country-level macroeconomic and policy analyses, such as Public Expenditure Reviews. The Region needs to increase the effort required to build constituencies for forest policy and institutional reforms and to attract the interest of central economic and development planning agencies that are relatively removed from narrow sectoral issues. Appropriately treating

forestry, which clearly is a small but important contributor to the livelihoods of the poor, in Poverty Assessments and related analytic work is conceptually and empirically difficult. Similarly, monitoring to ensure that attention to forestry issues in poverty reduction strategies is more than rhetoric is highly challenging, to say nothing of ensuring that this recognition is turned into well-conceived and well-implemented policies and programs. Based in enhanced analytic work, the Region should lay the foundation for the more effective use of a broader range of financial instruments in forestry. These include development policy lending, adaptable program lending, and global public goods financing.

#### E. Internal Requirements

129. To implement the strategy effectively requires EAP management attention and action on five fronts.

- A. Elicit stronger buy-in from *both* sector and country management
- B. Deploy existing staff more strategically
- C. Improve coordination/collaboration within the Region, especially among EAP units, to improve efficiency and effectiveness
- D. Improve coordination/collaboration within Bank Group, especially with IFC, to avoid duplication and mixed signals to clients
- E. Improve outreach and constituency building.

130. *Stronger buy-in from management*. As described earlier, forestry is a contentious sector. To be effective in tackling forestry-related issues, task teams require the active support of management at both the sector and country levels. The latter is important because forestry has several cross-sectoral issues—governance, incentive, and resource mobilization—are best addressed through country dialogue as well as work led by other units such as the East Asia and the Pacific PREM Sector Department (EASPR).

131. *Deploy existing staff more strategically*. Building strong analytical, technical, and operational skills in less experienced staff through explicit pairing/mentoring, or

*replacing departing staff with staff who have demonstrated ability to work cross-sectorally, is urgent.* The Region has a core number of sector staff located primarily in two units, EASRD and EASES. Although the actual numbers are adequate for the projected program, the number of experienced staff with both technical and operational knowledge has dwindled. In addition, sector staff with strong analytical skills are needed to work cross sectorally, particularly with EASPR on Public Expenditure Reviews, governance analyses, and poverty assessments. Analytically skilled staff also are needed to credibly participate in policy dialogues, particularly in countries with high uncertainty and/or high risk.

132. *Improve coordination within the Region.* Three units in the EAP Region and the Bank have the primary responsibilities and expertise related to forestry. Historically, the *Rural Development and Natural Resources Sector Unit (EASRD)* has been the managing unit for most forestry-related operations. The *Environment and Social Sector Unit (EASES)* also has managed both projects and sector studies, has generally furnished staff expertise on social aspects of forestry, and always oversees environmental and social safeguard compliance. Biodiversity has been a particular focus of EASES. In addition, the *Poverty Reduction and Economic Management Sector Unit (EASPR)* manages all adjustment and poverty reduction support operations and takes Region-wide leadership on anticorruption and governance. Other sector units, such as *Infrastructure (EASIN)*, have occasional concerns with forestry issues (as with the Nam Theun 2 Hydroelectric Project). The *EAP External Affairs Unit* plays a critical role in communicating the Bank's forestry work.

133. *Prioritize more effective coordination across EAP units, particularly between EASRD and EASES.* Expertise for different elements of the forestry program need not be reorganized to reside in one sector unit or the other—provided that improved teamwork and communication across units can be developed and explicitly supported and monitored by EAP management.

134. *Upgrade coordination/collaboration within the World Bank Group.* Bank-wide, teams in the *Agriculture*

*and Rural Development and Environment Departments, Development Economics Research Group, External Affairs, all of the individual Regions, and IFC's Global Manufacturing and Services Group have forestry responsibilities. The Financial Market Integrity group in the Infrastructure Network has lead responsibilities for anti-money laundering. The LEG Environmental Practice also addresses forestry, including some aspects of forest law enforcement. The work of these teams is not fully integrated. Opportunities for synergies and complementarities are being missed. Overlap and inconsistencies are common, and sometimes costly and divisive.*

135. *Similarly, to formalize more systematic coordination among the Bank Group, particularly between IBRD and IFC, is also essential.* For example, one of the most serious risks for the Bank Group in China is that gaps arise between contemplated IFC investments in pulp and paper processing capacity and wood supplies that are available from existing plantations and new plantings to be financed by IFC or the Bank. Great caution is essential in moving ahead to create additional wood processing capacity. Shortfalls in due diligence by investors and financial institutions have been a serious contributor to excess capacity in the Region. For members of the Bank Group itself to be unable to coordinate investments in processing and resource management, and for this failing to contribute to the recognized imbalances in East Asia and in China, would be seriously damaging to the Bank and requires careful attention from EAP Management. *Formalization of the EAP forestry coordination function between IBRD and IFC would be a helpful first step.*

136. *Broaden constituency building and upgrade outreach.* Broadening the constituencies for good forestry has not been a major focus of the Bank in East Asia. Potential exists, for example, through the *Environmental Monitor* series, to disseminate more broadly to the general public the Bank's perception of forestry's development challenges and potential. Providing quality data and dispassionate perspective on forestry issues are areas in which the Bank could usefully partner with other agencies and civil society organizations.

137. *Regional EXT* clearly has an important role in the Bank's forestry work, particularly in building a broader constituency. Regional forestry staff are not experts in using the media to support their work. In many instances, the operational work and dialogue of technical forestry staff on governance, corruption, and other politically sensitive issues needs to remain confidential and highly guarded. Contingent on their training and experience, EXT can be a valuable resource for the Bank in forestry. Substantial effort is needed to properly time the involvement of the press in forestry dialogue to ensure that messages to the public are harmonized and technically robust. The Region has not exploited the full potential of generic in-country and international outlets for the Bank's forestry messages, op-eds, public speeches, senior manager interviews, and other media products. It could be done with modest effort and expense.

138. *EXT support task teams should develop explicit communication strategies on forestry as well as mobilize resources to implement them, starting with this Regional forestry strategy.* In addition to reaching out to the general public through media, the Region should take a version of the current strategy to well-targeted audiences in the Region. Potential relevant audiences include government forestry agencies, other sectoral and economic agencies, private sector, and civil society. Through collaboration with the ASEAN Secretariat and its ASEAN Senior Officers on Forestry (ASOF) process, ADB, FAO Regional Office, FAO Asia-Pacific Commission on Forestry, and others, the Bank should launch a process of formal and informal consultations on this Regional forestry strategy.

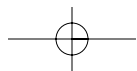
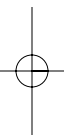
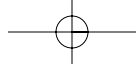
## F. What Are the Indicators of Success in Forestry?

139. In moving ahead with implementation of this or any other strategy for forestry, there is an intrinsic difficulty in determining the appropriate indicators of performance and success. The Bank's work will not be decisive in turning around the sector. Many more important stakeholders and interests will need to provide the motive energy to reform and to make lasting commitments to long-term sustainability. The Bank's role can be catalytic and supportive, and it will have to act in partnership with many disparate and, at times, conflicting and contentious interests.

140. In the near term, success for the Bank in EAP forestry will be demonstrated by increased support for the Bank's participation and involvement in the sector, by recognition of the value of the Bank's perspective and experience, and by decreased contention and conflict.

141. Ultimately, success for the Bank in forestry will be a reflection of the success of the sector: the endurance of a valuable natural resource and its performance in delivering valuable goods and services to prosperous communities. However, without a new and broader consensus that the Bank's involvement in forestry is positive and constructive, it is almost inevitable that the Bank, like many other donors, will disengage before reaching the ultimate goal. External consultations on this draft strategy could help provide the assurance and support needed to strengthen and solidify the Bank's contributions.





# Forests in East Asia and the Pacific

## *Characteristics and Challenges*

143. Forests cover approximately one-quarter of the East Asia and Pacific Region's land area. Products from these forests figure heavily in the Region's economic structure. Forests also are the basis of much of the Region's biodiversity. Data on many aspects of the sector are limited, especially at the aggregate level. Data sets addressing the entire Region have well-known limitations and inconsistencies. More detailed knowledge is available at the country level. Nevertheless, enough is known to a high degree of certainty to conclude that the sector is under-performing. Linking poor results to particular problems, such as the level of management, is a somewhat speculative exercise made worse by the lack of data and limited policy-relevant research. However, in the face of the widely recognized absence of management, an alternative approach would be simply to recognize that, in the absence of future disciplined effort and good policies, good development outcomes in forestry would have to be mere happenstance.

144. The EAP forest resources include virgin moist tropical forests, temperate forests, and mangroves. Ecologically, EAP's forests are some of the richest in the world. They account for more than 14 percent of the world's mammals, birds, and fish; nearly 26 percent of its ferns; and 40 percent of its conifers. The Region's biological diversity provides significant economic, aesthetic, health, and cultural benefits to its peoples.

### Land Use, Forest Area, and Deforestation

145. EAP represents probably Earth's most diverse economic, social, and physical forestry combinations. The Region's forests range from some of the world's largest tropical rain forests in Indonesia and Papua New Guinea to mixed forests and savannah assemblages in Indo-China to temperate pines and oaks in China to boreal forests in Mongolia. Forest products consumption ranges from some of the lowest global per capita rates for industrial wood in China to some of the highest rates of fuelwood and charcoal consumption.

146. Management systems range from industrial concessions across southeast Asia to long-established plantations in Myanmar to complex and intensive Javanese agroforestry systems to no discernible management at all in some of the most valuable and fragile areas.

147. According to FAO statistics (the best source for a comparable Region-wide data set), the Region's forest resources total nearly 400 million ha, or approximately 30 percent of the land area. Dramatic changes, especially deforestation and forest degradation, are occurring across the Region at an overall rate of 500,000 ha, or approximately 0.15 percent, per year. This overall result is masked by the inclusion of

China's high rate of reforestation. Excluding China, the Region's loss of forest totals some 2.5 million ha, or approximately 0.60 percent per year (table A1.1).

148. The better data available for individual countries indicate that the aggregate data understate the magnitude of land-use change in the Region. In particular, data assembled by the Indonesian Ministry of Forestry by agreement with the World Bank indicate that forest loss in the three main Outer Islands (Sumatra, Kalimantan, and Sulawesi) rises to the level of 1.7 million ha per year, 25 percent higher than reported by FAO.

### Forests, Poverty, and Development

149. The new World Bank Forest Policy and Strategy, *Sustaining Forests: A Development Strategy* (2002), extensively details a view of how forest resources should contribute to development. The strategy sets out an ambitious vision for forests to support poverty reduction and economic development through

contributing to public revenues, foreign exchange earnings, industrial development, and diversification—all while maintaining a flow of locally and internationally important environmental services. Similar expectations are raised in the Poverty Reduction Strategy Papers (PRSPs) of countries in the Region, in the academic and research-based literature, and in the rhetoric of development agencies and public discourse.

150. Forestry constitutes a significant component of total recorded economic activity in the Region. The evidence is that forest resources are vital resources and function as safety nets for poor and marginalized communities, particularly during hard times. However, evidence is weak that the EAP forestry sector in the aggregate is contributing anywhere near these expectations or its potential. Recent work by Scherr, White, and Kaimowitz (2004) supports the argument that forestry has not contributed to development and poverty reduction in the way it could. These authors propose that the flawed development models for forestry that focused on state control of land and large-scale industrial development have been among the causes.

| Country/area        | Land area<br>(000 ha) | Total forest 2000 |                  |                   | Total<br>forest 1990<br>(000 ha) | Forest cover change<br>1990–2000 |                              |
|---------------------|-----------------------|-------------------|------------------|-------------------|----------------------------------|----------------------------------|------------------------------|
|                     |                       | Area<br>(000 ha)  | Land area<br>(%) | Area per<br>caput |                                  | Annual<br>change<br>(000 ha)     | Annual<br>change rate<br>(%) |
| Cambodia            | 17,652                | 9,335             | 52.9             | 0.9               | 9,896                            | –56                              | –0.6                         |
| China               | 932,743               | 163,480           | 17.5             | 0.1               | 145,417                          | 1,806                            | 1.2                          |
| DPR Korea           | 12,041                | 8,210             | 68.2             | 0.3               | 8,210                            | n.s.                             | n.s.                         |
| East Timor          | 1,479                 | 507               | 34.3             | 0.6               | 541                              | –3                               | –0.6                         |
| Indonesia           | 181,157               | 104,986           | 58.0             | 0.5               | 118,110                          | –1,312                           | –1.2                         |
| Lao PDR             | 23,080                | 12,561            | 54.4             | 2.4               | 13,088                           | –53                              | –0.4                         |
| Malaysia            | 32,855                | 19,292            | 58.7             | 0.9               | 21,661                           | –237                             | –1.2                         |
| Mongolia            | 156,650               | 10,645            | 6.8              | 4.1               | 11,245                           | –60                              | –0.5                         |
| Myanmar             | 65,755                | 34,419            | 52.3             | 0.8               | 39,588                           | –517                             | –1.4                         |
| Papua New Guinea    | 45,239                | 30,601            | 67.6             | 6.5               | 31,730                           | –113                             | –0.4                         |
| Philippines         | 29,817                | 5,789             | 19.4             | 0.1               | 6,676                            | –89                              | –1.4                         |
| Thailand            | 51,089                | 14,762            | 28.9             | 0.2               | 15,886                           | –112                             | –0.7                         |
| Viet Nam            | 32,550                | 9,819             | 30.2             | 0.1               | 9,303                            | 52                               | 0.5                          |
| <b>Total: Asia</b>  | <b>1,582,107</b>      | <b>424,406</b>    | <b>26.8</b>      |                   | <b>431,351</b>                   | <b>–694</b>                      | <b>–0.15</b>                 |
| <b>Total: World</b> | <b>13,063,900</b>     | <b>3,869,455</b>  | <b>29.6</b>      | <b>0.65</b>       | <b>3,963,429</b>                 | <b>–9,391</b>                    | <b>–0.22</b>                 |

Source: FAO 2001.

151. There are fascinating and critical linkages between incomes and welfare, and forests and forest products. The forest-dwelling communities of Asia and the Pacific are among the poorest and most vulnerable of any communities in the world, and their dependence on the forest is total. For the richest people in the world, the beauty of fine woods and the cachet of rainforests and rainforest products translate into a potentially enormous willingness to pay for forest products and even to expressions of great readiness to contribute to forest conservation and protection. For the people in between, and for different forest products, enormous, often culturally diverse, differences exist in income elasticities of demand related to forest products.

152. In relation to forestry and poverty, clearly, the poor are disproportionately dependent on forest resources. From a livelihoods perspective, the critical forest policy issues relate to the exposure of the poor to loss of access and the forests' low prospects for contributing substantially to income growth. Most of the consumption or sale of forest products by the poor is based on collecting wild materials: wood, seeds, wildlife, resins, and a host of other natural products. The products of subsistence or commercial interest to the poor are the Nontimber Forest Products (NTFPs). Together with firewood and charcoal, NTFPs account for the greatest volume and value of forest products consumed by local communities.

153. In some instances, NTFPs involve a certain degree of cultivation of essentially natural production by local people. This production can include pruning, clearing competing vegetation, selecting and favoring superior specimens, and other measures equivalent to domestication. This cultivation can take an extreme form in which seemingly natural forests are actually highly manipulated and cultured orchards. Such orchards usually are undocumented and may be unrecognizable (or at least unrecognized) legally or managerially. In the case of fuelwood, particularly, but for other forest products as well, the greatest value to the poor may not actually originate in forests per se but from scattered trees in agricultural or urban landscapes.

154. Whether from forests or other areas, features of these resources expose customary claims and

traditional uses to usurpation by others who have dissimilar or incompatible objectives. As with concessions or other standing timber sales, government awards of logging rights to outside interests without first identifying prior-use claims can be devastating to local communities dependent on NTFP resources. These risks are one result of the lack of management discipline affecting the Region's forests and highlight the potential for improved practice.<sup>12</sup>

155. NTFPs are certainly vital sources of livelihoods and sometimes crucial safeguards for the poor in times of adversity. Nevertheless, little evidence exists that NTFPs can be important sources of long-term growth or sustainable poverty reduction. In fact, CIFOR research has concluded, "the same characteristics that make them [NTFPs] attractive to the poor in the first place also limit the potential for further income increases" (Angelsen and Wunder). For reasons discussed by Scherr and others (2004), in most developing countries, low-income producers are a small part of industrial forestry:

"... they usually have low levels of output, profit and productivity [and] are at the bottom of a supply chain in which they lack bargaining power and technology. . . . Unless a more concerted and ambitious effort is made, the poor will continue to lose out [in forest development]."

## Management Status

156. Forest resources' limited contribution to important development outcomes in EAP is not surprising in light of data on the extent and quality of management. Written plans are a basic indicator of forest management. Elements of forest management and the nature of the policy and institutional regimes needed to support effective and sustainable use of forest resources are described in chapter 3. According to FAO, approximately only 26 million ha, or 6 percent

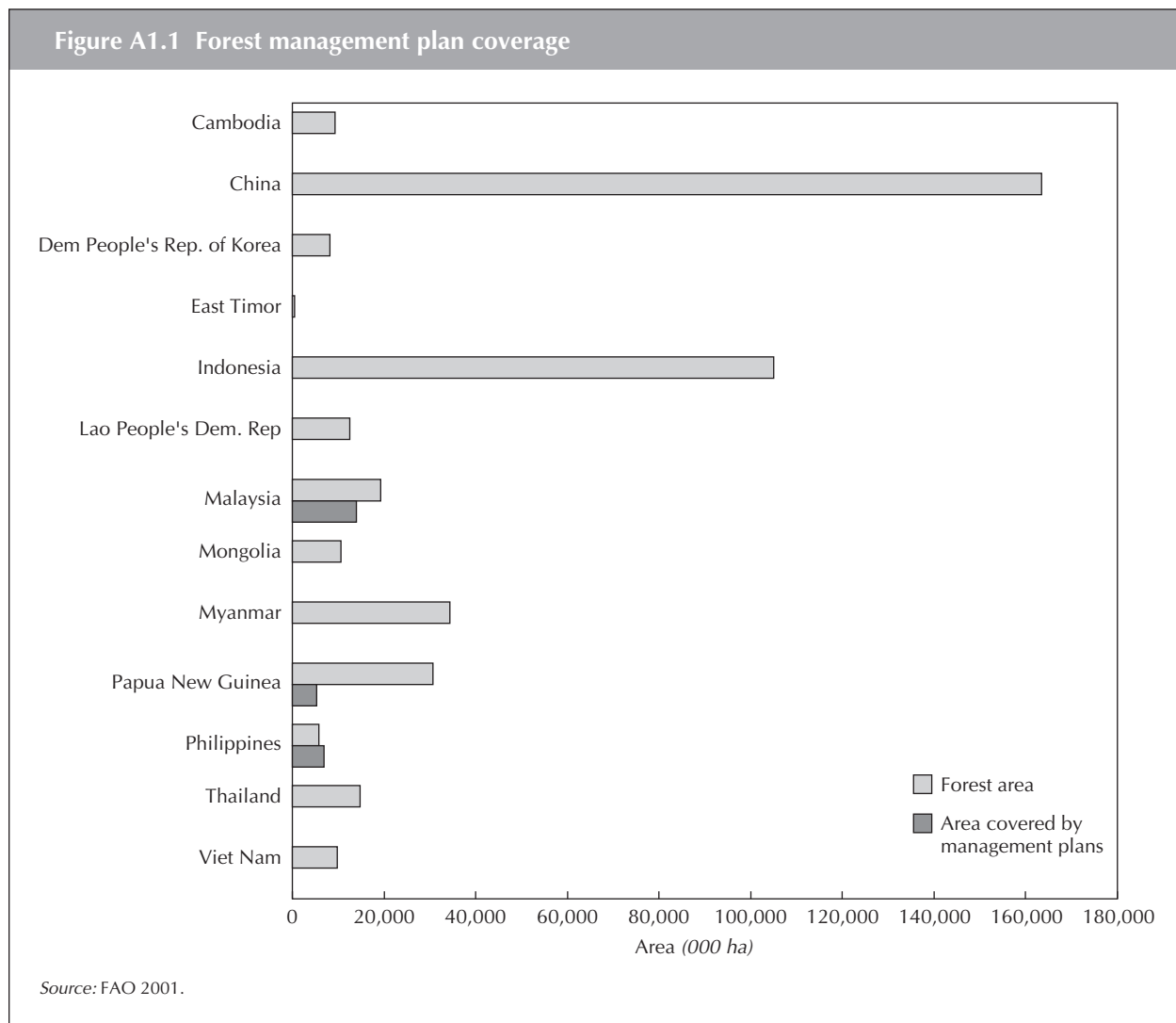
<sup>12</sup> An under-explored issue is the equity consequences of trying to reconcile NTFP use with managed industrial harvest compared to conversion of forests to alternative land uses.

of the total forest area of EAP, is addressed by written plans (figure A1.1). In areal terms, management plans are most extensive in Malaysia, which has 14 million ha of forest cover. At 73 percent of the total forest area, management in Malaysia encompasses essentially all the production forest area. For the Philippines, the area cited as covered by management plans exceeds the total forest area due to definitional differences. Excluding Malaysia and accepting the Philippines data indicates that less than 3 percent of the forest is under documented management.

157. An alternative indicator of management implicitly recognized by the World Bank's current Forest Policy is the area of forest certified as sustainably

managed by independent certification bodies. Independent certification is a relatively new institution. It emerged partly in response to marketplace interest in the quality of management from which industrial wood has been sourced. It also arose from environmental interest group advocacy and distrust of official statistics and the adequacy of government controls. Certification systems and arrangements are not fully standardized, and stakeholders have some contentions over the criteria and indicators applied by different schemes.

158. In EAP, three reasonably well-developed certification systems have been advanced: those of the Forest Stewardship Council (FSC), Malaysian Timber Certification Council (MTCC), and Indonesian LEI.



LEI and FSC apply essentially equivalent standards. The MTCC system is not as widely recognized and has not achieved the level of market acceptance of FSC/LEI. However, the over 4 million ha recognized by MTCC account for approximately 95 percent of the area of forests recognized by any certification scheme as sustainably managed (table A1.2). Across all three schemes, approximately *only 1 percent of the EAP Region's total forests are considered sustainably managed.*

159. On a broader level, management effort also seems to be related to better aggregate sector performance. Globally, forest management effort is concentrated in the developed economies of Western and Northern Europe and North America, as well as in the transitional economies of the Former Soviet Union and Eastern Europe. Of the Organisation for Economic Co-operation and Development (OECD) countries' total forest area of approximately 800 million ha, FAO reports that some 78 percent is under written management plan. In comparison, globally, approximately 42 percent of the forest outside of EAP borrowing countries is under written management plans. In some countries, such as Croatia, Finland, Poland, and Sweden, certifiably sustainable forest area exceeds 50 percent of the total area. However, the relatively small size of the forestry sector and the many other factors that influence aggregate economic

performance make it difficult to quantify forest management's contribution to growth.

160. With regard to protected areas (PAs) management, international experts increasingly recognize that many PAs do not achieve their protection objectives. Early results from a Bank survey show that many PAs lack effective management (labeled "paper parks") and are under threat of degradation. Challenges that often arise are conflicts among local stakeholders, inconsistent representation due to institutional turnover, and a lack of basic funding for meetings and other management-related activities. Other challenges include (a) unclear rights and responsibilities in the agreements; (b) communication problems between field staff and park authorities in the provincial or capital city, and communities' perception that they are not always full partners; (c) areas too large for the existing management capacity; and (d) no commitment from the local population, civil society in general, and government staff. Bank/GEF experience further shows that in countries whose management capacity is high, PA support and conservation efforts have been and are being implemented successfully, as in China and Vietnam.<sup>13</sup> Conversely, in countries in which the previously mentioned

<sup>13</sup> Management capacity includes governance and the existence of functional institutions.

Table A1.2 Sustainably managed EAP forest areas by certification scheme, 2004

|                 |                           | <i>FSC forest certification</i> | <i>Malaysian Timber Certification Council</i> | <i>Total (ha)</i> |
|-----------------|---------------------------|---------------------------------|---|-------------------|
| China           | Changhua Forest Farm      | 940                             |   | 940               |
|                 | Jia Yao                   | 5,237                           |   | 5,237             |
| Indonesia       | PT Diamond Raya           | 90,240                          |   | 90,240            |
| Malaysia        | Golden Hope Plantation    | 12,434                          |   |                   |
|                 | Perak ITC                 | 9,725                           |   |                   |
|                 | Sabah Forestry Dermakot   | 55,083                          |   |                   |
|                 |                           |                                 | 4,111,406                                     |                   |
|                 |                           |                                 |   | 4,188,648         |
| Philippines     | Pagsabangan               | 14,800                          |   | 14,800            |
| Solomon Islands | Kolombangara Forest Prod. | 39,402                          |   | 39,402            |
| Thailand        | Metro MDF                 | 921                             |   | 921               |
| <b>Total</b>    |                           | <b>228,782</b>                  |   | <b>4,340,188</b>  |

Sources: Federal Stewardship Council and Malaysian Timber Certification Council websites.

aspects are not nearly so optimal, such as Indonesia, Laos, and the Philippines, most projects have had less successful results and show more incidences of unsuccessful PA implementation and management.

161. Irrespective of what specific forests are expected to contribute, and how tenurially or in other ways forest production is to be organized, the level of engineering and agronomic quality of forest management in East Asia and the Pacific needs to increase and improve. In supporting improved management,

development assistance can and must help correct the distortions that underlie the poor performance of forestry. The specific trends and challenges in EAP forestry discussed in the above chapters illustrate how inadequate management, perverse policies, and institutional distortions retard the sector. These challenges include the consistent exertion of public, bureaucratic ownership and control over areas that cannot be well administered by this method, thus limiting the scope for investment and growth by small-scale, low-income producers.

# Forest Law Enforcement Operations

162. Forests in East Asia are subject to unprecedented risk of illegal logging, arson, and uncontrolled conversion. Illegal activity, which is enabled and fueled by the absence of effective management, is a leading factor in the loss of forests and the degradation of the remaining resource. This appendix summarizes the insights of a simple *means, motive* and *opportunity* model of the causes of forest crime. It introduces *prevention, detection*, and *suppression* as the basic building blocks of an operational response.

## Root Causes of Forest Crime

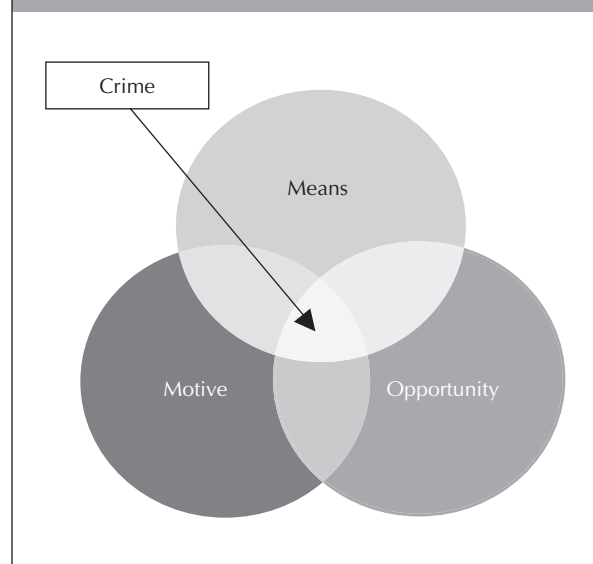
163. Combined, means, motive and opportunity, the “elements of a crime,” form a reasonably complete framework for understanding the origins, incidence, and policy responses to problems of forest law enforcement (figure A2.1).

164. *Means*. Forest crime is perpetrated by a wide range of criminals using an equally wide variety of tools. For instance, the mechanisms of timber theft and illegal land clearance are exactly the same as those employed in legal logging and land clearance operations. Two aspects of the means of forest crime are of particular interest. One is that a great many well-documented subsidies and failures of financial and legal due diligence are involved in putting the means of illegal activity into the hands of potential criminals. Another, which is particularly important in relation to the social impact of crime suppression efforts, is

that at least some means of criminal activity are limited to particular classes of criminals.

165. The literature on perverse incentives in the forestry sector (for example, Gillis and Repetto 1988) is now well established and is growing to address an associated set of issues related to forest finance. This work, such as by Barr (2002), identifies deficiencies in the lending practices of banks and other financial institutions that support logging and land development businesses. In a very real sense, investors are actively distributing the instruments of criminal behavior. For example, the specific tools of illegal

Figure A2.1 Crime: Confluence of means, motive, and opportunity





loggers can be the same kinds of chain saws used by legitimate loggers. Similarly, trucks, barges, ships, saw mills and other equipment employed in illegal ways are intrinsically indistinguishable from legitimate tools of the forestry or other trades. These “tools” are in wide use and are frequently owned and used by relatively small businesses and even poor individuals who are not priority targets for law enforcement.

166. However, forest crime is not conducted merely with chain saws. Especially as one moves up the criminal food chain, one finds an increasingly sophisticated and much less accessible range of means of criminal activity. Techniques of money laundering to conceal the illicit origins of income, tax evasion, and other forms of “white collar” crime become important at the acme of criminal enterprises involved in large-scale illegal logging.

167. *Motive.* Human action is driven by diverse interests and incentives. Criminal behavior in forestry is certainly motivated by narrow economic objectives, but also by goals rooted in such things as political interests and envy. To control illegal logging, *need* and *greed* are probably the economic drivers of crime that are of the most interest. Again, there are important ethical ramifications of the distinction between crimes based on poverty and those perpetrated by the rich and powerful, distinctions that can be pursued systematically within the means, motive, and opportunity framework.

168. Clearly, poverty contributes to forest crimes. Some forms of traditional slash and burn agriculture are legally considered arson in many countries. In addition, much of the actual labor involved in illegal logging, wildlife poaching, illicit firewood collection, and other crimes is performed by poor people. These people have few and sometimes no alternatives to crime, may be unaware that their activities even are crimes, and often are being exploited on subsistence terms by rich and powerful patrons. First of all, formally criminalizing poor people’s pursuit of meager livelihoods should call for a reconsideration of the nature and intent of the laws they may be breaking. For the costs of stricter law enforcement to fall disproportionately on the poor is objectionable to

most people and, in any case, probably would prove unsuccessful.

169. The greedy, however, are a much more desirable target. The economic literature on the economics of crime is built around a utility maximizing calculus whereby criminals consider the costs and benefits of criminal activity including the risks and costs of detection, apprehension, conviction and prosecution. Crime pays when the combined expected benefits exceed the expected costs, and as Akella and Cannon (2004) have shown, in forestry this is exceedingly widespread. In looking at 4 case studies, their results show conservatively estimated benefit-cost ratios for illegal activity that ranged from 11.6:1 to 14,214:1! As they argue, the nearly infinitesimal probabilities of penalty suggest a compelling case for greater enforcement effort.

170. *Opportunity.* It is clear that forest resources in developing countries are positioned to be at enormous risk for crime in two ways. In general, the higher levels of crime, corruption and general disregard for the rule of law in developing countries put their forest resources at greater vulnerability. And, specifically within forestry, the level of technical practice is very weak creating specific vulnerabilities associated with lack of oversight, control and other routine aspects of standard forest management.

171. The weakness of general systems of law and order in many developing countries gives people who would contemplate illegal activity opportunities to plan, conspire and commit crimes that are precluded in more developed countries.<sup>14</sup> Development is generally associated with provision of higher levels of public safety services, less violence and potential for the threat of illegal use of force, wider use of formal and regulated financial institutions, all of which reduce the scope for illegal activity. In particular,

<sup>14</sup> Studies of the relationship between economic growth and the incidence of crime are confounded by problems such as a correlation between income and propensity to report crime. Some work even suggests that economic growth is criminogenic. Overall, however, recent and better designed work shows that rising per capita incomes are associated with reductions in the incidence of crime and that inequality and poverty are positively associated with crime (R. Soares 2004, 155–84).

corruption is strongly negatively associated with economic development and positively associated with forest crimes such as illegal logging.

172. The general association of economic development and criminal opportunity, however, need not be thought of as strictly limiting. Concerted political and policy effort can hasten the emergence of the rule of law so that countries of the same level of economic development can have different environments for criminal activity. Or, put in another way, most countries can improve the climate for law and order without necessarily growing economically.

173. Specifically in respect of forestry, the overall quality of forest management practice across the developing world is well known to be abysmal (see main report). As a practical matter, the lack of inventory work, planning, mapping, harvest determination, formal setting of silvicultural prescriptions and other classic forest management discipline, leave forest resources baldly exposed to criminal activity and present the criminal with nearly unrestricted opportunity.

### **Forest Law Enforcement Operations: Prevention, Detection, Suppression**

174. Specific forest law enforcement operations are needed as a supplement to efforts to correct policy failures and to compensate for weaknesses in natural resource management programs. Even the best policy frameworks sometimes are tested and abused, which is apparent in the widespread nature of forest crime. The three most important strategic elements of forest law enforcement programs are prevention, detection, and suppression. Together, the outcomes of these strategies are to discourage illegal activities and to apprehend those who commit illegal acts.

175. *Prevention.* Beyond the general policy considerations discussed before, policymakers can specifically address forest crime prevention in resource management operations, programs, and projects. Particularly critical are prevention activities at the level of the forest management unit (FMU) and those that take place through public education.

176. Building crime prevention into natural resource management presumes the presence of formal, science-based management programs. Unfortunately, as discussed in the chapters above, most forests in the EAP Region are not covered by management of acceptable quality. Moreover, few if any standards for forest management planning specifically call attention to forest crime. In actual fact, crime may be as important a consideration as standard planning subjects such as infrastructure, harvest, regeneration, or environmental assessment.

177. Forest crime prevention at the FMU level begins with an assessment of vulnerabilities. Planners need to assess the nature of potential forest crimes and how they might influence the achievement of the management objectives set for the area. Based on an assessment of the risks that an area faces, planners can begin to integrate preventive measures into the overall FMU plan. Obviously, these vulnerabilities depend on the nature of the forest and the local community and economy. Some other forest-specific factors that influence the forest's vulnerabilities include whether the forest is rich in commercial timber, whether valuable wildlife species are present, and whether fire is part of local or traditional agricultural practice.

178. Public education and awareness is another area of prevention in which governments can cooperate with the private sector and civil society groups such as NGOs. Information campaigns can inform the public about the provisions of forest law and thereby ensure that users at least are aware of restrictions and prohibitions. In addition, information campaigns can provide the justification for restrictions, thus informing the public of the damages that restrictions are intended to prevent. They can also indicate the actions that the public can take to support law enforcement efforts, for example, ways to report criminal activity. Public information programs, such as the Indonesian Prokasih scheme, release pollution emissions data to put pressure on polluting firms' reputations. NGOs use similar techniques to pressure governments and industry, and this approach could have far wider applications.

179. *Detection.* Detection including monitoring and surveillance to determine if and where crime is

occurring is crucial for setting priorities and for evaluating other elements of the enforcement program. Remarkably, few governments have systematic forest crime monitoring programs. As a result, even the most basic data on illegal activity, which is generally difficult to assemble, is seldom available to guide priority setting and the allocation of enforcement resources. The kinds of information that are needed include the geographic incidence of different crimes, the type of crimes that are occurring, the type of perpetrator, and the apparent level of crime.

180. Detection systems include satellites, aircraft, and ground monitoring and surveillance personnel to document the location, type, volume, and, if possible, the identity of violators involved in illegal logging activities. However, just as important as the sophistication of the data collection process are the data analysis procedures used to draw inferences for use with the rest of the law enforcement program. At the level of specific incidents, detection merges into investigation. Investigation involves collecting evidence and documentation as the basis for arrests, judicial proceedings, fines, or other action. Specialized expertise is needed to employ techniques that are appropriate to the suspected crime and the national legal system.

181. Crime monitoring data also are important for evaluating the enforcement program's impact and efficiency and for providing feedback to program planners. Without defensible and realistic baseline data, claims concerning the impact of the program cannot be verified; thus, the credibility and commitment of enforcement programs are left subject to question. In many instances, disingenuous governments and corrupt officials seem to find the absence of monitoring data and crime detection systems a convenient screen. For these reasons, and because crime monitoring systems can be established with relative ease, systematic crime detection programs should be one of the first priorities in a serious forest law enforcement program. Detection programs are subject to manipulation, self-censorship, and physical risk. These hazards need to be anticipated and managed through training and support for project personnel, institutional independence, and

oversight; and by ensuring public disclosure of information.

182. Detection and systematic monitoring are essential to any genuine effort to reduce forest crime. Governments that do not have routine monitoring programs in place may be unaware of the value of information and data and the relative ease with which it can be assembled. A reasonable first test of commitment to strong enforcement would be willingness to introduce crime monitoring programs.

183. *Suppression.* Suppression of illegal activity should be the last recourse in a forest law enforcement program, because it almost inevitably involves the use of force after destructive activities have occurred, or while they are underway. Suppression measures pose risks to agency personnel, the public, and the lawbreaker. In any responsible suppression program these risks need to be systematically considered in light of the probability of success, the accountability and transparency of the suppression effort, and the skills and training available to law enforcers.

184. Depending on the nature of the forest crime and the suspected offender, the risk of violence is a genuine and legitimate concern for forest law enforcement authorities. In many countries, forestry officials are routinely exposed to threats, intimidation, and actual violence; bodily harm and loss of life are not uncommon. The indiscriminate use of force also poses risks to the public at large. Because the people involved in criminal activity at the field level often are simply laborers (and usually poor people with few alternatives) working at the direction of others, genuine ethical reasons exist to question the use of force.

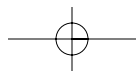
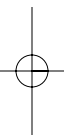
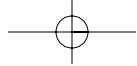
185. In response to these kinds of threats, law enforcement practitioners can sometimes draw on experience and intelligence about violators to develop risk-success matrices. These are used to make appropriate preparations for safe conduct of suppression operations, or to determine when safe operations are a practical impossibility. Institutional arrangements for major suppression efforts or crackdowns need to be tailored to local circumstances. However, these

arrangements also clearly need to incorporate adequate provisions for accountability and transparency that are commensurate with the likely use of force and the need for security and confidentiality. Interagency arrangements in which the police, military, customs, other law enforcement agencies work together with natural resource agencies are common and can be effective. Experience with special task forces suggests that a variety of institutional arrangements can be effective, provided resources, budgets, planning, and reporting provisions are in place. However, without measures such as these, any institutional arrangements can be rendered ineffective.

186. Where extraordinary suppression efforts are needed, planners need to take special measures to

provide training for staff members at all levels. Expertise that is not commonly available in forestry agencies includes specialized skills in investigating criminal activities, documenting crimes, handling evidence, and preparing judicial proceedings. In highly dangerous or specialized investigations, training appropriate for undercover operations, firearms safety, and other special expertise may be needed.

187. As can be seen, the complexity and risk of suppression efforts underlies the value of measures to avoid, through sound policy and prevention and detention efforts the emergence of a serious law enforcement problem. Where such efforts fail, or are not made, the problems of suppression can rapidly become nearly insurmountable.



# Project Summaries

(US\$000)

## 1. Cambodia Biodiversity and Protected Area

Approval FY: 00  
 PROJECT COST (US\$): 4,910  
 IBRD (US\$): —  
 IDA (US\$): 1,910  
 GRANT (US\$): —  
 Forestry (%): 29  
 FORESTRY (US\$): 554  
 ID: P065798

The Biodiversity and Protected Area project will assist in achieving long-term use of Cambodia's natural resources, through improving the Ministry of Environment's capacity to effectively plan, implement, and monitor the National Protected Areas (PA). Components are (1) national policy and capacity building activities to develop its strategy for the National PA system. Financing will include a comprehensive review of management systems and implementation of ranger training programs; (2) support of basic management needs of the Virachey National Park through park infrastructure financing, management planning, and staff development programs. Financing includes community education and outreach programs for park protection activities; (3) community development for better livelihood practices; and (4) project management to support the overall work program and financial management.

## 2. Cambodia Biodiversity and Protected Areas

Approval FY: 00  
 GEF  
 PROJECT COST (US\$): 2,750  
 IBRD (US\$): —  
 IDA (US\$): —  
 GRANT (US\$): 2,750  
 Forestry (%) 46  
 FORESTRY (US\$): 1,265  
 ID: P052006

See Biodiversity and Protected Area Project for description.

### 3. China Water Conservation

Approval FY: 00  
 PROJECT COST (US\$): 185,670  
 IBRD (US\$): 74,000  
 IDA (US\$): —  
 GRANT (US\$): —  
 Forestry (%) 64  
 FORESTRY (US\$): 2,960  
 ID: P056516

The Water Conservation Project for China enhances water resource use, agricultural production capacity, and farmer incomes by (1) increasing the value of agricultural production per unit of consumed water through increasing yields and reducing nonbeneficial water losses; and (2) establishing mechanisms for sustainable use and management of water resources in irrigated areas. The four project components are (1) irrigation and drainage works on farm systems, including canal lining, low-pressure pipes, drains, wells, small structures, surface irrigation improvements, sprinkler systems, and micro-irrigation systems; (2) agriculture support and services including land-leveling, non-tillage in the dry season, deep plowing in the rainy season; and soil fertility improvements such as using green manure and stalk, organic and plastic mulching, cropping pattern adjustments, seeds improvement and development of drought-resistant varieties, balanced fertilization, and improved planting and cultivation techniques; (3) forestry and environmental monitoring; and (4) institutional development including training, technical assistance, and research as well as establishing and strengthening operation and maintenance entities made up primarily of water users.

### 4. China Natural Forest Biodiversity

Approval FY: 02  
 GEF  
 PROJECT COST (US\$): 16,000  
 IBRD (US\$): —  
 IDA (US\$): —  
 GRANT (US\$): 16,000  
 Forestry (%) 100  
 FORESTRY (US\$): 16,000  
 ID: P060029

See Sustainable Forestry Development Project for description.

### 5. China Loess Plateau Watershed Rehabilitation II

Approval FY: 99  
 PROJECT COST (US\$): 150,000  
 IBRD (US\$): 100,000  
 IDA (US\$): 50,000  
 GRANT (US\$): —  
 Forestry (%) 16  
 FORESTRY (US\$): 24,000  
 ID: P056216

The development objective of the Loess Plateau Watershed Rehabilitation is to contribute to sustainable development on the plateau, increasing agricultural production and incomes and improving the ecological conditions in tributary watersheds of the Yellow River. The main components are to (1) improve cropland, which includes converting slope-lands to terraced lands, whereby soil erosion is controlled and water retained to increase crop yields; (2) protect slope-lands by increasing vegetative cover, and improving the erosion control capacity in project watersheds, which will be enhanced by planting and protecting trees, shrubs, and grass.

## 6. China Sustainable Forestry Development

Approval FY: 02  
 PROJECT COST (US\$): 214,580  
 IBRD (US\$): 93,900  
 IDA (US\$): —  
 GRANT (US\$):  
 Forestry (%) 100  
 FORESTRY (US\$): 93,900  
 ID: P064729

The objective of China's Sustainable Forestry Development Project is to ensure that viable, participatory, and locally managed systems for conservation, management, and sustainable use of forest resources and associated biodiversity are developed and adopted in project sites to promote sustainable development and management of forest resources and to protect the natural environment. These practices, developed and applied for the protection and sustainable management of natural forest resources in pilot areas in China, will provide models for wider replication under the government's Natural Forest Protection Program (NFPP).

## 7. China Forestry Development in Poor Areas

Approval FY: 98  
 PROJECT COST (US\$): 364,000  
 IBRD (US\$): 100,000  
 IDA (US\$): 100,000  
 GRANT (US\$): —  
 Forestry (%) 86  
 FORESTRY (US\$): 172,000  
 ID: P046952

The objective of the Forestry Development in Poor Areas Project is to develop forest resources in poor areas of central and western China on a sustainable and participatory basis to support poverty reduction, forestry development, and improved environmental management. The three project components are (1) the establishment of timber plantations and economic forest crops, including bamboo, fruit, nut, and medicinal trees; (2) technical support services, whose components include 4 subcomponent programs: (2.1) planting stock development, (2.2) training and extension, (2.3) rural infrastructure, and (2.4) monitoring and evaluation; and (3) Township and Village Enterprises (TVE) component. It provides subloans to support the development of small-scale, labor-intensive, commercially oriented activities such as pine resin extraction, bamboo processing, wicker works, edible forest product processing, and parquet and veneer production.

## 8. Indonesia Forests and Media

Approval FY: 02  
 GEF-MSP  
 PROJECT COST (US\$): 940  
 IBRD (US\$): —  
 IDA (US\$): —  
 GRANT (US\$): 940  
 Forestry (%) 100  
 FORESTRY (US\$): 940  
 ID: P076739

The Indonesia Forest and Media Project's (INFORM) primary objective is to stimulate better forest protection through the creation of an upwelling of interest, concern—and, especially, action—among the general public and key decision-makers. The intended purpose of the grant is to generate this concern and to encourage action to enhance the long-term social and political foundations for forest conservation in Indonesia. The project is foundational and complementary to other activities designed to address the overall Indonesian forestry crisis (policy dialogue, programs, and projects) and to address locality-specific interventions. The INFORM campaign will work to create a local and Regional enabling environment in which these other activities are more likely to succeed. It thus will serve to reduce further forest loss and to promote conservation at the local, provincial, and national levels.



## 9. Lao PDR Financial Management Adjustment Credit

Approval FY: 02  
 PROJECT COST (US\$): 37,000  
 IBRD (US\$): —  
 IDA (US\$): 17,000  
 GRANT (US\$): —  
 Forestry (%) 11  
 FORESTRY (US\$): 1,870  
 ID: P068069

The Financial Management Adjustment Credit (FMAC), approved in June 2002, provided financial assistance to implement public sector reform, state-owned enterprises reform, and financial sector reform [the Program], as articulated in the government's Letter of Development Policy (LDP) and the Interim Poverty Reduction Strategy Paper (I-PRSP). The credit was for SDR13.5 million (US\$17 million equivalent) to be disbursed in 2 tranches. The first tranche of SDR5.6 million (US\$7 million equivalent) was disbursed in January 2003.

The credit's objectives were to (1) increase transparency and accountability in budgetary management and in the management of state-owned enterprises (SOEs) and state-owned commercial banks (SCBs), (2) stem the accumulation of contingent liabilities in SOEs and SCBs and move them toward commercial viability, and (3) strengthen the management of public expenditures in particular, and public sector resources in general and forestry in particular.

## 10. Lao PDR Sustainable Forestry for Rural Development

Approval FY: 03  
 PROJECT COST (US\$): 16,450  
 IBRD (US\$): —  
 IDA (US\$): 9,900  
 GRANT (US\$): —  
 Forestry (%) 100  
 FORESTRY (US\$): 9,900  
 ID: P064886

The Sustainable Forestry for Rural Development Project for Laos assists the sustainable management of production forests to alleviate rural poverty in four Project Provinces by implementing the forest policy reform actions and policies set forth in its Letter of Forest Management Policy. The project has four components. Component 1 provides support for policy development, systems and guidelines development, remote sensing assessment of forest areas, setting up databases, mapping, planning, field demarcation, and developing training facilities and capacity. Component 2 prioritizes putting natural production forests under sustainable management and improving village livelihoods in the project area. It will support training, preparing, implementing, and monitoring forest management and annual operation plans. Component 3 includes internal forest control, forest law enforcement monitoring and reporting, forest cover monitoring, and independent monitoring and management audits. Component 4 facilitates efficient project implementation and coordination, and collaboration with various government agencies at the central, provincial, and district levels.

## 11. Vietnam Coastal Wetlands Protection and Development

Approval FY: 99  
 PROJECT COST (US\$): 65,600  
 IBRD (US\$): —  
 IDA (US\$): 31,800  
 GRANT (US\$): —  
 Forestry (%) 33  
 FORESTRY (US\$): 10,494  
 ID: P042568

The Coastal Wetlands Protection and Development Project aims to help reestablish the coastal mangrove wetland ecosystems along the Mekong Delta. The 5 components comprise (1) supplying seedlings, civil works, and equipment to plant, rehabilitate, and, protect mangrove forests on barren, degraded, or under-new-accretion land. Project management and training will focus on protecting newly planted or existing forests, and implementing improved forest conservation and fish sanctuary management practices; (2) institutional strengthening of the Vietnam Bank for Agriculture and Rural Development, and training to improve credit-worthiness and grassroots organizations/farmer group demonstrations extension. Technology development and transfer will improve farm productivity, decreasing farming risks; (3) social support to develop and implement commune action plans and establish communal grants, and social funds; (4) technical assistance and training for policy development assistance to improve land and water uses allocation and restructure selected enterprises; and (5) resettlement plans to assist affected groups, and environmental assessment of biodiversity, and socioeconomic impacts.

## 12. Vietnam Forest Sector Development—Supplemental Credit

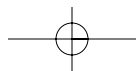
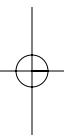
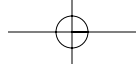
Approval FY:  
 GEF  
 PROJECT COST (US\$): 13,000  
 IBRD (US\$): —  
 IDA (US\$): —  
 GRANT (US\$): 9,000  
 Forestry (%) 100  
 FORESTRY (US\$):  
 ID: P074414

See Forest Sector Development Project for description.

## 13. Vietnam Forest Sector Development

Approval FY:  
 PROJECT COST (US\$): 50,000  
 IBRD (US\$): —  
 IDA (US\$): 39,540  
 GRANT (US\$): —  
 Forestry (%) 100  
 FORESTRY (US\$): 39,540  
 ID: P066051

The Forest Sector Development Project objective is to achieve sustainable management of (plantation) forests and the conservation of biodiversity in special-use forests to enhance forestry's contribution to reduce rural poverty and protect the global environment. This objective will be attained by improving the environment for sustainable forestry development and biodiversity conservation; providing attractive packages to mainly poor farming households of smallholders to plant trees sustainably and to generate additional income; providing small competitive grants to effectively manage priority special-use forests of international importance; and enhancing capacity at the Regional, provincial, district, and site levels to provide needed support services and to monitor and evaluate impact and outcomes.



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