



# Sustaining Economic Growth, Rural Livelihoods, and Environmental Benefits:

## Strategic Options for Forest Assistance in Indonesia

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**SUSTAINING ECONOMIC GROWTH,  
RURAL LIVELIHOODS, AND ENVIRONMENTAL BENEFITS:**

**STRATEGIC OPTIONS FOR FOREST ASSISTANCE IN  
INDONESIA**



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## CONTENTS

	<b>page</b>
Acknowledgements	vii
Foreword by Supporting Partners	ix
<i>Pengantar dari Mitra-Mitra yang Mendukung</i>	xi
List of Acronyms	xii
Executive Summary	xv
<i>Ringkasan Eksekutif</i>	xxiii
<b>1. INTRODUCTION</b>	<b>1</b>
<b>What Are the Key Issues?</b>	<b>1</b>
<b>What Are the Opportunities for Change?</b>	<b>3</b>
<b>What Improvements Are Needed?</b>	<b>5</b>
<b>What Would Success Look Like?</b>	<b>6</b>
<b>What Can Be Done?</b>	<b>7</b>
<b>How To Do It?</b>	<b>8</b>
<b>What's Ahead?</b>	<b>9</b>
<b>2. FOREST LAWS AND FOREST RESOURCE STATUS</b>	<b>13</b>
<b>2.1 Introduction to Legal Framework</b>	<b>13</b>
2.1.1 Basic Forestry Law	13
2.1.2 Other Laws and Decrees	14
<b>2.2 Forest Land Classification</b>	<b>20</b>
<b>2.3 Forest Resource Status and Trends</b>	<b>22</b>
2.3.1 Forest Cover Status	23
2.3.2 Forest Cover Loss and Forest Degradation	26
<b>2.4 Historical-Economic Perspective on Past Forest Loss and Future Threats</b>	<b>32</b>
2.4.1 Historical and Economic Perspective	32
2.4.2 Geographic Trends in Forest Cover and Production	34
2.4.3 Other Threats to Forests: Past, Present and Future.	35
<b>3. FORESTS AND GOVERNANCE</b>	<b>39</b>
<b>3.1 Historical Perspective on Political Economy and Corruption</b>	<b>40</b>
<b>3.2 Reform Era and Decentralization of Forest Governance</b>	<b>44</b>
<b>3.3 Progress in Recent Times</b>	<b>45</b>
<b>3.4 Forest Crime and Law Enforcement</b>	<b>51</b>
<b>3.5 Conflict, Inequity and Land Use Allocation</b>	<b>55</b>
<b>3.6 Institutional Issues and Forest Management</b>	<b>58</b>
<b>3.7 Options for Improving Forest Governance</b>	<b>59</b>
<b>4. FORESTS AND SUSTAINABLE ECONOMIC DEVELOPMENT</b>	<b>63</b>
<b>4.1 Economic Overview</b>	<b>64</b>
4.1.1 Contribution of the Commercial Forestry Sector	64
4.1.2 Global Market Trends	67
4.1.3 Economic and Environmental Impacts of Forest Degradation: Future Sustainability?	69
<b>4.2 Industry Overview</b>	<b>71</b>
4.2.1 Industry Structure	71
4.2.2 Plantation Forest Concessions	76
4.2.3 Small and Medium Enterprises and Non-Timber Forest Products (NTFPs)	78
<b>4.3 Commercial Forestry Issues and Trends</b>	<b>79</b>

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<b>4.4 Industry Restructuring</b>	83
4.4.1 GOI Industry Revitalization Strategy	83
4.4.2 Restructuring to Broaden the Benefits	85
<b>4.5 Forest Management by Communities: Livelihoods and Collaboration</b>	88
<b>4.6 Options for Improving Forest Use for Economic Productivity</b>	90
<b>5. FOREST LAND, LIVELIHOODS AND POVERTY</b>	93
<b>5.1 Communities, Livelihoods and Poverty Alleviation</b>	93
<b>5.2 Policy Context for Community Livelihood Promotion and Poverty Alleviation</b>	95
<b>5.3 Distribution of Land, Forests, and Poverty</b>	98
5.3.1 Distribution of Population and Poverty	98
5.3.2 Distribution of Forests and Poverty	99
5.3.3 Directions for Further Analysis	102
<b>5.4 Forests and Poverty: Employment and Livelihoods Potential</b>	104
5.4.1 Forests and Poverty Alleviation Framework	104
5.4.2 Timber/Commercial Forestry-Related Employment Possibilities	108
5.4.3 Employment/Livelihood Potential from Land Use Rationalization	110
<b>5.5 The Broader Question of Land and Poverty Alleviation</b>	113
<b>5.6 Options for Improving Land and Forest Use for Livelihoods and Poverty Reduction</b>	117
<b>6. FOREST LAND, ENVIRONMENTAL SERVICES AND BIODIVERSITY VALUES</b>	119
<b>6.1 Environmental Services from Protection Forests</b>	120
6.1.1 Description of Environmental Services	120
6.1.2 Protection Forest Governance and Management	124
6.1.3 Alternatives, Innovations and Financing Options	125
<b>6.2 Biodiversity Protection (and Environmental Services) from Conservation Forests</b>	129
6.2.1 Description of Biodiversity Values	129
6.2.2 Protected Areas Governance and Management	131
6.2.3 Alternatives, Innovations and Financing Options	133
<b>6.3 Key Issues in Protecting Environmental Services and Biodiversity</b>	137
<b>6.4 Overall Assessment and Options for Improvement</b>	139
<b>6.5 Options for Sustaining Environmental Services and Biodiversity Values</b>	142
<b>7. OPTIONS FRAMEWORK AND POTENTIAL ASSISTANCE AREAS</b>	145
<b>7.1 An Organizing Framework for Priority Setting</b>	145
<b>7.2 Options for Improving Governance and Management</b>	148
<b>7.3 Discussion of Priority Interventions for Specific Land Areas</b>	151
7.3.1 Economic Development and Poverty Alleviation in Forested Areas	151
7.3.2 Economic Development and Poverty Alleviation in Non-forested Areas	153
7.3.3 Promote Environmental Services in Forested, Protection and Conservation Areas	154
7.3.4 Promote Environmental Services in Non-Forested, Protection and Conservation Areas	155
<b>7.4 Interventions in the Context of Regional Decentralization</b>	156
<b>7.5 Prioritization and Next Steps</b>	157
<b>REFERENCES</b>	A-1
<b>ANNEX A: OVERVIEW OF PRIOR WORLD BANK INVOLVEMENT IN INDONESIA</b>	A-17
<b>ANNEX B: DONOR ASSISTANCE TO INDONESIAN FORESTRY SECTOR: 1985-2004</b>	A-21
<b>ANNEX C: KEY ELEMENTS OF DEPT. OF FORESTRY'S STRATEGIC PLAN, 2005-2009</b>	A-27

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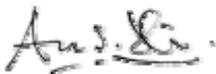
Indonesia faces many development challenges: decentralization and democratization, conflict and injustice, growth and equity, poverty and vulnerability. Forest issues are entry points for every one of these.

**Why Forests?** The global community is concerned about Indonesia's forests because of their social, economic and environmental importance for quality growth and lasting poverty reduction. Forests are a national asset, a global public good, and central to the livelihoods of millions of Indonesians. Forest issues touch every segment of civil society in nearly every district – 70% of the country's land -- including communities, traditional cultural groups, women, religious groups, civil society organizations, businesses, and every level of government.

Yet, Indonesia's forest resources are not contributing as they should to poverty reduction, economic and social development, and environmental sustainability. As the country makes the transition to stabilization and growth, there is a tremendous opportunity to help the Government of Indonesia find new ways of managing forest areas in partnership with local communities, contributing to democracy, justice, equity, rural sector investment, jobs and growth.

**Why Now?** Indonesia's forest sector has been in crisis for some time, yet many of us believe that the likelihood of successful outcomes is higher now than at any time in the past. This is because democratization and decentralization of government are creating positive political pressures. The Government is committed to improving governance and fighting corruption. Attitudes and roles among Government, big business and civil society are changing. Central policy-making is more consultative and transparent. Local governments are becoming more responsive and accountable. Civil society and business are repositioning for more constructive relationships. In the Ministry of Forestry, a process of evolution and reform is resulting in new opportunities for meaningful engagement toward improved forest management.

**Partner Support.** This report is based on considerable contributions from a wide range of colleagues and institutions concerned with Indonesian forestry issues. The document provides an analytical framework for understanding objectives and discusses options for policy and project interventions, rather than a single set of recommendations. Government agencies, international and donor organizations, research institutions and NGOs can use this as a common framework for addressing forest related issues more effectively at this critical time in Indonesia's development.



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## **PENGANTAR DARI MITRA-MITRA YANG MENDUKUNG**

Indonesia menghadapi berbagai tantangan pembangunan: desentralisasi dan demokrasi, konflik dan ketidakadilan, pertumbuhan dan pemerataan, kemiskinan dan kerentanan. Permasalahan kehutanan merupakan titik tolak dari semua permasalahan tersebut.

**Mengapa Hutan?** Masyarakat global peduli akan hutan Indonesia karena hutan-hutan tersebut penting secara sosial, ekonomi dan lingkungan bagi pertumbuhan yang berkualitas dan pengurangan kemiskinan yang berkelanjutan. Hutan adalah aset nasional, hak milik umum masyarakat global, dan pusat penghidupan jutaan warga Indonesia. Masalah kehutanan menyentuh semua segmen masyarakat di hampir semua daerah – 70% dari daratan Indonesia termasuk masyarakat, kelompok adat, perempuan, kelompok agama, organisasi masyarakat madani, dunia bisnis, dan setiap tingkatan pemerintahan.

Namun, hingga saat ini sumberdaya kehutanan Indonesia belum memberikan kontribusi yang selayaknya terhadap pengurangan kemiskinan, pembangunan sosial dan ekonomi, dan kelestarian lingkungan. Sejalan dengan transisi ke arah stabilisasi dan pertumbuhan yang sedang dijalani oleh Indonesia, ada peluang yang sangat besar untuk membantu pemerintah Indonesia menemukan cara-cara untuk mengelola kawasan hutan melalui kemitraan dengan masyarakat lokal, serta memberikan kontribusi terhadap demokrasi, keadilan, pemerataan, investasi pada sektor pedesaan, kesempatan kerja dan pertumbuhan.

**Mengapa Sekarang** Hutan Indonesia telah dilanda krisis selama beberapa waktu, namun banyak diantara kita yang percaya bahwa kemungkinan keberhasilan pada saat ini lebih tinggi dibanding waktu-waktu yang lampau. Hal ini disebabkan karena demokratisasi dan desentralisasi dalam pemerintahan telah menciptakan tekanan politik positif. Pemerintah berkomitmen untuk memperbaiki tata kelola dan memberantas korupsi. Perilaku dan peran dari pemerintah, kelompok pelaku bisnis besar dan masyarakat madani berubah. Pembuatan kebijakan di tingkat pusat menjadi lebih konsultatif dan transparan. Pemerintah daerah menjadi lebih responsif dan akuntabel. Masyarakat madani dan pelaku bisnis sedang memposisikan ulang diri mereka untuk hubungan yang lebih bersifat membangun. Proses evolusi dan reformasi di Departemen Kehutanan menghasilkan peluang baru untuk keterlibatan yang berarti dalam memperbaiki pengelolaan hutan.

**Dukungan Mitra-Mitra.** Laporan ini didasarkan pada kontribusi-kontribusi yang berharga dan luas dari rekan-rekan dan lembaga-lembaga yang peduli akan permasalahan kehutanan Indonesia. Tulisan ini memberikan kerangka kerja analitikal untuk memahami tujuan dan membahas opsi-opsi dan alternatif-alternatif kebijakan dan intervensi proyek, ketimbang hanya memberikan satu set rekomendasi saja. Badan-badan pemerintahan, organisasi internasional dan donor, lembaga riset dan LSM dapat menggunakan tulisan ini sebagai kerangka kerja bersama untuk menjawab masalah-masalah yang terkait dengan kehutanan secara lebih efektif pada periode kritis dalam pembangunan Indonesia.

## LIST OF ACRONYMS

Acronym	Description
AAC	Annual allowable cut
ADB	Asian Development Bank
AMAN	Alliance of Indigenous People in Indonesia
AMDAL	<i>Analisa Dampak Lingkungan</i> / Environmental Impact Assessment
AML	Anti Money Laundering
APHI	<i>Asosiasi Pengusahaan Hutan Indonesia</i> / Indonesian Forest Concessionaires Association
APKI	<i>Asosiasi Pulp dan Kertas Indonesia</i> / Indonesian Pulp and Paper Association
Apkindo	<i>Asosiasi Panel Kayu Indonesia</i> / Indonesian Wood Panel Association
BAPLAN	<i>Badan Planologi Kehutanan</i> / Ministry of Forestry Directorate General for Planning
BAPPEDA	<i>Badan Perencanaan Pembangunan Daerah</i> / Regional Development Planning Board
BAPPENAS	<i>Badan Perencanaan Pembangunan Nasional</i> / National Development Planning Agency
<i>Bina Desa</i>	Community assistance requirements under forest concessions
BPK	Ministry of Forestry Directorate General for Forest Production Development & Management
BPN	<i>Badan Pertanahan Nasional</i> / National Land Agency
BPS	<i>Biro Pusat Statistik</i> / Central Statistics Board
CAS	Country Assistance Strategy
CBD	Convention on Biodiversity
CBFM	Community-Based Forest Management
CDM	Clean Development Mechanism
CGI	Consultative Group on Indonesia
CGIF	Consultative Group on Indonesian Forestry
CI	Conservation International
CIDA	Canadian International Development Agency
CIFOR	Center for International Forestry Research
Concession	An area of natural forest designated for selective harvest under an HPH license
CSO	Civil society organization
DANIDA	Danish International Development Agency
DFE	Donor Forum on Forestry
DFID	Department for International Development (UK)
DG	<i>Direktorat Jendral</i> / Directorate General
Dinas	Provincial or district agency reporting to governor, mayor or <i>bupati</i>
DirJen	<i>Direktorat Jendral</i> / Directorate General, DG
DPR	<i>Dewan Perwakilan Rakyat</i> / People's National Assembly
DPRD	<i>Dewan Perwakilan Rakyat Daerah</i> / District or Provincial House of Representatives
DR	<i>Dana Reboisasi</i> / Reforestation Funds
EC	European Commission
EIA	Environmental Investigation Agency
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FKKM	<i>Forum Komunikasi Kehutanan Masyarakat</i> / Communication Forum on People's Forestry
FLEG	Forest Law Enforcement and Governance
FLEGT	Forest Law Enforcement, Governance & Trade
FOMAS	Indonesia National Forest Monitoring and Assessment System
FWI	Forest Watch Indonesia
GDP	Gross domestic product
GEF	Global Environment Facility
GIS	Geographic Information System
GOI	Government of Indonesia
GTZ	<i>Deutsche Gesellschaft für Technische Zusammenarbeit, GmbH</i> / German Development Agency
HPH	<i>Hak Pengusahaan Hutan</i> / Forest Concession Right or license for natural production forest
HTI	<i>Hutan Tanaman Industri</i> / Industrial timber plantation
IBRA	Indonesia Bank Restructuring Agency

## LIST OF ACRONYMS (CONT.)

Acronym	Description
<b>IBSAP</b>	Indonesian Biodiversity Strategic Action Plan
<b>ICDP</b>	Integrated Conservation and Development Project
<b>ICRAF</b>	International Center for Research on Agroforestry, also known as World Agroforestry Center
<b>ICW</b>	Indonesian Corruption Watch
<b>IFAD</b>	International Fund for Agricultural Development
<b>IHH</b>	<i>Iuran Hasil Hutan</i> / Forest product royalty
<b>ILGRIP</b>	Initiatives for Local Governance Reform Project
<b>IMF</b>	International Monetary Fund
<b>IPB</b>	<i>Institut Pertanian Bogor</i> / Bogor Agricultural University
<b>IPK</b>	<i>Izin Pemanfaatan Kayu</i> / Wood utilization permit
<b>ITTO</b>	International Tropical Timber Organization
<b>IUCN</b>	World Conservation Union
<b>JICA</b>	Japanese International Cooperation Agency
<b>Kabupaten</b>	District, political subdivision within a province
<b>KDP</b>	Kecamatan Development Project
<b>Kehati</b>	<i>Yayasan Keanekaragaman Hayati</i> / National Biodiversity Foundation
<b>KLH</b>	<i>Kementerian Lingkungan Hidup</i> /Ministry of Environment
<b>LEI</b>	<i>Lembaga Ekolabel Indonesia</i> / Indonesia Ecolabeling Institute
<b>m3</b>	Cubic meters
<b>Menko POLHUKAM</b>	<i>Kementerian Koordinator Bidang Politik, Hukum dan Keamanan</i> / Coordinating Minister for Politics, Law and Security
<b>MFP</b>	Multistakeholder Forestry Programme (UK-DFID)
<b>MOFR</b>	Ministry of Forestry
<b>MPR</b>	<i>Majelis Permusyawaratan Rakyat</i> / People's Consultative Assembly
<b>NFP</b>	National Forestry Program
<b>NGO</b>	Non Governmental Organization
<b>NRM</b>	Natural Resources Management
<b>ODA</b>	Official Development Assistance
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>PA</b>	Protected Area
<b>PEMDA</b>	<i>Pemerintah Daerah</i> /Local Government
<b>PERDA</b>	Peraturan Daerah / Local Government Regulation
<b>PP</b>	<i>Peraturan Pemerintah</i> (Government Regulation)
<b>PPATK</b>	<i>Pusat Pelaporan dan Analisis Transaksi Keuangan</i> / Center for Analysis of Financial Transactions
<b>PRSP</b>	Poverty Reduction Strategy Paper
<b>PSDH</b>	<i>Provisi Sumber Daya Hutan</i> / Forestry Taxes
<b>Reforestation</b>	The establishment by humans of forest cover on land that was formerly forested.
<b>RePPProT</b>	Regional Physical Planning Programme for Transmigration
<b>RKT</b>	<i>Rencana Karya Tahunan</i> /Annual Cutting Plan
<b>Rp.</b>	Rupiah (Indonesian currency)
<b>TGHK</b>	<i>Tata Guna Hutan Kesepakatan</i> / Forest Land-Use Plan
<b>TNC</b>	The Nature Conservancy
<b>UNDP</b>	United Nations Development Programme
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>US\$</b>	United States dollars
<b>USAID</b>	United States Agency for International Development
<b>WALHI</b>	<i>Wahana Lingkungan Hidup Indonesia</i> / The Indonesian Environmental Forum
<b>WCS</b>	Wildlife Conservation Society
<b>WRI</b>	World Resources Institute
<b>WWF</b>	World Wide Fund for Nature



## EXECUTIVE SUMMARY

**“Starting now, the Indonesian Nation is determined to make every effort to manage forests sustainably, prioritizing in the short term the protection and rehabilitation of forest resources for the greatest possible prosperity and justice for the people.”** This National Forest Statement, developed through four years of consultation, is the perfect starting point for this report. Through this statement, the Government of Indonesia recognizes a gap between vision and achievement, between potential and performance – and resolves to address the gap through positive action to sustain Indonesia’s forests for the good of all.

Today, Indonesia is striving to make progress on a wide range of development challenges: growth, vulnerability to poverty, decentralization, democratization, equity, conflict and justice. Forest management issues touch on each of these major challenges, as well as every segment of Indonesian civil society. Improved forest management must be based on improved governance generally, including transparency, accountability, and equity. Improved sustainability means more attention to the balance between economic growth, poverty alleviation and environmental benefits generated from forests. The principles of good governance and sustainability, in fact, are embedded in Indonesia’s legal framework for forest management and serve as the organizing framework for this report. Yet, there is a gap between written law and rule of law -- and a gap between benefit and equitable distribution. Indonesia’s Biodiversity Strategic Action Plan of 2003 recognizes that “so far, only a minority of Indonesians enjoy the benefits from the use of forests and biodiversity, while the costs of degradation are borne by the majority.”

The Government of Indonesia (GOI) is striving to bridge these gaps in increasing collaboration with forest sector stakeholders. This report is about how donors and development agencies can assist the Government, civil society, the private sector, as well as the poor and disadvantaged, to take steps toward more sustainable and equitable forest governance and management.

### Purpose of Strategic Options Paper

This document, *Sustaining Economic Growth, Rural Livelihoods, and Environmental Benefits: Strategic Options for Forest Assistance in Indonesia*, provides an overview and synthesis of issues in Indonesia’s forestry sector and a framework for understanding and identifying potential options for policy and project interventions. It is intended as a reference and guide for analysts and stakeholders of forestry issues in Indonesia. It is particularly directed at donor governments, research organizations, and development assistance agencies that may be planning programs or activities in economic development, poverty reduction, forestry, rural development, land, and governance.

A companion document, *Sustaining Indonesia’s Forests: Strategy for the World Bank, 2006-2009* provides a framework for the Bank to clarify its objectives, as well as the timing, resource implications, and risks of deepening engagement with the Indonesian Government and stakeholders. The strategy also lays a foundation for mainstreaming forestry issues into the Country Assistance Strategy and broader policy reform interventions. The strategy is a road map for internal discussion and decision-making, but also offers the public some insights on the World Bank’s views.

## **Forest Management Issues are Development Issues**

Forests are a national asset, a global public good, and central to the livelihoods of 10 million of the poorest 36 million Indonesians. Forest governance touches fundamental issues of asset management and democratic choice in nearly every district in Indonesia – two-thirds of the country’s land. Forestry policy reform processes address real issues that are central to the rural economy and the poor, build voice and accountability, and engage governments and people in building good governance practices.

Forest loss undermines rural livelihoods, ecosystem services and Indonesia’s ability to meet poverty alleviation goals. Weak forest governance damages the investment climate, rural economic potential, and Indonesia’s competitiveness and international reputation. Forest crime exacerbates problems of budget and fiscal balance, and diverts public revenues that could be better spent on poverty reduction and development goals. Fires used for forest and land clearing cause health and transport problems both in Indonesia and neighboring countries, release greenhouse gases into the atmosphere, and undermine Indonesia’s regional standing.

As Indonesia moves from transition to stabilization and growth, there is a tremendous opportunity to help the government find new ways of managing forest areas in partnership with local communities, contributing to democracy, justice, equity, and ultimately, rural sector investment, jobs and growth.

## **Opportunities for Improvement are Growing**

Indonesia is in a dynamic governance transition. Attitudes and roles among government, business and civil society are changing. Central government is re-orienting basic natural resource policies; local governments are becoming more responsive and accountable; and civil society and business are repositioning for more constructive relationships. More empowered poor communities and local governments are engaging in constructive dialogue, building trust and reducing conflict. The vulnerability of the poor is being reduced, their livelihoods are more diversified, and women’s voices are being empowered.

The rules of the game are changing, too. Policy-making is more consultative and transparent; local governments and parliaments are better informed about forest and land issues; companies are more aware of the importance of partnerships and community engagement; and civil society groups are more engaged in development processes, government operations, and resource allocation decisions. All these institutions are building skills in managing democratic processes.

In the Ministry of Forestry, change has been evolutionary, not revolutionary. Yet, changes in attitudes, senior management, and behavior have gradually overcome the rigid approaches of the past. At some levels, there is still reluctance to embrace reform and participatory governance processes. Still, new opportunities for significant engagement appear regularly. There have been such rapid changes in the last year or two that it is difficult to remain current in a document such as this. In the past year, the GOI has finalized the National Forest Statement, providing a multi-stakeholder vision for the future of forest management. The Ministry of Forestry has also developed both a medium term planning document and a long term plan for the future. These plans include frank assessments of the issues in the forestry sector and concrete plans for addressing them through actions within the Ministry’s sphere of influence. The Ministry and the many forest sector stakeholders have also convened the 4<sup>th</sup> National Forestry Congress, which

agreed to create and elect a National Forestry Council, creating new pathways for more democratic and accountable forest management.

Forest issues are also being addressed by key agencies beyond the Ministry of Forestry. The President has issued a decree demanding cooperation among law enforcement and customs agencies to combat illegal logging. The Coordinating Minister for Politics, Law and Security has convened inter-departmental groups to work on issues of forest law enforcement, forest crime and trade. Indonesia's Financial Intelligence Unit has taken steps to track and report on suspicious forest sector financial transactions and the banking sector has taken steps to improve accountability and environmental due diligence among forest sector lenders.

### **Much Work Remains, Donors Can Help**

Over one billion dollars has been invested in development assistance to Indonesian forestry in the past two decades by more than 40 donors. Yet, management and governance continue to be weak and forests continue to be lost. The European Commission and the Ministry of Forestry convened a workshop in March 2006 to learn from this experience. The participants concluded that donor efforts over the long-term contributed to a process of capacity building in both the Government and civil society organizations, although specific investments were sometimes unsuccessful in achieving short term objectives. Based partly on donor assistance efforts, laws, policies, institutions and, above all, motivated and competent people are now in place and the opportunities for progress are considerable. The major conclusion of the workshop was that “continued donor support to forestry is essential and the likelihood of successful outcomes is higher now than at any time in the past.”

Participants agreed that measures to improve forest governance can lead to improved governance generally, that more needs to be done to build decentralized forest management capacity, that rights and access issues need to be addressed in the long term, and that the corporate sector will be important and influential. Regarding forest loss and degradation and the forest land transition, the group agreed that it is more important to improve management of existing protected forest areas, rather than to strive to protect all remaining forests. Donor engagement should assist in achieving an orderly and rational pattern of forest cover, rather than resisting change.

Donors have helped build the understanding, commitment, human resources, legal framework and institutions that are now poised to yield improvements in practice and management. There are now major opportunities for achieving improved management and a wide range of tested and successful aid delivery mechanisms. Donor governments now have the opportunity to sustain and expand on these past achievements, by focusing on an entire landscape of entry points in governance, decentralization, poverty alleviation, and institution building, rather than thinking of forestry as only a sectoral issue. Engagement should go beyond the forestry sector and encourage cross-sectoral links, balance support for decentralized structures, promote the role of civil society, and involve legislatures, at national and regional levels.

### **Entry Points for Forest Assistance in Indonesia**

This section provides a summary of key options that donors and development agencies can pursue with the Government of Indonesia and forest sector stakeholders to improve forest governance and management, promote economic growth with greater equity, improve livelihoods of the poor and marginalized, and protect environmental services and biodiversity values. These should be viewed as entry points for engagement on issues of poverty, democratization, decentralization,

investment climate, public finance, justice, transparency and accountability. While broad governance and democratization reforms continue to create new opportunities, these options recognize that practical progress can still be made in many areas, even within the usual forest and land classification framework in place today. Equally, there are opportunities to work “outside the forestry box,” with a wide range of Government agencies that influence forest sector incentives and management, as well as civil society organizations.

**Options for Improving Governance and Management (See Chapter 3).** To close the gap between governance rhetoric and results, there are opportunities to work on dialogue processes, transparency, rule of law, decentralization and conflict resolution. Development agencies could consider activities in the following areas.

- **Dialogue.** It is important to continue support for ongoing efforts to build and extend national dialogue processes on forestry sector rights, rules, roles, and responsibilities. New institutions, such as networks of civil society organizations and the new National Forestry Council (with representatives from government, business, communities, NGOs and universities), provide important entry points for expanding and deepening dialogue, while also increasing trust and transparency. Dialogue toward improved governance will have to be built upon good representation of the voices of the poorest and most marginalized groups, including women and ethnic minorities.
- **Transparency.** Assistance efforts could support the Ministry of Forestry and other key agencies in implementing an action agenda on transparency in data and decision-making, initiated at a national event in February 2006. This program will include development, implementation, and widespread use of the Forest Monitoring and Assessment System (FOMAS); a comprehensive disclosure policy; and effective disclosure mechanisms so that the public and affected stakeholders can access information effectively.
- **Law Enforcement.** Assistance efforts could support inter-agency coordination efforts to combat forest crime under the Coordinating Minister for Politics, Law and Security. These efforts could include building capacity, strengthening national laws, and setting precedents through prosecution of high profile forest crimes, including financial crimes and money laundering. The Ministry of Forestry’s “11 Step Program to Combat Illegal Logging” provides a framework and activities that can be supported. Civil society organizations’ efforts to use media and investigation to expose corruption and crime are also important contributions to governance improvement. There is also a need to enforce rules that help to reduce the negative impacts of *legal* logging, reduce land clearing by fire, and improve the payment and collection of fees and taxes. Also, increased efforts to curb the illegal wildlife trade could be recommended.
- **Decentralization.** There is a great need to strengthen district and provincial forestry agencies in concert with the central government. Options could begin with institutional development support to facilitate implementation and interpretation of roles and responsibilities for district and provincial governments in management, implementation, licensing, and monitoring activities on forest lands in line with the legislative changes of 2004. Opportunities to work at the regional level must be tempered with the need to have reasonably consistent approaches and overall conformance with national laws. Institutional and structural changes at the center may also be needed to increase responsiveness to the decentralization of some responsibilities to regional governments.

- **Conflict Resolution.** There is a great need to develop mechanisms to prevent and resolve forest and land use conflicts. This will need to be a national and broad-based effort, similar to that envisioned under the process and framework established in MPR Decree No. 9 of 2001. Although there are many local and civil society-led conflict resolution initiatives that could be supported, it may also be useful to study the recent experience with the MPR Decree process. Lessons learned could usefully inform new legislative initiatives, such as the proposed Law on Natural Resources Management or proposed revisions to the Basic Agrarian Law.

As part of the governance dialogue, one recurrent theme will be land use, allocation and access. On the areas of the state forest zone lacking trees, there are good economic arguments for allowing wider use and management rights to a more diverse set of user groups. Some reallocation could encourage investment in land and forest resources, increase productivity and earnings, improve rural welfare and relieve poverty, and contribute to reducing conflict.

**Options for Increasing Sustainable Economic Development (See Chapter 4).** To bridge the gap between immediate benefit and longer term sustainability and to achieve more equitable sharing of benefits, there are opportunities to support industry restructuring initiatives, policy harmonization, and greater investment in community access for livelihood security. Indonesia's 55 million hectares of forested lands allocated for economic uses (i.e., production and conversion) are a high priority because of the large area of forested land and because of their importance both for community livelihoods and commercial forestry.

- **Industry Restructuring.** Among the highest priorities is support for the Ministry of Forestry's industrial restructuring and revitalization strategy, which includes acceleration of plantation development, retooling of existing mills, and greater sharing of benefits through promotion of small and medium enterprises and community involvement. Possible interventions could support planting more trees for production/timber uses; improving productivity of existing and new plantations; and promoting community-company partnerships to open new kinds of benefit sharing, as well as new lands, for timber production. Efforts to promote timber planting and production should be wary of approaches that rely on excessive regulation, subsidies, soft loans or unbalanced power relations, rather than markets.
- **Financial Due Diligence and Forestry Debt Settlement.** Industry restructuring requires financing. In the financial sector, improved institutions and practices are needed to increase due diligence and transparency and to learn lessons from past debt management experience during Indonesia's financial crisis. Settling the issue of forestry debt remains a critical piece of the sectoral restructuring process. Greater harmonization of policies across sectors will be necessary to prevent mixed signals or inappropriate incentives for timber growers, wood processors, and exporters. Financing decisions should be based not only on financial viability, but also on responsible assessment of potential environmental and social costs.
- **Positive and Negative Incentives.** Greater competitiveness and market responsiveness will only be achieved if better incentives (improved policy enabling conditions) are provided for long term investment in and stewardship of forests and production facilities. More positive incentives for private sector forest managers (e.g., regulatory relief for law-abiding and certified firms) are needed along with greater disincentives for poor

management as law enforcement activities increase. Positive incentives must go hand-in-hand with forest law enforcement and governance initiatives to increase the costs of non-compliance. For example, more costly consequences are needed to reduce the use of fire for land conversion and to encourage existing plantation companies (mostly linked to pulp mills) to comply with existing timber self-sufficiency requirements.

- **Downstream Processing.** Appropriate value-adding activities with future potential include furniture, moldings, building components, and more labor intensive downstream processing into finished products for consumer markets, including non-timber forest products and handicrafts made from them. In the rattan industry, donors and NGOs have supported small enterprise development and provided marketing assistance, and business management skills for producers' cooperatives. Success in this direction will require work on underlying enabling conditions to allow access arrangements that benefit the poor and encourage investment by communities and small enterprises.
- **Benefit Sharing.** To improve communities' ability to share in the benefits of commercial forestry, development agencies could continue to promote innovative licensing arrangements, local land use agreements, small enterprises, partnerships and a more pro-poor policy environment. There are opportunities to support legislative and regulatory changes that allow greater access to forest resources for communities and marginalized groups. As noted below, there are also important opportunities to support community based enterprises, agroforestry, and traditional livelihood activities.

**Options for Improving Livelihoods and Alleviating Poverty (See Chapter 5).** To narrow the gap between rich forests and poor people, progress can be made by recognizing that forest lands are part of the rural economy and people's livelihoods. Policies could better address the linkages among community livelihoods, investments, markets and infrastructure, rather than viewing forests as raw material for export-oriented processing. Indonesia's large areas of non-forested and degraded lands (28 million hectares are deforested within Production and Conversion Forest Areas) are a high priority for intervention because of the vast area involved, the rapid rate of degradation, and the relatively unmanaged status of much of this land. This is also one of the most logical and cost-effective places to begin to think about rationalizing the forest estate and allowing more equitable and pro-poor access and activities.

- **Forests for People.** Progress can be made by recognizing that communities, *adat* groups, smallholders and the forest-dependent poor are legitimate forest sector actors and stakeholders who should have rights, roles, responsibilities and returns in balance with other users of forest land. To make economic development of forested lands more equitable and oriented toward producing livelihood benefits and alleviating poverty, some options could be considered for focusing on smallholder needs and investments. Development agencies could support and encourage community forestry and small and medium sized enterprises, perhaps including aspects of the Ministry of Forestry's Social Forestry program. This could involve providing incentives, clearer rights and technical assistance to community groups or cooperatives. Community-based and small enterprises have the advantage of creating more jobs than large, capital-intensive firms.
- **More Options on Degraded Lands.** Community forestry, social forestry, agroforestry, non-timber forest products, cooperatives and small and medium enterprises can be promoted in areas where the forest is degraded, but still has productive potential.

Degraded and deforested conversion lands are a logical entry point to a broader discussion about access and tenure arrangements, beginning with the least forestry-important lands. With good demonstrations and appropriate management policies and practices, ultimately, these lands could be moved into more productive uses, with some targeting to benefit the poor and vulnerable groups. This approach must proceed with caution to avoid perverse incentives, such as the incentive to clear forested land to establish an ownership claim.

- **Multiple Uses, Multiple Benefits.** Non-forested Conservation and Protection lands account for less than 10 million ha of land. Since it is not possible to return these lands to a fully natural state, options could be considered for managing these lands for production of environmental services and watershed protection functions in a mixed mosaic of cropping and cover patterns with community involvement. Rehabilitation efforts could be focused on steep slopes and riparian zones. While these activities are primarily aimed at preserving or restoring environmental functions, they also can produce economic opportunities for smallholders and the poor, if properly designed.
- **Extension and Services for the Poor.** Beyond access to forests and land, communities and poor people need skills, credit, infrastructure and markets. Communities may need technical assistance and capacity building to improve their ability to take advantage of emerging opportunities for utilizing forest land. Intermediate service providing organizations could help people to understand rules of access, develop appropriate organizational structures, improve business skills and identify opportunities. These services would lower the transactions costs for communities to engage in forest management and utilization activities at smaller scale with greater flexibility.

**Options for Protecting Environmental Services and Biodiversity (See Chapter 6).** To bridge the gap between current benefit and future stewardship, there are opportunities for improvements in local collaborative management of watershed protection forests, preservation of critical habitats, and improvements in financing of both protected areas and environmental service delivery. Forested Conservation and Protection areas represent nearly 40 million hectares, so it is a high priority to ensure that these lands can produce the services for which they are allocated (assuming that they are allocated properly for high conservation value or steep, vulnerable slopes). Environmental services and biodiversity benefits are not generally highly valued in land use decisions. The economic consequences of inadequate care are beginning to be recognized, however: the costs of replacement of forests and natural resources are vastly higher than the costs of stewardship and prevention, as Indonesia has seen in the cases of forest fires, landslides and drought. Options for engagement and support include the following.

- **Collaborative Land Use Plans and Agreements.** Activities in forested watershed protection areas could include establishing rules and partnerships (within the decentralization framework) for managing larger forest landscapes for environmental service protection and production. Land use plans developed at local level in collaboration with local users are often able to identify and allow compatible economic activities, such as community based agroforestry, on selected land that is not too steep or fragile. Community based negotiations and agreements are creating important opportunities for maintaining environmental service functions, while allowing multiple uses and traditional uses of watershed areas. Environmental service payments based on water supply values or carbon storage can offer partial compensation for better

stewardship practices in upland areas. These initiatives need institutional development and policy support at both national and regional level.

- **Protected Landscapes.** Efforts to preserve watershed and protection forests will also protect habitat for Indonesia’s rich biodiversity, especially if integrated with the Protected Areas system. Efforts to protect “high conservation value forests” within production forest areas are also important, especially where these are part of critical wildlife corridors or within the range of endangered or endemic species. Initiatives are needed to protect remaining valuable and threatened lowland forest areas.
- **Protected Areas Management and Financing.** Biodiversity conservation also requires a focused and sustained effort to strengthen both management effectiveness and resources for Indonesia’s protected areas system. On management effectiveness, there are increasing opportunities to build on local collaborative management approaches, through partnerships with local governments and communities to sustain and protect the essential functions and values of protected areas. On financing – both for conservation and for watershed protection – there are increasing opportunities to develop sustainable financing options at the national level through fiscal mechanisms, at the protected area level through user fees, and at the local level through environmental service payments, where possible, based on water or carbon storage values. Some improvements in management of conservation and protection areas can be achieved by evaluating the fiscal and policy incentives for local governments under the decentralization framework. The three GOI departments most responsible for Protected Areas and biodiversity conservation – Ministries of Forestry, Marine Affairs and Fisheries, and Environment – have recently proposed a coordinated effort to improve financing for conservation.
- **Public Awareness and Education.** There is increasing awareness of environmental and conservation needs in the Indonesian media and the general public. More innovative outreach, environmental education and awareness programs can be supported, including through schools and religious institutions. Many examples and partners exist for supporting this work, but more comprehensive and long term investments are needed to change attitudes and practices.

**Next Steps.** The final chapter of this report develops a framework and provides a more detailed range of options for creating an intervention strategy over the medium term. Development agencies can promote dialogue toward agreement on directions for the forestry sector, indeed for all natural resource management concerns. New institutions are emerging as useful partners in such engagement. Development assistance agencies can also readily support ongoing initiatives that have solid support from both the GOI and civil society organizations, including the transparency initiative and the growing campaign against forest crime. The Ministry of Forestry’s medium-term and long-term planning documents are good starting points for discussion of actions and possible partnerships. The priorities and options mentioned in this report are already largely consistent with the Government’s plans.

## RINGKASAN EKSEKUTIF

“Sejak saat ini, Indonesia bertekad untuk bersungguh-sungguh mengelola hutan secara lestari yang dalam jangka pendek diprioritaskan pada perlindungan dan rehabilitasi sumberdaya hutan untuk sebesar-besarnya kemakmuran rakyat yang berkeadilan.” Ini merupakan Pernyataan Kehutanan Nasional, yang dikembangkan melalui proses konsultasi selama empat tahun, dan inilah juga yang digunakan sebagai pengantar yang paling tepat untuk laporan ini. Melalui pernyataan ini, pemerintah Indonesia mengakui adanya perbedaan antara visi dan pencapaian, antara potensi dan kinerja – dan bertekad untuk menghilangkan perbedaan ini melalui kegiatan-kegiatan yang positif untuk melestarikan hutan Indonesia untuk kepentingan bersama.

Saat ini Indonesia sedang bekerja keras untuk mencapai kemajuan yang penuh dengan berbagai tantangan pembangunan, seperti pertumbuhan, pengentasan kemiskinan, desentralisasi, demokrasi, kesetaraan, konflik dan hukum. Masalah-masalah pengelolaan hutan berkaitan dengan setiap tantangan tersebut. Perbaikan pengelolaan hutan harus didasari oleh perbaikan tata kelola secara umum, termasuk transparansi, akuntabilitas, dan kesetaraan. Untuk mencapai kelestarian, perhatian yang lebih besar perlu diberikan untuk menciptakan keseimbangan antara pertumbuhan ekonomi, pengentasan kemiskinan dan manfaat lingkungan yang diperoleh dari hutan. Prinsip-prinsip tata kelola dan kelestarian sebenarnya telah terdapat pada kerangka kerja hukum Indonesia mengenai pengelolaan kehutanan, dan hal tersebut juga menjadi kerangka kerja yang dipakai dalam laporan ini. Namun demikian, masih ada perbedaan antara hukum tertulis dan supremasi hukum – perbedaan antara manfaat dan distribusi yang merata. Rencana Aksi Strategis Keanekaragaman Hayati Indonesia pada tahun 2003 menyatakan bahwa

“sejauh ini, hanya sebagian kecil rakyat Indonesia yang menikmati manfaat dari penggunaan hutan dan keanekaragaman hayati, sementara akibat-akibat yang ditimbulkan dari kerusakan hutan dan keanekaragaman hayati menjadi beban sebagian besar rakyat Indonesia”

### Tujuan Penulisan Dokumen Opsi-Opsi Strategis

”Melestarikan Pertumbuhan Ekonomi, Masyarakat Pedesaan, dan Manfaat Lingkungan: Opsi-Opsi Strategis untuk Bantuan Kehutanan di Indonesia”, merupakan sebuah laporan yang bertujuan untuk memberikan tinjauan dan sintesis terhadap masalah-masalah kehutanan Indonesia. Laporan ini juga merupakan sebuah kerangka kerja untuk memahami dan mengidentifikasi opsi-opsi potensial untuk melakukan intervensi kebijakan. Laporan ini dimaksudkan sebagai referensi bagi analis dan *stakeholder* kehutanan di Indonesia. Secara khusus laporan ini ditujukan bagi negara donor, organisasi riset, dan badan-badan pemberi bantuan pembangunan yang mungkin merencanakan program bantuan pembangunan ekonomi, pengentasan kemiskinan, kehutanan, pembangunan pedesaan, lahan dan tata kelola.

Sebuah laporan lainnya: ”Melestarikan Hutan Indonesia: Strategi Bank Dunia, 2006-2009”, melengkapi laporan ini. Laporan tersebut memberikan kerangka kerja bagi Bank Dunia untuk menjelaskan tujuannya, dan juga tata waktu dan implikasinya, serta resiko yang terkait dengan keterlibatan lebih lanjut dengan pemerintah Indonesia dan para *stakeholder*. Strategi ini juga memberikan landasan bagi peng-arusutamaan masalah kehutanan menjadi Strategi Bantuan untuk Negara dan intervensi reformasi kebijakan yang lebih luas. Strategi ini merupakan acuan bagi diskusi internal dan pembuatan kebijakan, selain juga memberikan informasi kepada masyarakat umum mengenai pandangan-pandangan Bank Dunia.

Pemerintah Indonesia telah bekerja keras untuk menjembatani perbedaan-perbedaan yang telah disebutkan di atas dengan meningkatkan kolaborasi dengan seluruh *stakeholder* kehutanan. Laporan ini pada intinya menguraikan tentang bagaimana negara-negara donor dan badan-badan pembangunan dapat membantu pemerintah, masyarakat madani, sektor swasta, dan golongan masyarakat miskin dan tak berdaya, untuk melakukan upaya-upaya tata kelola yang lebih baik dalam pengelolaan hutan yang lestari dan berkeadilan.

### **Permasalahan Pengelolaan Hutan merupakan Permasalahan Pembangunan**

Hutan merupakan aset nasional, hak milik umum bagi masyarakat global, dan merupakan sumber penghidupan bagi 10 juta dari 36 juta masyarakat miskin di Indonesia. Tata kelola kehutanan berkaitan dengan permasalahan-permasalahan mendasar dari pengelolaan aset dan pilihan demokratis di hampir semua kabupaten di Indonesia – dua per tiga dari wilayah Indonesia. Proses reformasi kebijakan kehutanan menjawab permasalahan yang benar-benar dirasakan sebagai pusat ekonomi pedesaan dan kaum miskin, memberikan hak suara dan membangun akuntabilitas, dan melibatkan pemerintah dan rakyat dalam membangun praktek tata kelola yang baik.

Hilangnya hutan membahayakan penghidupan masyarakat pedesaan, jasa lingkungan, dan kemampuan Indonesia untuk mengentaskan kemiskinan. Tata kelola kehutanan yang lemah merusak iklim investasi, potensi ekonomi pedesaan, dan daya saing dan reputasi internasional Indonesia. Kriminalisasi di bidang kehutanan memperparah permasalahan keseimbangan anggaran dan fiskal, dan merubah penggunaan anggaran pendapatan negara yang seharusnya dapat digunakan dengan lebih baik untuk pengentasan kemiskinan dan pencapaian sasaran pembangunan. Pembukaan lahan dengan cara pembakaran lahan dan hutan menyebabkan masalah kesehatan dan transportasi, baik di Indonesia maupun di negara-negara tetangga, melepaskan gas rumah kaca ke lapisan atmosfer, dan merugikan posisi Indonesia di tataran regional.

Sejalan dengan transisi ke arah stabilisasi dan pertumbuhan yang sedang dilaksanakan oleh Indonesia, terbuka kesempatan yang sangat besar untuk membantu pemerintah Indonesia menemukan cara-cara pengelolaan hutan melalui kemitraan dengan masyarakat lokal, serta memberikan kontribusi terhadap demokrasi, keadilan, pemerataan, investasi pada sektor pedesaan, kesempatan kerja dan pertumbuhan.

### **Peluang-peluang Untuk Memperbaiki Keadaan**

Indonesia pada saat ini sedang berada pada masa transisi pemerintahan yang mengalami perubahan secara dinamis. Perilaku dan peran pemerintah, para pelaku bisnis dan masyarakat madani juga tengah berubah. Proses pembuatan kebijakan di tingkat pusat menjadi lebih konsultatif dan transparan. Pemerintah daerah menjadi lebih responsif dan akuntabel. Masyarakat madani dan pelaku bisnis sedang memosisikan kembali diri mereka untuk menciptakan hubungan yang lebih bersifat membangun. Masyarakat miskin dan pemerintah daerah yang lebih berdaya pada saat ini turut aktif dalam dialog yang bersifat konstruktif, membangun kepercayaan dan mengurangi konflik. Kerentanan masyarakat miskin berkurang, sumber penghidupan mereka lebih beragam, dan suara kaum perempuan lebih diberdayakan .

Aturan permainan juga berubah. Proses pembuatan keputusan menjadi lebih konsultatif dan transparan; pemerintah daerah dan Dewan Perwakilan Rakyat memiliki informasi yang lebih baik

mengenai permasalahan hutan dan lahan; kesadaran pelaku bisnis kehutanan mengenai pentingnya kemitraan dengan masyarakat meningkat, dan kelompok-kelompok masyarakat lebih terlibat dalam proses pembangunan, pelaksanaan pemerintahan, dan proses pembuatan kebijakan alokasi sumber daya. Penguatan kelembagaan ini telah turut membangun ketrampilan dalam mengelola proses pemerintahan yang demokratis.

Di Departemen Kehutanan, perubahan yang terjadi lebih bersifat evolusi, dan bukan revolusi. Namun, perubahan sikap, manajemen pimpinan, dan sikap serta perilaku pimpinan secara perlahan-lahan telah menggantikan pendekatan-pendekatan yang bersifat kaku di masa lalu. Pada level tertentu, masih ada keengganan untuk menyesuaikan terhadap proses reformasi dan pemerintahan partisipatif. Walaupun demikian, peluang untuk terlibat dalam kegiatan tertentu secara signifikan muncul secara teratur. Banyaknya perubahan dalam satu – dua tahun terakhir ini sedikit menyulitkan untuk menyusun laporan perkembangan. Tahun lalu, pemerintah Indonesia telah menyelesaikan Pernyataan Kehutanan Nasional, yang memberikan visi kepada berbagai pihak mengenai masa depan pengelolaan kehutanan. Selain itu, Departemen Kehutanan telah menyelesaikan Renana Pembangunan Kehutanan jangka menengah dan jangka panjang. Rencana-rencana ini meliputi penilaian secara faktual terhadap masalah-masalah yang dihadapi sektor kehutanan dan rencana konkrit untuk mengatasi permasalahan-permasalahan ini melalui kebijakan-kebijakan strategis Departemen Kehutanan. Departemen Kehutanan dan berbagai pihak yang terkait dengan sektor kehutanan juga telah menyelenggarakan Kongres Kehutanan Nasional Ke-empat dan menyepakati pembentukan sekaligus memilih pengurus Dewan Kehutanan Nasional, untuk menciptakan pengelolaan hutan yang lebih demokratis dan akuntabel.

Permasalahan kehutanan juga direspon oleh lembaga-lembaga penting di luar Departemen Kehutanan. Presiden telah mengeluarkan Perpres yang memerintahkan lembaga-lembaga penegak hukum dan kepastian untuk bekerja sama dalam memerangi penambangan liar. Kementerian Koordinator Bidang Politik, Hukum, dan Keamanan telah mengumpulkan para pejabat berbagai Departemen untuk bekerja sama dalam penegakan hukum, pelanggaran kehutanan dan perdagangan. Pusat Pelaporan Dan Analisis Transaksi Keuangan (PPATK) telah mengambil langkah-langkah nyata untuk melacak dan melaporkan transaksi-transaksi keuangan bidang kehutanan yang mencurigakan dan sektor perbankan telah mengambil langkah-langkah untuk meningkatkan akuntabilitas dan *due diligence* lingkungan para debitur dari sektor kehutanan.

### **Masih Ada Peran Untuk Bantuan Donor**

Lebih dari satu miliar USD telah diinvestasikan oleh lebih dari 40 donor dalam bantuan pembangunan kehutanan Indonesia selama dua dekade terakhir. Namun manajemen dan tata kelola kehutanan tetap buruk dan kerusakan hutan masih terus berlanjut European Commission dan Departemen Kehutanan mengadakan lokakarya pada bulan Maret 2006 untuk belajar dari pengalaman ini. Lokakarya menyimpulkan bahwa upaya-upaya donor selama jangka panjang telah berkontribusi kepada proses penguatan kapasitas, baik untuk pemerintah maupun organisasi masyarakat, walaupun investasi tersebut terkadang tidak berhasil mencapai sasaran. Pada saat ini Undang-undang, kebijakan, kelembagaan dan lebih dari itu SDM yang memiliki motivasi dan kompetensi telah tersedia dan peluang untuk berkembang masih terbuka lebar. Dalam hal ini bantuan donor turut berkontribusi dalam menciptakan situasi ini. Kesimpulan utama lokakarya tersebut adalah “dukungan donor dalam bidang kehutanan secara terus menerus sangat penting dan kemungkinan berhasil pada saat ini lebih tinggi dibandingkan pada waktu-waktu yang lalu.”

Para peserta lokakarya sepakat bahwa langkah-langkah untuk memperbaiki tata kelola kehutanan dapat mengarah kepada perbaikan tata pemerintahan secara umum. Banyak hal yang perlu dilakukan dalam upaya membangun pengelolaan kehutanan yang terdesentralisasi. Permasalahan mengenai hak dan akses perlu untuk diatasi dalam jangka panjang. Sementara keberadaan pelaku bisnis kehutanan akan menjadi penting dan berpengaruh. Mengenai penggundulan hutan dan perubahan fungsi lokakarya menyimpulkan, bahwa perbaikan pengelolaan hutan lindung yang masih ada pada saat ini lebih penting ketimbang berusaha untuk melindungi semua hutan yang masih tersisa. Keterlibatan donor harus dapat membantu dalam mencapai tata guna hutan yang teratur dan rasional ketimbang menolak perubahan.

Donor telah membantu membangun pengertian, komitmen, sumber daya manusia, kerangka kerja hukum dan kelembagaan yang pada saat ini bermanfaat untuk menghasilkan perbaikan dalam segi praktek maupun pengelolaan. Pada saat ini terbuka kesempatan yang sangat besar untuk memperbaiki keadaan dan terdapat pula berbagai mekanisme pemberian bantuan yang telah teruji dan berhasil. Pemerintah negara-negara donor sekarang memiliki kesempatan untuk melestarikan dan melanjutkan keberhasilan di masa yang lalu tersebut, dengan lebih terfokus pada keseluruhan titik tolak yaitu pemerintahan, desentralisasi, pengentasan kemiskinan, dan pembangunan kelembagaan, ketimbang hanya beranggapan isu-isu sektoral. Keterlibatan harus melampaui sektor kehutanan dan mendorong hubungan lintas sektoral, menyeimbangkan dukungan untuk membangun struktur-struktur desentralisasi, meningkatkan peran masyarakat, dan melibatkan anggota legislatif pada tingkat nasional dan daerah.

### **Langkah Awal Bantuan Kehutanan di Indonesia**

Bagian ini merupakan ringkasan dari berbagai opsi-opsi utama yang dapat dijadikan referensi bagi donor dan badan-badan pembangunan lainnya bersama dengan pemerintah Indonesia dan para stakeholder kehutanan untuk memperbaiki pengelolaan kehutanan, meningkatkan pertumbuhan ekonomi dan pemerataan hasilnya, memperbaiki kesejahteraan masyarakat miskin dan termarginalisasi, dan menjaga jasa lingkungan dan nilai-nilai keanekaragaman hayati. Hal ini harus dipandang sebagai langkah awal untuk turut memperbaiki masalah-masalah kemiskinan, demokrasi, desentralisasi, investasi, keuangan negara, keadilan, transparansi dan akuntabilitas. Walaupun reformasi besar-besaran di bidang pemerintahan dan demokrasi terus menciptakan peluang-peluang baru, harus diakui bahwa kemajuan-kemajuan yang bersifat praktis masih dapat dicapai di berbagai bidang. Terdapat pula peluang untuk memberikan bantuan “di luar bidang kehutanan,” bersama-sama dengan berbagai lembaga pemerintahan yang dapat berpengaruh terhadap sektor kehutanan, dan juga bersama dengan lembaga swadaya masyarakat (LSM).

**Berbagai Opsi untuk Memperbaiki Tata Kelola dan Pengelolaan (Lihat Bab 3).** Untuk menutupi perbedaan yang ada antara retorika pemerintahan dan hasil yang dicapai, terdapat peluang untuk membantu melalui proses dialog, transparansi, supremasi hukum, desentralisasi dan resolusi konflik. Badan-badan pembangunan dapat mempertimbangkan kegiatan-kegiatan di sektor-sektor berikut :

- **Dialog.** Sangat penting untuk tetap mendukung upaya-upaya yang sedang dijalankan pada saat ini untuk menyelenggarakan dan memperluas dialog nasional mengenai hak-hak yang terdapat di sektor kehutanan, peraturan, peran, dan tanggungjawab. Institusi-institusi baru seperti jaringan kerja organisasi non-pemerintah dan Dewan Kehutanan Nasional yang baru terbentuk (dengan perwakilan dari pemerintah, kalangan bisnis, masyarakat, LSM dan universitas). Ini merupakan langkah awal untuk memperluas dan

- memperdalam dialog tersebut, dan juga untuk meningkatkan kepercayaan dan transparansi. Dialog menuju perbaikan tata kelola harus dilakukan atas dasar keterwakilan suara kelompok-kelompok miskin dan paling termarginalisasi, termasuk perempuan dan etnis minoritas.
- **Transparansi.** Bantuan-bantuan yang dapat mendukung Departemen Kehutanan dan badan-badan yang memegang peranan penting lainnya dalam melaksanakan agenda aksi mengenai transparansi, data, dan pembuatan keputusan, yang dicanangkan pada bulan Februari 2006. Program ini melibatkan pengembangan, pelaksanaan, dan penggunaan *Forest Monitoring and Assessment System (FOMAS)* secara luas – Sistem Pengawasan dan Penilaian Hutan; kebijakan yang komprehensif mengenai keterbukaan kepada publik; dan mekanisme transparansi yang efektif sehingga masyarakat umum dan *stakeholder* yang terkait dapat mengakses informasi secara efektif.
  - **Penegakan Hukum.** Bantuan-bantuan yang diberikan dapat mendukung upaya koordinasi antar-instansi di bawah Menteri Koordinator Bidang Politik, Hukum dan Keamanan untuk memerangi kriminalitas di bidang kehutanan. Upaya-upaya ini mencakup penguatan kapasitas, penguatan hukum, dan membangun preseden melalui penindakan penjahat-penjahat kehutanan kelas kakap, termasuk kejahatan keuangan dan pencucian uang. “Program 11 Langkah untuk Memerangi Pembalakan Hutan” yang diusulkan Departemen Kehutanan memberikan kerangka kerja dan kegiatan-kegiatan yang memerlukan dukungan. Upaya-upaya kelompok masyarakat untuk menggunakan media dan melakukan investigasi untuk mengungkap korupsi dan kejahatan juga merupakan kontribusi penting untuk perbaikan pemerintahan. Diperlukan pula penegakkan peraturan yang dapat membantu mengurangi dampak negatif pembalakan *legal*, mengurangi pembukaan lahan dengan cara membakar, dan memperbaiki penerimaan iuran dan pajak-pajak kehutanan. Upaya-upaya untuk memerangi perdagangan ilegal satwa liar juga dapat direkomendasikan.
  - **Desentralisasi.** Terdapat kebutuhan yang sangat besar untuk memperkuat Dinas-dinas Kehutanan Propinsi dan Kabupaten agar sejalan dengan pemerintah pusat. Pilihan bantuan dapat dimulai dengan dukungan terhadap pengembangan institusi untuk memfasilitasi pelaksanaan dan interpretasi peran dan tanggungjawab pemerintah kabupaten dan propinsi dalam mengelola, melaksanakan, memberikan izin, dan mengawasi kegiatan-kegiatan kehutanan agar sejalan dengan perubahan perundang-undangan tahun 2004. Peluang untuk membantu pemerintah daerah harus diperkuat dengan kebutuhan untuk melakukan cara-cara yang konsisten dan sejalan dengan hukum dan perundang-undangan nasional. Perubahan kelembagaan dan struktural di tingkat pusat mungkin juga diperlukan untuk meningkatkan kemampuan dalam merespon beberapa fungsi dan tanggungjawab yang telah terdesentralisasikan ke pemerintah daerah.
  - **Resolusi Konflik.** Terdapat kebutuhan yang sangat besar untuk mengembangkan cara-cara dan mekanisme dalam mencegah dan mengatasi konflik-konflik yang berhubungan dengan pemanfaatan hutan dan lahan. Upaya ini harus bersifat nasional dan luas, seperti yang diharapkan melalui proses dan kerangka yang tercantum dalam keputusan MPR No.9 tahun 2001. Walaupun terdapat banyak sekali inisiatif-inisiatif resolusi konflik yang bersifat lokal dan dimotori oleh LSM, mungkin akan bermanfaat untuk mempelajari pengalaman pada proses pembuatan Keputusan MPR baru-baru ini. Pengalaman ini dapat

berguna sebagai informasi untuk inisiatif penyusunan peraturan legislatif di masa yang akan datang, seperti Rancangan Undang-Undang mengenai pengelolaan sumber daya alam atau usulan amandemen Undang-Undang Dasar Agraria.

Sebagai bagian dari dialog mengenai tata kelola hutan, salah satu tema yang sering muncul adalah penggunaan lahan, alokasi lahan dan akses terhadap lahan. Pada kawasan hutan nasional yang memiliki tidak terlalu banyak pohon, terdapat argumen dari sudut pandang ekonomi yang patut dipertimbangkan mengenai pemberian izin untuk memanfaatkan lahan dan pemberian hak pengelolaan kepada berbagai kelompok masyarakat. Realokasi dapat mendorong investasi di bidang sumber daya lahan dan hutan, meningkatkan produktifitas dan pendapatan, memperbaiki kesejahteraan masyarakat pedesaan dan mengurangi kemiskinan, serta mengurangi konflik.

#### **Opsi-Opsi Untuk Meningkatkan Pembangunan Ekonomi yang Berkesinambungan (Bab 4).**

Untuk menjembatani perbedaan antara manfaat jangka pendek dan kesinambungan dalam jangka panjang dan untuk mencapai pemerataan dalam distribusi manfaat, terdapat peluang untuk mendukung inisiatif guna melakukan restrukturisasi industri, menyelaraskan kebijakan, dan investasi yang lebih besar pada akses masyarakat terhadap penghidupan yang lebih baik. Lima puluh lima juta hektar kawasan hutan Indonesia yang dialokasikan untuk kepentingan ekonomi (seperti: produksi dan konversi) merupakan prioritas utama karena luasnya lahan hutan tersebut dan pentingnya bagi penghidupan masyarakat maupun bagi kegiatan kehutanan komersil.

- **Restrukturisasi Industri.** Salah satu prioritas utama adalah dukungan untuk melakukan restrukturisasi dan revitalisasi industri kehutanan, yang meliputi percepatan pembuatan hutan tanaman, pergantian mesin pabrik pengolahan kayu, dan distribusi manfaat yang lebih besar melalui peningkatan usaha kecil dan menengah dan keterlibatan masyarakat. Intervensi yang dapat dilakukan seperti mendukung penanaman yang lebih luas; memperbaiki produktifitas hutan tanaman yang telah ada sekarang dan hutan tanaman baru; dan meningkatkan kemitraan antara masyarakat dan perusahaan untuk membuka kesempatan-kesempatan distribusi manfaat, dan juga mengupayakan kawasan untuk produksi. Usaha-usaha untuk meningkatkan penanaman dan produksi log harus dilakukan melalui pendekatan-pendekatan yang tidak bertumpu pada pasar melainkan pada peraturan yang berlebihan, subsidi, pinjaman lunak atau hubungan kekuasaan yang tidak berimbang.
- **Financial Due Diligence.** Restrukturisasi industri memerlukan pembiayaan. Pada sektor keuangan, perbaikan institusi dan praktek-praktek penting untuk memperbaiki *due diligence* dan transparansi dan agar kita dapat belajar dari pengalaman pengelolaan pinjaman di masa yang lalu pada saat Indonesia dilanda krisis keuangan. Harmonisasi kebijakan lintas sektor yang lebih baik diperlukan untuk menghindari adanya kesalahpahaman atau insentif-insentif yang tidak layak bagi penanam, pengolah, dan eksportir log. Keputusan pembiayaan seharusnya tidak hanya berdasar pada kemampuan finansial, melainkan juga penilaian yang tepat atas biaya lingkungan dan biaya sosial.
- **Insentif Positif dan Negatif.** Kemampuan berkompetisi dan merespon pasar yang lebih baik hanya dapat dicapai apabila terdapat insentif yang lebih baik (kebijakan yang lebih baik, kondisi yang lebih kondusif) untuk investasi jangka panjang pada hutan dan fasilitas produksi dan juga keamanan hutan dan fasilitas produksi. Dibutuhkan lebih banyak lagi insentif positif untuk pengelola hutan dari kalangan swasta (misalnya: pembebasan dari peraturan tertentu bagi perusahaan-perusahaan yang taat pada hukum dan tersertifikasi)

selain juga sanksi-sanksi bagi pengelolaan yang buruk seiring dengan meningkatnya aktifitas penegakan hukum. Insentif positif harus berjalan beriringan dengan penegakan hukum dan inisiatif pengaturan untuk meningkatkan sanksi bagi mereka yang tidak patuh. Sebagai contoh, sanksi-sanksi yang lebih berat secara ekonomi diperlukan untuk mengurangi penggunaan api untuk pembukaan lahan dan untuk mendorong perusahaan-perusahaan perkebunan yang ada pada saat ini (kebanyakan terkait dengan industri perkayuan) untuk mematuhi persyaratan swasembada bahan baku kayu yang telah diterapkan pada saat ini.

- **Industi Hilir.** Kegiatan-kegiatan yang menghasilkan nilai tambah tinggi memiliki potensi di masa datang meliputi industri *furniture*, *molding*, bahan bangunan, dan industri hilir padat karya menjadi produk yang dapat dipasarkan, termasuk produk hasil hutan bukan kayu dan kerajinan yang terbuat dari bahan-bahan tersebut. Donor dan LSM telah mendukung aktifitas-aktifitas semacam ini pada industri rotan, selain juga memberikan dukungan pengembangan kelembagaan, bantuan pemasaran, dan ketrampilan manajemen bisnis untuk koperasi para pengrajin. Agar usaha-usaha ini dapat berhasil, maka diperlukan keadaan yang kondusif yang akan menjadi dasar bagi terciptanya pengaturan akses terhadap pasar yang menguntungkan masyarakat miskin dan mendorong investasi oleh golongan ekonomi lemah dan usaha kecil.
- **Pembagian Manfaat.** Untuk meningkatkan kemampuan masyarakat dalam memperoleh pembagian keuntungan yang didapat dari sektor kehutanan komersil, badan-badan pembangunan dapat terus melanjutkan upaya untuk mempromosikan pengaturan perizinan yang bersifat inovatif, perjanjian penggunaan lahan di tingkat lokal, usaha kecil, kemitraan dan kebijakan yang lebih berpihak kepada masyarakat miskin. Terdapat peluang untuk mendukung perubahan peraturan dan perundang-undangan yang memungkinkan akses yang lebih besar bagi masyarakat dan kelompok yang termarginalisasi terhadap sumber daya hutan. Seperti yang diuraikan di bawah, terdapat pula peluang untuk mendukung usaha-usaha berbasis masyarakat, *agroforestry*, dan mata pencaharian tradisional.

### Opsi-Opsi untuk Memperbaiki Mata Pencaharian dan Mengentaskan Kemiskinan (Bab 5).

Untuk memperkecil perbedaan antara hutan yang kaya dengan penduduk yang miskin, kemajuan-kemajuan dapat dicapai dengan menyadari bahwa lahan hutan adalah bagian dari ekonomi pedesaan dan mata pencaharian penduduk. Kebijakan-kebijakan seyogyanya dapat lebih memperhatikan kaitan antara mata pencaharian masyarakat, investasi, pasar dan infrastruktur, ketimbang hanya melihat hutan sebagai bahan baku untuk industri pengolahan yang berorientasi ekspor. Kawasan non hutan dan lahan rusak yang sangat luas di Indonesia (28 juta hektar lahan rusak di wilayah hutan produksi dan konversi) merupakan prioritas utama untuk intervensi karena luasnya kawasan, tingkat degradasi yang sangat tinggi, dan sebagian besar kawasan ini relatif tidak terurus. Kawasan-kawasan ini juga merupakan salah satu lokasi yang paling masuk akal dan paling efektif dari segi biaya untuk mulai memikirkan mengenai rasionalisasi kawasan hutan dan memungkinkan kegiatan-kegiatan dan akses yang lebih besar bagi masyarakat dan berpihak kepada golongan miskin.

- **Hutan untuk Rakyat.** Kemajuan-kemajuan dapat diperoleh dengan mengakui bahwa masyarakat, kelompok adat, pemilik lahan kecil dan kaum miskin yang bergantung pada hutan merupakan *stakeholder* yang sah di sektor kehutanan dan harus memiliki hak, peran, tanggungjawab dan mendapatkan hasil yang seimbang dengan pengguna lahan

hutan lainnya. Untuk menciptakan pertumbuhan ekonomi kehutanan yang lebih adil dan berorientasi untuk menghasilkan manfaat bagi penghidupan dan mengurangi kemiskinan, beberapa pilihan dapat dipertimbangkan untuk lebih terfokus kepada kebutuhan pemilik lahan kecil dan investasi. Badan-badan pembangunan dapat mendukung dan mendorong hutan kemasyarakatan dan usaha kecil dan menengah. Barangkali ini merupakan bagian dari program Perhutanan Sosial. Hal yang dapat dilakukan meliputi pemberian insentif, hak-hak yang lebih jelas dan bantuan teknis bagi kelompok-kelompok masyarakat atau koperasi. Usaha-usaha kecil dan berbasis masyarakat memiliki kelebihan dalam hal menciptakan lapangan kerja lebih banyak dibandingkan perusahaan industri besar, yang terkonsentrasi dan bersifat padat modal.

- **Opsi-Opsi Lain untuk Lahan Terdegradasi.** Hutan kemasyarakatan, perhutanan sosial, *agroforestry*, HHBK (hasil hutan bukan kayu), koperasi dan usaha kecil menengah dapat dikembangkan pada lahan rusak. Lahan yang telah dikonversi, rusak dan gundul merupakan langkah awal yang paling rasional untuk melakukan diskusi yang lebih luas mengenai pengaturan akses dan hak kepemilikan, dimulai dari lahan yang paling tidak penting bagi kehutanan. Dengan contoh-contoh yang baik dan kebijakan dan praktek pengelolaan yang benar, pada akhirnya lahan rusak dapat digunakan secara produktif, dengan beberapa bagian ditargetkan untuk bisa bermanfaat bagi masyarakat miskin dan kelompok-kelompok yang rentan. Pendekatan ini harus dijalankan secara berhati-hati untuk menghindari insentif-insentif yang merugikan, seperti insentif untuk menggundulkan lahan berhutan guna mengajukan klaim kepemilikan lahan.
- **Penggunaan dan Manfaat Serbaguna.** Luas kawasan konservasi dan lindung yang bukan hutan lebih kurang 10 juta hektar. Mengingat sulitnya mengembalikan kawasan ini seperti keadaan semula, opsi-opsi yang dapat dipertimbangkan meliputi pengelolaan kawasan tersebut untuk kepentingan produksi dan jasa lingkungan dan fungsi hidrologis dengan peladangan dan pola penanaman mosaik campuran dengan melibatkan masyarakat. Upaya-upaya rehabilitasi dapat difokuskan pada lereng curam dan zona riparian. Walaupun aktifitas-aktifitas ini utamanya bertujuan untuk melestarikan dan mengembalikan fungsi-fungsi lingkungan, kegiatan-kegiatan ini juga dapat menghasilkan peluang ekonomis bagi pemilik lahan kecil dan masyarakat miskin, apabila dirancang secara tepat.
- **Penyuluhan dan Pelayanan bagi Masyarakat.** Lebih dari pada akses terhadap hutan dan lahan, masyarakat dan kaum miskin membutuhkan keterampilan, kredit, infrastruktur dan pasar. Masyarakat mungkin membutuhkan bantuan teknis dan penguatan kapasitas untuk meningkatkan kemampuan mereka dalam memperoleh keuntungan dari peluang-peluang yang ada dalam memanfaatkan lahan hutan. Organisasi-organisasi yang memberikan pelayanan secara langsung dapat membantu kelompok masyarakat ini untuk mengerti aturan-aturan akses, mengembangkan struktur organisasi yang tepat, meningkatkan keterampilan bisnis dan mengidentifikasi peluang. Pelayanan-pelayanan ini akan menurunkan biaya transaksi masyarakat untuk dapat terlibat dalam kegiatan-kegiatan pengelolaan dan pemanfaatan hutan pada skala yang lebih kecil dengan fleksibilitas yang lebih besar.

**Opsi-Opsi untuk Melindungi Lingkungan dan Keanekaragaman Hayati (Lihat Bab 6).** Untuk menjembatani perbedaan antara manfaat pada saat ini dan rasa kepemilikan pada masa datang, terdapat peluang untuk perbaikan pengelolaan kolaboratif pada daerah aliran sungai,

perlindungan habitat-habitat yang kritis dan perbaikan dalam pembiayaan, baik untuk kawasan yang dilindungi maupun penyedia jasa lingkungan. Kawasan Hutan Konservasi dan Lindung mencakup hampir 40 juta hektar, sehingga merupakan prioritas utama untuk memastikan bahwa kawasan ini dapat menghasilkan jasa sebagaimana fungsinya (dengan asumsi bahwa lahan-lahan tersebut dialokasikan secara tepat untuk nilai-nilai konservasi yang tinggi atau lereng yang curam dan rentan). Jasa lingkungan dan manfaat keanekaragaman hayati pada umumnya tidak terlalu dinilai tinggi dalam kebijakan pemanfaatan lahan. Konsekuensi ekonomis dari tindakan-tindakan yang tidak tepat mulai dapat dilihat, namun biaya untuk menggantikan hutan dan sumber daya alam jauh lebih tinggi dibandingkan biaya pemeliharaan dan pencegahan, seperti yang telah dialami Indonesia dari kasus kebakaran hutan, tanah longsor dan banjir. Opsi-opsi untuk keterlibatan dan dukungan meliputi hal-hal seperti berikut.

- **Kesepakatan dan Rencana Pemanfaatan Lahan Kolaboratif.** Kegiatan-kegiatan pada kawasan hutan lindung dapat meliputi pengembangan peraturan dan kemitraan (di dalam kerangka kerja desentralisasi) untuk mengelola kawasan hutan yang lebih luas untuk perlindungan dan produksi jasa lingkungan. Rencana pemanfaatan yang dikembangkan pada tingkat lokal melalui kerjasama dengan para pengguna pada umumnya dapat mengidentifikasi dan memungkinkan kegiatan-kegiatan ekonomi yang sesuai, seperti agroforestry berbasis masyarakat, pada lahan-lahan tertentu yang tidak terlalu curam atau rapuh. Negosiasi dan kesepakatan yang berbasis masyarakat menciptakan peluang untuk mempertahankan fungsi-fungsi jasa lingkungan, dan juga memungkinkan berbagai pemanfaatan secara tradisional di daerah aliran sungai. Pembayaran jasa lingkungan yang didasarkan pada nilai pasokan air atau penyerapan karbon dapat menawarkan sebagian kompensasi bagi kegiatan pemeliharaan yang lebih baik di dataran tinggi. Inisiatif-inisiatif ini membutuhkan pengembangan kelembagaan dan dukungan kebijakan baik pada tingkat nasional maupun regional.
- **Kawasan yang Dilindungi.** Upaya-upaya untuk melindungi daerah aliran sungai dan hutan lindung juga akan melindungi habitat keanekaragaman hayati Indonesia yang kaya, terutama apabila diintegrasikan dengan sistem wilayah yang dilindungi. Upaya-upaya untuk melindungi “hutan-hutan dengan nilai konservasi tinggi” di dalam kawasan hutan produksi juga sangat penting, terutama pada kawasan yang merupakan bagian dari koridor kehidupan liar yang kritis atau merupakan habitat spesies langka atau spesies asli. Inisiatif-inisiatif diperlukan untuk melindungi kawasan hutan dataran rendah yang bernilai tinggi dan terancam yang masih tersisa pada saat ini.
- **Pengelolaan Kawasan Lindung dan Pembiayaan.** Konservasi keanekaragaman hayati juga membutuhkan upaya-upaya yang terfokus dan berkesinambungan untuk memperkuat efektifitas pengelolaan dan sumber daya sistem kawasan lindung di Indonesia. Dalam hal keefektifan pengelolaan, terdapat kesempatan yang semakin besar untuk mengembangkan pendekatan manajemen kolaboratif, melalui kemitraan dengan pemerintah daerah dan masyarakat untuk melestarikan dan melindungi fungsi-fungsi dan nilai-nilai esensial kawasan lindung. Dalam hal pembiayaan - baik untuk konservasi maupun perlindungan daerah aliran sungai - terdapat peluang yang semakin besar untuk mengembangkan opsi-opsi pembiayaan yang berkesinambungan pada tingkat nasional melalui mekanisme fiskal, pada kawasan lindung melalui biaya-biaya yang dikenakan kepada pengguna, berdasarkan nilai air dan penyerapan karbon. Beberapa perbaikan dalam pengelolaan kawasan konservasi dan lindung dapat dicapai dengan cara mengevaluasi insentif-insentif fiskal dan kebijakan bagi pemerintah daerah dalam

kerangka desentralisasi. Tiga departemen yang paling bertanggungjawab untuk kawasan lindung dan konservasi keanekaragaman hayati –Departemen Kehutanan, Kementerian Kelautan dan Perikanan, dan Kementerian Lingkungan Hidup - baru-baru ini mengusulkan upaya yang terkoordinasi untuk memperbaiki pembiayaan untuk konservasi.

- **Kesadaran dan Pendidikan Masyarakat.** Kesadaran mengenai lingkungan hidup dan pentingnya konservasi sedang berkembang di media-media dan masyarakat umum di Indonesia. Pendidikan lingkungan dan program-program peningkatan kesadaran yang lebih inovatif dapat didukung, termasuk melalui sekolah dan lembaga-lembaga keagamaan. Banyak contoh dan mitra yang ada untuk mendukung program ini, namun investasi yang lebih komprehensif dan bersifat jangka panjang diperlukan untuk mengubah sikap dan praktek-praktek yang ada pada saat ini.

**Langkah Berikut.** Bab terakhir dari laporan ini merupakan sebuah kerangka kerja dan alternatif pilihan yang lebih detail untuk menciptakan sebuah strategi intervensi dalam jangka menengah. Badan-badan pembangunan dapat mensponsori diskusi untuk mencapai kesepakatan mengenai arah sektor kehutanan, untuk kepentingan semua pengelolaan sumber daya alam. Lembaga-lembaga baru banyak bermunculan sebagai mitra yang bermanfaat dalam diskusi ini. Badan-badan yang memberikan bantuan bagi pembangunan dapat juga mendukung inisiatif-inisiatif yang sedang berjalan pada saat ini yang mendapatkan dukungan penuh dari pemerintah Indonesia dan organisasi masyarakat, termasuk inisiatif mengenai transparansi dan kampanye-kampanye memberantas kriminalitas di bidang kehutanan. Rencana jangka menengah dan jangka panjang Departemen Kehutanan juga merupakan awal yang baik untuk pembahasan mengenai langkah-langkah dan kerjasama yang dapat dilakukan. Prioritas dan opsi-opsi yang terdapat pada laporan ini secara garis besar konsisten dengan rencana pemerintah.



*No creature is there crawling on the earth, no bird flying with its wings, but they are nations like unto yourselves. We have neglected nothing in the Book; then to their Lord they shall be mustered.*

*– Qur'an 6:38*

## **1. INTRODUCTION**

Indonesia's forests are among the most extensive, diverse, and valuable in the world. Tens of millions of people benefit from the use of forest lands for traditional livelihoods, subsistence farming, timber harvesting, milling, and export, as well as tax revenues accruing to the Government of Indonesia (GOI).

Indonesia's forests are threatened with rapid and increasing rates of destruction. The State claims 127 million hectares of land as 'forest zone,' more than two-thirds of Indonesia's land area. These lands are allocated by law to produce economic benefits, to produce equitable benefits for all Indonesians, and to protect biodiversity and valuable environmental services. Yet, a large and increasing share -- nearly 30 percent -- of this land has no forest cover. Some estimate that more than two million hectares are being degraded and deforested each year, an area the size of the province of Bengkulu or North Sulawesi.

Forest harvesting and timber processing are vast commercial enterprises in Indonesia. More than half of state forest land is allocated to commercial activities, licensed as concessions to firms engaged in forest exploitation or scheduled for conversion to other uses. In recent years, most estimates agree that at least half the timber harvest is illegal. Conflict is widespread in the sector. One type of conflict results because communities do not have the same rights to use forests as industrial concessionaires, even if they have lived on those lands for generations. Another level of conflict arises when decentralized, autonomous regional governments authorize local forest uses that are inconsistent with national forest laws.

Any forest sector approach must confront the questions of central control, forest degradation, 'forest land without trees,' distribution of benefits and rule of law. Historical, political, economic, or geographic reasons could be offered to explain the situation in the forestry sector, but *money* is also fundamental. For more than three decades, a select elite has exploited Indonesia's forest resources for private gain at the expense of the public good. The vested interests that have gained the most from the current organization and management of the forest sector have little to gain from change. Those most negatively affected by the current organization and management of the forest sector do not have the political voice or power to effect change. Outside interventions or assistance efforts must recognize these features of the political economy in the sector.

### **What Are the Key Issues?**

Many agree that Indonesia's forest sector is in a state of crisis. One key problem associated with current forest management is the large gap between industrial timber demand and sustainable, legal supply. This gap, coupled with corruption and inadequate law enforcement, provides a powerful incentive for illegal logging on a vast industrial scale, resulting in increasing environmental degradation. Another key issue is inequity in the distribution of the benefits of forest exploitation. A sixth of Indonesians live in poverty and half live on less than \$2 per day.

Most of them are in rural areas. Yet, tens of millions of hectares are controlled by only a few dozen large corporate groups that extract more than \$10 million from the forestry sector every day. Rural poverty has long been an issue in Indonesia and new ideas for linking poverty alleviation to forest land management are now being explored. Finally, as in other sectors, weak forest governance, especially regarding transparency, rule of law and decentralization, contributes to these main problems.

The main causes of the current situation are the policies of past governments that:

- Supported growth and concentration of the wood processing industry (plywood and pulp) in a few politically powerful hands.
- Subsidized rapid clearing of forest land for conversion to plantation crops, both oil palm and timber for pulp, to support industrial expansion, rather than re-planting.
- Perpetuated corrupt and collusive practices that insulated the sector from both the rule of law and the laws of markets.
- Centralized administration of forests to the extent that there is little effective management capacity, accountability, monitoring, or enforcement of access, practices, or outcomes in the field.
- Marginalized and alienated forest-dependent communities and indigenous peoples from traditional lands and uses, through denial of rights and access, backed by force.

The current Government of Indonesia is attempting to address these governance and policy issues, which have resulted in:

- Inequity in the distribution of forest sector assets and earnings.
- Marginalization and impoverishment of smallholders and forest dependent people.
- Increased threats to locally important ecological systems and water management regimes, as well as globally important biodiversity and climatic stabilization resources.
- Increased levels of debt and risk in a bloated and inefficient industrial forestry sector.
- Increased conflict over land and forest resources across Indonesia.

Indonesia is at an important transition point. From a condition of forest resource abundance, Indonesia is entering into a period of reduced and uncertain forest resource availability, with a highly degraded growing stock and reduced forested area. Natural forests have been increasingly and unsustainably exploited to produce not only earnings and foreign exchange, but also logged over forests and degraded lands. Exploitation has engendered corruption, concentration of wealth, and conflict with traditional community land uses, environmental values, and non-commercial ways of life. Maturing plantations may increase capacity in the near term, but not enough to meet current levels of demand, let alone any future industrial expansion. Indebtedness and lack of global competitiveness in key industry sectors are the early symptoms of future decline. Recently, on the basis of several technical studies, the Ministry of Forestry (MOFR) concluded that there must be a concerted effort to manage toward a different future state. The Ministry's plans to achieve this future condition are embodied in the Long Term Forestry Development Plan for 2006-2005 (RPJPK), published in May 2006.

The keys to achieving an improved future condition are political will, law enforcement, and increasing reliance on markets and incentives to influence land uses, forest practices, replanting, and future industry structure, without direct government control and resource commitments. The key impediments to change are vested political and economic interests, both in and out of government and the military, a corrupt and ineffective judicial system, as well as weak

governance capacity to achieve decentralized forest management. Governments have made various commitments to reform the forestry sector in the past, embodied in the Consultative Group on Indonesia process, presidential decrees, ministerial priorities and donor agendas. Many of these commitments have not been met.

#### **Role of Donors in this Period**

**Brief History.** From 1985 to 2004, the World Bank, Japan and the European Community were the largest donors to Indonesia's forestry sector. In 1993, at least 40 donors, including international NGOs, were supporting more than 74 projects. By 2003, only a small number of foreign-funded projects continued to operate. This change resulted from the perceived weaknesses of past project approaches, the economic crisis and political transition, the rapid decentralization process, and perceived opening of opportunities to work directly on governance issues, both inside and outside of government. Many donors are now channeling assistance to forestry through a variety of CSOs and NGOs. Some donors are also addressing forestry issues through cross-sectoral approaches focused on decentralization, improved governance, rule of law, and more sustainable natural resources management.

**Perceptions of Donor Effectiveness.** Two recent reviews and workshops (EC, 2006 and DFF, 2004) provide an Indonesian perspective on donor assistance over the last two decades, providing some balance to the criticisms of forest management in the main text. Many donor efforts were judged to be top-down rather than participatory; not fully responsive to stakeholder expectations and concerns; too technically-oriented rather than situated in the political economy of incentives and disincentives faced by institutions and individuals; and output-oriented, rather than focusing on progress toward major objectives (outcomes). Donor interventions achieved many small successes – they improved capacity, transferred global best practices, enriched policy discourse, and heightened political awareness – but against an overall negative trend in the status of forest resources. It is also important to note that during the last decade, there has been a deep economic crisis and a sweeping political transition, with changing roles and responsibilities of actors at every level, which impeded progress on comprehensive, integrated and participatory approaches. During this period, the GOI, the donors, and NGOs had very different priorities for forest policy reform. Consensus and collaboration among donors is important, but that consensus must also be shared by key Indonesian stakeholders.

**Ways Forward.** The DFF review suggested new communication strategies and constructive cooperation approaches with different partners, recognition of the donors' limited financial leverage, collaboration with progressive Indonesian actors to build long-term commitment and trust (while minimizing non-productive confrontation), and mainstreaming forestry issues into broader development frameworks.

#### **What are the Opportunities for Change?**

Despite the poor past performance of forest resource governance and management, new opportunities make this an appropriate time to consider interventions toward improvement in the sector. Civil society has emerged as a much more important factor in Indonesian political affairs. This is manifested in a freer press and more visible and vocal actions by NGOs and community members. This creates an enabling environment for promoting wider awareness of environmental degradation and creating constituency to demand change.

The new Government since 2004 has committed to fighting corruption and illegal logging. New teams of well-qualified senior officials are in stable positions in key ministries, providing an opportunity for programs that can be carried forward to the next election cycle. Government is

increasingly responding to civil society calls for greater transparency and participation in decision-making.

Increasing democratization is evident from the central to the district level of government. The decentralization process has created new political power at the regional level, where local political leaders are becoming more responsive to their constituents, who are increasingly involved in district level development planning. Legislatures at every level are also now more independent and engaged in policy-making, which presents an opportunity and an entry point for reforms in governance. However, this also presents the threat of the politicization of forest governance and management decisions.

**Indonesia's National Forestry Statement**

(Based on multi-stakeholder consultations in 6 main regions in 2001-5 and agreed in a National Workshop in December 2005. Reprinted in the RJPPK 2006.)

Indonesia's forest resources, which function as one of the components of the life support system, constitute a trust from God for the people of Indonesia to be managed wisely so that they can provide optimal and sustainable benefits. Up to now, Indonesia's forest resources have provided benefits as one of the main financing modes of national economic development, in the form of economic growth, labor absorption and regional development.

The commitment to manage forest resources is already in effect and aims toward forest preservation and sustainable development. In fact at this time, however, there are still weaknesses in management that are causing a decline in the quantity and quality of forest resources, which at last are causing the appearance of environmental damage, economic losses, and social impacts at a very worrying level.

It is recognized that there are a diversity of desires, goals and interests to various parties, including local, national and even global communities, for the benefits of forest resources. The solution for overcoming the issues above will be based on agreement by concerned forest sector stakeholders, based on equity and justice, as well as highlighting proposed management principles and existing values.

Starting now, the Indonesian nation is determined to make every effort to manage forests sustainably, prioritizing in the short run the protection and rehabilitation of forest resources for the greatest possible prosperity and justice for the people.

In both government and civil society, there is increasing recognition of the rate and severity of decline in the quality and extent of forest resources. People are increasingly concerned about degradation of forest resources, which is linked in public perceptions to increasing risk of fire, landslides and flooding. Declining resource availability is already affecting industrial production and exports. This has negative implications for employment opportunities, which has implications for poverty alleviation. Both government and some segments of industry recognize that the sector is at a transition point, requiring structural intervention or alternatives.

There is also increasing recognition that forestry issues are intertwined with other issues of governance (e.g., corruption, law enforcement) and administration (e.g., industrial licensing, tax collection, and land access/rights). Innovative approaches can be considered with many agencies and ministries, including – but not limited to – the Ministry of Forestry. Public consultation and media-based approaches also are becoming an important opportunity. Press reports and mobilized public opinion have had some impact on the fight against corruption, in particular with illegal logging, landslides and environmental protection. Public awareness and media can create pressure for improved

governance, increased transparency, and better performance on the ground.

Within the last year the GOI and the MOFR have taken several key steps toward improving the legal framework for forest management and the institutional framework for dialogue with stakeholders. In December 2005, after a long consultation process, Indonesian stakeholders agreed on a National Forestry Statement (see text box), a key outcome of long-standing donor support for the National Forestry Program. Revisions to key forest management regulations have been developed in consultation with stakeholders and civil society organizations and a special law on forest crime has been proposed. The Fourth National Forestry Congress was convened in September 2006 with wide participation and democratic management. The Congress achieved its objective of creating and electing officers for a new institution charged with promoting multi-stakeholder dialogue on forestry issues, with representation from government, industry, communities, NGOs and universities.

Yet there are still risks and difficulties in improving forest sector management and performance. While it has created some opportunities, the decentralization process has also created difficulties of coordinating policies and actions between the three levels of government. Capacity for appropriate forest management at the local level remains weak. This also raises issues because of uncertainty of authority, jurisdiction and administrative boundaries. Some other potential risks have been known for some time. For example, continued involvement of the security forces in business activities in the forestry sector complicates regulation, management and law enforcement initiatives. Corruption remains an important challenge, as well.

### **What Improvements Are Needed?**

Indonesia's framework of laws and political pronouncements establish certain goals for the forest sector, including economic output, equitable distribution of benefits to improve people's welfare, watershed protection, and conservation. Some may question if these goals are appropriate, or democratically established. However, it is clear that Indonesia's policies and management practices are not succeeding in meeting these basic goals. This indicates a need either to change the goals or to improve the policies and management practices to meet those goals. In fact, a mix of both will probably be necessary.

Any proposed 'solution' to forest sector problems or crisis will be based on value judgments. In general, this report avoids proposing specific solutions, but rather explores options for improving forest resource management and governance in line with Indonesia's framework of goals for the sector. Yet, based on the desires embodied in Indonesia's laws and commitments, some needs can be identified without prescribing exactly how these needs should be addressed. It appears that the forest sector needs more equity, transparency, tree planting, resource stewardship, market forces, value added processing, labor absorption, and rule of law. At the same time, there appears to be a need for less corruption and impunity for law breakers, industrial demand, financial risk, environmental degradation, centralized control, and greed.

The recent long term plan (RPJPK 2006) provides the basis for a forward-looking, empirically-based approach to forest sector management and the newly formed "Forestry Council" (Dewan Kehutanan Nasional, a result of the 4<sup>th</sup> National Forestry Congress held in September 2006) provides the basis for agreement on approaches through discussion with the real stakeholders, beneficiaries and losers. Interventions, policies, assistance or efforts toward improvement may begin to build on these recent achievements.

### What Would Success Look Like?

Different Indonesian stakeholders still have different perceptions of the goals and benefits of sound forest management and the path to arrive there. Without a single guiding set of goals, not yet fully defined by Indonesians, success in achieving improved forest management cannot be defined precisely. However, based on a synthesis of views from different stakeholder groups, it is possible to sketch in some of the basic choices that could be made to form a spectrum of possible changes. The status quo is a choice, involving continued over-harvesting and the future implications of environmental degradation. Incremental change toward a new forest vision could be another path – gradually introducing more openness, rule of law, and equity and lessening over-exploitation and environmental degradation – yet working within established forest management structures and institutions. Indonesia is now moving onto this path with the institutional and policy changes noted above. Sweeping change is another possible option, taking bold steps toward a dramatically different future forest vision. The table on the following page illustrates this spectrum of scenarios along with possible indicators and characteristics for comparing them.

**What Can Be Done?** Development assistance agencies considering interventions should recognize both the challenges and opportunities for work on forestry issues, including links to governance, rule of law, equity, poverty alleviation, rural development, and gender and environmental education. The preceding discussion outlined several alternative visions of the future, based on incremental change – which might be quite feasible – and sweeping change – which would face greater obstacles and challenges. Thus, one fundamental question about intervention is whether to work to improve the status quo or change it. Objectives of donor governments and development assistance agencies vary widely – and have an important political component. However, many seek to increase economic activity, reduce poverty and protect the environment. Some further seek to increase equity, justice, and human rights. This report adopts a structure for analyzing issues and proposing alternatives based on the World Bank's *Forests Strategy and Operational Policy (2004)*, which focuses on the role of forests in providing economic benefits, poverty alleviation and livelihoods, and environmental service values, as well as the important issue of governance. These goals are also embodied in Indonesia's forestry laws and planning documents. Each chapter of this document concludes with a brief table summarizing possible options and interventions that could be pursued to address key issues addressed in the chapter. The final chapter summarizes the various options into an organizing framework that serves as one way of prioritizing activities. However, the report is also based on the idea that many agencies, stakeholders and partners need to work together toward improved forest governance and management and the options provided allow for many different approaches and perspectives on priorities and programs.

A Spectrum of Possible Alternative Future Scenarios			
	Status Quo Scenario	Incremental Change Scenario	Sweeping Change Scenario
Governance	<ul style="list-style-type: none"> <li>▪ Inaction on most pressing issues of forest governance and management</li> <li>▪ Continued illegal logging</li> <li>▪ Continued conflict over land and resource access</li> </ul>	<ul style="list-style-type: none"> <li>▪ Efforts to improve rule of law and industrial organization</li> <li>▪ Little action on land rights, access, and allocation</li> <li>▪ Gradually increasing transparency</li> </ul>	<ul style="list-style-type: none"> <li>▪ Efforts to improve rule of law and reform industrial organization</li> <li>▪ Reformed land rights and access</li> <li>▪ Rationalized forest estate: degraded or non forest areas moving into higher valued uses</li> </ul>
Economic Output	<ul style="list-style-type: none"> <li>▪ Inefficient, indebted mills operate until forest fully depleted</li> <li>▪ Decline in industrial output and employment</li> <li>▪ Lack of competitiveness</li> <li>▪ Lost revenue to GOI</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improved and more efficient commercial forest industry</li> <li>▪ Increasing reliance on plantation-grown timber</li> <li>▪ Temporary restrictions on processing capacity</li> <li>▪ Mill retooling and expansion in long run</li> </ul>	<ul style="list-style-type: none"> <li>▪ More efficient commercial industry</li> <li>▪ Increasing reliance on plantation grown timber</li> <li>▪ Mills curb demand in short run, then retool and expand in long run</li> <li>▪ New forms of industrial organization of timber production emerge</li> </ul>
Poverty	<ul style="list-style-type: none"> <li>▪ Increasing environmental problems and social conflict based on scarcity and access to land and forest resources</li> <li>▪ Poor people and communities not engaged in sharing benefits of current forest management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Employment in plantations, mills, and value added processing</li> <li>▪ Small and medium enterprises developing in downstream processing sectors</li> </ul>	<ul style="list-style-type: none"> <li>▪ Employment in plantations, mills, value added processing</li> <li>▪ SMEs developing in downstream processing sectors</li> <li>▪ Secure access and land reallocation spurs investment by smallholders</li> <li>▪ Increasing market opportunities for smallholder timber growing</li> </ul>
Environmental Services	<ul style="list-style-type: none"> <li>▪ Continued forest loss and land degradation</li> <li>▪ Loss of environmental services and biodiversity</li> <li>▪ Increased risks and costs associated with fires and erosion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Forest degradation slows</li> <li>▪ Encroachment may continue in open access areas: Watershed and Protected Areas</li> </ul>	<ul style="list-style-type: none"> <li>▪ Forest degradation slows</li> <li>▪ Improved delivery of environmental services on formerly degraded areas</li> <li>▪ Forest cover may improve as smallholders engage in agroforestry</li> </ul>
Gainers	<ul style="list-style-type: none"> <li>▪ Elites and industrial enterprises with access rights</li> <li>▪ Corrupt officials in short run</li> <li>▪ Foreigners buying exported timber products at low prices</li> <li>▪ Regions with good forests</li> </ul>	<ul style="list-style-type: none"> <li>▪ Elites and industrial enterprises with access rights</li> <li>▪ Individuals employed in commercial sector</li> <li>▪ National treasury</li> <li>▪ Regions with good forests</li> </ul>	<ul style="list-style-type: none"> <li>▪ Industrial firms with adaptability</li> <li>▪ Communities gaining secure access to land</li> <li>▪ Middlemen supplying smallholders</li> <li>▪ National treasury</li> <li>▪ Regions with large degraded areas</li> </ul>
Losers	<ul style="list-style-type: none"> <li>▪ National Treasury</li> <li>▪ Rural poor</li> <li>▪ Indonesian society at large</li> <li>▪ Future generations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Displaced groups from forest concessions</li> <li>▪ Poor groups not able to participate in commercial forestry</li> </ul>	<ul style="list-style-type: none"> <li>▪ Advocates of centralized control over forest lands</li> <li>▪ Current holders of rights on lands that are removed/reassigned from the state forest zone</li> </ul>

## **How To Do It?**

This report focuses on issues and options for addressing them. Many commentators desired more information on “how” the options could be implemented workably, especially in view of the complexities of coordination and institutional authority in Indonesia in this era of decentralization. However, the report takes the stance that the stakeholders must first agree on “what” needs to be done, in what priority. Various options from easy to difficult are suggested. After selecting the “what,” the “how” will become easier and more obvious.

It is clear that substantial political will is needed to accomplish many of the reforms discussed in this document. At the same time, there is not substantial disagreement about “how” to undertake regulatory reforms or to build capacity at the regional level. Involving stakeholders in participatory processes and moving from process to substance are more difficult. Where a range of possible alternatives are present, pilot tests and case studies can be a useful way of testing alternatives at small scale before full implementation. Much of this kind of work has been done over the past decade and choosing “how” may not require new approaches, but rather a careful review of recent experience and innovations at the decentralized level. Addressing land use issues is considerably more difficult and will need both institutional support and time to achieve consensus on land use decisions and allocations on a case by case basis across Indonesia. A framework for “how” laid out in MPR Decree No. 9 of 2001 is based on harmonizing laws and establishing institutions charged to settle conflicts. Even this complex issue can be addressed partly through reliance on existing research results, improving village governance systems, and building on civil society networks that are available to assist in pilot testing alternative approaches and then scaling up. Deciding what to do and when to do it seem much more problematic.

Indonesia has adopted a National Forest Statement and vision that calls for a more equitable, efficient, and environmentally benign approach to managing forest resources. In its medium term strategy, the MOFR has adopted the aim of ‘creating sustainable forest management that helps to improve the people’s welfare, especially for those who rely on forest resources.’ One reasonable short-term approach for development assistance agencies would be to sustain the dialogue and public participation processes that helped to create this vision. Consultative processes are essential for continuing to work out the priorities, procedures and details for translating the vision into programs that can be implemented. The question of how much forest is enough and how should it be allocated cannot be answered through technical analysis, but only through a concerted long term political dialogue process. Institutions, mechanisms, and processes could be supported for communicating with the public, increasing transparency in decision making, and gathering information on public opinion, especially among specifically affected groups of stakeholders. Understanding that this is a political process also points to the need to work with political agencies, legislatures and representative groups, not just technical agencies in the executive branch.

The Ministry of Forestry has developed and published a Long Term Development Plan (2006-2025), which explains the GOI’s priorities and plans for addressing current issues in the forestry sector, in particular targeting poverty eradication, sustainable forest management, and decentralization. The Ministry’s Medium Term Strategic Plan 2005-09 (revised 2006) describes the annual targets that the Ministry is striving to achieve. This report provides an overview of the sector, a framework for understanding issues and trends, and some options for areas of support. This report does not address in detail how the world of donors should assist the Government of

Indonesia on forestry issues. Specific priorities and assistance programs will emerge as the result of discussions between the GOI and individual donor agencies.

In September 2006, hundreds of forestry sector stakeholders from communities, government, businesses, civil society organizations, and universities gathered at the 4th National Forestry Congress voted to create a National Forestry Council (*Dewan Kehutanan Nasional*, or DKN). The DKN is to become a credible, capable, transparent, fair, and democratic organization to support good forest governance that gives rise to people's welfare and forest preservation. The DKN is a constituent-based organization formed as the implementation of Article No. 70 of Law No. 41/ 1999, which promotes community and civil society participation in forestry affairs. The DKN aims to realize cooperation among all forestry stakeholder institutions to improve policy, management, cooperation, and clarity of law. DKN will have functions related to collaborative policy formation, facilitation and mediation in forestry management, and information and analysis about forestry issues ([www.hutan.net](http://www.hutan.net)). The elected Council consists of 13 voting members from the five stakeholder groups and 5 additional non-voting members. The Council would be elected by the National Forestry Congress every four years (KKI-4 2006). This new institution potentially provides a useful entry point for dialogue on issues and assistance strategies.

Building on the GOI's plans and goals for the future, as well as the transitional nature of the sector now, it would be reasonable for development assistance agencies to adopt a forward-looking approach that defines steps toward an improved future state – as opposed to a backward-looking approach, focused on the status or measurement of land lost or gained. It also would be reasonable for agencies to focus on key priority land areas or forest types with realistic and empirically-based concepts of possible actions – as opposed to dealing with the entire forest estate and governance system as a whole. Although there is always room for more accurate data, this document is based on the idea that there is substantial consensus on the broad outlines of the problems and solutions at this point in time and there is an opportunity to build on that.

Even when wide agreement on future goals is achieved, many specific cases would remain of past injustice, technically inaccurate land classifications, claims for compensation, and active conflicts over land or resources. To address this issue, development agencies could support the GOI and civil society organizations to establish institutions and mechanisms for resolving conflicts, providing compensation, and adjudicating land and resource claims. This process is, in fact, already mandated by a parliamentary decree passed in 2001. Any steps taken in the short run would build the foundation for a future restructured system of forest resource management, with clearer and more equitably distributed rights and control. In the medium term, in collaboration with government and after some agreement on vision and goals, development agencies could begin working on targeted governance reforms and integrated investments aimed at improving conditions on specific types of land.

### **What's Ahead?**

This report adopts an incremental framework, while recognizing and reporting on possibilities for more dramatic changes, where appropriate. The broad objective of the options and alternatives outlined in this report is to link policy, governance and legal reforms to interventions that improve future efforts to restore and enhance the economic productivity of the commercial forestry sector, increase and expand livelihood and poverty alleviation opportunities, and improve sustainability of environmental service delivery and conservation protection on specific areas of

forested land. The report adopts these three key objectives as organizing principles. Indonesia's designation of four main categories of forest functions and an assessment of forest cover quality provide the other elements of an organizing framework that will be used to present options systematically. The framework can also be used to give a sense of priority among the various alternatives discussed.

The following chapters provide an overview of forestry issues along with technical background and analysis, leading to a synthesis of options for assistance related to each of the main issues. Chapter 2 provides an overall introduction to the basic legal framework and discusses Indonesia's forest resource area, including tree cover, degradation and trends. Chapter 3 discusses the important issue of governance, including the evolution of the political economy and the role of dialogue and consultation with public constituencies. Other important governance issues that cut across all land types include decentralization, law enforcement, managing conflict, access and tenure, information, data and transparency. Chapters 4, 5, and 6 each focus on one of the overall objectives for forest allocation and management: economic productivity, livelihoods and poverty reduction, and environmental services. Chapter 4 discusses the role of forest lands in supporting sustainable economic development mainly through industrial applications. Chapter 5 discusses the role of forests and land in providing livelihoods for smallholders and contributing to poverty reduction. In particular, this chapter presents relatively new information on the distribution of people and the poor across the forest estate. Chapter 6 discusses the ways that forested and non-forested lands provide environmental services and biodiversity values, and how those environmental services are linked to the land's physical characteristics. Chapter 7 includes a summary of options for possible interventions and a possible prioritization scheme for different types of forest land.

The technical information presented here is highly summarized from secondary sources and supplemented with new analysis where needed. This is not intended as a detailed primary reference, but rather an overview of issues. For more detailed information, the reader is directed to deeper primary sources, referenced later. Readers well-acquainted with Indonesian forestry issues, may wish to turn to the end of each chapter to review the synthesis and suggestions. Readers looking for a broad introduction to forestry issues may wish to review all the chapters.

**Ministry of Forestry**  
**Identifies Similar Problems and Priorities**  
*(MOFR Strategic Plan for 2005-2009)*

**Vision:** Creating sustainable forest management that improves people's welfare, especially for those most reliant on forest resources.

**Problem Statement**

- In general, the level of welfare is still low for people living around the forest area
- Lack of support from stakeholders on forest development. Many tend to under-value the forest and see only the timber value
- Plantation rehabilitation and development is needed, but takes a long time, and high cost, but is not attractive to the financial sector (not "bankable")
- There is a large gap between industrial timber demand and sustainable supply
- The Sustainable Forest Resource Management System has not been optimal in fulfilling economic, social and environmental objectives
- Laws to support sustainable forest management are incomplete and law enforcement in the forestry sector is still weak

**Mid Term Objectives:**

- Implementation of forest gazettement, so that forest function and extent is guaranteed and optimum
- Implementation of improved forest management and regulation, including for forest rehabilitation and reclamation
- Sustainable use of biological resources and ecosystems
- Improvement of forest management effectiveness at province and district/town level
- Recovering, maintaining and improving the forest and land function in supporting the life support system
- Development of people's involvement in forest development
- Creating forest apparatus that is clean and with authority
- Creating business stability in the forestry sector
- Synchronizing laws and regulation

*To the Indonesian people forests are very dear. Not only because they provide food and income,.... but also because they form the foundation of the diverse cultures and beliefs that form the country's wealth.*

*– Emil Salim, 2006*

*The goal is to elevate the position of the poor and vulnerable to strike a better balance with that of the strong and privileged.*

*– Emil Salim, 2004*

## 2. FOREST LAWS AND FOREST RESOURCE STATUS

As a basic introduction to Indonesia's forestry sector, this chapter provides a brief overview of the legal framework for managing forest lands and the status of forest resources. This sets the stage for discussing the different types of forest lands and the functions assigned to each in later chapters. The land classification system is discussed and used as an organizing principle in this document, while also acknowledging that not all agree on these classifications. The chapter also provides quantitative summaries of the current status of these lands and trends in forest cover. There is also some discussion of the environmental and physical characteristics of these lands, which are not always appropriate for the designations assigned. Regional and geographic trends in forest cover are also discussed.

### 2.1 Introduction to Legal Framework

Indonesia's Constitution establishes the basis of state authority over land and natural resources in Article 33, which states "Land and water and the natural riches therein shall be controlled by the State and made use of for the greatest welfare of the people." This concept is further articulated in the recent Forestry Law, revised in 1999, which establishes types of forest lands and the management objectives assigned to each. These two concepts – overarching objectives for forest management and forest land designations – provide the basis for the analytical framework employed in this paper.

#### 2.1.1 Basic Forestry Law

The preamble of Law Number 41 Year 1999 on Forestry states that "forest is a blessing controlled by the State to provide multiple uses. It should be managed, utilized, and maintained for people's maximum welfare in a good, fair, wise, transparent, professional and accountable manner. Sustainable forest management should accommodate community aspirations and participation, as well as customary, cultural, and social values."

**Basic Principles and Objectives.** Articles 2 and 3 further develop the basic principles that "forestry administration shall be based on benefit and sustainability, democracy, equity, togetherness, transparency and integration" and "shall be oriented for people's maximum welfare based on equity and sustainability principles." All this is to be achieved through forest administration oriented for:

- Ensuring that forests are sufficient in area and evenly distributed;
- Optimizing the variety of forest functions which cover conservation, protection and production functions in order to gain balance and sustainable benefits from the environment, social, culture and economy;
- Improving the carrying capacity of watersheds;

- Improving the capacity to develop community potentials and empowerment through participatory, equal and environmental-friendly ways so as to establish endurance against external change; and
- Securing equal and sustainable distribution of benefits.

Thus, Indonesia's legal framework for forest management is based on three broad goals of promoting economic growth, providing widespread and equitable benefits to society (livelihoods and poverty reduction), and sustaining environmental services and benefits. These goals are consistent with the World Bank's policy on forest management (2004). However, Indonesia is not succeeding in meeting these goals, especially in the areas of sustainability and equity.

Article 18 requires that the Government maintain "adequate forest area and forest cover ... *to optimize the environmental, social and economic benefits of local communities*" (emphasis added). Article 23 states that forest utilization "shall be aimed at obtaining optimal and fair benefits for people's welfare while maintaining its sustainability." The next article reiterates the multiple use concept, allowing that all types of forest areas can be used, "except nature reserves and core zones of national parks." Article 19 allows changes in allocation of forest area with the approval of the House of Representatives.

**Government Control.** Article 4 assigns forest control to the government, which can "regulate and organize all aspects related to forest, forest area and forest products; assign the status of certain area as forest or non-forest area; and regulate and determine legal relations between man and forest, and regulate legal actions concerning forestry. Forest control by the state shall respect customary law, as long as it exists and its existence is recognized and not contradicting national interests." Article 4 does not assign responsibility for poverty alleviation to the MOFR. Article 70 obliges the Government to encourage people's participation through various effective and efficient forestry activities and to effect this participation through assistance from a stakeholder forum. The newly formed National Forestry Council (DKN) is an effort to implement this provision through the formation of a multi-stakeholder consultative and advisory body ([www.hutan.net](http://www.hutan.net)).

**Community Uses of Forests and Livelihoods.** Chapter IX regulates rights and access of "customary law communities," which (as long as they exist and are recognized) have the rights to: collect forest products for daily needs, undertake forest management under customary laws (that do not contradict national laws), and be empowered for improving their welfare. Chapter X on community participation states that communities can utilize forest and forest products and be informed about plans of forest allocation, forest product utilization and forestry information. Communities also have the right to compensation for losing access to their forests due to its designation as forest area, in accordance with prevailing laws and regulations. Communities are obliged to participate in maintaining and preventing forest areas from disturbance and damage and can seek assistance and guidance in this task, even from third parties.

Currently, several of the principal implementing regulations from Law 41 are under revision and alternative arrangements are under discussion for use and control of forest lands, especially areas without forest cover.

### 2.1.2 Other Laws and Decrees

Many other laws and legislative decrees also have some bearing on forest resource management.

This section strives to introduce the key laws of concern, not to describe all laws and regulations in detail.

**MPR Decree.** The Parliamentary Decree (*Majelis Perwakilan Rakyat*, or MPR) No. IX/2001 on Agrarian Reform and Natural Resources Management creates a mandate for the legislature and the President to implement policies on agrarian reform and the management of natural resources according to the principles of sustainable development, national integrity, human rights, legal supremacy, justice, democracy, participation and people's welfare, taking into consideration the social, economic and cultural conditions of the community and the ecological functions of natural resources (IBSAP 2003). The decree calls for review and synchronization of existing laws and regulations, review and inventory of land use, ownership and control, implementation of reforms to make land allocation and control more equitable, conflict resolution processes and institutions for land and forest resources, rehabilitation of degraded ecosystems, and improved strategies for sustainable use of natural resources. This decree has not yet been fully implemented, but contains principles and approaches that have some potential to reduce conflict both among the laws and the users of natural resources.

Currently, there is an effort to develop a new umbrella law on Natural Resource Management as one element of follow up on the MPR Decree mentioned above. The Ministry of Environment has been developing this rule with consultation and support from NGOs and universities. This draft law seeks to harmonize and reform government policies on land and natural resources management, which are regarded as too sectoral in nature. Sectoral rules (including Law 41 of 1999 on Forestry) often overlap each other and treat natural resources as exploitation commodities without regard for sustainable management principles. BAPPENAS, the Ministry of Environment, and NGOs have organized public consultation forums at the regional, provincial and district levels with the objective of gaining wider acceptance of the law by all stakeholder groups. The draft law has not yet been enacted.

**Decentralization Laws.** The decentralization laws originally adopted in 1999, and subsequently revised<sup>1</sup> in 2004, reallocated roles and responsibilities for forest land management and revenue between the central, provincial, and district governments. In particular, a substantial share (80%) of forest revenues are now returned to regional governments according to a complex formula based on where the revenues originated. Most of these revenues go to district governments with provinces getting only about a fifth of the total. Although the center retains planning and policy authority for natural resources utilization and conservation, the district governments are responsible for agriculture, environment, and land. Uncertainty over the precise scope of responsibilities of regional governments has created vertical conflicts of authorities in the forestry sector. Barr, et al. (2006) analyze decentralization issues in the forestry sector during this period.

The revisions adopted in 2004 introduced a number of innovations, including direct elections of Heads of Regional Governments and provisions to protect the investment climate by ensuring greater consistency among regional laws and between regional rules and central rules. Law 32/2004 on Regional Administration clarified roles and responsibilities between central, provincial, and local governments. The revised law provides more detail on the sectoral affairs that provinces and districts must handle, including both mandatory and optional functions. Mandatory affairs include planning, zoning, public order, health, education, small business

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<sup>1</sup> Law No. 22 of 1999 as subsequently revised by Law No. 32 of 2004 on Regional Administration and Law No. 25 of 1999 as subsequently revised by Law No. 33 of 2004 on Fiscal Balance Between the Central Government and Regional Governments.

development environmental control, agrarian services, and government administration. Recognizing that different regions have unique conditions and potentials with respect to natural resources, such as mining, fishery, agriculture, horticulture, forestry and tourism, the law provides that authority over these affairs is optional, depending on the local resource base. After verification of the needs and conditions at the region, and based on regional recommendations, the central government may hand over or delegate certain functions or affairs to the regions. However, the revised laws have not resolved all the uncertainty about the roles and functions of the central agencies, the sectoral ministries (whose laws have not been revised in light of decentralization) and the regional governments. In particular, there is uncertainty about the management of public servants and the responsibility for specific functions within the 'obligatory' sectors delegated to the local governments.

To address conflicts and inconsistencies among laws and levels of government, Law 32/2004 clarifies the status and limitations of regional regulations, which must be submitted to the center for review. Regulations that contradict the public interest or laws with higher legal status may be annulled by Presidential decree within 60 days after receipt and review. The law also clarifies the relationship with sectoral laws: all provisions of the laws and regulations that directly relate to the autonomous regions – specifically including laws on forestry, irrigation, fishery, agriculture, health, agrarian affairs and horticulture – must refer to and be conformed to Law 32/2004. Regarding natural resources, the legislation calls for proper utilization and maintenance, control of impact, conservation, profit sharing, and joint licenses for public service.

Law 33/2004 on Fiscal Balancing between Central Government and Regional Governments specifies the rules for sharing revenue generated from natural resources, including forestry. For forestry, the basic allocations remain the same as in the original decentralization framework. Revenue from Forest Exploitation Right (IHPH) and Forest Resource Provision (PSDH) is divided 20% for the Government and 80% for the region concerned. The IHPH is further divided 16% for the province and 64% for the producing districts or cities (*kabupaten* or *kota*). The PSDH is further divided 16% for the province, 32% for the producing districts, and 32% distributed in equal portions to other districts and cities within the province concerned. However, the law does clarify that the Reforestation Fund must be allocated and used for rehabilitation (e.g., not for DAK, as previously specified). Revenue from Reforestation Fund is divided 60% for the Government to use nationally to rehabilitate forests and land, and 40% for the producing region to rehabilitate forests and land in the producing districts and cities.

**Agrarian Law.** The Basic Agrarian Law (No. 5 of 1960) also has some bearing on the management of land and the process of designating land rights, but is not reviewed in detail here. The GOI formulated National Land Policy Framework (NLPF) in 2004 and 2005 to review and renew land policy and to improve existing land laws and regulations, including the Basic Agrarian Law. This framework is intended to resolve increasing land problems and to implement Decree of the People's Assembly TAP MPR No IX/2001.

During development of the NLPF, through consultations, focus group discussions, and policy workshops both in Jakarta and the outer islands, three main issues emerged that resulted in revisions to prior versions: land reform, communal land rights, and legal guarantee of land holding. Although it is still a draft, the new NLPF strives to establish consensus and a framework for addressing nine key issues of land, tenure and access. These are: 1) reform of legislation pertaining to land, 2) increase community based land reform and access to land, 3) develop the land administration institution, 4) increase and accelerate land registration and management, 5)

develop land use, especially in coastal, small islands, and border areas, 6) develop land-based information system, 7) develop land dispute resolution approaches, 8) develop land taxation system, and 9) protect and empower communal land right (hak ulayat) to increase people's welfare and protect people's rights over land. The NLPF is supposed to become the legal basis for making land policies for the next five years, but it has not yet been finally adopted.

A newly passed law on the Agricultural Extension System (Law No. 16/2006) aims to empower farmers and agribusinesses improve their life and livelihood and enhance their productivity, business efficiency, income and welfare. The law aims envisions decentralized, participatory, transparent, self-supporting, equitable and justifiable delivery of agricultural extension services. The extension system would be designed to improve managerial and entrepreneurial skills, to help develop farmer organizations that are competitive and sustainable and to help respond to opportunities and challenges that farmers and agribusinesses face. This system, though managed by the Ministry of Agriculture, may offer opportunities for smallholders in the forestry zone to improve their access to information, resources, and markets.

**Laws on Water and Watershed Management.** Law Number 7/2004 on Water Resources integrates responsibilities across ministries (with primary responsibility under the Ministry of Public Works) to improve water resources management and allocation at the national level. This creates a new link and potential opportunity for watershed and forest management in the uplands. The water resources law creates new frameworks and responsibilities for local governments' integrated management and conservation to ensure better quality, quantity, and flow of raw water from the watersheds for the benefit of downstream users. To improve access to sufficient water quantity and quality, water utilities (or the local governments that own them) will need to expand use of upland springs and other water sources. The law recognizes the need for efforts to mediate conflicts, establish upstream-downstream institutional linkages, and set up regulatory mechanisms – all of which would have some bearing on management and control of some areas of the state forest zone. The law allows for water user fees, compensation for environmental services, and enforcement (McLernon and Sugiri, 2004), which creates some opportunities to explore mechanisms for payments for environmental services (discussed in Chapter 6).

**Presidential Instruction on Illegal Logging.** The Indonesian President has highlighted the problem of illegal logging and has issued an instruction (Presidential Instruction No. 4 of 2005) that directs the leaders of 18 government bodies to cooperate and coordinate to eradicate illegal logging. The document provides specific instructions on a range of measures that agencies should take to pursue this objective. The Presidential Instruction resulted from a process initiated in 2004 to create a draft special law (i.e., a “regulation in lieu of law” or “*peraturan pengganti undang-undang*,” known in Indonesia as a PERPU).<sup>2</sup> The Presidential Instruction is an important statement of GOI commitment, but as a legal product it is lower than the Forestry Law and the Criminal Law in Indonesia's legal hierarchy and cannot, therefore, include any legislative amendments or contradict these higher laws. The Indonesian President has now called upon the Parliament and the MOFR to rectify this situation by drawing up a special law on illegal logging and illegal timber trade. This special law should strengthen the legal framework for prosecuting cases of forest crime.

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<sup>2</sup> A PERPU is a special law issued in case of emergency to avoid the lengthy process of law making which involves the House of Representatives. According to Indonesia's legal hierarchy, a PERPU on illegal logging would override Indonesia's Criminal Law and the Basic Forestry Law (UU 41/99), but it would still have to be enacted into law by the parliament within a year.

**Financial Crimes and Anti-Money Laundering Laws.** The banking and financial sector is an important player both in financing and regulating corporate groups and firms engaged in timber production, processing and trade. In the past, Indonesia's largest forestry companies have benefited from a weak financial regulatory environment to obtain low cost financing, exceed legal lending limits, divert central bank liquidity credits, and profit through financial mark-up schemes (Barr 2001). The GOI has taken several steps to improve financial sector regulation and to strengthen oversight of and penalties for forest-related crimes. In 2003, the GOI passed Law No.25 on Anti-Money Laundering (revising an earlier law) and became the first country to include forestry crimes and environmental crimes as predicate offences for prosecution for money-laundering. The GOI has also established the Financial Intelligent Unit (or *Pusat Pelaporan dan Analisis Transaksi Keuangan*, PPATK) to implement the anti-money laundering regime. In 2005, Bank Indonesia upgraded its requirements to provide sanctions for banks that do not diligently implement "Know Your Customer" policies to prevent their use by criminals or for money laundering. Bank Indonesia also requires prudential measures by banks to assess clients' environmental efforts, to promote sustainable forest management, and to apply risk management and good corporate governance (Setiono, 2006). There are high hopes that these new laws and policies can help to stem the flow of illicit funds from forest crimes into corrupt practices. These new financial sector regulations and the anti-money laundering approach put increasing pressure on bankers to ensure that they are not associated with money laundering, because they can risk facing the same punishment as the criminal involved in the transactions. (Setiono and Husein 2005).

The Anti-Money Laundering approach recognizes that the forest-dependent poor, timber cutters, truck drivers and forest rangers are not the masterminds or main beneficiaries of forest crime. Forest crime – illegal logging, trade, and associated financial transactions – is the result of a complex web of players connected by flows of money: timber barons, legal firms, buyers and transporters, and government officers. Illegal timber trade is also an international issue that governments are increasingly concerned about. The Anti-Money Laundering enforcement approach 'follows the money' to monitor, identify, build evidence, and prosecute the financial backers and beneficiaries of forest crime. Anti-money laundering laws – in Indonesia and in trading partner countries – require financial institutions to report suspicious transactions (Setiono and Husein 2005). "PPATK is neither an investigator nor a prosecutor of money laundering crime." It is an independent agency responsible to the President, which has the authority to request and analyze reports from financial service providers. PPATK conducts financial intelligence investigations based on reports and allegations it receives, then submits the results to Public Prosecutors Office and the Police, the only agency authorized to investigate money laundering crime (Setiono and Husein, 2005). Based on PPATK's report, police investigators can obtain permission to collect evidence from a bank and even request that a bank freeze bank a suspect's accounts. PPATK is also working with the Indonesian Working Group on Forest Finance to develop guidance for forestry stakeholders to submit reports on forest crime and for financial institutions to assess high risk forestry customers.

The forest law enforcement approaches being promoted in Indonesia (FLEG, AML, 11 Steps) generally recognize that the real culprits are the large operators behind the scenes, not the small operators in the forest. Colchester, et al., (2006) points out that increased forest law enforcement can affect poor rural households, if actions discriminate against or selectively target small producers, truck drivers, and forestry workers. Besides direct enforcement, efforts to reduce forest crime should also aim to clarify laws that limit the rights and livelihoods of forest-dependent communities and modify approaches that reinforce social injustice. Targeting the

organizers and financiers of forest crime also has the advantage of greater precedent value and greater deterrent value, especially when assets are seized and the costs of illegal operations rise.

**International FLEG Efforts.** The Bali Ministerial Declaration on Forest Law Enforcement and Governance of 2001 calls for national and multi-national efforts to address illegal logging, trade, and corruption. Since then, many countries (including Norway, China, European Unions, UK, Japan, and others) have developed bi-lateral agreements (MOUs or other mechanisms) with Indonesia to help combat forest crime and trade.

**Ministerial Regulations.** In the past and still, the MOFR issues regulations and guidance to implement the forestry law. However, many analysts conclude that in the past regulations have not always been used to improve forest management, but sometimes to create opportunities for rent seeking and corruption. Since the original Basic Forestry Law of 1967, over 1000 forestry regulations have been issued, including 50 Presidential Decrees, 500 ministerial decrees and 300 Director General decrees, with increasing frequency through the 1980s and 1990s. A World Bank report, *Combating Corruption in Indonesia 2003*, finds that some forestry regulations are so complex or contradictory as to be nearly “impossible to meet. With or without corruption, it is unlikely that any log produced could be in full conformity with all rules and regulations.” This complex regulatory structure is an impediment to reform and sustainable forest management.

Yet, changing the regulatory framework can also create confusion and uncertainty in forest management practices, as has occurred in the years since decentralization. In recent years, however, the process of regulation development has become more open and transparent. One regulatory revision is striving to make forest concession licensing more community-oriented and pro-poor, as described in the text box below. These rules are still being revised and debated as this is written. Different groups continue to compete for influence in the drafting of this regulation and there are different perceptions and concerns about the motivations or implications of certain provisions.

**Government Regulation On Community Empowerment**

News release by MFP-DFID, November 2005.

In collaboration with the MOFR, a multi-stakeholder team (comprised of DFID MFP, FKKM, CIFOR, ICRAAF, and Ford Foundation) is reviewing the Regulation No. 34 of 2002 on Forest Management Planning and Forest Area Usage with a view to making it more community-oriented and pro-poor. The Team is recommending ways to improve the role of forest dependent communities, increase support to small and medium scale community forest businesses, and revise the mechanisms for licensing and auctioning forest enterprises to allow greater community participation. Regional consultations were held in Balikpapan, Jambi and Makassar in an open and transparent manner with a range of stakeholders. Dr. Yetti Rusli, Expert Staff of the Minister of Forestry, noted that “participants in the Public Consultation have provided positive inputs within a comfortable atmosphere. This would have been unimaginable several years ago.”

**Ministry of Forestry Strategies and Plans.** For the period 2005-2009, the Ministry of Forestry has focused on five priority areas: fighting illegal logging, rehabilitation of forest land, revitalization of forest industry, increasing welfare of communities around forests, and stabilization of the forest area. The Ministry’s Strategic Plan for 2005-2009 lays out specific goals for the forestry sector in line with the mission and vision established in the Forestry Law, including increasing support for watershed services, promoting the role of the people, and guaranteeing just and sustainable distribution of benefits. The strategy provides quantitative objectives that can be

used as one measure of performance and results achieved. This medium term plan is outlined in Annex C. This document draws on these plans, but is not fully consistent because it is more issue-oriented and follows a different organizational framework. In addition to these plans, the process of democratic representation reflected in the 4<sup>th</sup> Forestry Congress held in September 2006 and the newly created National Forestry Council create new opportunities for engaging the Government and forest sector stakeholders on forest management issues.

Despite this legal framework and strategy, which lay out decent principles and goals for forest management, there is still a gap between principles and performance. Law enforcement and governance are not performing well enough to see these principles in action in implementation. Many have argued that forest management in practice is not “people centered.” In short, Indonesia’s management and governance framework is not delivering on its own objectives. These issues of governance are discussed in Chapter 3.

## **2.2 Forest Land Classification**

Article 6 of the Forestry Law of 1999 states that “forest has three functions: conservation, protection, and production” and the government determines which lands are assigned to produce these functions. These administrative categorizations of forest land in Indonesia provide another key element of the framework used to organize the discussion and options outlined in this paper. Article 1 defines these areas as having the following main functions:

- Production forest<sup>3</sup> – to produce forest products (discussed in more detail in Chapter 4).
- Protection forest – to protect life-supporting systems for hydrology, control erosion, prevent sea water intrusion and maintain soil fertility (discussed in more detail in Chapter 6).
- Conservation forest – to preserve biodiversity and the ecosystem (discussed in Chapter 6).

Previous forestry laws and most current forestry statistics and planning documents recognize a fourth type of forest, a segment of the production forest slated for conversion (i.e., clearing) for agricultural and plantation purposes. This “conversion forest” is also discussed in Chapter 4.

It is instructive to note that, despite all the principles about equity and community benefit in the law, no lands are specifically assigned to reduce inequity or to improve the welfare and livelihoods of specific communities. Although production forests are assigned to produce forest products, in practice, few of these lands are allocated to produce forest products specifically for the benefit of forest-dwelling people, the poor, or traditional communities. Forestry, livelihood, and poverty issues are discussed in Chapter 5.

**Process of Forest Land Classification.** The Forestry Law of 1999 (articles 13 through 19) lays out the process and steps for assigning lands to one of the forest types mentioned above. First, an inventory is intended to provide information on forest resources through physical, biological, and social surveys at national, regional, watershed, and local level. The inventory becomes the basis for “gazettement” (meaning designation, boundary demarcation, mapping, and stipulation), preparation of plans and information systems. Based on the results of gazettement, the government is obliged to implement forest area land use, which determines the activities, function and use of the forest area. Management units based on the gazettement, land use and activities

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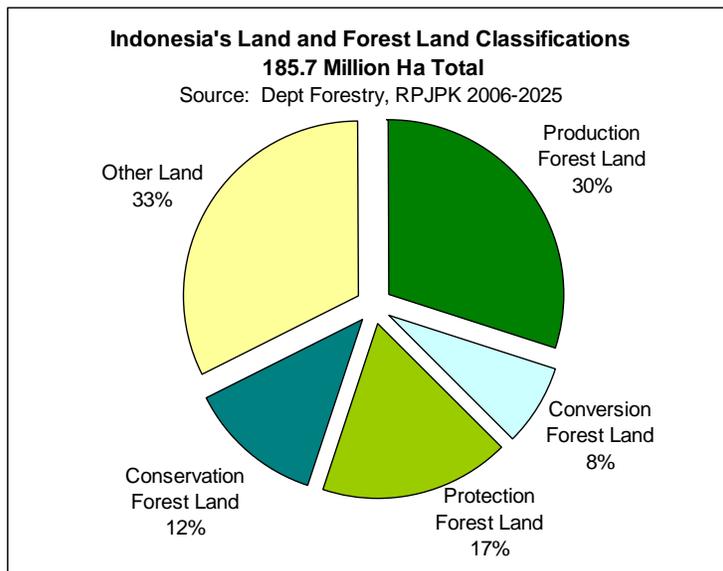
<sup>3</sup> Limited Production Forest - intended for timber production compatible with protection from soil erosion – is included in this category.

“shall be implemented by taking into account land characteristics, forest types, forest functions, conditions of watershed, social and culture, economy and local community institutions, including customary laws and administrative boundaries.”

Though some biophysical information is built into the inventory, this process results in an administrative classification of land as different types of forest area. The areas currently designated as “forest land” and the delineation of categories of forest land “function” were determined for each Province through agreements in the early 1980s (following a process outlined in earlier forest laws and regulations). The agreement, known as the Forest Boundary Setting by Consensus (*Tata Guna Hutan Kesepakatan, or TGHK*) was arrived at in 1984 with the participation of the Provincial Government Agencies of Forestry, Agriculture, Lands (Agraria), Public Works, Planning, and Transmigration. The TGHK attempted to deal with inter-agency conflicts over the use of land under the jurisdiction of the MOFR and formed the basis for maps and plans (Sève, USAID-NRM 1999).

Contreras-Hermosilla and Fay (2005) outlined the history and process of delineating the forest zone through the 1970s and 1980s. The authors note that the TGHK process was developed by the MOFR based on vegetation maps, remote sensing, and a biophysical scoring process, but “employed no social criteria.” During the 1990s, local governments often contested the forest zone boundaries developed under the TGHK process and compromises were developed based on the provincial level spatial planning process (*Rencana Tata Ruang Wilayah Propinsi, or RTRWP*). The current land use classification is the result of this process of harmonization between the two approaches, known as *paduserasi*.

**Current Forest Land Classification.** Based on the most recent Long Term Forestry Development Plan (MOFR, 2006)<sup>4</sup>, the current distribution of land according to these different forest classifications appears in the figure to the left. State Forest Land covers 127 million



hectares, about 67% of Indonesia’s overall land area. Production and conversion lands are allocated for economic development and together cover almost 70 million ha, or about 55% of state-claimed land. If conservation and protection forest are counted together, a substantial area of land, about 55 million ha, has been allocated to protection of environmental services and biodiversity. Few countries have done more in terms of area, but issues of management and performance outcomes are discussed in more detail in

<sup>4</sup> These figures represent new reclassifications of land, published in 2006, including a substantial amount of former “conversion forest land” that has been removed from the forest estate and counted as “other land.” Figures and analysis used later in this chapter are based on older classifications of land dating from the time of specific remote sensing efforts.

Chapter 6. Protection forest is the second largest land class, yet has the least clear rules, the least management, and the least clear objectives partly due to the decentralization of functions to district governments.

**Issues with Forest Land Classification.** Technical, social and legal issues support the position that substantial areas of forest land have been mis-classified through the process described above. Technical mis-classifications, where land classified in one category should belong in another, may be due to poor data, subjective interpretations or inaccuracies. There are technical problems in the underlying maps, the scale of the land use delineations, and lack of biophysical information characteristics of the environment. Despite these deficiencies, the TGHK maps have formed the basis for regional forest land allocation decisions (Sève, USAID-NRM 1999).

As an example, the technical criteria used in forest land designations include slope, soil erodibility and rainfall intensity, each ranked on a five-point scale with weighting factors that emphasize slope over rainfall. The final land designation is determined by summing the number of points attributable to each of the criteria (Muliastra and Boccucci, 2005). For example, Conversion Forest should be designated only in areas with poor forests on less productive soils, yet the MOFR's own remote sensing data and analysis show that more than 10 million ha of land designated for conversion still has good tree cover (*Neraca Sumber Daya Hutan*, or NSDH 2003, reported below). Rather than clearing (converting) this good, remaining lowland forest, it could instead be managed for sustainable timber production or for biodiversity protection. As another example, protection forest should be designated on steep and marginal land, but plenty of this area is actually relatively flat. Based on the technical definitions, land with slope <15% should not be designated as Protection Forest. Yet, based on remote sensing data, only 14 million ha out of 30 million ha of protection forest is designated as steep or very steep (Muliastra and Boccucci, 2005). These issues will be discussed further in Chapter 6 on Environmental Services and Biodiversity protection.

Another important mis-classification problem occurs when community-managed lands – agroforestry zones and traditional (*adat*) people's lands – are misclassified as forest lands. Even non-forested agricultural lands have been included in the forest zone. This is a problem of rights, not technical interpretations, and it has created land use conflicts all over Indonesia. The report by Contreras-Hermosilla and Fay (2005) notes that, even with the two-step process classification system described above, the process was “highly uneven in quality” and may have violated local rights. Leaving communities out of the designation and allocation processes may restrict their access and use rights on customary lands and create disincentives for productive and sustainable management. The argument is based on a provision of the Forestry Law of 1999, which states that “state forest zone” can only be defined legally when there are no other rights to the land (including customary and *adat* claims not only officially-issued land certificates). To determine the status of local rights, a detailed four-step process leading to a “Forest Delineation Process Document” (*Berita Acara Tata Batas*, or BATB) should be used. Only after completion of this process -- where communities agree with the MOFR and the National Land Agency “that they have no claims over the area and that the process was just and fair with a clear explanation of the legal consequences” – can the area be claimed as state forest zone. This formal process has been completed on only about 10% of the land currently claimed as state forest land. By this argument, if local participation and consent were insufficient in the decision-making and spatial planning processes – as many claim – then the legal status of the state forest zone and the ability to issue concession licenses and other use rights can be questioned. Many argue for a wider rationalization of forest land uses, control, and ownership and note that improved tenure security

is a key element in alleviating rural poverty. The MOFR accepts that more dialogue on land uses and tenure is needed and has established institutions and processes to support that discussion, as stated in the Long Term Plan for Forest Development (2006).

### 2.3 Forest Resource Status and Trends

This section reviews assessments of forest cover done by various methods at several times in the past. These results are based on the quality and accuracy of the underlying data sets and the time periods when the remote sensing was conducted. Both forest cover and forest land classifications change from time to time, which makes analysis of trends by category challenging. Initiatives are now in progress to update Indonesia’s land cover maps on a more regular and timely basis (see discussion of FOMAS in Chapter 3).

#### 2.3.1 Forest Cover Status

In recent years, there have been a number of efforts to analyze the state of Indonesia’s forests (GFW/FWI 2002, CIFOR 2004, MOFR 2003). Many of these efforts have been based on the interpretation of satellite imagery, which involves many technical factors and issues that will not be enumerated here. The MOFR’s analysis of forest cover status from 2003 is reported on its web site ([www.dephut.go.id](http://www.dephut.go.id)) and in the table below. The main advantage of this analysis is that it provides an assessment of both land classification and forest cover quality – that is, how much primary, secondary, and degraded forest remains in each forest class – not just presence or absence of forest cover. The web site also provides this information for each province.

Forest Cover Status by Forest Classification Figures in millions of hectares						
Classification	Primary	Secondary	Plantation	Not Forested	No Data	TOTAL
Production Forest Land	17.0	19.9	2.2	14.9	7.0	61.0
Conversion Forest Land	6.1	4.7	0.2	9.5	2.2	22.7
Protection Forest Land	14.5	6.2	0.1	4.7	4.4	30.0
Conservation Forest Land	10.4	2.5	0.0	2.9	3.7	19.5
<b>TOTAL</b>	<b>48.0</b>	<b>33.4</b>	<b>2.6</b>	<b>32.0</b>	<b>17.3</b>	<b>133.1</b>

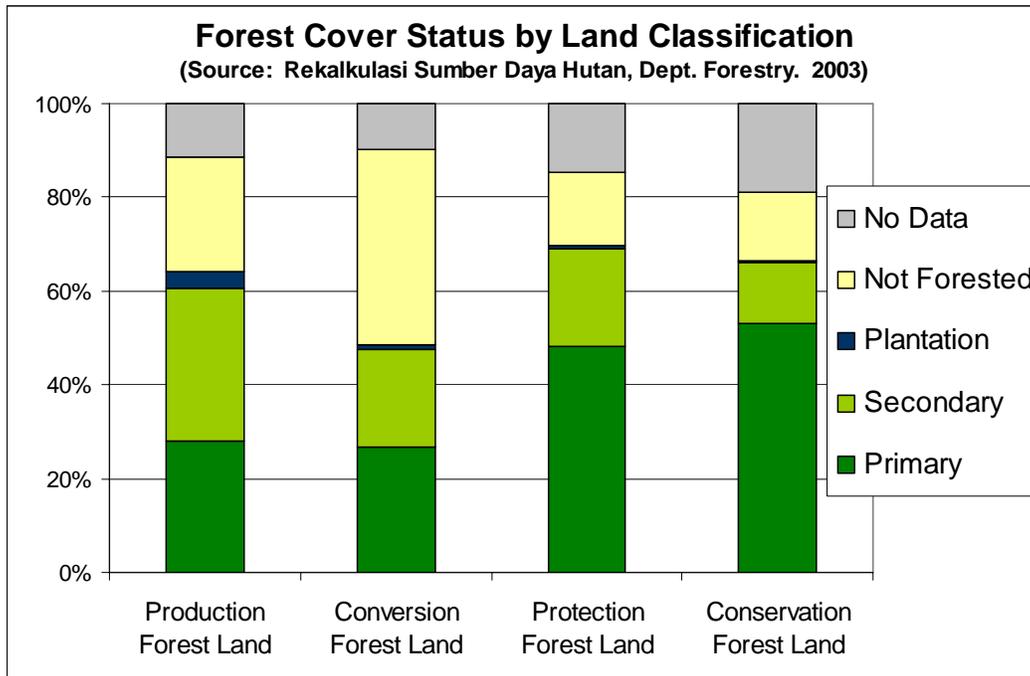
Source: Recalculasi Sumber Daya Hutan, 2003. MOFR.  
[www.dephut.go.id/INFORMASI/BUKU2/Rekalkulasi\\_03.htm](http://www.dephut.go.id/INFORMASI/BUKU2/Rekalkulasi_03.htm)  
 Note that this source predates the information in the RPJPK 2006.

The ready availability of this kind of information is a marked improvement over past experience (GFW/FWI 2002). The analysis also has an important disadvantage, however. A large area has no data due to cloud cover in the satellite images examined. This gap precludes a comprehensive summary of the quality of the remaining forest estate. For example, it is possible to say that more than 80 million hectares remain in natural or secondary forest, but it is not possible to say how much more, given that 17 million hectares remain to be assessed for this time period. Also, because of the large area in an unknown status (more than ten percent), it is not possible to compare to earlier assessments of forest cover, such as REPPROT (1990) or Holmes (2001).

Relative comparisons of forest cover status on different land classifications, however, are possible and are shown in the graph at the right. Without considering the “no data” areas, the figure shows

that production and conversion lands have only a relatively low share of primary forest cover remaining. The share of protection and conversion lands remaining in high quality forest cover is twice as large. Conversion lands are about half deforested, yet a surprising share of primary forest remains. The share of deforested area in production forest is about twice as high as in conservation and protection forest. One expects to see secondary forest, or logged over area, on lands designated for production, but at this point the share of secondary forest exceeds the share of primary forest. This means that legally harvestable old growth timber is becoming scarcer – and more valuable – which will have an impact on industries that process this type of timber into products. Unfortunately, lands designated for protection and conservation – where no harvesting should occur – also have a substantial share lands that are deforested or logged over (about a fifth of the land area, in each case).

Because of the “no data” areas, it is not possible to compare this assessment of the quality of forest cover with past efforts.<sup>5</sup> To overcome the difficulty, Muliastira and Boccucci (2005) of the World Bank compiled and summarized prior remote sensing data from various sources (mainly MOFR) to reduce areas with no data to allow a comprehensive, quantitative comparison of forest cover between 1990 and 2000. This analysis has the advantage of comparability to the past, but the disadvantage of being older and more limited in showing gradations of forest cover quality: only presence or absence of forest cover is shown. Overall, however, the results and conclusions drawn from this analysis are very much in agreement with the results from the MOFR’s analysis. There is a slight discrepancy, however, between the newer and older data sets because of the designation of new conservation forest areas since the year 2000 (about 1 million ha, removed from protection and conversion forest lands). Unfortunately, neither of these approaches provides an up-to-date assessment of recent status and trends.



<sup>5</sup> It is not clear why protection and conversion forests should have a larger proportion of “no data” areas. Perhaps this is because they are on higher and steeper lands, where cloud cover would be more likely.

FOREST LAND CATEGORIES & QUALITY OF FOREST COVER						
	Area (M Ha)	% All State Forest Land	Forest Cover Status	Area (M Ha)	% All State Forest Land	% Of Land Class
<b>Production Forest Land</b>	61.0	46%	Forested	43.4	33%	71%
			No Forest	17.6	13%	29%
<b>Conversion Forest Land</b>	22.4	17%	Forested	12.1	9%	54%
			No Forest	10.3	8%	46%
<b>Protection Forest Land</b>	30.6	23%	Forested	24.8	19%	81%
			No Forest	5.8	4%	19%
<b>Conservation Forest Land</b>	18.3	14%	Forested	14.6	11%	80%
			No Forest	3.6	3%	20%
<b>Other</b>	53.4		Forested	9.4		
			No Forest	44.1		

Source: Muliastra and Boccucci, 2005, compiled from earlier remote sensing efforts of MOFR.

This analysis of forest cover shows that in the year 2000 nearly 95 million hectares of designated state forest land still had some level of forest cover (subject to the technical definitions used in the analysis and interpretation of satellite imagery). Another 37 million hectares – or 28% -- lack forest cover. For comparison, this deforested land covers an area the size of Japan, or about twice the size of the entire island of Sulawesi. The table also shows the following (for the year 2000):

- Production forest was nearly 30% deforested. That is, it has been illegally converted, cleared, or damaged to the point that the density of tree cover is below the threshold used in the analysis. Though it is designated to be managed to retain forest cover through selective harvesting and long periods of re-growth, this result has not been achieved. This is one indication of the forest crisis in Indonesia.
- Conversion forest was about half deforested, even though it is slated for liquidation. Conversely, a significant area of forest cover remains and could be preserved, if desired, by allocating remaining forested land to another category.
- Production and Conversion lands have been allocated for economically productive forestry activities, yet together they contained nearly 28 million hectares of non-forested land in 2000. Non-forested production and conservation land, in fact, is larger than the entire conservation estate – and growing.
- On Protection and Conservation lands, only 20% is deforested – meaning that nearly 80% of this land still has good forest cover (some of which is probably secondary forest, as indicated by the prior analysis). Though many lament deforestation in protected areas, in fact most forest loss and degradation has occurred on lands designated for economic production. Protection and conservation status thus does offer some hope of preserving forest cover, despite continuing reports about increasing logging in protected areas. Kartodihardjo (2002) presents similar results (with earlier data), noting that the highest rate of degradation is in production forest managed by concessionaires, while degradation in protection and conservation forests was less than half as large.

Forest cover is an indicator of forest function. Areas without significant forest cover – 28% of the designated forest area -- are not performing the economic, environmental, or social functions expected of “forested land.” This presents an opportunity to reallocate non-forested areas to different and more productive uses, such as plantations or agroforestry activities. These alternative uses may even provide some forest function benefits. Clearly, different actions and results are possible on forested land than on barren land. This report takes the (near) current status of land as the basic fact and seeks interventions consistent with that status, rather than assuming that all this land should or could ultimately be returned to a state of substantial forest cover.

#### **Terms Used Informally in this Report**

Given the complexity of issues involved with land classification and land cover status, even the term “forest land” creates ambiguities and biases. The term “forest land” creates the impression that this land is forested, or should be forested, and needs to be returned to a state of forest cover. The GOI recently has been investing heavily in trying to rehabilitate and replant degraded lands. This report strives to maintain a distinction between “forested lands” with tree cover and State “forest land,” or “forest zone,” which was classified according to the administrative process outlined above. Maintaining a distinction in terminology better reflects empirical reality and helps to identify the practical or feasible interventions that are possible to achieve specific objectives on different kinds of land with different levels of tree cover. The following conventions are used in this report:

- “Forest Area” and “Forest Zone” – are used interchangeably to refer to the land areas designated as belonging to and under the control of the GOI through the MOFR.
- “Forest Estate” and “State Forest” – are seldom used terms because they imply a firm concept of state ownership or a final desired condition that may be misleading or controversial.
- “Forested” – Means the area has a level tree cover matching an intuitive or technical definition (usually unspecified) that matches the idea of a “forest.”
- “Non-forested” – Means land that may have a few trees or scrub, the density of which is insufficient to yield tree cover. It does not mean “denuded.”

### **2.3.2 Forest Cover Loss and Forest Degradation**

Forest cover is dynamically changing. Between 1990 and 2000, 21 million ha of forest cover were lost, but an additional 12 million ha of forest cover were gained, due to re-growth and planting (Muliastira and Boccucci, 2005). The net effect is not as alarming as some press reports have indicated, but it is also true that forest gained through re-growth or plantation development will not have the same qualities as the forest that was lost. A more detailed breakdown of forest cover change over the decade 1990 to 2000 is shown in the table to the right. While these results are quite interesting and useful, it is important to remember that these data are now half a decade out of date. Unfortunately, this is the best available information source that allows this detailed level of comparison

Lands assigned for conversion and production functions are the fastest changing, with a rapid increase in non-forested area. In contrast, conservation forest seems relatively constant, even improving, in net terms. Protection forest has some important levels of degradation and loss, but not as rapid as lands designated for economic activities. In terms of conservation and protection of habitat, however, it is important to recognize that “forest lands” are not uniform, but rather

consist of different ecosystems and species compositions in mountain lands, lowlands, swamp forests, and other habitat types. In Indonesia, lowland tropical forests are the most valuable in terms of both commercial species and biodiversity. Because the lowland forests are the most accessible for economic activities – extraction, conversion, encroachment – these high biodiversity areas are often the first to disappear. Thus, in the figures above, more lowland forest has likely been affected by deforestation and degradation than other forest types. This has grave implications for biodiversity preservation, discussed further in Chapter 6.

Changes in Forest Cover Over Time By Land Classification		
Land Classification	% Change in Forest Cover 1990-2000	
	Forested	Non-forested
Production Forest	-6.7%	16.6%
Conversion Forest	-11.4%	13.3%
Protection Forest	-1.4%	6.2%
Conservation Forest	1.5%	-6.1%
Other (non Forest Land)	-43.7%	9.3%
Source: Muliastira and Boccucci, 2005		

Consumers of data and analysis about forest cover and land use change need to be aware of nuances, such as net forest cover change and the definitions (sometimes highly technical) used to draw boundaries between forested and non-forested land. Of course, revising the definition of what constitutes “forest cover” would change the result. Hadi and van Noordwick (2005) note the need for substantially more subtlety in the analysis of forest cover and recognition that there are many gradations between forest and non-forest. Agroforestry areas and mixed

cropping agricultural systems may have substantial tree cover, while designated “state forest lands” may lack forest cover, as shown above. Chomitz, et al., (2006) usefully distinguish three types of areas: areas beyond the forest frontier and outside the current reach of agricultural and timber markets; frontier and disputed forest areas that are less remote and often characterized by conflicts; and forest-agriculture mosaics with better-defined tenure, which are closer to urban centers. Chomitz, et al., caution that different population groups, behaviors, and incentives are acting in each of these areas, such that policy interventions need to be carefully tailored and coordinated to ensure that the right signals are sent in each zone. More detailed analysis of these issues must await more up-to-date and accessible data and monitoring systems, which the MOFR is striving to develop under the Forest Monitoring and Assessment System (FOMAS) being developed with support from the World Bank and the Government of the Netherlands.

International comparisons show that Indonesia’s rate of forest loss is among the highest in the world (World Bank, 2005). Clearly, some land has been allocated for conversion to agriculture and other uses, where forest cover is expected to be lost. This allocation decision was made at an earlier time as one way to support economic growth and agricultural expansion. At this point, however, the question of how rapidly forest liquidation should proceed may need to be revisited relative to support for nationally established development objectives. Is this rapid forest loss contributing more benefits than costs to Indonesia’s economy and society?

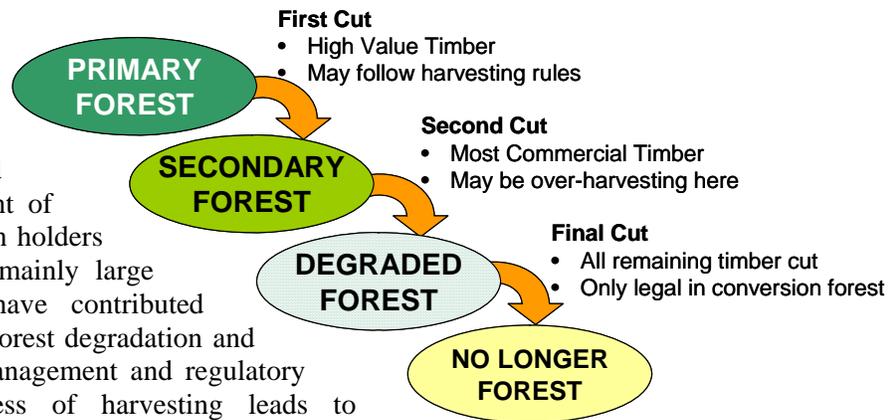
**Causes of Forest Loss and Degradation: Relative Roles of Small and Large Enterprises.**

This report argues (as have Holmes, 2002 and GFW/FWI, 2001) that in the last two decades in Indonesia at a national scale, industrial/large scale impacts on forests have outweighed the effects of smallholders and communities. Of course, forest degradation and loss involve many actors and many causes and smallholders certainly play a role. Chomitz (2006) argues that in many parts of the world logging and roads may cause forest degradation, but it is the opening and further incursion by smallholders that ultimately lead to deforestation and conversion to agriculture. As

underlying causes of deforestation, GFW/FWI mention governance issues, including unclear legal status of land, inappropriate land use allocations, weak enforcement, land conflict, industrial overcapacity, poverty and landlessness, and regional government revenue needs. As main agents, they include concession holders, plantation developers, illegal loggers, trans-migrants, fire setters, small scale farmers and developers of mines and roads. Historically, Holmes (2002) and others have noted that agricultural expansion and plantation establishment have contributed substantially to forest loss since the 19<sup>th</sup> century. At the local level, there may be substantial variation in the drivers of deforestation. For example in Eastern Indonesia, where fewer large estates and concessions have been granted, smallholders may play a larger part. The different pathways for the two groups' contributions to forest loss are summarized in text boxes in this section.

In recent decades, however, the political economy of rent seeking, rapid growth of the wood processing sector (aided by conducive GOI policies), major allocations of land and investment to large-scale forestry and plantation enterprises,

weak incentives for sound and sustainable land and forest management, and inadequate enforcement of the legal framework on holders of forest use rights (mainly large corporate interests) have contributed more substantially to forest degradation and loss. Due to poor management and regulatory incentives, the process of harvesting leads to degradation, which establishes the basis for full conversion. As shown in the stylized figure to the right (Bappenas, NRM and DFID-MFP, 2004), at the first stage, harvesting practices may follow Indonesian law, yielding only slightly lower quality secondary forest or "logged over area." Legally, this land must be left idle for 35 years for re-growth before a second cut is allowed. However, if a second round of harvesting begins before the waiting period or exceeds allowable cutting levels – as appears to be common in Indonesia -- the secondary forest can become substantially more degraded. Degraded land can be reclassified for conversion, or due to lax law enforcement, simply clear felled without appropriate licenses.<sup>6</sup>



weak incentives for sound and sustainable land and forest management, and inadequate enforcement of the legal framework on holders of forest use rights (mainly large corporate interests) have contributed more substantially to forest degradation and loss. Due to poor management and regulatory incentives, the process of harvesting leads to degradation, which establishes the basis for full conversion. As shown in the stylized figure to the right (Bappenas, NRM and DFID-MFP, 2004), at the first stage, harvesting practices may follow Indonesian law, yielding only slightly lower quality secondary forest or "logged over area." Legally, this land must be left idle for 35 years for re-growth before a second cut is allowed. However, if a second round of harvesting begins before the waiting period or exceeds allowable cutting levels – as appears to be common in Indonesia -- the secondary forest can become substantially more degraded. Degraded land can be reclassified for conversion, or due to lax law enforcement, simply clear felled without appropriate licenses.<sup>6</sup>

A related result is that most of the benefits associated with forest harvesting and clearing have not accrued to smallholders. This report argues that policy responses need to recognize and prioritize this issue – if Indonesian stakeholders wish to slow the trend of degradation and loss and to increase the sharing of benefits.

There are not sufficient data available to make a firm estimate of the contributions of the several actors to the overall rate of level of forest loss. However, the position that large enterprises contribute more to forest degradation and loss than smallholders is supported by evidence related

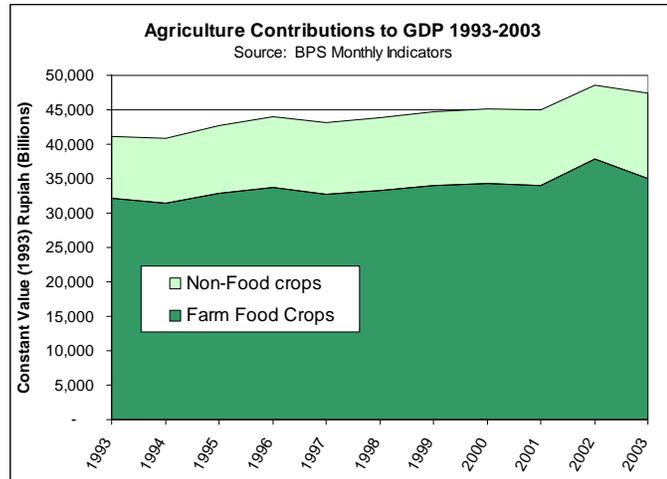
<sup>6</sup> Timber taken from the first and second cut may be suitable for plywood or sawn timber processing, depending on the species and quality. Timber taken in the final cut is usually of low value or quality and only suitable for processing into pulp. In this way, illegal harvesting from different forest areas feeds different segments of the wood processing industry.

to agricultural expansion, population and density, relative values of timber and land, and the lack of property rights incentives. The following discussion outlines this evidence. It will be useful to continue to seek more detailed evidence on this issue, as improvements in enforcement and forest management continue, because it does influence the direction and prioritization of policy interventions. As reforms are introduced, it will be important to understand the incentives created for smallholders and the implications for remaining forested areas.

### Large Enterprise Pathways to Forest Loss and Degradation

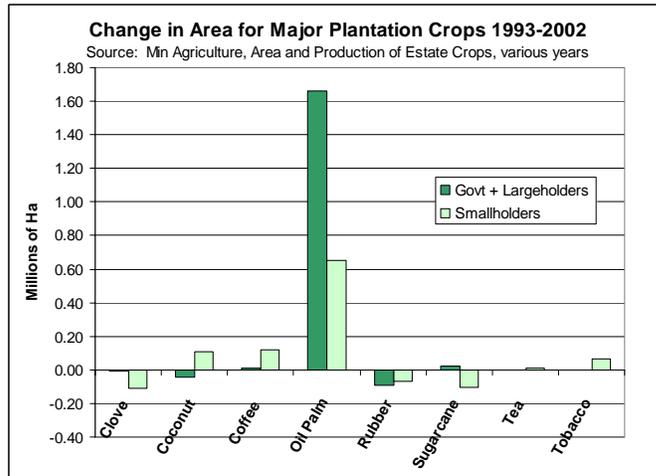
The main pathways for forest degradation and removal for large commercial interests include: Government granted licenses for timber harvesting or for conversion of forested lands into plantation crops. When economic conditions and policies are appropriate, commercial timber harvesting will lead to “logged over area” or secondary forest, not clear cutting or deforestation. The incentive should be for the commercial forester to return to an area after a sufficient time and harvest again. However, Chapter 3 has documented that many who were granted forest harvesting rights in Indonesia have not behaved as commercial foresters interested in sustainability, but rather short-term opportunists or organizations more interested in immediate returns to patronage systems, not long term returns. Due to weak oversight, poor enforcement, and high incentive value, timber harvesting may often exceed sustainable harvest levels or carry over into sensitive areas beyond the authorized area. Conversion to plantations involves clear-cutting, and sometimes burning, an area to prepare for planting of oil palm, fast growing timber, or other estate crops. The timber harvested and sold from the initial cut, even on degraded areas, provides a substantial economic boon to the rights holder, enough so that it may not always make sense to proceed with the plantation. Indeed, some 40% of the land allocated for conversion to plantations has been cleared of forest but not replanted (another 25% remains with relatively good forest. The land claims of commercial operations, usually granted from the center, may also displace local communities or constrain their livelihood opportunities on traditionally used areas. This creates an indirect pressure for community members to seek other forest areas for subsistence or agricultural production, which may disturb areas outside the concession of the commercial enterprise. Commercial operations also create roads through forested areas, which create some zone of impact, but more importantly create economic opportunities for smallholders and communities. Of course, all of these commercial operations could involve communities and smallholders as a source of labor, but not primarily as independent agents acting on incentives for forest destruction. Laborers in the forest – for roads, logging, planting, NTFP collection – can also have significant (though shorter term) negative effects on biodiversity through direct consumption or through habitat disruption.

**Agricultural Expansion at Frontiers.** In some countries, notably in Latin America, smallholders and agriculture play an important role in forest loss. In Indonesia, however, the data do not show a significant increase in agricultural area or production in recent years. In fact, analysts mainly see the stagnation of agriculture, which has been surpassed by manufacturing and services in both job creation and contributions to GDP (WB, RICA 2006). The GDP contribution of the agriculture sector (which includes food crops, non-food crops, livestock, forestry and fisheries) grew at less than 2% per year during the period 1993-2003,



with great variation, even decline in some years. During the same period, food crop production grew at only one percent per year on average, while non-food crops (which include the major tree and cash crops rubber, palm oil, coffee and spices) grew at about 3.3% on average. The ten year GDP growth pattern for these two sub-sectors is shown at the right.

Smallholder expansion of cultivated areas for non-food and cash crops also does not appear to be a primary mover behind encroachment into forested areas. Ministry of Agriculture data on areas in production show that most crops are relatively stable in area over a relatively long period. As the figure to the left shows, only oil palm has seen a major expansion since the early 1990s – and large plantations covered twice as much area as smallholder plantations. Of course, these official data may not capture all the dynamics of agricultural incursion at the forest edge and the full



range of crops and activities of smallholders. They do support the view, however, that commercial expansion of oil palm estates has been more serious than smallholder incursions in recent times. It is worth noting again that large plantation investments tend to have the support of national and local governments in terms of permitting and licensing, as well as access to land. In contrast, during recent decades, smallholders have not had important pathways for acquiring land, nor the security to warrant conversion into agricultural uses on a large scale.

**Population and Density.** If smallholder encroachment and agricultural expansion were major drivers of deforestation, one would expect to see more forest cover loss in areas with greater population density, or rural population density more specifically. Data on forest cover and loss from 1990 and 2000 coupled with population data<sup>7</sup> allows a preliminary analysis of this problem. Although these data have limitations, no statistically meaningful correlation could be found between rate of forest loss (over 10 years) and population density (people per hectare), rural population density, poverty incidence, or density of poor, rural people. More significantly, when ranked by rate of forest cover loss, there was no significant difference in the population density, rural population density, or rural poor density between the quintile of sites with the highest deforestation (average forest cover loss of 30%) and the quintile of sites with lowest deforestation (average forest cover gain of 19%). If population pressure were a major driver of deforestation, it might be expected that forest loss per capita would be higher in denser areas where more people are being driven into forest margins seeking economic opportunity. In fact, however, there appears to be more deforestation in areas with lower population density, although this is not a statistically significant relationship. This seems to indicate that more deforestation is occurring in areas with fewer people, i.e., areas more likely to be allocated in timber concession and plantation rights, rather than areas nearer to more densely settled agricultural lands. At the less detailed provincial level, it is possible to investigate whether the allocation of larger forest and plantation

<sup>7</sup> Data are described in Chapter 4 and in Muliastira and Boccucci, 2005. This analysis focused on 148 districts outside Java and Bali (which have been densely settled for much longer than two decades) and excluding Papua and Maluku (for which detailed district level data were not available).

areas is an important factor in deforestation. With the data set at hand, however, only 20 non-Java-Bali and non-Maluku-Papua provinces are available for analysis. For this data set, greater deforestation rate appears to be associated with greater land area assigned to concessions, but the relationship is not statistically significant.

#### **Smallholder Pathways to Forest Loss and Degradation**

The pathways for forest degradation by smallholders and communities may be more diverse: encroachment from existing agricultural lands into nearby forested areas, timber harvesting for local commercial timber needs (e.g., boat or building construction), hunting and fishing for protected animals, interplanting of cash crops (e.g., rubber or coffee) in existing forest ecosystems, and clearing of land for agriculture, permanently or through a cyclic shifting agricultural system. Swidden cultivation or shifting agriculture degrades natural forest, but establishes a long term rotation of secondary forest mosaic that may provide many of the environmental service benefits of the original forest. When population pressure or disruption of traditional forest use patterns increase, however, shorter rotations, or more extensive incursions into natural forest areas may result in a greater degree of forest damage. Population pressure or economic opportunity can also lead to smallholders and communities following into more accessible areas, created by new roads or opened/cleared forest frontier areas, for example. Secondary incursion by communities into logged over areas establishes higher population densities and agricultural activities and a gradual loss of forest cover (until agroforestry activities mature, when forest cover may recover).

**Timber Value vs. Crop Value.** In some places, depending on economic opportunities and markets, the value of land converted for agriculture may be higher than the value of the timber in a longer term management arrangement. In these cases, people would have an incentive to clear forest for access to land for agricultural production. This seems to be the case along the agricultural frontier in Brazil, where forests are being converted to cattle ranching and soybean production (Chomitz and Thomas, 2003). In Indonesia, however, high value forests (e.g., dipterocarps) are harvested for their own profitability, rather than to get them out of the way for agricultural expansion. If poorly managed and monitored, timber harvesting can lead to forest degradation (and risk of fire) in sparsely populated areas, even in national parks, as shown by Curran, et al. (2004). Manurung (2002) has also shown that as much as a fifth of the total returns (25 year discounted present value) of an oil palm estate can be obtained in the first year from the value of the timber through clearing of secondary forest. For some firms, indeed, there is more value in getting the permit to clear than in making the long term investment in plantation establishment. The high value of timber (coupled with the weak level of governance) is an important reason that one sees in Indonesia forest clearing or degradation without replanting in some locations.

**Race for Property Rights?** In some countries, notably in Latin America, the property rights regime creates an incentive for land clearing and agricultural conversion. Farmers that clear forest and ‘develop’ the land by planting crops can acquire title to the land. This is not the case in Indonesia, so this incentive pathway is not a strong impetus for smallholder encroachment into forested areas. Legally, forest clearing can only be done under a permit from the MOFR, which grants temporary utilization rights. The land itself remains (in most cases) under the Government’s control. Far from facing a positive incentive in terms of prospective land rights, smallholders who clear or build on state-claimed land can expose themselves to great risks and the possibility of losing everything. Some NGOs report that forest sector laws are inequitably enforced so that smallholders may be targeted for small violations, while large companies are

subject to much less scrutiny. Even communities using traditional lands have in the past been removed from those lands to make way for use rights granted to larger enterprises at a higher level of government.

Over the long term, certainly communities and agricultural conversion are contributors to encroachment and forest loss. However, they do not appear to be the major actors in Indonesia's current forest crisis. Holmes (2001) estimated that, over time, tree crops have replaced approximately 12 million ha of forest land; while forest plantations, small-holder crop production, traditional agricultural systems (e.g., swidden or shifting cultivation) and transmigration settlements have replaced another 7-8 million ha of forest.

**Fire.** In addition to forest harvesting and conversion, fires have also contributed to Indonesia's forest degradation and loss. For thousands of years, agriculturalists have used fire to clear land for agricultural development. However, the scale of fire use has increased with the expansion of oil palm and timber plantations. Though it is a low cost method for the owner or plantation manager, fire also imposes significant health costs on downstream communities due to smoke and haze, including Indonesia's neighbors Singapore and Malaysia. An economic valuation of Indonesia's 1997-98 forest fires indicates the cost for Indonesia at \$7 billion and its neighbors at \$2 billion (ICG 2001, ADB 1999). ADB (1999) also estimated that the fires released 7% of total global greenhouse gas emissions in that year and affected the health of 75 million people. Fires can also escape their intended areas and destroy unintended forest or peat swamp areas, especially in unusually dry climatic conditions, such as occurs in El Nino-Southern Oscillation years. Degraded natural forests also become more susceptible to fire damage, especially in dry years. Where recurring cycles of fire have damaged and degraded forest lands, many areas have been permanently changed into *imperata* grasslands.

## 2.4 Historical-Economic Perspective on Past Forest Loss and Future Threats

Although forest loss has been going on for centuries, due to development, policy, and population pressure, many believe that forest loss and degradation has accelerated in recent years. This raises more concern about negative environmental consequences as more area has been affected. This report focuses only on the recent past, not the entire history of Indonesia's forests.

### 2.4.1 Historical and Economic Perspective

Holmes (2002) provides an overview of the long term change in forest cover in Indonesia, putting current events into an historical perspective. Human settlements have been most dense in areas with fertile soils. In these areas, Java, Bali, and key river valleys and deltas of some Outer Islands, deforestation had reached an advanced stage long before the twentieth century. In other areas, unfavorable climate (Nusa Tenggara) or unhealthy malarial environment (Papua) discouraged intensive settlement, at least in the coastal lowlands. The colonial era, driven by the search for revenue, first focused on the spice trade and then on agricultural production on fertile Java. The establishment of plantations on the Outer Islands followed the commercial development of traded commodities, such as rubber and tobacco. Establishment of these plantation crops contributed to the process of deforestation in the plains of Sumatra and to a lesser extent in Kalimantan. This process remained slow partly due to the poorly developed road transport system. Holmes also notes that traditional cultural systems also contributed to the early degradation of the Toba plateau in Sumatra, the Kapuas basin of West Kalimantan, the Toraja and

"Polmas" highlands in Sulawesi, and the slopes of the Baliem Valley of (then) Irian Jaya. In many regions, poor quality soil is the main reason why forest fails to regenerate once it is cleared.

Under the New Order Government in the 1970s, the systematic exploitation of the forests of the Outer Islands began in earnest, and with this came roads, access, and secondary settlement. Holmes saw a repeated standard settlement succession across Sumatra: food crops planted on cleared land, followed by interplanting of seedling rubber, followed by maturing rubber as part of secondary forest. The New Order Government (with the help of the World Bank) also expanded transmigration programs, which had been known since the colonial period as a source of plantation labor. Transmigration programs contributed to forest loss more than to economic development, because some of the land cleared was not suitable for sustained production and other lands were already subject to local claims, leading to land use conflicts. Holmes also notes that pioneer farmers engaged in 'relentless' encroachment along every forest boundary, abetted by roads and forest concession establishment. In the mid-1980s, the Government also began a policy of actively promoting the diversification of commodity products, mainly from tree crop plantations. Holmes concluded that rapid deforestation was a response to this policy.

Considering the long view of forest development and transition and the economic forces involved, van Noordwijk, et al. (2003) look not just at the past forest loss (abetted by policies and economic forces), but at the potential future reforestation process and the role of economic agents responding to scarcity signals (equally abetted or hindered by policies and economic forces). Kauppi, et al. (2006) and Chomitz, et al. (2006) also note that some countries have experienced transitions from deforestation to reforestation over time, especially as they have become wealthier (in terms of GDP per capita). Thus, globally, there are some hopeful trends in "returning forests." However, Indonesia is still losing both area and density of forest and does not appear to be moving toward a forest transition in the medium term. Both papers highlight the importance of national policies in accelerating or retarding the transition for forest loss to forest gain.

Van Noordwijk, et al., note that as long as there are large remaining natural forests supplying cheap high quality timber, there is little incentive to plant trees. As natural timber extraction possibilities are reduced or closed – due to protection, enforcement or depletion – planting trees becomes more economically viable. Over the long run, some deforested areas will be reforested due to the increasing scarcity of timber, which leads to higher prices, which creates an incentive for reinvestment. But at the point when natural timber sources dry up, there is a long lag before substantial quantities of grown timber can fill the gap in supply. They argue that specific public policy incentives could be justified to encourage tree planting (well before the point of depletion) to reduce the disruptions associated with the gap in supply. Unfortunately, the constraints noted above, as well as high transactions costs and improperly targeted enforcement approaches (restricting farm-grown timber transport) may deter small farmers from responding to market signals: providing supply in response to timber scarcity.

In fact, the World Agroforestry Center has documented many cases where smallholders and farmers respond to market demands (and household needs) by planting and protecting trees on their own land. Market incentives will be highest where local deforestation is high, local markets are close, and urban centers have high demand for timber, fruits and other forest products. In these conditions – which clearly exist on Java and many parts of Indonesia's Outer Islands – farmers plant trees to diversify livelihood options, balance/manage risk, and invest/save for the future. With limited time and resources, the trees planted by small farmers "represent a conscious investment for which other options have been forfeited." It is clear that small farmers are

economic agents, responding to markets, prices and incentives, but also constrained in many ways. Enabling policies are needed to unlock this source of investment in land, productivity, timber, and environmental services for the future. As well, small farmers need to improve the quality and quantity of products their products and learn more about markets and market access. Development agencies can assist in these extension and capacity building activities, especially including the provision of publicly available market information. Colfer (2001) and Kusumanto (2005) have outlined some of the institutional and governance conditions needed to improve collaborative and adaptive approaches to assist smallholders and communities in forest establishment and management activities.

## 2.4.2 Geographic Trends in Forest Cover and Production

Most of Indonesia's designated forest lands are located on the Outer Islands, while most of Indonesia's people are located on Java. The table below shows area of forest and changes in forest cover for major island groups. Two major areas of remaining forest -- Kalimantan and Papua -- account for 63% of Indonesia's forest cover. Sumatra once had nearly as much forest area as Papua, but has lost nearly 25% of its forest cover since 1990. While Java has economically important stands of planted teak, most commercial timber production has been located on the Outer Islands.

Of the remaining natural forest in Sumatra and Kalimantan, much is likely located in more steep and less accessible areas, so it may be that these areas are less economically viable. In Papua, many forested area are in steep or economically inaccessible areas. The smaller islands, including Java-Bali, Nusa Tenggara, and Maluku, contain relatively smaller areas of forest cover, and less extensive areas that could be used for plantations or for natural production forest under sustainable management.

Forest Cover Change 1990 – 2000 by Major Island Group (Millions of Hectares)						
Major Island Group	Land Area	Forest Cover 1990	Forest Loss 1990-2000	Forest Gain 1990-2000	Forest Cover 2000	Net % Change
Sumatra	46.8	22.7	8.1	3.2	17.8	-27.3%
Java Bali	13.7	2.6	1.1	1.0	2.5	-6.2%
Kalimantan	53.0	36.1	7.0	2.6	31.8	-13.7%
Sulawesi	17.4	10.8	1.2	1.1	10.7	-1.1%
NTT	6.4	1.6	0.5	0.9	2.0	21.9%
Maluku	7.4	5.9	0.9	0.3	5.3	-11.6%
Papua	40.2	32.9	2.1	3.2	34.0	3.4%
<b>INDONESIA</b>	<b>185.0</b>	<b>112.6</b>	<b>20.9</b>	<b>12.3</b>	<b>104.1</b>	<b>-8.2%</b>

**Source:** World Bank Analysis. Muliastira and Boccucci, 2005.

The forest cover data indicate that the western – and more economically accessible – islands of Sumatra and Kalimantan have relatively larger areas of deforestation than the eastern islands of Sulawesi and Papua. Java, Bali and NTT represent relatively smaller land areas and fewer areas of forest of all types. Maluku, as well, has had a substantial rate of deforestation, though for a relatively smaller amount of land. NTT and Papua show a net increase in forest area during this period, indicating that pressure on this area was less than potential for regrowth. In the future, it is expected that forest exploitation will move to the east to tap the remaining resources in Papua.

Decentralization of management and control over forest lands offers an opportunity to address these trends and differences in rates of deforestation. Western provinces with relatively depleted forests will have different options and goals from Eastern provinces with substantial remaining areas of good quality forests. Intervention strategies should recognize these regional differences, while also recognizing that inter-island trade can continue to move goods to centers of economic activity and value-added processing.

### **2.4.3 Other Threats to Forests: Past, Present and Future.**

Some additional threats to forests deserve mention; some have become issues of the past (e.g., transmigration) and some loom as issues of the future (e.g., energy policy shifts).

- **Past Threats: Transmigration.** Indonesia's transmigration programs through the 1970s to 1990s have moved more than 2.5 million people from relatively densely populated areas in Java and Bali to relatively sparsely populated areas in Sumatra, Kalimantan, Sulawesi, and Papua. Transmigration camps are typically cleared from forested area, and provide areas for homes as well as an average two hectares agriculture land per family. Since 1999, there has been little expansion of transmigration activities. Holmes (2002) notes that transmigration sites were often accompanied by substantial secondary impacts due to encroachment, spontaneous migrants, and frequent failure. Clearing for transmigration sites results in the loss of biodiversity and forest resources when forest land is cleared for site establishment. Success of a transmigration site rests in the care given to land clearing. Often, land clearing results in significant loss of top soil, thus resulting in low agriculture productivity for transmigrant farmers. This often leads to encroachment into nearby forest land, thus resulting in additional forest and biodiversity loss (MacKinnon, 1996).
- **Ongoing Threats: Roads.** Many see roads as important to facilitate development by lowering transport costs and providing access to health and education services, information and markets, helping also to reduce poverty. Local governments find transport projects an easy, visible symbol of development and progress for citizens seeking results from their newly empowered local governments. Roads can have direct environmental impacts including modifications to natural drainage, vegetation cover, and wildlife habitat, as well as landslides, erosion, sedimentation, and pollution. Direct impacts can be mitigated through proper design and alignment. Secondary impacts, however, may be of greater concern. Roads through forested areas open the way for secondary impacts such as encroachment, illegal logging, wildlife trade, and land conversion, through clearing or fire. Especially in forested or recently forested areas, routes for roads are often aligned along former logging roads. When former forest concession and forestry plantation roads are converted to public roads (lower cost to local government), most primary environmental impacts have already taken place, so less priority is placed on environmental review. Though new roads are subject to environmental assessment (AMDAL), upgrading of roads is not, so public roads upgraded from logging concession roads are not evaluated well. Proper road design and construction should be managed through the spatial planning and environmental review process. However, Indonesia continues to see national or regional government proposals for roads through environmentally sensitive areas, such as national parks.

- **Ongoing Threats: Mining.** Indonesia is a world leader in the production and export of copper, gold, nickel, silver, and coal. Large, medium and small scale mines have different levels and potential for environmental impacts, including habitat loss, tailings, and water pollution. In the context of Indonesia's forests, mining is at least partly an issue of location. In 2003-4, there was a major political controversy over mining in protection forests (these are watershed protection forests, *hutan lindung*.<sup>8</sup>). Patlis (2005, together with Erwinsyah) and World Bank (2004) outline the recent history of this issue. The Basic Mining Law 11 of 1967 implies that all of the nation's lands may be used for mining. The Basic Forestry Law of 1967 (and later conservation laws) were silent on mining in protection forests, even though their status implied a need for protection from development and exploitation activities. However, Law 41 of 1999 explicitly prohibited "open-cast mining" in protection forest, but allowed other kinds of development or non forestry activities, but only in production and protection forest areas (implying, not in conservation forest areas). The provision specifies that a proposed action must not change the main function of the area, must be based on lend-use license issued by the Minister, and must take into account limitations, timeframe and environmental sustainability. Since 1967, many companies had gained licenses for exploration and mining development and subsequently many protection forest areas had been designated. This provision created a conflict between mining companies with prior granted rights operating in newly designated protection forests. After a long and vocal debate in the press and the legislature, this issue was resolved with passage of Perpu 1 of 2004 which creates a 'grandfather' exception for firms holding mining permits in protected areas before Law 41 of 1999 came into effect. A later Presidential decree (No. 41 of 2004) named 13 mining companies that would be allowed to continue activities in protection forests. The Ministry of Forestry will issue "borrow-use" permits, with compensation, environmental control, and monitoring of social and environmental impacts.
- **Cyclic Threats: Forest Fires.** Forest and land fires have affected millions of hectares in Indonesia. ADB (1999) estimated that 10 million ha were burned during the 1997-98 fire events (exacerbated by the ENSO climatic pattern) and about half of this was non-forested and agricultural land. This released 700 million tons of carbon dioxide into the atmosphere and caused about \$9 billion in economic losses, including health impairment due to haze. Fire is still used for land clearing on a regular basis for plantation development and by shifting agriculturalists. In addition to creating smoke and haze-related health effects in the short run, use of fire and poor agricultural practices can encourage the spread of the *alang alang* grass (*Imperata cylindrica*), which dramatically alters the ecology and biodiversity of massive areas of Indonesia. RePPPProt (1990) estimated that 10 million hectares have been converted to *alang alang*.
- **Future Threats: Energy:** Ironically, just as forest governance and management policies are showing improvement several energy initiatives currently have the potential to further adversely affect land use and forest cover. GOI energy planning documents explicitly state the desire to increase dependence on coal and renewables, while

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<sup>8</sup> Though the debate in English has sometimes muddled the terms, there was never a suggestion that mining should be allowed in conservation forests, *hutan konservasi*. These terms are distinct in Bahasa Indonesia and in the legislation. Though "conservation forest" can be rendered into English as "protected area," this type of area has a different function and a different legal standing from watershed "protection forests," as discussed in section 2.1.

decreasing dependence on oil. Based on the recent Presidential decree (Perpres No 5/2006 on “National Energy Management”), there is an intention to increase use of coal from 24% of overall energy use to 33% of energy use over 20 years and to quadruple the use of biofuels from 1.3 to 5% of total energy use in the same period. Biofuels may never become a major share of the overall energy mix, but investors and local governments could use the political momentum and the incentives to convert even more good forest into plantation crops, rather than planting in degraded areas. The initiative to take advantage of Indonesia’s vast coal resources – shifting the fuel mix away from expensive and increasingly imported oil -- has the potential to lead to much more extensive strip mining – affecting already threatened forests in Kalimantan and Sumatra.

- **Future Threats: Political-Economic.** Resosudarmo (2005) and White, et al., (2006) all note that China’s growth is an issue for Southeast Asian countries. China’s rapid growth in recent years is both an opportunity and a threat for Indonesia. It is an opportunity for Indonesia to export raw materials and finished products. However, China and Indonesia will also be competing for some of the same export markets and, less so, for sources of foreign direct investment.
- **Non Threats: Fuelwood.** Fuelwood use is rarely mentioned as a threat to Indonesia’s forests. However, recent policy changes to remove subsidies on fossil fuels have raised kerosene prices, which most Indonesians use to cook. Harmonizing Indonesia’s energy prices with global markets by reducing subsidies will have important environmental and economic benefits. However, there may also be some switching to alternative fuels, including firewood in rural areas. The FAO (date) has studied this issue intensively since the 1970s and concluded that fuelwood use is not a major driver of deforestation or land use change, certainly not compared to agricultural expansion or commercial forestry. In a country with large forest areas, there is enough waste wood to supply firewood needs without actual tree felling. Also, there are large amounts of more accessible wood for fuel purposes in private plots and secondary growth areas.

This chapter has offered an overview of legal frameworks governing forests, as well as the status and trends in forest resources. The following four chapters will take up each of the key issues of forests and governance, growth, poverty and environmental services. The final chapter offers a synthesis and summary of options for improvement in forestry outcomes.

*At his best, man is the noblest of all animals;  
separated from law and justice he is the worst.*

*– Aristotle*

### **3. FORESTS AND GOVERNANCE**

Governance is a key issue in Indonesia. Improving governance and management in the forest sector is needed to achieve goals for poverty alleviation, economic growth and the provision of environmental services. Good forest management 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. Weak governance is constraining Indonesia's ability to meet its own goals for the forest sector. Weak forest governance has resulted in over-harvesting, rampant illegal logging, rapid forest loss and extensive forest degradation. This hampers Indonesia's ability to collect forest revenue, attract forest investment to revitalize the timber industry and promote its wood-based products in international markets. This indicates a need to forge a better consensus on forest sector objectives and a clear path to a future state of improved forest management.

Good governance means responsive, effective, efficient, fair, responsible and accountable state management (UNDP 1997). Three fundamental pillars of governance are agreed-upon policies, rule of law, and transparency in their application. Agreed-upon policies are mutually created by government, civil society, and private sector in an inclusive, transparent and fair manner (and accommodating marginalized groups). Rule of law, or enforcement of the legal-regulatory framework, allows actions and actors on the ground to proceed in a proper and fair manner toward mutually-agreed objectives. Transparency means that civil society in general, and affected groups in particular, are allowed into the decision-making process and that the government provides information about status, trends, and implications of its actions.

Indonesia's National Planning Agency (IBSAP 2003) noted that Indonesia is still in a transition period to improved governance. On the positive side, Indonesia has improved its governance framework in recent years with increasing democratization, greater political participation and inclusiveness, and new legislation and regulations, developed with wider stakeholder consultations. High-level political declarations, including a Presidential decree, have added to pressures to improve forest sector performance. Institutional changes have been implemented to increase the focus on illegal logging and forest crime. Press reports indicate that this is having some effect in the rate and level of enforcement actions.

Despite improvements, however, pessimists would note that forest crime (illegal logging, processing and trade) is still high. Regional – even national – government agencies are still proposing activities that damage forests, including roads or plantations in protected areas and small scale timber harvesting licenses. At local level, there is resistance to management edicts from the center. Finally, corruption remains an especially critical issue in Indonesia. In the forest sector, corruption is seen in off-budget flows of revenues and taxes, private enrichment at the expense of the public interest, and inequity in the allocation of land and forest use rights.

This section strives to summarize a range of cross-cutting governance problems and proposed solutions, including transparency, law enforcement, conflict, land use allocation, decentralization, and consensus on overall directions. In keeping with the framework of this paper, governance needs are organized by type of forest land designation, where possible.

### **3.1 Historical Perspective on Political Economy and Corruption<sup>9</sup>**

Indonesia's forestry sector has been an international case study of a political economy based on corruption, collusion and nepotism (or in Indonesian, KKN). Collusion has been seen in the award of lucrative forest concessions to politically and militarily powerful business groups and individuals beginning in the 1960s.<sup>10</sup> Corruption has been seen in the flow of funds from illegal logging and rent-seeking to support a political patronage system that conferred favorable regulations on connected firms. Nepotism was seen during the New Order era in the corporate connections among timber groups and Suharto family members and foundations throughout the 1980s and 1990s. These systems and practices were an integral part of the development of Indonesia's wood processing industry over the last three decades. In the more recent reform era, many elements of this system have been gradually dismantled (e.g., plywood monopoly, vertically linked harvesting and processing), partly due to international pressures and conditions on borrowed funds following the financial crisis. However, the legacy of this system still influences the political economy, business practices, and attitudes of many forest sector operators. Resosudarmo (2005) also covers the historical development of resource exploitation policies under the New Order regime. He notes that most of the political economy and governance issues related to forests were also applicable to other resource sectors. Granting of rights during this period "was not based on considerations of resource sustainability or of a fair return (of benefits) to the general public." This has led to increasing cases of environmental degradation.

Indonesia's old growth natural forests produce high economic rents<sup>11</sup> because the production and opportunity costs are low relative to market prices. Rent from the sale of timber can be "captured" by the owner of the resource (often the government), or the operator assigned the right to extract the resource, or it can be shared between the two. The vast flow of earnings from forestry in Indonesia has fueled a distorted political economy where government officials, law enforcers and private sector operators seek opportunities to claim a share of the rent. The several components of this process as it evolved in Indonesia are described below.

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<sup>9</sup> This section draws on Brown, 1999; Ross, 2001; Barr, 2001; and World Bank, 2003.

<sup>10</sup> Gellert (2005) cites Robison 1986, Crouch 1988, Winters 1996, Brown 1999, and Ross 2001 who have documented that timber concessions were directly allocated to businesses or foundations controlled by the military in the early years. Later, businesses and corporate groups engaged in wood processing businesses had ownership structures linked to military controlled businesses. Forestry is one of the off budget sources of 'self financing' of the military (ICG, 2001; Jarvie, et al., 2003), which some sources claim is the majority of its funding. In recent years, there have been efforts to reduce the power of the military and bring it more firmly under civilian control. This is being done through greater scrutiny, selective advancement of reformers, legislative changes, and budget increases.

<sup>11</sup> "Economic rent" is the excess of payments to a resource (as a factor of production) beyond what that factor could earn in its next best use. Paris and Ruzicka (1991) explain that economic rent is the difference between the owner's minimum supply price (basically the production cost or opportunity cost) and the market price. Rent accrues to natural forest timber as a factor of production. Rent is a potent temptation for regulators, because government can tax away rent without affecting supply or incentives for resource suppliers. Much of the literature on forest depletion refers to "rent" informally as "excess profit" or a unit-based fee on timber extraction.

**Awarding of Rights.** In its earliest days in the 1960s, the New Order Government established a system that conferred benefits on a privileged few and allowed a substantial erosion of the country's forest wealth over three decades. The system included selling of forest exploitation rights, accepting bribes to ignore rules related to forest over-exploitation, and mismanaging subsidized reforestation and rehabilitation projects to repair the damage of poor forest management. This system helped to cultivate and solidify political loyalty both in the bureaucracy and the military. Brown (1999) explains that many government officials viewed the earnings from the forestry sector as a means to assure their political position or their personal fortunes, not as a resource that could contribute to development. During this period, government officials, rather than market forces, controlled most resource allocation decisions.

Rights to exploit forests were allocated in a discretionary and non-transparent manner to loyalists in politics and the military. Although outside investors were part of the system in the 1970s, foreign partners were eventually squeezed out, leaving only a few corporate entities run by crony capitalists, or "timber tycoons." The rights to process and export logs were also tightly controlled and used to shape the development of the forest industry and the timber patronage system. Log and sawnwood export restrictions, as well as incentives for value-added processing, helped to channel forest resources and rent through the plywood sub-sector. Easy credit and tax advantages for capital investments helped the processing sector to grow. By the early 1990s, Indonesia was the world's top plywood exporter and the export cartel through a trade association was controlled by one man, a close associate of the former president.

Indonesia's giant pulp sector is another story of rights creating might. Concessions on conversion lands were granted to a few connected businessmen to establish industrial timber plantations. These lands were cleared to feed the pulp mills and their rapid growth in capacity during the last decade, but plantation establishment lags behind to this day. The right to timber, again coupled with subsidized loans and tax breaks, helped the pulp and paper processing sub-sectors to grow astronomically after 1990. Now, Indonesia is among the world's top 10 producers. The debts run up during the development of the pulp sector continue to strain Indonesia's financial system (see Setiono, 2006 and later discussion).

**Concentration of Power and Wealth.** In the early 1980s, the MOFR was created to control use and access rights on the vast majority of Indonesia's land. Then, the Ministry also controlled collection of royalties and reforestation fees from forest concessionaires – the major source of direct and authorized rent extraction. In the name of exploiting Indonesia's market advantage and bargaining power in international markets, and partly as a result of this concentration of power and strong political backing from the top, the timber tycoons were able to capture Indonesia's forest industry.

Regulatory policies that helped to concentrate wealth and resource control included: a monopoly on the export and sale of plywood, restriction of rights to forest harvest licenses, subsidized credit from state or group-owned banks, log export bans and prohibitive export taxes. These helped to assure the flow of timber to the processing sector at depressed domestic prices, so that it could be processed and exported at global prices for high profits. The monopoly on plywood exports awarded to the Indonesian Wood Panel Association (Apkindo) concentrated power in the hands of Bob Hasan, a key New Order crony. The cartel required not only membership and export fees, it also channeled foreign sales in Japan and Korea through Hasan-controlled import marketing bodies, and included strong pressure to use his insurance, mapping, and quality control agencies

(Brown 1999, Barr 1998). Hasan also controlled the Indonesian Association of Forest Concessionaires (APHI), through which about a dozen politically-connected conglomerates gained control of most forest concessions.

By the late 1990s, five politically connected corporate groups – through chains of subsidiaries and holding companies – controlled 30% of the area in timber concessions and a similar market share in plywood factories. Just four conglomerates dominate Indonesia's massive pulp industry. Before 1999 (when ownership and size limits were introduced), 28 companies each controlled more than 400,000 of concessions (Brown 1999). This is 12 million hectares of land, about equal to all the land held by 5 million small scale agroforesters and tree crop producers today.

**Distribution of Patronage.** Brown (1999) has shown that the GOI has typically captured only a small portion of the economic rent in the sector through fees, royalties and taxes. The remainder was captured by the crony capitalists, who shared the earnings with their political patrons and amassed fortunes that still influence Indonesian politics and civil society. The timber patronage system helped to finance the political machinery of the New Order including political campaigns of the ruling party, subsidized credit for industrial expansion, and contributions to the former President's personal foundations and family business interests. These same companies and groups – sometimes through privately-held banks or direct investment – financed billions of dollars worth of the family's business activities.

**Mismanagement by the State and Private Sector.** Corruption, collusion and nepotism weakened and undermined proper forest sector management by the government (Barr, 2001). Three primary forces have undermined forest management. First, uncertainty of access rights and tenure shortens planning horizons and reduces attention to negative effects on nearby areas and downstream users. Uncertainty is exacerbated by closed and highly discretionary decision-making processes: rights that have been awarded based on politics and patronage can just as easily be taken away. Second, forest resources are undervalued and utilized wastefully. This raises the opportunity cost of sustainable forest management and encourages conversion to higher value-added and labor-absorbing agriculture. Third, lack of (or highly discretionary) enforcement and overly complex and prescriptive regulations invite corruption of those who make and enforce the rules. Revenues and rents were also mismanaged: the audit of the Reforestation Fund commissioned by the Ministry of Finance in 1999 concluded that over 5 years, \$5.2 billion were lost as the result of mismanaged collection and allocation (World Bank, 2003)<sup>12</sup>. In the private sector, with awarded rights, monopoly power, easy credit and conducive regulatory systems, most forest sector firms were built not on principles of sound management, entrepreneurship and efficiency, but rather rent-seeking and KKN.

Mis-management also occurred in the financial system, which supported and benefited from forest sector investments. Banks, international finance institutions, development banks, and foreign governments played a part in forest sector mismanagement by failing to apply due diligence in assessing raw material supplies for corporate loans and extending governmental loans in a system where some funds would surely be misappropriated and others repaid by running down the country's resource base. Financial institutions took on a huge amount of debt from the Indonesian forestry sector during the 1990s and the weakness of this portfolio became apparent with the financial collapse in 1997-8. Privately owned banks (which regularly violated the government's capital adequacy requirements and legal lending limits), poor financial management

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<sup>12</sup> This audit report has not been made available to the public, nor have any subsequent audits, if any.

and monitoring controls, artificial inflation of project costs, and excessive borrowing all contributed to creating huge financial exposure and risk in the sector. Much of the forest sector debt was taken over in the late 1990s by the Indonesian Bank Restructuring Agency (IBRA). IBRA held the companies for several years, then sold many of them back to the original owners at discounted prices in a non-transparent manner that was widely criticized by forest sector analysts. Ownership of others was transferred to state-owned banks. The management and disposal of this forest sector debt remains a tragic lost opportunity in the effort to reduce forest resource degradation and rationalize management of the sector (Barr and Setiono, 2001; Setiono, 2006).

With its powerful mandates, IBRA had a real opportunity to improve the regulation and management of forestry assets under its control. The GOI could have used these authorities to reduce budget burden, restructure and reduce forest industry timber demand, strengthen remaining viable forestry companies, and encourage greater sustainability in the firms and the industry. Instead, IBRA debts were sold at steep discounts in a non-transparent manner at a critical time while negotiations with forest sector analysts and NGOs were ongoing. At the CGI meeting in January 2003, the Minister of Forestry stated that IBRA's "policy to allow forest companies to remain in business has contributed to the over capacity that demand more raw materials than Indonesia's forest can supply. This is clearly shown with the selling of forestry debts by IBRA at any price. It will definitively have negative impacts to sustainable forest management" (quoted in Setiono, 2006).

**Corrupting the Regulatory and Enforcement System.** As seen above, policies and rules have often been created or bent to promote cronies, concentrate wealth and pick winners among the timber industry sub-sectors. In this case regulations are designed to create certain outcomes that favor certain industries (e.g., advantages that favored the plywood industry) and support the timber patronage system. Going beyond this, however, corruption of the policy-making process occurs when regulations are designed not to be followed or to create a certain outcome, but only to create opportunities for bribery and rent-seeking (World Bank, 2003). The high protection levels that helped to maintain the high price margins in the forestry sector also drew expectations from a wide range of officials in forestry and law enforcement agencies for a share in the spoils through bribes to evade the rules. Once these patronage networks and institutionalized corruption systems are created and revenue flows are solidified, both the industry and the entrenched bureaucracy have a substantial incentive – and the financial means – to oppose any regulatory reforms that would disrupt the flow. Lack of transparency facilitates this system, because it obscures the flows of funds and the actors involved, sometimes even the rationale behind a policy. Greater transparency would allow greater political scrutiny and a clearer identification of the gainers and losers behind a particular policy.

Corruption and patronage extend beyond the executive branch forest regulatory institutions. "Money politics" and the need to fund parties and campaigns also influences the behavior of the legislature both in voting and in its watch dog role. In the justice sector, "a tragic combination of low professional standards and widespread corruption compromises the sector's ability to deliver on its mandate. Indonesians see the key justice sector agencies as among the most corrupt and least efficient organizations in the country.... Only a vigilant and educated electorate can change the incentives politicians face, and that will take time" (World Bank, 2003). This is one reason that transparency is a key issue for development assistance in Indonesia's forest management.

### **3.2 Reform Era and Decentralization of Forest Governance**

After the Asian financial crisis and the end of the ‘New Order’ regime in 1998, there was a decline in central authority and widespread calls for democratization and decentralization. Political and financial authorities were transferred to the district level governments through legislation in 1999 with implementation in 2000. Democratization of the electoral process meant that local parliaments and district leaders had incentives to become more responsive to local citizens, though political parties retained a strong role. The decentralization of authority was marked by disorder and a lack of transparency due to weak planning and institutional capacity in all sectors. Regions, encouraged by weakened central governance and a legal framework in flux, asserted jurisdiction and authorities over forest lands and licenses. These years saw a protracted tug of war between the center and the districts over control of forest resources and revenues, with some localities adopting short-term forest exploitation practices. More recent legislation in 2004 has clarified these authorities and laid the foundation for more rational and sustainable management in the future, with participation of stakeholders.

Currently, there are clear opportunities in the decentralization process, but also important challenges that remain. On the positive side, the decentralization process has created important opportunities to improve governance at the local level, despite some environmental concerns. Many agree that local governments need improved capacity for working with the public, identifying and responding to their needs, and running public consultation processes, as well as technical and institutional capacity to manage and protect forests. There are also areas where appropriate and responsible decentralization of forest management is proceeding, despite the challenges and uncertainties. For example, there are increasing efforts to institute co-management of national parks with local communities and initiatives by local governments to improve management of watershed protection forests. There have also been efforts by the central government to allow social forestry or community forestry in limited areas. Decentralization of some protection forest management responsibilities to local governments and communities offers some positive potentials and incentives for improvement through local demand for improved governance and service delivery (including environmental services). The process of stakeholder consultations and legal clarification continues, representing an opportunity for engagement with different levels of government and new institutions, such as the associations of regional governments and regional legislatures (Bocucci, Jurgens and Schultz, 2005). NGOs and universities (with donor and foundation funding) have been instrumental in opening the processes of governance at the local level, building capacity, holding public hearings, using the media to highlight issues, and creating constituencies for improvements in policies and practices.

Decentralization also creates opportunities and demand for resolution of land access and rights issues – both from existing rights holders (private concessionaires) and aspirants for more secure access (communities). Competing claims and unclear governmental responsibilities have widened the debate over forest access and land use rights. There is an opportunity to build more effective and transparent institutions to support these kinds of negotiations in a process of forest land rationalization. Also, some studies show that the decentralization process has provided opportunities and direct benefits to rural households, smallholders and forest dwellers. Some communities have greater access to land and resources. Others are in a better position to negotiate better benefits from companies seeking harvesting permits (Engel and Palmer 2006).

Several of the remaining challenges of decentralization are reviewed here. Decentralization has also created opportunities for local governments and entrenched patronage systems to exploit

forests and conservation areas for short-run financial gain. As noted in Chapter 2, decentralization laws also tried to rebalance the distribution of tax and natural resource revenues between center and regions. While this gives some regions more resources for forest management, it does not create a wholly positive incentive framework for good regional governance. For example, forest sector revenues from forest harvesting levies and reforestation fees are now redistributed to district and provincial governments in a way that rewards areas with the greatest forest harvesting, not the best management practices. Areas with large conservation estates within their borders seem to be penalized by this system, creating an incentive for them to find other ways to earn income from these lands. Also, problems of transparency plague the revenue sharing system, so that some districts ask forestry firms to pay taxes and fees at the local level. Further, the redistribution of revenues through the central government takes a long time. When budget allocations are distributed late in the year, local government plans for implementation can be derailed (Fox, et al. 2005). Management of areas that cross boundaries – such as wildlife corridors and watersheds – remains a gap in the decentralization framework. In theory, provinces are responsible for issues that affect more than one district and the center is responsible for issues that affect more than one province. In practice, higher level, or special purpose, environmental management bodies have been slow to evolve and lack the necessary management means. Some local governments are taking steps to resolve this problem (e.g., Balikpapan Bay watershed management authority) as discussed further in Chapter 6.

There are sound political and economic arguments for placing management responsibility at the level where decisions can be made most efficiently, transparently and responsively to the stakeholders and beneficiaries of forest sector use and management. District and provincial governments have key roles to play in forest administration, but they need stronger institutional capacity and central government support, guidance, and oversight. As seen in Chapter 2, the institutional structure in the MOFR may need to better reflect the services and capacity building needs of regional governments. Clarifying the responsibilities and improving the capacities of regional government units will help to improve forest management.

### **3.3 Progress in Recent Times**

The reform era in Indonesia since the end of the New Order Regime has seen important and growing changes in regulatory structures, transparency, scrutiny and involvement of civil society. In recent years, the spotlight on illegal logging has intensified. Anti-corruption forces in government forestry agencies, private industry, NGOs and the media are working together against the entrenched special interests of the past, who continue to wield great influence. New laws are being passed or considered on transparency, conflict resolution, agrarian reform, natural resource management and civil service reform. The World Bank (2003) and others have recommended continuing steps to solidify and extend efforts to eliminate major corruption and increase accountability in the forestry sector.

**Transparency and Information.** A key governance effort is the greater GOI commitment to transparency in the sector, particularly in forest exploitation licensing. Greater clarity and transparency are also needed in reporting on forest area, status and quality, official forest boundaries, and the use and management of forest resource fees and reforestation funds. The MOFR announced an important Transparency Initiative in February 2006 that will address many of these issues. This initiative is partly funded and supported by the World Bank and the Government of the Netherlands.

Many stakeholders believe that a key element hindering progress with issues of governance and corruption is a lack of reliable, accurate and up-to-date information on Indonesia's forest and timber resources. This situation has resulted in divergent views about forest loss and degradation rates, timber production, illegal logging, forest conversion, forest management, community development needs, lack of agreement on next steps and priorities and forest use conflicts. Poor information has also hampered the MOFR's ability to implement good forest governance, promote transparency, carry out effective law enforcement, issue appropriate forest policies, and to use forest resources to reduce rural poverty and promote sustainable development. In this report, an effort has been made to use the best information available, though it is still not possible to answer all questions or to qualify figures with estimates of uncertainty.

The MOFR is now launching an initiative to improve information and forest sector transparency and accountability in collaboration with a range of stakeholders. The initiative, known as FOMAS (Forest Monitoring and Assessment System), aims to establish a dynamic decision-making environment where reliable, accurate and up-to-date information on forest and timber resources and related decisions are continuously and publicly available to the general public. The core components of this initiative are an information management system, a comprehensive disclosure policy, effective disclosure mechanisms, and a policy decision process designed to use accurate forest sector information in daily operations. FOMAS will seek to promote good governance and sustainable forest management by providing systematic, accurate, and timely information on forest and timber resources to all levels of decision-makers and to the general public. This will be a national system for monitoring changes in forest cover, rates of forest degradation, and progress of plantation and rehabilitation projects. Information on ownership and financial matters is also important for transparency and to understand the underlying political economic issues affecting forest lands. For the industrial and commercial forestry sector, there is also a need for information on land uses and ownership patterns, rates of tax payment and delinquency, processing efficiency, timber sourcing, and levels of debt. The transparency initiative aims to address many of these points. Broad support for FOMAS has been secured from a wide array of stakeholders, including the MOFR, other government organizations, industry, civil society, NGOs and the research community. Collaborating partners, including the World Bank, Forest Watch Indonesia, South Dakota State University, DFID's Multi-Stakeholder Forestry Programme (MFP), Wageningen Agricultural University, and the World Resources Institute (WRI), will assist in developing the initiative.

**Political Economy Constellation is Changing.** Gellert (2005) describes the political economy of forestry as an "oligarchy of power" managing policies to result in concentration of wealth and rent capture. He describes how policy decisions and regulations (such as the log export ban and the vertical integration rules) were used to strengthen the industry and increase downstream value added processing for export. However, Gellert also notes that in recent years the "timber oligarchy" has been challenged by the financial crisis and intervention of the IMF, globalization and market changes including the rise of China, excess processing capacity, and decentralization. These forces have reduced central power, changed regional trade patterns and the mix of products being exported, and reduced Indonesia's competitiveness. This is changing the arrangement of power among the main players in the forestry sector political economy and breaking up traditional alignments.

Forestry trade associations have split into reformist and traditionalist wings. Various prominent figures have been convicted of wrongdoing, including Bob Hasan, Probosutedjo, and the former

director of the Indonesian Wood Panel Association (APHI). Different observers may offer different interpretations for the same actions – and some are ambiguous. For example, the reinstatement of the log export ban in 2001 is a policy that outwardly can be justified as fighting against illegal logging and exports, but at the same time allows domestic wood processing firms better access to timber at lower prices. Gellert (2005) argued that the power holders have sought to regroup and regain control through buy backs under the Indonesian Bank Restructuring Agency and export licensing arrangements under the Forest Industry Restructuring Board (*Badan Revitalisasi Industri Kehutan, BRIK*). However, in recent years, it becomes increasingly difficult to argue that government and industry are working together to protect the industry in its current form.

The President of Indonesia has based his platform on good governance and fighting corruption. He has issued a decree on illegal logging and formed a high level working group under the Coordinating Minister for Security Affairs. He has raised the profile of forestry (and natural resource) issues and thrown his weight behind improvements in transparency and rule of law. The MOFR is becoming more forceful in prosecuting the campaign against illegal logging and corruption. In recent years, the Ministry has proposed a national law on illegal logging, referred the names of illegal timber barons to the Attorney General's office, revoked concession licenses, and entered into an agreement with Indonesian Corruption Watch and Greenomics. Through these actions, the GOI is demonstrating that the close regulatory relationship between the industry and the regulator is no longer operating in lockstep.

Within the industry, different types of firms and different segments of the industry are seeing their interests independently, seeking markets by producing competitive or certified goods, rather than through monopolistic or non market efforts. With timber becoming scarcer, relative to processing capacity, different segments of the industry now have to compete for access to timber, so they do not always see their interests as compatible when taking positions on new regulations or policy shifts. For example, furniture exporters want timber certification and chain of custody procedures that allow them to demonstrate legality to foreign markets. Even the once-powerful trade associations, recognizing competition with Malaysia and China in particular, argue (sometimes circuitously) for more convincing government regulation and control of international trade issues. The EU's introduction of stricter measures against illegal timber trade, as well as the potential for Voluntary Partnership Agreements, is making firms more aware of the need to differentiate their product and document their source of supply as a condition of access to markets.

Civil society groups also are becoming more vocal and more skilled in investigative reporting and in focusing attention on key cases and key reforms needed. At the local level, civil society groups are increasingly successful in pointing out corruption and poor practice and encouraging the responsible authorities to take action.

It is not possible to change the entire political economy of Indonesia from within the forestry sector. Kaufmann (2006) notes that to fight corruption, a country needs systemic governance reforms in the judiciary, customs and budget institutions, media freedoms and women's rights. Donors can help to support this process directly, where political commitment and leadership are strong. He emphasizes that it is not effective to focus on mid-level officials, but to tackle the more fundamental governance weaknesses in key institutions, not specific projects or sectors. He argues that the private sector has an important role and an incentive to fight corruption. Rent seeking, monopoly powers, and "capturing" by a few corporations can distort the investment

climate and impede growth and development of a competitive private sector. Corruption, insider trading, and money laundering can also increase the vulnerability of the financial sector and be costly to the overall economy. These downside economic risks provide some incentive for businessmen to engage in anti-corruption efforts. In his view, the fight against corruption can be helped by improving citizens' participation, opening the press, promoting transparency, engaging with associations of businesses (including SMEs), and building integrity standards into corporate governance, and establishing guidelines for corporate social responsibility. Indonesia is moving in this direction, which will enhance the transformation of the political economy.

In Indonesia today there are hopeful signs that conditions and incentives are gradually changing in response to political and market forces. Corruption is very high on the political and public radar screen. Illegal logging cases are on the increase. Many are filed, many go to court, but still, not many make it to final judgment. Illegal logging is a corporate enterprise, so any actions that make it more difficult or expensive will have an impact. As a result of greater scrutiny and willingness to act on corruption, whether tied to forestry licensing and fees or not, some local leaders and prominent figures have been prosecuted (e.g., Kabuptaten Berau). That sends a message and changes the incentives and behavior of the next round of leaders. With direct election of bupati, after the change in decentralization law in 2004, there is greater possibility for incremental change through the electoral process. These broader changes will have positive impacts on practices in the forestry sector.

**Changing Political Economy Landscape Yields New Partnership Opportunities.** The EC-MOFR Workshop (EC 2006) identified a number of constructive approaches that donors can take in engaging in forest governance and policy reform. Interventions should be: flexible and responsive; more holistic and integrated (not based on fads or slogans, such as ICDPs or SFM); supportive of GOI priorities (through program support), only if linked to needed human resource and institutional development needs; transparent regarding the underlying agenda; based on deeper and more enduring partnerships; more programmatic, rather than project-based; and include innovative ways of supporting promising local and civil society initiatives (e.g., through grants). Participatory policy processes and involvement of civil society in forest planning are necessary to overcome the Indonesian forest problems. Ongoing domestic policy processes can be supported, such as the National Forest Programme (NFP), the Forestry Congress and the National Forestry Council, emerging from prior donor investments in consultative processes under the National Forest Programme (Albrecht, 2003). These new institutions and processes recognize that the forestry policy environment is multi-sectoral in character and requires inter-departmental and multi-stakeholder approaches. The dynamic evolution of Indonesian society and politics creates opportunities for partnership and collaborative work with a wide range of institutions and groups. Some of these are highlighted below.

- **Regional Governments and Decentralized Initiatives.** Many local governments are experimenting with innovative forest, watershed, and community-based natural resource management approaches, often with the help of NGO networks and universities. The Ford Foundation and the DFID Multi-stakeholder Forestry Programme support a wide range of efforts of this type using grants and technical assistance. World Bank managed GEF-MSPs have also been successful in achieving conservation objectives working at the provincial and district level.
- **Law Enforcement and Financial Investigation Agencies.** Through a range of forest law enforcement and governance initiatives, the Bank and a coalition of partners including CIFOR, DFID-MFP, WRI and the Indonesian Working Group on Forest

Finance, are engaging a range of law enforcement and financial agencies that have important roles to play in combating forest crime. The Bank and other partners are already working with the Coordinating Ministry for Political, Legal and Security Affairs (Menko Polhukam) who is bringing the Police, the Attorney General's office, PPATK and other concerned agencies together in the fight against illegal logging and trade.

- **Land and Access Institutions.** There are increasing opportunities to engage on land use and access issues with central and local government, NGOs, farmer and *adat* groups, academics and business interests. The MOFR established the Tenure Working Group in November 2001 to develop a discourse on forest management that is more just and sustainable. The Working Group aims to develop mechanisms for resolving conflicts and building understanding among multiple stakeholders about land use conflicts. BAPPENAS and BPN are engaged in developing a National Land Policy Framework that strives to develop institutions and mechanisms to resolve land use conflicts, in line with the principles in MPR Decree Number 9 of 2001.
- **Environment and Conservation NGOs.** The environmental and conservation NGOs have been key partners of the Bank and other donors in developing analyses of commercial forestry issues, contributing to ongoing dialogue processes, and supporting conservation initiatives (e.g., Forest Watch Indonesia, TNC, CI, WCS, FFI, LIF, and WWF Indonesia). Several NGOs have developed constructive partnerships with the MOFR on critical governance issues (e.g., Indonesian Corruption Watch and Greenomics). The Ministry also has a long term capacity-building program that seconds staff to NGOs and international organizations for several years at a time.
- **International Research Institutions and Foundations.** CIFOR, The World Agroforestry Center and the Ford Foundation are important partners in conducting analysis and supporting civil society organizations and wider dialogue processes. These organizations and their partner CSOs have supported technical analyses and dialogue processes that have contributed to the current opportunities seen in the sector.
- **Evolutionary Change in the Private Sector.** Once, the forest industry was more monolithic and controlled by a few powerful trade associations. Now, though, it seems that furniture makers, pulp producers, plywood and sawnwood manufacturers, all face different market forces and see their opportunities for the future differently.<sup>13</sup> There are signs that at least some parts of the corporate sector are adapting in ways that will contribute to solving forest sector problems. Progressive firms are already making investments in plantations and retooling that will allow them to demonstrate sustainability and efficiency in global markets. The trade associations have also evolved: many are under new management, better represent the needs of their members – firms trying to do business in the global economy – and are more open to public consultation and transparency. The industry no longer speaks with one voice. Progressive forces

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<sup>13</sup> Media reports (The Jakarta Post, May 1 and 3, 2006) illustrate these different voices from the corporate sector. The Indonesian Furniture Industry and Handicraft Association urged the government to curb the illegal exportation of wood and rattan and take other steps to shore up the industry's declining market share at home and overseas, such as training in furniture design. The Indonesian Palm Oil Producers Association urged the government to help the industry expand by providing more land, away from conservation areas, national parks or water catchment areas to avoid environmental conflicts and disputes with NGOs. A manufacturer from Yogyakarta believes that the furniture industry needs a sustainable and eco-friendly timber supply in adequate quantity. By sourcing from sustainable timber plantations, the firm hopes to both help the environment and meet its customers' demands.

denounce illegal logging because they recognize that international perceptions of Indonesia influence their ability to access lucrative foreign markets.

- **NGO-Private Sector Partnerships.** Some NGOs (WWF and TNC) and the IFC have developed partnerships with more progressive elements of the private sector to work on issues such as certification or high conservation value forest. Most of the early partnership opportunities have already been found. However, additional opportunities will arise as market forces and opportunism continue to differentiate various groups within the industry. Donors can (and have) influence this process through policy initiatives that favor access to their domestic markets for legally-sourced forest products, through support to NGO networks and civil society watchdogs, and through private sector partnerships. Optimism must be tempered, however. Efforts to increase financing in the forest sector or to work with individual firms would have to recognize that firms may misjudge costs, underestimate environmental impacts, and use overly optimistic future projections. Financing agencies need better due diligence practices and better follow up on forest sector projects, especially in the pulp sector in emerging markets, such as Indonesia (Setiono, 2006; Spek, 2006).
- **Certification and Legality Initiatives.** The rise of China and India as competitors has led to new realizations about the need to improve the competitiveness of Indonesia's forest industry, which has been protected and subsidized at times in the past, leading to inefficiencies and waste in production methods. As well, the certification movement, environmental networks and greater scrutiny by civil society organizations (e.g., the Global Forest and Trade Network) are swaying market forces by influencing major buyers in developed countries to demand greater sustainability and proof of proper forest and land management approaches among timber, furniture and paper suppliers. This is creating more interest in and incentives for certification. In a study for the IMF, Jarvis and Jaccobson (2006) identified a number of regulatory relief schemes that could help to provide positive incentives for forest concessionaires to pursue meaningful steps toward certification. These included fewer inspections and more self regulation, which would reduce "side payments" and nuisance fees to concessionaires. Other suggestions included treating Reforestation Fund payments as a performance bond, which is returned after performance is assessed. These innovations are now under consideration at the MOFR.
- **Religious Leaders.** Indonesia's Muslim leaders are increasingly supporting conservation efforts, with active encouragement from the Forestry Minister, leader of an Islamic political party. In April, the Minister signed a five-year agreement on forest conservation with Nahdlatul Ulama (NU) the country's largest Muslim group. Efforts to increase awareness and teaching of forestry and conservation issues through religious institutions are also supported by the World Bank's "Faith and Conservation Initiative" in partnership with Conservation International.

**Muslim Leaders Vow Support for Conservation Efforts**  
**The Jakarta Post, April 9, 2006 (Arie Rukmantara)**

At Nahdlatul Ulama headquarters, Minister of Forestry Malesm Sambat Kaban told a story about an unnamed Mecca pilgrim (Pak Haji) who was arrested for financing illegal logging in a pristine forest. "I asked him why he did that" said Kaban, who leads the Islamic Star and Crescent Party. "Pak Haji replied: 'The forests are Allah's gifts. Men should make use of them'," the minister said after signing a five-year agreement on forest conservation Thursday with the country's largest Muslim group. Kaban said he was shocked by the pilgrim's answer. Although God had given mankind abundant natural resources, people should not illegally exploit them to the detriment of future generations, he said.

The misinterpretations of the pilgrim, Kaban said, were also common among religious leaders, who he said often failed to keep up-to-date with current affairs and modern standards of morality.... The experience with Pak Haji, Kaban said, motivated him to sign the conservation deal with NU. He hoped the leaders of the organization of 40 million followers, would encourage members to become active conservationists and help rehabilitate the 59 million ha of deforested land across the country. NU chairman Hasyim Muzadi welcomed the initiative and urged members to get involved in conservation. "Conserving nature is one of God's orders and part of our religious teachings," Hasyim said.

### **3.4 Forest Crime and Law Enforcement**

Enforcement of appropriate forestry laws is an essential factor in improving governance. Even where laws are strong, enforcement may be weak or non-existent. The lack of effective enforcement contributes to illegal logging, unsustainable levels of timber extraction, delinquency in payment of required fees and taxes, and inequity in responsibility and accountability at all levels of government. However, the key word "appropriate" is an important factor. The credibility of the legal framework in forestry is weak. Sometimes inappropriate laws, for example, mainly concerned with paperwork and administrative requirements, are enforced as a means to extract side payments. On the other hand, appropriate laws, such as those prohibiting logging in national parks, seem to be violated with impunity and publicly. Community forestry advocates also point to the inequitable use of enforcement in the treatment of smallholders. Villagers may be punished for small scale violations on forest land, while large operators clearing land with impunity are not arrested (Colchester, 2006). Enforcement is further complicated by the decentralization process, which changed responsibilities in the forestry sector and complicated the process of holding local governments accountable for adhering to national laws.

As described further in Chapter 4, forest crime dominates wood production in Indonesia, by the Government's own account. Illegal logging takes a wide variety of forms, including logging under permits granted by unqualified authorities (including local officials), unauthorized land conversions, and other forms of trespass. Illegal logging poses a threat to Indonesia's forest resources because it often occurs in already logged over forests that have not had a chance to recover, on steep slopes, in catchment areas, or in areas assigned to protect local and global forest values, such as national parks. Crimes are committed by a similarly wide range of perpetrators, with poor local people often acting as logging contractors at the end of chains composed of sawmills, merchants, financiers and others. Forest crime undermines the law, results in social conflict and results in tensions between various levels of government. Other adverse impacts include lost government revenue, distorted timber markets and a lack of incentives to produce legal timber. It also undermines the credibility of Indonesian products in international markets.

The GOI and MOFR have undertaken increasing efforts to improve forest law enforcement in recent years. The MOFR has established cooperative working relations (and seconded staff) with the Indonesian Police and launched a number of forest operations in specific areas (see text box). The GOI has also made commitments to improving law enforcement at international gatherings. This section describes some of these initiatives and lessons of past experience.

**Industrial Restructuring and Mill Inspections.** In 2000, at the Consultative Group on Indonesia, the GOI agreed to close heavily indebted wood industries and link proposed debt write-off to capacity reduction (Setiono 2006). The hope was that capacity reduction would lower demand for illegal logs. Toward this end, MOFR formed an Industrial Restructuring Working Group, which met regularly throughout 2002, and involved collaboration among the Ministry, donor agencies, and the private sector. The group designed a protocol for the execution of mill inspections and developed a mill-to-forest log tracking methodology. The protocol was then used to inspect ten mills during 2003 and early 2004. All ten mills were found to be operating illegally or in possession of illegal logs. Bringing these findings to a proper judicial and administrative resolution proved quite difficult, however. More vigorous follow up, better handling of evidence and better cooperation from provincial governments would have been needed to achieve better results. In several cases, MOFR ordered the closure of three mills, but provincial governments did not implement these orders. Other cases went to court but foundered in Indonesia's judicial system.

**Bali Declaration and “11 Step” Initiative.** With other countries who signed the historic Bali Declaration on illegal logging in September 2001,<sup>14</sup> the Indonesian government made a commitment to: 1) take immediate action to intensify national efforts to tackle illegal logging; 2) strengthen bilateral, regional and multilateral collaboration on forest crime; and 3) share information on forest crimes and illegal timber shipments

After wide consultation and analysis, the Ministry of Forestry (with support from WWF-WB Alliance and other stakeholders) has developed an “11 Step

**MOFR Programs and Progress for Combating Illegal Logging and Forest Crime (see Annex C)**

Programs:

- Providing information on IL-prone locations
- Mobilizing society's concern about IL
- Reducing interference in the forest
- Intensifying inter-departmental coordination on measures, operations, and case settlement.
- Carrying out field operations to combat forest crime.

Progress

- Sustainable Forest Operation I in East Kalimantan (106 cases, 134 suspects and 101,000 m3 evidence)
- Sustainable Forest Operation II in Papua (173 suspects, > 72,000 m3 evidence, 361 false documents, 1,269 units of equipment).
- Wanalaga Operation II in West Kalimantan and Operation on Handling of Concession Permit Falsification
- Forest Security Operation in Betung Kerihun National Park and Gunung Palung
- Revision and replacement of key Ministerial Decrees (Permenhut No. P18/Menhut-II/2005)
- Socialization and Consolidation of INPRES 4/2005
- Developing cooperation with PPATK
- Establishing Fast Reaction Forest Police Unit
- Working out cooperation with timber consumer countries, NGOs

<sup>14</sup> The Bali Declaration raised the profile of illegal logging and stimulated policy debate, public awareness, media attention and concern among the timber industry. It also paved the way for similar processes in other parts of the world, notably Africa FLEG, Latin America FLEG, East North Asia FLEG, the Asia Forest Partnership and the EC FLEGT Support Project.

Program to Curb Illegal Logging” to provide a systematic, comprehensive, time-bound framework that multiple stakeholders can adopt to curb illegal logging, improve law enforcement and achieve more sustainable forest management in Indonesia. This initiative aims to implement and support a systematic, comprehensive framework of prevention, detection and suppression measures designed to effectively curb illegal logging and improve law enforcement in Indonesia. Key elements of the initiative to strengthen forest law enforcement include coordination among MoF, police, armed forces, judiciary, the Center for Analysis of Financial Transactions (*Pusat Pelaporan dan Analisis Transaksi Keuangan*, PPATK), customs, and provincial and district governments; clear signals of seriousness about prosecuting grave violations; and high priority on curbing illegal log exports to neighboring countries. The GOI has made some progress with high-level political pronouncements and prosecution of some high-profile cases, as indicated in the text box and in press reports on the Ministry’s web site.

A Presidential Instruction (Number 4 of 2005) codifies and reinforces the commitment to fighting forest crime. The decree directs eighteen agencies to cooperate in the control of illegal logging and the prosecution of forest crimes, including the Coordinating Ministry for Political and Security Affairs, the MOFR, the National Police, and financial sector regulators. An order of the Ministry of Home Affairs has called for cooperation at the district government level and has prohibited further grants of logging concessions at that level. Officials from Police and Prosecutors Office have been stationed at the MOFR, but there is still a need for more detailed plans, budgets, information sharing arrangements and standard protocols. As noted in the previous chapter, efforts are underway to develop a new law devoted to forest crime.

These efforts are addressing not just illegal logging, but also anti-money laundering training and actions, as well as recovery of stolen assets. There are plans to road-test financial intelligence and investigation approaches as well as on-the-job development of the required interagency coordination. This will open the way for more ‘just’ enforcement: by following the money and not the chainsaws, penalties will land on the masterminds not on the poorer operators at the bottom of the supply chain. Recovery of assets sitting overseas can also create an immediate political incentive for action, as well as more resources for forest management and protection. There is also work in progress on Transparency in the forestry sector, on Trade and Customs collaboration to reduce trade of illegal timber, on international dialogue amongst timber consuming and producing countries, and a growing constituency among GOI, NGOs, Donors and increasingly from the Private Sector. Development agencies have supported these processes and inter-agency collaboration efforts.

All of these efforts are helping Indonesia move from commitments to results on governance, especially in the area of law enforcement. A World Bank Mission in September 2006 reviewing Indonesia’s forest law enforcement and governance actions found continuing strong commitment and positive developments at the field level. Cross-government coordination efforts led by the Minister for Politics and Security are encouraging, but still need technical support and focus on key targets. There are other positive developments in the formation of a high level Anti Corruption Commission, and continuing efforts toward reform in the police and justice agencies.

As mentioned in Chapter 2, these initiatives are based on recognition that large operators and financial backers need to be targeted to make progress, not the small operators at the bottom of the illegal logging value chain (Colchester, 2006). While illegal logging and forest crime are necessarily receiving most law enforcement attention, it should also be noted that encroachment into protected areas and watershed protection forests is a continuing concern, both at the village

level and the level of local government decision-making. Also, trade in endangered and threatened wildlife is common in Indonesia. These issues are taken up in more detail in Chapter 6 in the discussion of biodiversity protection.

**Targeting for Impact.** Even with improved transparency and the “11 Step Program” as the overall strategy, there is still a need to target enforcement resources for cost effectiveness and impact. It will be necessary to define realistic goals and to focus efforts on those most responsible for the most important violations, defined perhaps on the basis of volume (large mills use most timber) or area affected. It is also necessary to target “winnable” cases where the evidence is sufficient to support convictions, important for public perceptions and for setting precedents for future cases. It may also be appropriate to focus enforcement actions on specific priorities on specific forest land types. For example, enforcement priorities on production lands will be different than on degraded protection forests. The table below indicates some likely targets or priorities for enforcement on different types of land.

Law Enforcement Consideration on Different Classes of Land		
Land Type	Forested	No Forest
<b>Production Forest Land</b>	<ul style="list-style-type: none"> <li>▪ Combat illegal logging, processing and trade</li> <li>▪ Reduce negative impacts of LEGAL logging</li> <li>▪ Ensure proper payment of fees &amp; taxes</li> </ul>	<ul style="list-style-type: none"> <li>▪ Enforce replanting and stewardship rules for concessions</li> <li>Consider community access and alternative land uses</li> <li>▪ Reconsider boundaries on low value, degraded land</li> </ul>
<b>Conversion Forest Land</b>	<ul style="list-style-type: none"> <li>▪ Reduce impacts of land clearing &amp; fire risk</li> <li>▪ Ensure proper payment of fees &amp; taxes</li> <li>▪ Reconsider boundaries and rules on high conservation value forest</li> </ul>	<ul style="list-style-type: none"> <li>▪ Enforce replanting and stewardship rules for plantations</li> <li>▪ Clarify responsibilities, eligible users, access</li> <li>▪ Allow wider, more equitable access, use, &amp; benefit</li> </ul>
<b>Protection Forest Land</b>	<ul style="list-style-type: none"> <li>▪ Combat Illegal Logging &amp; Encroachment</li> <li>▪ Clarify responsibilities, eligible users, access</li> </ul>	<ul style="list-style-type: none"> <li>▪ Combat Illegal Logging &amp; Encroachment</li> <li>▪ Clarify responsibilities, eligible users, access</li> </ul>
<b>Conservation Forest Land</b>	<ul style="list-style-type: none"> <li>▪ Combat illegal logging and encroachment</li> <li>▪ Address wildlife trade</li> </ul>	<ul style="list-style-type: none"> <li>▪ Address encroachment and incompatible land uses</li> <li>▪ Address wildlife trade</li> </ul>

**Beyond Enforcement.** Better enforcement of existing laws is only one part of the solution, however. There are many obstacles to improving rule of law, including contradictions between laws, lack of consensus about which laws should be prioritized for enforcement, the vast area of forest lands (logistical challenges), resistance from the powerful, corruption in the legal system, and lack of coordination between GOI agencies, as well as other countries. In addition, increasing law enforcement efforts could lead to more conflict and violence in the sector, loss of income for certain groups, including not only the powerful but rural poor households engaged in illegal forest practices. As mentioned in Chapter 2, efforts to develop a specific “forest crime law” are underway. As well, continuing dialogue processes and consultative institutions will help in addressing the concerns and conflicts that may arise as enforcement efforts bear fruit.

**Beyond the Sector.** In addition to actions within the sector, law enforcement and governance improvement efforts must recognize that key decisions affecting how forest resources are used and managed are made by financial sector actors. The future of Indonesia's forests depends heavily on financial reforms such as a new bankruptcy law, accountable debt resolution and better due diligence. Efforts to improve policy enabling conditions and rule of law should include the Coordinating Ministry for Economic Affairs, the Ministry of Finance, Bank Indonesia and other financial sector agencies.

Some of the reforms needed are not specific to forestry investments, but would have a direct and significant impact on the forestry sector if adopted. In general, increased financial transparency and accountability for forestry companies would help to improve forest management by increasing public scrutiny and allowing better law enforcement.

**Beyond the Border.** The East Asia Forest Law Enforcement and Governance Initiative emerged from the Bali meeting and declaration in 2001. As the country with

the largest forested land area participating in the FLEG process, Indonesia's progress in law enforcement initiatives is setting a constructive pace for efforts in the region, creating momentum and serving as a model for other countries seeking to improve forest governance. The World Bank is supporting Indonesia's participation in the regional initiative through facilitation and promoting Indonesian examples and successes in the wider forum. FLEG has contributed to a number of national, bilateral and regional agreements, initiatives and actions. The EAP-FLEG Task Force Advisory Group met in Manila in early 2006 and a Ministerial meeting may be convened later in 2007 to review the status of implementation and to reaffirm high-level commitments. International financial institutions also have an important role to play in reducing illegal trade and international money laundering regime (Setiono and Husein 2005).

#### Forest Crime and Anti-Money Laundering

Indonesia's PPATK, Indonesia's Financial Intelligence Unit, is charged with collection, analysis and dissemination of information on money laundering, including the proceeds of illegal logging. PPATK has signed MOUs with the MOFR and CIFOR and others. Awareness is high that illegal logging is a predicate offense under Indonesia's money laundering law. However there are still misconceptions about the legal mandate of PPATK (intelligence and not investigation and prosecution); about financial aspects of illegal logging (financing vs. benefiting from vs. concealing the proceeds of forest crime); and about the roles of other agencies in using financial intelligence data to fight forest crime. By October 2005, PPATK had sent 7 reports regarding suspicious money laundering crimes related to illegal logging to the police (Setiono and Husein 2005) and a total of 14 were sent by August 2006.

### 3.5 Conflict, Inequity and Land Use Allocation

Forest conflicts are pervasive and often violent, and directly undermine social cohesion, political stability, and economic growth. In Indonesia's forest sector, there are both horizontal conflicts between local communities and timber concession holders, as well as vertical conflicts between different levels of government (Bennett and Walton 2003, Jarvie, et al. 2003). As shown in Chapter 2, the distribution of land is not equal among different forest functions and goals; likewise the distribution of benefits is unequal. IBSAP (2003) notes that a minority of Indonesians benefits from the use of natural resources, "while the costs of degradation are borne by the majority." Conflict stems from poor governance, inadequate and non-participatory spatial planning, past injustice, inconsistent application of law, decentralization of power relationships,

as well as abuse of power. The International Crisis Group (2001) notes that “Indonesia needs to engineer a better balance between the claims of the state, private corporations and ordinary citizens to natural wealth, while ensuring that extraction is environmentally and socially more sustainable.” ICG concludes that addressing conflict will require regular and equitable enforcement of existing laws and regulations; provision of adequate forest management tenure mechanisms for individuals and community groups; clarification of roles and responsibilities over forest resource licensing and regulation between different levels of government; and reduction in the military’s need to generate budget revenues through forest resource exploitation. MPR Decree No. 9 of 2001 provides the basis for legal reforms and an institutional approach to managing and reducing conflict, but it is not yet implemented. A number of CSOs and donor projects have provided capacity building and legal assistance to support conflict resolution.

Even with these improvements, however, some kinds of conflicts, claims and controversies will remain for historical or cultural reasons. Other kinds of conflicts will continue to arise as governments and societies jointly plan activities and economic developments for the future. Although “win-win” solutions are sometimes possible, many decisions will still result in gainers and losers. It might be reasonable to strive for a system or approach in which the gainers do not gain so disproportionately as to create new inequities and conflicts. It also would be reasonable to strive for an approach that allows the losers to believe and understand that their side of the story was heard, that appropriate mitigation approaches were employed, and that fair compensation for losses was offered and paid. The legal framework and judicial system are not yet in a condition to achieve this idealized state.

**Rights and Access.** Indonesia’s existing forest management system grants access and use rights (tenure) on forest land. For example, exploitation rights are granted in forest concessions for 20 years with a possibility of extension. Rights to clear timber and change land status are granted to timber and crop plantation concessions. Yet, these rights are most often granted to large corporations. Communities and smallholders have often been denied access and use rights to lands that could be productively employed to produce a range of crops, including timber – even when these lands are currently not forested and unable to produce the functions for which they were designated (e.g., watershed protection). Central control and allocation that does not recognize local economic needs, pre-existing uses, management activities, or ownership claims can result in allocation decisions that spur conflict, vertically between levels of management authority and horizontally between competing uses and users at the field level. Thus, clarification and, potentially, reallocation of land use rights and access will help to reduce conflict and improve forest sector governance. Revisions to forestry regulations, which have been in a consultative process for over a year, have the potential to address these issues through granting of some rights for community forestry or plantation activities. However, the rights offered and the accompanying regulatory limitations may not satisfy all stakeholders.

Poverty also has differential gender impacts, and many argue the more women and children are among the poor. Improvements in forest management, access and rights would help to address this imbalance, but also there is a need for more collaborative and inclusive management and decision making approaches, starting from the bottom up. These issues are taken up in more detail in Chapter 5.

**Dialogue and Conflict Resolution Processes.** Some suggestions (CIFOR, 2004) for positive steps toward reducing forest sector conflicts include:

- Develop mechanisms for district and provincial governments to address stakeholder concerns and resolve emerging conflicts before they become violent.
- Create ‘rapid response’ teams at district and provincial levels to help resolve conflicts that have started.
- Help monitor conflict ‘hot spots’ and resolve underlying issues.
- Raise standards for social impact assessments for timber, plantation, mining, and infrastructure projects that affect forests.
- Prioritize resolving contradictions between customary claims and national law.

There are constraints to progress in this area, however. Foremost among these is the lack of trust among stakeholders upon which any negotiation process must be built. Also, there is a lack of potential mediators and institutions that can act as neutral arbiters. Progress in this area will necessarily be linked to broader improvements in the legal system and democratization of decision making. Despite the complexity of land use conflicts, rights and claims, some guidance can be offered for beginning to deal with these issues: learn from the past, build on existing mechanisms, involve regional governments and people in developing mechanisms, rely on both institutions and processes, and begin with deforested/degraded land allocated for economic uses.

Given the physical extent of the state forest land and the large numbers of competing and overlapping claims on this land, access and reallocation are very complex issues and clear solutions may be difficult to identify. Dialogue is a necessary part of the solution, but there must be care not to raise expectations that cannot be met. This could increase tensions and spur conflict among competing stakeholders.

**Opportunity on Deforested Land.** As seen in the previous chapter, the state forest zone has large areas with no forest – and this area is growing as illegal logging and land conversion continue and concession licenses expire. Large parts of this area are in fact managed by other actors (smallholders, communities) without a legal framework of rights and responsibilities. As part of the dialogue process mentioned above, Indonesian stakeholders could discuss and agree on new approaches to allow wider access and management rights on forest land, especially degraded forest land. Reallocating land and allowing a more diverse set of use and management rights to a more diverse set of user groups could encourage investment in land and forest resources, increase productivity and earnings, improve rural welfare, and contribute to reducing conflict. This topic is taken up in more detail in Chapter 5.

Focusing dialogue on specific decisions on specific types of land will also help to manage expectations among stakeholders involved in the process. The degraded state of Indonesia’s forest resources raises the question of forest land functions and the choices that are now available. For example, in areas with good remaining forest cover, should the lands be managed for protection or for economic output? On lands with no remaining forest, the choice may be to rehabilitate the forest functions or to reallocate the land. Reallocation of land may be best focused on non-forested (non-productive) areas assigned for economic activity (e.g., Production and Conversion areas). Rehabilitation, on the other hand, would be better focused on lands that are currently assigned to produce environmental services, such as steep slopes or key biodiversity corridors.<sup>15</sup>

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<sup>15</sup> The MOFR has been funding a large land rehabilitation program, known as GERHAN, since 2003. More information on the aims and locations of this program is provided in Chapter 6.

ICRAF (van Noordwijk, 2005) and CIFOR (2004) point out that reallocation and rehabilitation are not mutually exclusive: many agroforestry and smallholder tree crop land uses also help to sustain important forest functions, such as erosion control. Also, where deforested and degraded lands are not currently providing environmental services or other forest functions, it may be logical to consider allowing a wider range of land uses that are not linked to resurrecting lost forest functions. The following table illustrates some of the kinds of choices that are available on different kinds of land to help resolve forest land use conflicts. Though simplified, this framework at least begins to break down the forest access and reallocation questions into more manageable units that can be addressed systematically through analysis and dialogue.

<b>Conflict Resolution Consideration on Different Classes of Land</b>		
<b>Land Type</b>	<b>Forested</b>	<b>No Forest</b>
<b>Production Forest Land</b>	<ul style="list-style-type: none"> <li>▪ Manage for Econ Output</li> <li>▪ Preserve high conservation value areas</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reallocate or Rehabilitate?</li> </ul>
<b>Conversion Forest Land</b>	<ul style="list-style-type: none"> <li>▪ Manage for Econ Output?</li> <li>▪ Preserve high conservation value areas?</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reallocate?</li> <li>▪ Promote Poverty Reduction</li> </ul>
<b>Protection Forest Land</b>	<ul style="list-style-type: none"> <li>▪ Manage for environmental services</li> <li>▪ Allow compatible land uses (non-extractive)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reallocate or Rehabilitate?</li> <li>▪ Allow compatible land uses</li> </ul>
<b>Conservation Forest Land</b>	<ul style="list-style-type: none"> <li>▪ Manage for biodiversity, higher forest values</li> <li>▪ Allow compatible land uses (non-disruptive)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Rehabilitate?</li> <li>▪ Allow compatible land uses</li> </ul>

### 3.6 Institutional Issues and Forest Management

Marifa (2004) and Kartodihardjo (2004) argue that transformation of institutions is necessary to achieve improved natural resources governance in Indonesia. Marifa focused at a broad national level. She noted that little is being done to integrate policies and improve consistency in implementation. Center-region political wrangling can lead to districts making short sighted or conflicting policies. Even progressive districts may have difficulty cutting through the regulatory complexity that they face. Marifa argued for higher level policy making consistency across sectors, a greater role for provincial resource management agencies, and a stronger role for local civil society constituencies as a counterbalance in governance at the local level. These issues are beyond the scope of this report, though the changes to the decentralization laws in 2004 helped to clarify some roles and relationships. A proposal for a new natural resources law (in draft form for several years) strives to establish an umbrella framework to guide natural resource management policies across sectors.

Kartodihardjo (2004 and 2002) and ITTO (2001) focus on institutional issues within the forestry sector, partly based on feedback from public consultations on earlier forestry sector recommendations. In this post-decentralization era, it is argued that the MOFR no longer exercises direct control over forest management and is not properly structured to respond to the current forest management needs. Kartodihardjo and ITTO see a need to reformulate tasks and responsibilities in line with the newly decentralized nature of government administration and to thin the overall organization. They argue for higher level or umbrella institutions (echoing Marifa) to address issues of decentralization and coordination among laws, as well as to develop policies and conduct consultation and supervision of forestry affairs. Institutional capacity is needed at several levels to formulate criteria and performance indicators, provide technical assistance to decentralized forest management units, apply a mechanism for conflict resolution,

legitimize policy formulation, improve human resources, and address forest boundaries, claims, ownership and management among the three levels of government. These studies argue that institutional issues impede the implementation of sound technical recommendations.

Due to decentralization of responsibilities, the central government organizations could place more emphasis on – and institutional units responsible for – oversight of decision-making processes, coordination among agencies, synchronization of policies, and provision of policy certainty and continuity. In addition, the central agency could focus more attention on business competitiveness in global markets, incentives and the overall investment climate, rationalization of rights and land uses in forest areas, social forestry issues and law enforcement (both coordination and capacity building). At the same time, less central government emphasis is needed on technical forestry issues, direct implementation and decision-making, and management of production forests. Kartodihardjo (2002) argues that the forest management institutions and structures could be redesigned to be more decentralized, more supportive of community aspirations, and more responsive to dynamic developments – and problems – in the field. This could probably be said of law enforcement agencies as well. He believes that “the form of the institutions will determine the degree of professionalism, not the other way around.”

### **3.7 Options for Improving Forest Governance**

The options and approaches discussed above for improving forest governance are summarized into the table on the following pages. This provides a road map to governance issues, organized according to forest land type and condition. This framework provides the basis for further discussion of prioritized intervention options in Chapter 7.

**Policy and Investment Support Options for Improving Forest Governance**

<b>OBJECTIVE: Improve Forest Governance &amp; Management</b>		
<b>1. TRANSPARENCY. Implement Forest Transparency Initiative, with clear policy and actions.</b>		
<b>Overall</b>	<ul style="list-style-type: none"> <li>▪ Support development, implementation, and widespread use of the Forest Monitoring and Assessment System (FOMAS) along with reporting frameworks and dissemination means</li> <li>▪ Provide capacity building and technology for dynamic decision-making based on reliable, accurate and up-to-date information</li> <li>▪ Support to develop and implement a comprehensive disclosure policy, effective disclosure mechanisms</li> <li>▪ Increase accountability procedures and mechanisms for forestry firms</li> </ul>	
<b>2. LAW ENFORCEMENT.</b>		
<b>Overall</b>	<ul style="list-style-type: none"> <li>▪ Build capacity in enforcement agencies, chain of responsibility, integrated action across responsible government agencies</li> <li>▪ Implement “11 Step Program for Curbing Illegal Logging” (in progress)</li> <li>▪ Support CSO efforts to use media &amp; investigation to expose corruption &amp; crime</li> <li>▪ Define role, responsibility, legal status for 3rd Party/Citizen Suits for forest crime</li> </ul>	
	<b>Forested</b>	<b>Non-forested</b>
<b>Production</b>	<ul style="list-style-type: none"> <li>▪ Enforce rules to reduce negative impacts of LEGAL logging &amp; preserve existing forest for future production</li> <li>▪ Enforce rules on payment of fees &amp; taxes, improve tax admin, delinquent payment</li> <li>▪ Prosecute hi profile cases as signal &amp; precedent</li> <li>▪ Develop systems for enforcing money laundering rules</li> <li>▪ Develop/enforce rules or voluntary frameworks to preserve high conservation value areas</li> </ul>	<p>Determine priorities to reallocate or rehabilitate.</p> <p>Enforce management rules to reduce impacts of land clearing &amp; risks of fire</p> <p>Allow compatible or regenerative land uses</p>
<b>Conversion</b>	<ul style="list-style-type: none"> <li>▪ Enforce management rules to reduce impacts of land clearing &amp; risks of fire (including peat land fire initiative)</li> <li>▪ Develop/enforce rules or voluntary frameworks to preserve high conservation value areas</li> </ul>	<p>Determine priorities to reallocate or rehabilitate.</p>
<b>Protection</b>	<ul style="list-style-type: none"> <li>▪ Develop/enforce rules to clarify responsibilities, activities, user groups, monitoring requirements</li> <li>▪ Allow compatible land uses (non-extractive)</li> </ul>	<p>Develop/Enforce management framework and land use allocation rules for deforested land</p>
<b>Conservation</b>	<ul style="list-style-type: none"> <li>▪ Enforce rules to reduce IL &amp; encroachment</li> <li>▪ Define, map, &amp; mark boundaries to facilitate enforcement and self policing</li> <li>▪ Allow compatible land uses (non-extractive)</li> <li>▪ Increase efforts on illegal wildlife trade</li> </ul>	<p>Allow compatible or regenerative land uses</p>
<b>3. CONFLICT RESOLUTION: Develop mechanisms to prevent &amp; resolve forest conflicts</b>		
<b>Overall</b>	<ul style="list-style-type: none"> <li>▪ Develop &amp; implement mechanisms (all levels of government) to address concerns, resolve conflicts, process grievances, settle claims, and compensate for losses</li> <li>▪ Could base this on TAP MPR #9/2001, largely not implemented</li> <li>▪ Establish legal aid teams, conflict resolution teams (&amp; provide with appropriate roles &amp; responsibilities grounded in law)</li> <li>▪ Raise standards for social impact assessment for investment/infrastructure projects on “forest land.” Improve monitoring &amp; implementation of mitigation plans</li> </ul>	

<b>4. DECENTRALIZATION</b> Strengthen district & provincial agencies with central government support		
<b>Overall</b>	<ul style="list-style-type: none"> <li>▪ Strive for agreement with district/province governments on management, implementation, licensing, &amp; monitoring roles &amp; responsibilities</li> <li>▪ Build capacity in regional government forestry bureaucracies</li> <li>▪ Integrate with national dialogue &amp; review of legal framework, as recommended above</li> </ul>	
	<b>Forested</b>	<b>Non-forested</b>
<b>Production</b>	<ul style="list-style-type: none"> <li>▪ Review and agree on licensing, tax administration, rights &amp; access, conflict, monitoring &amp; enforcement of forest stewardship rules</li> </ul>	<ul style="list-style-type: none"> <li>▪ Build on existing dialogue processes and institutions to address issues of use rights &amp; access, transfer/re-allocation rules, plans for econ investments (plantations), conflict</li> </ul>
<b>Conversion</b>		
<b>Protection</b>	<ul style="list-style-type: none"> <li>▪ Review and agree on boundary definitions, encroachment issues, licensing of compatible uses, access &amp; use rights</li> </ul>	<ul style="list-style-type: none"> <li>▪ Begin dialogue process to address issues of use rights &amp; access, transfer/re-allocation rules, plans for econ investments (tourism), conflict</li> </ul>
<b>Conservation</b>		
<b>5. DIALOGUE / DECISION PROCESS: Establish, promote, support dialogue/decision processes</b>		
<b>Overall</b>	<p>Dialogue on Legal Framework</p> <ul style="list-style-type: none"> <li>▪ What to do where laws/rules are regarded as unjust, unenforceable, undesirable?</li> <li>▪ What negotiation/resolution processes can be established, strengthened?</li> <li>▪ How to evaluate effectiveness of local innovations, new policies?</li> </ul>	
	<b>Forested</b>	<b>Non-forested</b>
<b>Production</b>	<p>Dialogue on Forest Cover Quality / Quantity</p> <ul style="list-style-type: none"> <li>▪ What are the best uses of forested land?</li> <li>▪ How much is enough?</li> <li>▪ Are existing designations right?</li> <li>▪ What compatible economic activities should be allowed?</li> </ul>	<p>Dialogue on Degraded (low &amp; flat) Land</p> <ul style="list-style-type: none"> <li>▪ Most economic activities are compatible, so what benefits the most people &amp; who gets control?</li> <li>▪ What are management goals after forest is gone? (For high, steep land → rehabilitation)</li> </ul>
<b>Conversion</b>		
<b>Protection</b>	<p>Dialogue on Protection forests</p> <ul style="list-style-type: none"> <li>▪ What are they for and how should they best be managed?</li> <li>▪ Tree cover is not the only or the best way to protect watershed services (See Chap 6).</li> <li>▪ Note that secondary environmental services (carbon, biodiversity) are produced.</li> </ul>	

*Earth provides enough to satisfy every man's need, but not every man's greed.*

– Gandhi

*The Gross National Product does not allow for the health of our children, the quality of their education, or the joy of their play.*

*It does not include the beauty of our poetry or the strength of our marriages; the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage; neither our wisdom nor our learning; neither our compassion nor our devotion to country; it measures everything, in short, except that which makes life worthwhile.*

– Robert Kennedy, 1968

## **4. FORESTS AND SUSTAINABLE ECONOMIC DEVELOPMENT**

Indonesia's legal framework recognizes the role of forest lands in producing economic products and benefits. Administrative allocations of land have assigned Production and Conversion Forest Lands for this purpose. The legal framework also provides that these lands and benefits be shared equitably for the benefit of all Indonesians. Not all would agree that Indonesia has been successful in achieving this aim.

In terms of utilization of forests for economic benefits, Indonesia is at a transition point. As shown in Chapter 3, the level of forest harvesting, conversion and encroachment have created an unplanned level of destruction. A third of the original area assigned to production forest has been logged over to become secondary forest. A quarter of the production forest has been damaged to the point that it can no longer be considered to be "forested." These areas will produce lower qualities and values of timber for future economic benefits.

Forest crime leads to loss of forests and the degradation of the remaining resource. Up to two-thirds of Indonesia's forest sector production (about 60 million cubic meters per year) is based on non-legal sources, representing an annual loss of \$3 billion in economic value to the country and its citizens. Large scale forest conversion continues to feed pulp mills. While some of these areas are converted to plantations or to smallholder agriculture, a large share is simply being degraded, a permanent loss to Indonesia's present and future generations. Only a third of the lands allocated for plantations have been planted and some of these lands have been poorly managed.

It is widely accepted that the industrial demand for timber far exceeds the available legal and sustainable supply from Indonesian natural and planted forests. This gap drives a lot of the problems in the sector, including forest degradation through over-harvesting and illegal logging and lack of transparency. This highlights the need for industry restructuring and an increased effort to create new timber supplies in the future. This message has now become the accepted wisdom and the MOFR has developed a plan for industrial restructuring, which is presented briefly in this chapter. Beyond industry restructuring, long term plans to improve management of forest lands for economic development could also strive to achieve more balance among retaining forest, employment and earnings, as well as the industrial base.

This chapter provides an overview of the economic contribution of the forestry sector in Indonesia and identifies some international market issues and trends. The structure of the commercial forestry industry is reviewed briefly, including the roles of concessions, mills, and plantations. This chapter strives to focus on highlights and synthesis, because details can be sought in the large volume of relevant and increasingly accurate information on the MOFR's website ([www.dephut.go.id](http://www.dephut.go.id)) and in several major compilation documents produced in recent years (e.g., ITTO 2004, GTZ 2004).

## 4.1 Economic Overview

Indonesia's forestry sector has been an important contributor to the economy for at least three decades. Forestry and forest products made a significant contribution to gross domestic product, foreign exchange, government revenue, and employment, as shown in the following sections.

### 4.1.1 Contribution of the Commercial Forestry Sector

**Gross Domestic Product.** In the last ten years, forestry represented 3 to 4% of national gross domestic product (or 20 to 24% of the industrial sector). These contributions came mainly from forest harvesting, processing into wood-based products, and processing into pulp and paper products. In rural areas and off Java, where most concessions and mills are located, forestry activities are even more important contributors to the regional economy.

Overview of Gross Domestic Product Contribution			
Category/Sector	GDP Values 2003 (\$ B)	GDP Values 2004 (\$ B)	% of Total
<b>Total GDP</b>	<b>184.2</b>	<b>193.7</b>	<b>100.00%</b>
GDP Oil and Gas Products	18.2	17.4	8.96%
GDP Non-Oil and Gas	166.1	176.3	91.04%
Forestry (Agriculture Sector)	2.1	2.1	1.11%
Wood Products (Manufacturing Sector)	2.4	2.4	1.22%
Paper & Printing (Manufacturing Sector)	2.5	2.7	1.41%

Source: www.bps.go.id; BPS Website

**International Trade.** The export value of forest products reached its highest level in 1997 (\$6.2 billion -- or 18% of industrial exports) and afterwards declined to \$5.3 billion by 2002 due to the economic crisis, industrial indebtedness, and changing demand and supply conditions for wood-based products in the region (Simangunsong, GTZ 2004). Key markets and destination countries for Indonesian wood-based products are discussed in Section 4.1.2.

Overview of Contribution to Trade Values (\$ Billion)			
Trade Category	2003	2004	% of Total
<b>Total Exports</b>	<b>61.06</b>	<b>71.58</b>	<b>100.0%</b>
Oil and Gas Products	13.65	15.65	21.9%
Non-Oil and Gas Products	47.41	55.94	78.1%
Timber and Wood Products	2.72	2.80	3.9%
Paper Cartons and Products	1.97	2.18	3.0%
Pulp and Paper	0.79	0.59	0.8%

Source: www.dprin.go.id

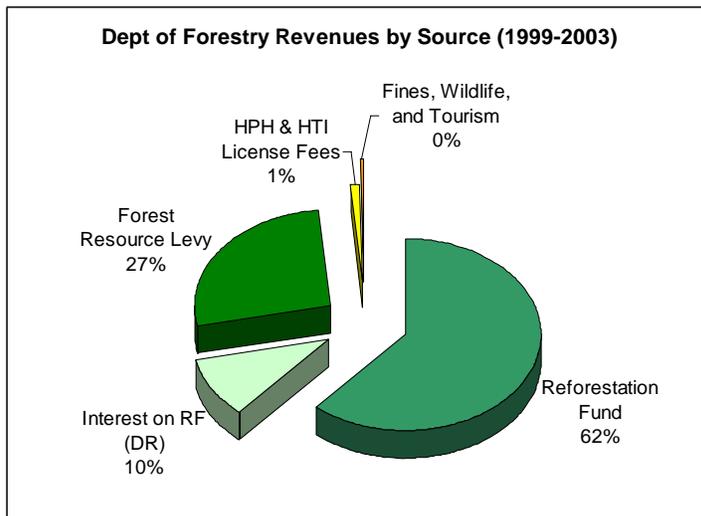
**GOI Revenue.** The GOI earns substantial revenue from the forestry sector through three main types of fees (non-tax revenue). The main forestry fees are for the licensing of forest concessions (fee paid for the right to harvest timber on both natural forest concessions and timber plantation

concessions, known in Indonesian as IHPH and IHHT), fees paid to the reforestation fund (based on the volume of timber harvested, known as Dana Reboisasi, DR), and the forest royalty fee (based on the volume of timber harvested, also known as IHH or PSDH depending on the name of the fee system in various years). This section deals mainly with tax revenue volume, not efficiency or effectiveness. Of course, forestry firms also pay corporate taxes and export taxes. Total forest revenue reached a peak of \$682 million in 1997 then decreased to about \$303 million in 2002 due to the effects of the economic crisis. Note also that the share of forest revenue in overall industrial sector revenue declined since 1980, indicating faster growth in other parts of the industrial sector. Of course, GDP does not measure the value of illegal earnings from the sector. These earnings -- in the billions of dollars (see text box) -- are not only unsustainable, but also mask high costs of environmental degradation.

Year	Types of Forestry Sector Fees (non-Tax Revenue, \$ Million)				Share of GOI Revenue	
	Licensing Fees (IHPH, IHHT)	Reforestation Fees (DR)	Royalty Fees (IHH, PSDH)	Total	Non-Oil & Gas Revenue (%)	Total GOI Revenue (%)
1980	13	11	167	191	3.7%	1.0%
1985	1	40	51	92	1.3%	0.4%
1989	2	160	102	264	2.6%	1.2%
1990	3	173	126	301	2.3%	1.1%
1997	2	454	226	682	2.4%	1.6%
1998	2	190	69	261	2.2%	1.2%
1999	8	193	103	303	1.6%	1.0%
2000	4	222	100	326	1.3%	0.9%
2001	4	220	87	311	1.3%	1.1%
2002	0	213	90	303	1.0%	0.8%

Source: Simangunsong, GTZ, 2004; compiled from various sources.

The total cumulative contribution from the sector from 1985 to 2002 was about \$6.5 billion. This works out to about \$1 million per day over this period of 18 years. The forestry sector has contributed about 1% of overall GOI revenue with slight variations over time. As shown in the chart below, the reforestation fund and interest earned on those funds constitute the largest contribution to forest sector revenues, by far (>70% using combined figures for the period 1999-2003). The forest resource harvesting levy (royalty) also contributes an additional 27% on average. Licensing fees for the rights allocated to industries to use huge areas of state claimed land generate less than 2% of total revenues, and this amount has



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been declining. Fees, levies and fines for forestry infractions, authorized wildlife exports, and tourism all together account for less than \$100 thousand in earnings in most years. In particular, fines for infractions are very small relative to the level of illicit earnings (see text box). This highlights the need to strengthen enforcement measures as well as the means to recover the costs of illegal activity.

**Taxes and Incentives as Policy Instruments.**

Of course, taxes and fees can be used not only for generating revenue, but also to provide incentives and influence behavior. They can also be used to correct externalities in markets, helping to “internalize” all positive and negative impacts into the costs of production. Much has been written about the appropriate forest sector taxation scheme and how the structure of the tax or fee can establish appropriate incentives for sound forest management (Hyde and Sedjo, 1990; Paris and Ruzicka, 1991). Arguments have been made about the appropriate or desirable characteristics of forest sector taxes or fees and whether these should be levied on land, on outputs, on volume, on area or on resultant damage. The economic arguments are clearly outlined in Paris and Ruzicka (1991).

Paris and Ruzicka highlight these incentive and externality issues, noting that "appropriate resource pricing" in tropical forestry “is not concerned so much with pricing the timber which is extracted or with making it expensive to extract, but with ... valuing, the timber which is not extracted and making it expensive to damage such timber through neglect.” They argue that pricing, or valuing, timber is not as important as appropriately valuing land and its fertility as a factor of production. Since deterioration of land can result from forest management activities (by a lessee or concessionaire) that strive to “maximize the value of the temporary right to use the land,” there is an economic argument for a “returnable deposit” or performance bond to adjust the incentives that the land user faces.

As seen in prior chapters, Indonesia’s forests are being depleted: their long term potential to produce timber is being damaged, along with the environmental benefits they provide. While some argue that all or most “excess profit” should be taxed away (“captured”), Paris and Ruzicka argue that earnings due to forest depletion may not be a sustainable or socially desirable source of government revenue. To reduce forest depletion, environmental damage should be made

**Illegal Earnings and Political Economy**

For comparison to official revenue sources, it is relevant to consider payments and earnings that are not officially collected or reported. Using simple estimates, if illegal logging is as high as 30 million m<sup>3</sup>/year, then unreported, illegal revenue is at least equal to \$3 Billion (based on \$100/m<sup>3</sup>) and uncollected taxes are at least equal to \$ 600 million, each year (based on tax revenue of \$20/m<sup>3</sup>). Using a more complex and complete procedure, BAPPENAS-NRM-MFP (2004) estimated that annual profits to illegal logging were about \$1.5 billion per year and excess profits to industry are about \$350-\$400 million per year due to the modest levels of taxes and royalties set by the GOI.

This flow of funds supports the system of power relations and patronage. It is difficult to change entrenched ways and the policies and patronage systems that support them, when there is about a million dollars a day in GOI tax revenue, and an equal amount in legally earned “excess” profit flowing through the political economy of the forest sector. On top of this, there is an even greater amount in illegal earnings, about \$4 million per day. However, greater public recognition of the environmental damage that is being done, as well as greater political pressure for rule of law, and greater transparency and media attention are all helping to create the incentives for changes in the political economy. It will be important to recognize the political economy and design approaches that integrate with and encourage ongoing evolutionary changes and market forces.

expensive (taxed), not timber harvesting. An appropriate tax and incentive regime should protect the land's environmental services and future productivity (next tree crop), not simply capture profit from short-run forest depletion (which would not contribute to sustainability).

A few practical points emerge from this debate. A comprehensive forest management regime should consider performance bonds, tenure arrangements, auctions, and better inspection and enforcement, not just rent capture. Both forest sector taxes and environmental bonds should be set and managed in a way that promotes long term logging behavior and sustainable forest management. Similarly, any auction, transfer, or long term licensing rules should be designed to provide incentives to manage the land as a sustainable resource, not a short run windfall. If there is a desire to capture "rent" or "excess profit," these taxes should be linked to earnings after long term forest management investments are made and environmental damage prevented (rather than linked directly to revenue or short-run profit). If there are distributional objectives, "excess profits" could be taxed at a rate higher than the normal corporate tax rate. Of course, all this taxation theory must rest on enforcement of the basic tax and payment rules. Detailed discussion of forest tax administration will become productive and useful only after the rule of law is further strengthened (as discussed in Chapter 3) to ensure that the tax incentives actually affect behavior.

On the same theme of incentives, there is a view that reducing administrative and regulatory burdens could be used as an incentive for operators that can demonstrate to improved practices (e.g., verified through certification and third party inspections) and this would free up resources for long term management investments. This work is discussed at the end of the next section on global market trends.

#### **4.1.2 Global Market Trends**

**Processed Wood Exports and Destinations<sup>16</sup>.** Most of Indonesia's processed wood production is export oriented and destinations vary by product type. The large economies of Asia – China, Japan, and the Republic of Korea – consume over half of Indonesia's plywood, pulp, and sawnwood exports. For plywood in 2003, Japan was the dominant importer, consuming 40% of Indonesia's plywood exports (by volume). The next five largest importers of Indonesian plywood at that time were, China at 14%, Europe at 10%, Korea at 9%, USA at 8% and Saudi Arabia at 4%. Of European importers, the most significant were Belgium, the UK, Norway, Germany and Netherlands.

The pulp industry exports approximately 45 percent of its production and the remainder is used for domestic paper and paperboard production, of which approximately 35 percent is exported. Of total pulp and paper exports between 1999 and 2001, Asian countries accounted for 72 percent of imports. China accounted for 36% of the export market, Europe 11%, Korea 9% and Japan 6%. The USA and Australia each accounted for 3 percent of exports.

In 2003, Indonesia exported about a third of sawnwood production. A substantial portion of sawnwood-based exports are in the form secondary processed wood products such as furniture, building joinery, carpentry, flooring, and other wooden articles. The largest market for Indonesia's unprocessed sawnwood exports is China (which bought 70% of Indonesia's exports in 2002), followed by Japan, Malaysia, and Korea. The largest market for processed (value-

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<sup>16</sup> Figures in this section are based on FAO and ITTO. Data on Indonesia's sawnwood production and exports are weak.

added) wood product exports is Western Europe (which accounted for 49% exports in the period of 2002 to 2004. Germany was the largest European importer, followed by the UK, and Netherlands with 13 percent, 10 percent and 8 percent of total imports. The USA accounted for 20% of value-added wood exports and Japan accounted for another 19% of the total.

**International Trade and Competitiveness.** ITTO (2004) conducted a comprehensive review of Indonesia's timber trade and market potentials. The World Bank (2005) also assessed regional trends and potentials. These reviews concluded that Indonesia's wood processing sector is not prepared for global competition. Due to old processing technology, especially at plywood mills, the productivity of Indonesia's forest industry is low and waste is high. This leads to declining output and international competitiveness. The high level of illegal harvesting artificially lowers timber prices, which distorts incentives for efficiency, market adjustment and re-investment.<sup>17</sup> Undervaluing timber mainly subsidizes foreign consumers of wood-based products, including China, a major regional importer. Individual firms' competitive position would be enhanced by investing in long term, renewable sources of supply (i.e., plantations), linking wood quality and type to production technologies and end use markets, and decreasing dependence only on large old growth timber.

**Market Forces.** Market trends will reward firms (and countries) that can add value in downstream wood processing and more diversified products. Competitive advantage requires moving to quality and value, away from basic commodity production. Diversification enables responsiveness to changing market conditions over time. Policy and management interventions to help create secure supplies through plantations and sustainable forest management will enhance the competitiveness and longevity of Indonesia's forest industry. Removing bankrupt, inefficient, or lawless firms from the sector will enhance the competitiveness of the remaining firms (MOFR, CIFOR, DFID-MFP, 2005). There are also opportunities in technological change and value added processing. In addition, it is expected that profit margins will decline due to international competition and increasing supplies from plantation grown sources, especially for commodities. This will mean a reduction in excess profits and "rent" for distribution in patronage systems and corrupt practices. Increasingly, legality concerns and environmentally friendly markets are developing and putting more emphasis on checks and balances, monitoring and certification. As discussed in Chapter 3, these market forces are having an influence on the political economy of the sector.

**China's Rapid Growth.** Indonesia faces the same market challenges and threats as other regional players. China is increasingly a consumer of Indonesia's exports of timber and pulp (less finished wood-based products) and a competitor for Indonesia's processed wood products and final consumer products. China provides an almost insatiable market for timber and paper products (pulp), but a large share of this timber is processed and re-exported as higher value products to higher value markets in North America and Europe (White et al., 2006). China's increasing demand merely reemphasizes the need for Indonesia to exert greater discipline over log production and to focus on diversifying exports and increasing their quality to ensure a place in future markets. Global markets will put continuing pressure on Indonesia's forest management systems. Environmentally sensitive end use markets may increase demand for quality forest

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<sup>17</sup> In 2004, the American Forest and Paper Association estimated that illegal timber depressed world prices by 7-16%, depending on the specific product and costs half a billion dollars per year to American companies (reported in *The Economist* of March 25, 2006).

management and assurance of sustainable timber production methods (EAP Forest Strategy, 2005).

**Timber Certification.** Responding to growing international market demand for certified timber, particularly from North America and Europe, there has been increased interest on behalf of the GOI, international and national NGOs and some business leaders to develop environmentally-friendly timber from Indonesia. The Indonesian Ecolabeling Institute (LEI) was established in 1994 to facilitate the development of timber certification, combining international standards as set by the Forest Stewardship Council with Indonesian forestry regulations. Ecolabeling and certification could enhance market value and help with market entry of Indonesia's forest product outputs if there were a greater focus on North American and European finished product markets, but the current focus is on products and markets currently not as interested in ecolabeling and certification. However, very few concessions have received and maintained certification. Also, the value of certification (especially relative to the long and arduous approval process) has not been demonstrated to the private sector operators. Further, forest tenure in Indonesia is problematic to international ecolabelling standards.

**Incentives for Certification.** Based on a report developed for the IFC by Jarvis and Jacobson (2006), the MOFR is now exploring the possibilities of using regulatory relief linked to performance as an incentive for firms to enter the step-wise process of certification. If adopted, these proposals may help to increase private sector interest in certification schemes. Jarvis and Jacobson evaluated options to employ regulatory incentives for concessionaires to achieve independent forest management certification. Concessionaires recognize that selective law enforcement and over regulation raise costs of production and reduce interest in forest management certification. Jarvis and Jacobson estimated that an average sized concession must pay about IDR 100,000 per m<sup>3</sup> (about \$11/m<sup>3</sup>) for regulatory services, such as annual allowable cut, monitoring, and timber transport documents. Cost reducing regulatory relief could be offered to firms for stepwise progress toward certification. Examples of regulatory relief to reduce concessionaires' costs could include removal of administrative bottlenecks (opportunities for KKN), removal of disincentives and deregulation, and use of performance bonds to reward firms with good outcomes. Independent third-party verification could provide the guarantees required by the MOFR to authorize the regulatory incentives. The incentive of reduced regulatory costs could provide a tangible incentive for companies to pursue certification, which can be a time consuming and expensive process. The authors note that the proposal offers not just lower costs to firms, but also real benefits to the Government, in terms of reduced operational costs for field inspection and monitoring, increased revenue from transparent systems, and increased international credibility for Indonesian wood-based products. They concluded that this may be an appropriate way to engage the private sector in continuous improvement toward certification in a series of steps linked to specific cost-saving regulatory relief measures.

#### **4.1.3 Economic and Environmental Impacts of Forest Degradation: Future Sustainability?**

In addition to economic and development benefits, of course, forest exploitation has engendered forest destruction, loss of environmental services, concentration of wealth, and conflict with traditional community land uses and non-commercial ways of life. Yet, the high economic values being extracted from the sector must be recognized as a constraint on how much policy reform or small scale incentives can be expected to achieve. Still, Indonesia faces a choice between a continuation of the status quo – with bleak implications for the future – and a concerted effort to

manage toward a different future state – with balanced supply and demand and a revitalized industrial sector – as well as greater equity in the sharing of benefits.

As shown in Chapter 2, forest loss and degradation with many underlying causes, are contributing to the erosion of Indonesia’s forest resource assets. Many Indonesians are aware of analyses (Holmes 2002, GFW/FWI 2001) that make dire (and sometimes appropriately hedged) predictions of the date of the demise of Indonesia’s lowland forests. These kinds of analyses have focused mostly on the trees, not on the economic implications of this loss. The figures above give some indication that the economic losses would be high if Indonesia’s forest sector were to grind to a halt due to resource scarcity. More likely, some sectors of the industry will wither slowly and reluctantly, while others – the more efficient and market responsive firms – will find or grow new timber resources. This adjustment process will have costs in terms of revenue, economic activity, and employment. BAPPENAS-NRM-MFP (2004) studied the economic implications of alternative future scenarios in the forestry sector.

The Forest Future Scenario Analysis of BAPPENAS, NRM, and MFP (November 2004) found that the current approach to forest management involves high short-run financial value, but long-run environmental damage, high illegal earnings and lost tax revenue, and only moderate direct employment in mills and plantations. This study estimated the economic and environmental costs and benefits of a combination of interventions including increasing plantation area and productivity, allowing imports as an alternative timber source, limiting industrial capacity temporarily, and reducing forest crime. This scenario analysis showed that the long run benefits of this restructuring scenario exceeded the short run costs associated with scaling back industrial demand. Also, job creation in the plantation sector could partially offset job losses in the wood based industrial firms. This balanced set of alternatives, in comparison to the current forest management approach, over a 25 year period can produce: 35% more good forest area, 60% less damaged forest, 18% more employment per year (on average), similar financial benefits and GOI revenue, half as much environmental cost, and 30% higher overall economic value (measured as the net present value of the benefits stream over 25 years). This scenario would require considerable effort in terms of coordination, enforcement, and implementation. However, it is illustrative of what might be achieved with a different vision of how to run the forestry sector.

<b>Comparison of Possible Outcomes Under Alternative Scenarios 25 Years in Future</b>			
<b>Outcome Indicators</b>	<b>Units</b>	<b>Current Forest Management Scenario</b>	<b>Improved Scenario</b> (Increased plantation development & productivity; temporary industry capacity limits in SR; growth in LR)
Primary + Secondary Forest - 25 yrs	Million ha	62.6	84.8
Damaged Forest After 25 yrs	Million ha	37.8	14.4
Average Annual Employment	Thousands	416	491
Overall Financial Benefit (Legal)	NPV \$ billion	\$17.7	\$18.6
Government Forest Tax Revenue	NPV \$ billion	\$7.0	\$6.9
Environmental Costs	NPV \$ billion	-\$4.4	-\$2.2
<b>Net Legal Economic Value</b>	NPV \$ billion	<b>\$14.7</b>	<b>\$19.2</b>

Source: Forest Future Scenarios Analysis, 2004. BAPPENAS, NRM, and MFP.

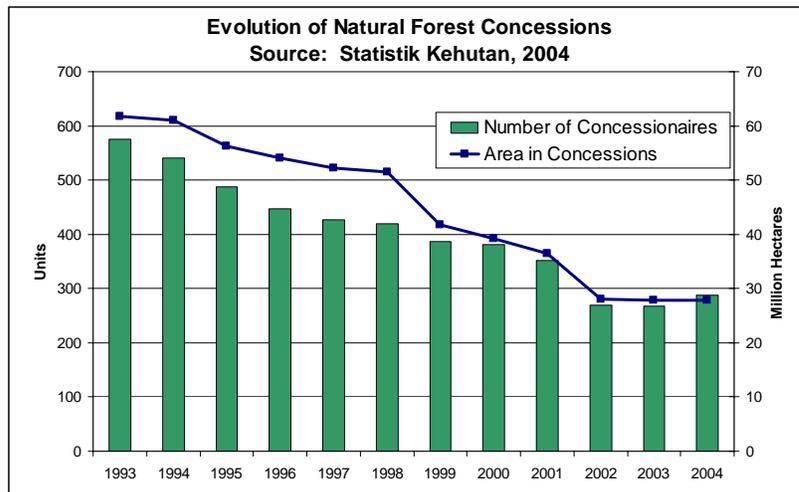
This analysis also raises questions about the highest value land use for forest land. If some lands were allocated to smallholders, rather than held as a permanent part of the forest estate, economic and employment benefits could be even higher. This issue is taken up in Chapter 5.

## 4.2 Industry Overview

Because of the level of past forest destruction, the current size of Indonesia's wood processing industry cannot be sustained without serious intervention to balance demand with sustainable supply. Instead of a base of 60 million hectares of well-stocked forests to sustain industrial production, Indonesia's lands assigned for sustainable production are now more than two-thirds depleted, including one-quarter completely deforested. These past management practices and the current state of the resource raise questions about the appropriate industry structure to match this depleted resource base, about employment needs and alternatives that can be sustained by this industry, and about monitoring and enforcement of rules to ensure that practices are improved in the future. More could be done to promote equity in the distribution of benefits in a sector that has long been dominated by a highly concentrated industrial organization.

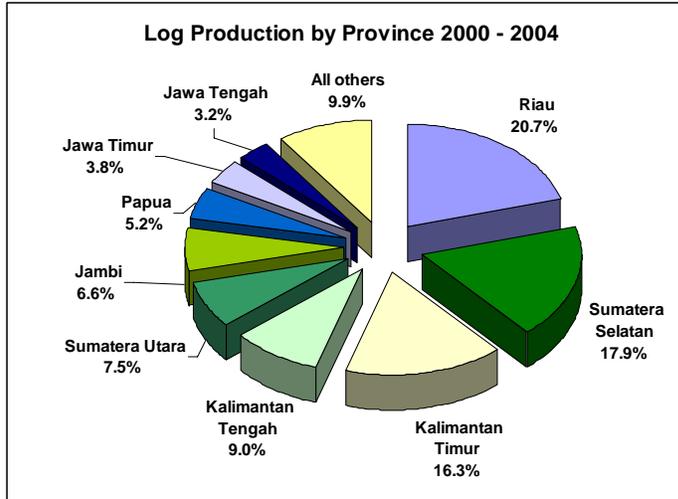
### 4.2.1 Industry Structure

**Natural Forest Concessions.** The number of concessions and the area they cover have declined by more than half in the last 10 years. At the beginning of the 1990s, there were nearly 600 forest concessions operating on over 60 million hectares of production forest land. Now, there are



fewer than 300 concessions operating on less than 30 million hectares of land. Currently, 173 concessions are privately held and another 88 are joint ventures (shared ownership) between the state and private entities. With the reduction of concession numbers, there is an increased area of Production Forest land that is no longer under concession management.

**Regional Distribution.** Forestry sector activities are not evenly distributed across the country, but are highly concentrated in a few provinces. From 2000 to 2004, just seven provinces accounted for nearly 85% of wood production: Riau, Sumatra Selatan, Kalimantan Timur, Kalimantan Tengah, Sumatra Utara, Jambi, and Papua. Presumably, most of the forest degradation and forest crime also occurred in these high producing provinces. Although there are no timber concessions on Java, the three large provinces of Java accounted for 7% of log production (presumably teak) according to data from the MOFR (Statistik Kehutanan, 2004).



There is also some geographic distinction in the distribution of industrial output from forest sector firms. Sawmill capacity is concentrated in Sumatra and Java, while plymills are concentrated in Kalimantan. Pulpmill capacity is concentrated in Riau province of Sumatra. In recent years, timber harvesting began moving from west to east within Indonesia, as the supplies of Sumatra and Kalimantan are becoming depleted, Papua increasingly becomes the target of commercial exploitation.

**Primary Processing Industry.** Most economic value comes from three primary processing sub-sectors: sawnwood, plywood, and pulp. However, plantations and secondary timber processing activities are becoming more important, including furniture, building components, and reconstituted panel products. The development of the forest products industry both in terms of production and exports can be seen in the tables below. Although the sector grew during most of this period, other industrial sectors grew faster, as indicated by the declining share of forest exports as a share of total manufacturing exports.

Forest Industry Capacity and Production								
YEAR	INSTALLED CAPACITY				PRODUCTION			
	Sawmill	Plymill	Pulpmill	Papermill	Sawn-wood	Plywood	Pulp	Paper
	Million m3	Million m3	Million tonnes	Million tonnes	Million m3	Million m3	Million tonnes	Million tonnes
1985	8.8	6.3	0.0	0.9	7.1	4.6		0.5
1989	10.6	10.1	0.7	1.5	10.4	8.8	0.5	1.2
1990	10.8	10.2	1.0	1.7	9.1	8.3	0.7	1.4
1997	11.6	9.8	4.3	7.2	7.2	9.6	3.1	4.8
1998	11.0	9.4	4.3	7.5	7.1	7.8	3.4	5.5
1999	11.0	9.4	4.5	9.1	6.6	7.5	3.7	6.7
2000	11.0	9.4	5.2	9.1	6.5	8.2	4.1	6.8
2001	11.0	9.4	5.6	9.9	6.8	7.3	4.7	7.0
2002	11.0	9.4	6.1	10.1	6.5	7.6	5.0	7.2
2003	11.0	9.4	6.1	10.1	5.4	6.4	5.2	7.2
2004	11.0	9.4	6.1	10.1	5.3	4.7	5.2	7.2

Source: Simangunsong, GTZ, 2004; compiled from various sources.

Development of Industrial Forestry Exports (\$ Millions)							
YEAR	EXPORT VALUE					Share of Industrial Sector Exports (%)	Share of Total Exports (%)
	Sawn-wood	Plywood	Other processed wood	Paper	Total		
1985	307	825	53	21	1,206	28.4%	6.5%
1989	668	2,351	42	168	3,228	29.3%	14.6%
1990	110	2,726	491	156	3,483	29.3%	13.6%
1997	380	3,411	1,512	939	6,241	17.8%	11.7%
1998	164	2,078	2,182	1,426	5,849	16.9%	12.0%
1999	296	2,256	1,244	1,966	5,762	17.3%	11.8%
2000	331	1,989	1,241	2,291	5,852	13.9%	9.4%
2001	301	1,838	1,126	2,034	5,300	14.1%	9.4%
2002	371	1,748	1,132	2,097	5,349	13.8%	9.4%

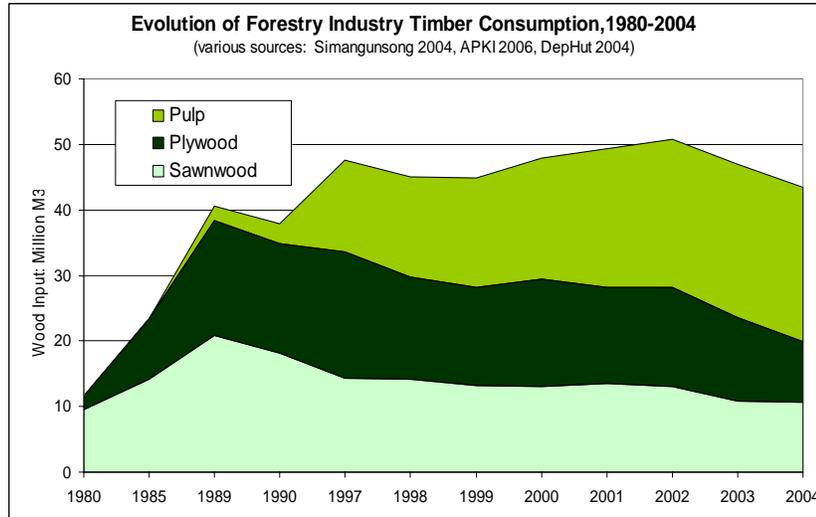
Source: Simangunsong, GTZ, 2004; compiled from various sources.

The gap between industrial demand and timber supply can be seen in the following table, which shows log consumption based on industrial production figures in comparison to official log production data from the MOFR (not including unreported mills or smuggling). This illustrates that apparent consumption by the industry based on production and exports has vastly exceeded the GOI's official reports of production for two decades. In particular, the pulp sector has grown extremely rapidly in recent years, leading to a large increase in timber consumption – with further increases planned. Pulp now accounts for about half of log consumption and more than is produced from sustainably managed plantations. Future population growth could lead to a greater demand for wood products, pulp and paper, thus increasing the gap in sustainable and legal supply, unless enforcement and industrial restructuring efforts achieve a better balance between supply and demand. Recent efforts at database integration and greater transparency under the FOMAS initiative are some of the steps being taken to address this remarkable and persistent gap in data. The Ministry's web site offers increasingly accessible data of improving quality.

Comparison of Log Production and Consumption (Millions of Cubic Meters)						
YEAR	LOG CONSUMPTION (by Calculation)			OFFICIAL LOG PRODUCTION		
	Timber	Pulp-wood	Total	Timber	Pulp-wood	Total
1985	23.5	0.0	23.5	14.6		14.6
1989	38.3	2.1	40.4	24.4		24.4
1990	34.8	3.1	37.9	25.3		25.3
1997	33.7	13.8	47.4	29.1	0.4	29.5
1998	29.9	15.4	45.3	18.5	0.5	19.0
1999	28.3	16.6	44.9	20.4	0.2	20.6
2000	29.4	18.4	47.8	10.0	3.8	13.8
2001	28.1	21.0	49.1	5.6	5.6	11.2
2002	28.1	22.4	50.5	4.8	4.2	9.0
2003	28.1	22.4	50.5	6.1	5.3	11.4
2004	28.1	22.4	50.5	6.2	7.3	13.5

Source: Simangunsong, GTZ, 2004; Dephut 2005; compiled from various sources.

**Structural Change Over Time.** Since 1980, the wood processing sector has grown rapidly and its structure has evolved in a dynamic manner. Most of the changes have resulted from government policies rather than market forces. The following figure illustrates this development for timber consumption for the three primary wood processing sectors. Before 1980, log production dominated the sector. In the early 1980s, almost all forestry activities were in logging and sawmills. By the early 1980s, the sawnwood processing sub-sector started to grow. Sawnwood may serve domestic consumption or feed into downstream processing into final products for export. Although sawmills have relied on natural forest timber in the past, many products could use substitute species or different qualities of timber from plantation sources.



By the mid-1980s, plywood had replaced sawnwood as the dominant sector, adding more value to the timber inputs and reaching more export destination markets. Various taxes and trade restrictions have been used to shelter the industrial sector, particularly the plywood sector, to allow it to grow and become a dominant global player based on relatively cheap and available timber. These policies included a log export ban, a sawnwood export tax, and a prohibitive log export tax in the late 1980s and early 1990s. After the financial crisis and IMF program beginning in 1998, the GOI reduced the log export tax to the level of 10% before December 2000 and then to 0% in 2003. Since then, however, new export restrictions on logs and roughly sawn timber have been introduced again, partly in the effort to curb illegal export of logs.

Indonesia's plywood industry has declined over the last decade because producers have difficulty sourcing large diameter logs because of resource depletion and illegal log exports, face growing competition from other countries and are increasingly being shut out of certain markets. The country now has about 110 plywood mills, concentrated in Kalimantan, though press reports quoting industry officials indicate that at least half of these are not currently operating (Suara Merdeka, 2006). In the past, this sub-sector has relied on large, old growth timber from natural forests. Some of these mills have retooled in recent years to allow them to peel smaller logs as large dipterocarp trees have become scarce. In the future, some plywood and panel production processes can be fed from long rotation plantations, especially for core material.

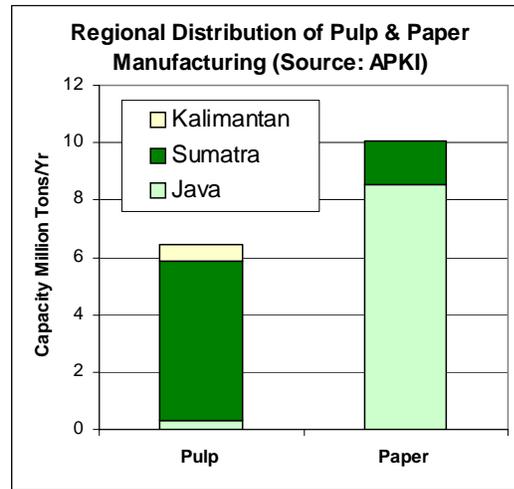
The pulp sub-sector began in the mid 1990s and grew extremely rapidly, while at the same time plywood began to stagnate and decline, partly because of recession in export markets, including Japan. In the year 2002, the value of pulp and paper exports exceeded the value of plywood exports for the first time, following a continuing trend of growth and evolution of the structure of the industry. In recent years, the pulp sub-sector has been the fastest growing consumer of timber, using timber from clear felling of Conversion Forest as the fastest growing source of

supply (MOFR-CIFOR-DFID-MFP, 2005). As noted, Government policies contributed to this rapid growth through provision of land use permits, forest conversion licenses, and easy access to capital through the banking sector and soft loans through the Reforestation Fund.

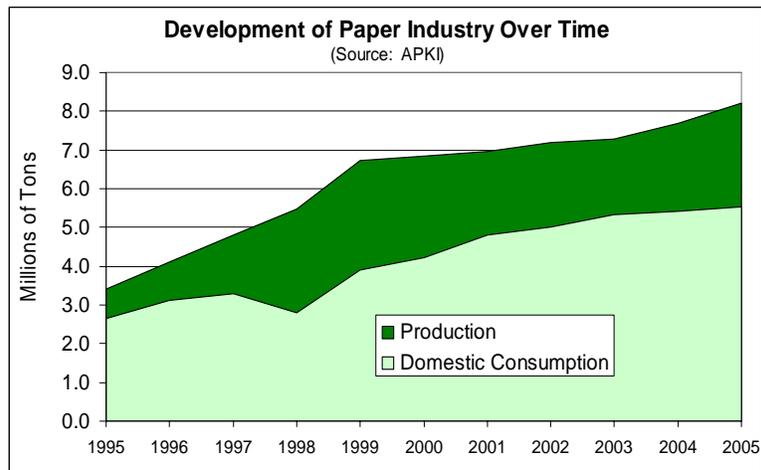
In the late 1990s, pulpmill processing capacity expanded more rapidly than the development of pulpwood plantations. This is one element of the current excessive demand for timber that is not sourced sustainably from plantations. These mills can produce pulp out of smaller diameter trees and from plantation grown timber. Indonesia's pulp mills are concentrated in Sumatra, with the largest located in Riau. Just 6 mills account for over 95% of pulp production, which represents about half of Indonesia's timber consumption (see below). Many mills continue to rely on natural forest for most of their timber demand, despite subsidies being granted for pulp plantation development in the 1990s.

Indonesia's Pulp Industry	
Pulp Producers	Capacity (Million Tonnes/yr)
PT RAPP	2.00
PT Indah Kiat	1.82
PT Lontar Papyrus	0.67
PT Kiani Kertas	0.53
PT Tanjung Enim Lestari	0.45
PT Toba Pulp Lestari	0.24
PT Kertas Kraft Aceh	0.17
<b>TOTAL</b>	<b>5.87</b>

Source: APKI, 2006



Plantation developments have performed poorly, primarily because mills can still access cheap timber from their own concessions, as well as from illegal logging operations. However, there have been improvements in recent years in some firms that are regarded as models for the industry. Also, some firms have developed partnerships with environmental NGOs to demonstrate a commitment to sustainable production or a higher standard of environmental care, such as the demarcation and management planning for 'high conservation value forest.'



The paper industry has also developed rapidly. Domestic consumption has grown by about 10% per year, doubling since 1995. Domestic consumption makes up an increasing share of overall production, as shown in the figure to the right.

**Dynamic Evolution.** The dynamic evolution of the past holds lessons for the future. The industry will continue to evolve in response to global markets, technological change and government policies. The dominant and dynamic plywood industry of the 1990s increasingly looks like the endangered species of today. Regarding future industry structure, it should be noted that past practices of “picking winners” to promote with favorable policies and incentives may initially seem appropriate for nascent industries. In the medium term, however, this approach can quickly create a dependent sub-sector on the look out for new protections and regulatory hand outs. Future industrial development policies should recognize that efficient, market-oriented sub-sectors and firms that can add value and adapt to market conditions will be the most competitive in the future. Instead of picking winners, policy makers should be striving to design a policy enabling environment that allows competitive firms to flourish.

#### **4.2.2 Plantation Forest Concessions**

Indonesia’s industrial timber plantation lands are producing insufficient amounts to meet current timber demand. Timber supply from plantation forests cannot meet current levels of demand because plantation lands are not being planted at sufficient rates to produce timber in the right time frame. Twenty-three million hectares of land have been allocated for conversion to alternative uses. Of these, about 9.7 million hectares have been allocated for industrial timber plantations: 5.96 million ha for fast-growing pulpwood plantations and 3.74 million ha for slower-growing timber for construction and other needs (see table below). Although harvesting rights for clearing and planting have already been granted – in some cases for many years – only about 2.7 million ha have been planted. Performance in planting for pulpwood plantations (31% of allocated area) is higher than for non-pulp plantations (25%). Van Noordwijk, et al. (2003) and Barr (2001) reported that reasons for poor performance or failure of public and industrial reforestation included land use conflicts, top down approaches, inadequate attention to technical requirements (species selection, maintenance), lack of clear objectives for plantation establishment, disregard for the needs of local communities, and corruption. Note that the area available for pulp plantation establishment may be much smaller than planners initially projected. Besides requiring adequate soil fertility and topography, to be financially viable pulp plantations need to be near processing facilities or ports. In some cases, local communities have already claimed some portion of the suitable land previously allocated to pulp plantations; in other cases, pulp plantations compete with oil palm for suitable land (Barr 2001, Casson 2000).

At the same time, perhaps more than 1.6 million ha are being deforested – not replanted – each year. If only a small share of this degraded land were replanted to timber, Indonesia’s wood supply would be secured forever. And there would be millions of hectares of land left over for allocation to other uses.

Development of Industrial Forest Plantations to April 2006 Millions of Hectares						
Type of Permit	HTI Pulp			HTI Non Pulp		
	Area Allocated	Realized Planting	% Realized	Area Allocated	Realized Planting	% Realized
<b>Definitive</b>	4.51	1.81	40%	1.73	0.59	34%
<b>Provisional</b>	0.07	0.01	16%	0.63	0.22	35%
<b>Proposed</b>	1.38	0.00	0%	1.38	0.13	9%
<b>Others, already cancelled</b>	0.29	0.05	17%	0.24	0.08	33%
<b>Total (not incl. cancelled)</b>	<b>5.96</b>	<b>1.83</b>	<b>31%</b>	<b>3.74</b>	<b>0.93</b>	<b>25%</b>

Source: Presentation of DirJen BPK, September 2006

Although the table indicates that 1.83 million hectares of plantations have been “realized,” less than half of these lands are performing well in producing timber. Applegate (personal communication, 2006) notes that plantation performance depends on species, genetic material, soil, and management and variation in quality is quite large in Indonesia. He also notes that beyond the GOI allocation of land to HTI, there is still a need for firms to make a commitment and investment in replanting, based on factors including location and cost of funds. Location is a key factor that affects the transport costs of timber inputs. For this reason, Applegate reasons that plantation supply and demand assessments should be based on a regional or provincial approach, focusing on the available or potential forest resources that can supply specific firms.

A few large, professional plantation companies are able to achieve high yields from plantation lands (Hardjono 2006 suggests 150-180 m<sup>3</sup> produced over 7 years), using improved growing stock and modern management methods. However, due to financial crisis, forest fires, poor management or abandonment over the years, a large portion of the “realized planted area” is not yielding substantial amounts of timber.<sup>18</sup> Plantation-timber production is increasing and currently maturing plantations may increase supply in the near term, but not enough to meet current levels of demand, let alone any industrial expansion needs in the future.

However, projections show that with an accelerated plantations program, it is realistic within 7-8 years to achieve a much improved balance between grown timber supply and industrial demand. The medium-run period depends very much on actions taken in the next few years. The structure of the industry will need to evolve/retool over the next 10 to 15 years to make use of newly maturing plantation grown-timber supplies (MOFR, CIFOR, DFID-MFP, 2005). While most agree that more plantation grown timber is needed, the organization of that effort could take

<sup>18</sup> Hardjono Arisman (2006), reporting from an industry perspective, calculates that to produce 6.15 million air dried tons of pulp would require wood inputs of 27.7-30.7 million m<sup>3</sup>. This figure is based on current capacity, slightly more than current production. He estimates that about 60% of inputs to pulp mills comes from natural forest, not plantations. This means that timber production from HTI would be about 12.5-14 million m<sup>3</sup> (range of estimates is based on conversion factor of timber to pulp in the range of 4.5 to 5). If this much timber were being harvested from HTI, it would mean that about 600,000 to 700,000 hectares of HTI with a conservative/reasonable range of MAI from 23 to 27 m<sup>3</sup>/ha/year. This is about a third of the amount of “realized plantations” reported by the MOFR.

several forms. Many have suggested that plantations should be an increasingly important way to involve communities and smallholders in the commercial forestry sector. Community roles in plantation development are discussed in more depth in Section 4.5.

Also the speed and scale at which plantations can be established is a question of investment, not just land availability. However, accelerating investment in plantations faces a number of social, financial technical, and institutional challenges (WWF-WB Alliance, 2006). The World Bank Rural Investment Climate Assessment (2006) also outlined some of the challenges to stimulating investment in rural development. Social and cultural issues relate to the availability and rights to land as well as the capacity of communities and intermediate service providers to participate in the timber business. Financial and economic constraints include the lack of appropriate market-based incentives and long term investment horizons, as well as the lack of credit opportunities from the private banking sector. Technical and environmental constraints relate to the need for improved rural infrastructure, as well as systems for providing extension and capacity building in nursery and business skills. Another technical constraint is the economic viability of developing plantations on barren or degraded lands, which are plentiful, but may not yield bankable supplies of grown timber in a reasonable time frame. Institutional and legal issues center around the need for improved law enforcement for forest crime, financial contracts, land use security and the need to reduce regulatory and export barriers. The MOFR is already making serious efforts to improve forest governance including increased transparency in the forest sector and better enforcement of logging regulations. These activities will lead to a more level playing field, which will raise the financial competitiveness of planting trees.

### **4.2.3 Small and Medium Enterprises and Non-Timber Forest Products (NTFPs)**

Small and medium-sized enterprises (SMEs) are one of the leading forces of economic development. A vibrant SME sector is vital to stimulate growth and job creation. SMEs are flexible and can more easily adapt to the ebb and flow of market demands. They also generate jobs more rapidly than larger businesses, are highly diverse and contribute to exports and trade. They are therefore critical to the development of a competitive economy. In comparison with developed countries, Indonesia has a “missing middle” in its industrial structure. There are a small number of large firms at one extreme, and an abundance of small domestic-market-oriented businesses at the other end of the scale.

Forest sector SMEs include furniture manufacturers, producers for the domestic market, small scale sawmills (many of which are illegal) and manufacturers of handicrafts and other products from timber and non-timber forest products, such as rattan. The IFC has been promoting SMEs in production of furniture and other products for export from plantation grown timber through the PENSA Program. ITTO’s Tropical Timber Market Report (May 2006) noted that Indonesia's furniture exports are expected to grow by 8-10% a year after 2005. Indonesia's furniture exports rose 12% to \$1.96 billion in 2005, with non-wood furniture performing better than wooden furniture. Indonesian furniture faces strong competition from Vietnam, China and the Philippines. The Minister of Trade stated that Indonesia must increase its competitiveness both in raw materials, design and cost.

Although timber extraction has long dominated the sector, Indonesia’s forests also produce a wide range of NTFPs, including rattan, rubber, various resins, medicinal plants, bird’s nests, gaharu wood, and honey (Bennett and Walton 2003). Many of these have high market and export value and provide good returns to small communities. Other NTFPs are collected for local use

and livelihoods and domestic markets, including sago, various fruits, roots, leaves, fodder and wild game. Some NTFPs, notably medicinal plants, rely on traditional knowledge and skills for their collection, processing and marketing. Yet, this traditional wisdom (and cultural and gender diversity) is being eroded in part by the degradation of forests which are the home of diverse cultural groups (BAPPENAS 2003). The values generated from some NTFPs are discussed in more detail in Chapter 5 in the context of livelihoods.

### **4.3 Commercial Forestry Issues and Trends**

This section highlights some trends and issues in the commercial forestry sector.

**Industrial Forest Crime is High on the Political Agenda.** Any discussion of commercial forestry organization, over-capacity, and forest crime must recognize how these three issues are inter-linked. There are many forms of illegal activity that contribute to the excessive harvest in Indonesia's forests. Plenty of illegal activity occurs on lands legally allocated for forestry activity and timber harvesting. Forest crimes encompass a broad spectrum of violations. Three of the most important are harvesting, processing and transportation violations.

- Harvesting crimes have a direct impact on Indonesia's forests. These crimes can occur in all of Indonesia's forest functions: production, conversion, protection and conservation. In production forests, harvesting crimes may take several forms and be carried out by multiple actors. Concessionaires may violate rules and regulations stipulated in Indonesia's silvicultural guidelines by logging on too steep slopes, too close to waterways, too soon after the first selective cut, or too much relative to the sustainability plan or outside the allowable cutting area. Illegal logging activities may also develop roads into conservation areas or protected forests or use inappropriate operational maps that overlap with conservation areas or protection forests. While conversion forests are allocated for clearing, logging or industrial timber plantation companies can only clear-fell degraded forest with a standing stock less than 20 m<sup>3</sup> ha. Often, healthy natural forests are clear-felled, which is a violation, as seen in Chapter 2. In conservation and protection forests, all harvesting operations are illegal under the current national forest legislation. Nevertheless, multiple actors have turned to these forest areas to harvest valuable timber species, some of which are no longer found in large quantities in production forests.
- Processing crimes are often carried out by Indonesia's sawmills, plywood and pulp mills and include: operating above licensed capacity, operating without an official processing license from the MOFR, sourcing illegal timber for processing; and failing to file a detailed report about timber supply to the MOFR.
- Finally, transportation crimes facilitate illegal timber trade and include: issuance of official transportation documents (SKSHH) for shipments of illegal timber (these documents can create a false paper trail for illegal timber and make it difficult to distinguish legal timber from illegal timber) and smuggling of illegal timber and endangered species to international destinations. This wide range of violations contributes to the lack of clarity in the discussion and policy efforts needed to bring illegal logging and trade under control.

The debate on illegal logging or timber theft in Indonesia has become more sophisticated and inclusive, now referring increasingly to ‘illegal logging and trade’ or ‘forest crime’ to account for the fact that timber transport, timber processing, reporting and financial management crimes do not happen only in forests and do not involve only logging. This initiative has been accompanied by much greater press attention to the issue,<sup>19</sup> which increases political pressure for follow through on cases that are developed.

**Resource Availability is Declining.**

There is wide agreement that “too much” timber is being harvested from Indonesia’s natural production forest. Estimates of timber demand range from 50 - 60 million m3 per year harvested. Official reports and tax revenues register only about half of this volume. Sustainable yield from existing natural production forests is about 8-9 million m3/year. Plantation-grown

timber accounts for only about 40% of pulp mill raw material requirements. Estimates of forest loss or damage range from 1.6 million ha/year to 2.4 million ha/year depending on the source, method, and time period under study. Public pronouncements and policy statements of the MOFR, as well as the GOI, indicate a desire to address this issue.

In recent years, conversion forest (clear cutting of natural forest for conversion to non-forest use) has supplied the most rapidly increasing share of timber to feed existing mills. This means current industrial capacity is based on an unsustainable source of timber. Although Indonesia now allows forest conversion only in limited areas – purportedly to turn unproductive, degraded forests into fast growing plantations – this practice has been far more widespread than officially sanctioned, due in part to local government licensing of land clearing activities, in contravention of national policies. As noted above, much of the area cleared in the past has not been replanted and managed for high performance in timber production. Improvements in land allocation policy and administration are needed to ensure that conversions are restricted to suitable areas, though this becomes an issue of center-region politics over control of land use decisions. As noted

**Processing Industry is Highly Concentrated**

An analysis by USAID/NRM (2000) of pre-crisis data showed that Indonesia’s industrial forestry sector is quite highly concentrated: the largest firms use the most wood – by far. Based on BPS’s survey of 600-700 large and medium sized plymills and sawmills, this study found that only 8% of the largest producers (about 50 mills producing over 100,000 cubic meters of output per year) use over 60% of the timber consumed by ply and saw mills together (and 45% of labor). In contrast, the 75% of small firms (producing <10,000 cubic meters/year) -- about 450 mills -- use only 8% of the timber and 12% of the labor. About 120 plymills exert twice as much pressure on forest resources as 4 times as many sawmills. Since the period of study, the pulp sector has grown substantially and now has only 7 firms using about 30% of harvested timber. This study also demonstrated that the smallest firms lack the capacity to contribute in a major way to the excess harvest of over 30 million m3 per year.

This level of concentration, as well as the excess capacity in Indonesia’s wood processing sector noted above, are not natural conditions, but the result of subsidies and directed industrial policies of the past, export controls and monopolization, and a lack of coordination between industry regulators and forest regulators. If there is good news in this analysis, it is that policy change and political will can move the forestry sector to a new state. The evidence is that Indonesia did it in the period 1985-1995.

<sup>19</sup> The GEF-funded INFORM project and the USAID-funded GreenCom project contributed to national media campaign efforts against illegal logging and forest destruction.

above, there is some positive progress in widening public recognition and press attention to these alarming trends in land degradation.

**Forest Sector Financing Needs Due Diligence and More Appropriate Incentives.** Indonesia, like many EAP countries, lacks sufficient due diligence in private-sector financing of the forest industry. This has contributed to the industry's over-capitalization, which creates an unsustainable demand on the forest resource base, as well as the same kind of debt, risk and overexposure that contributed to the financial crisis of the late 1990s. Forest sector analysts have made only limited progress in getting this issue onto the agenda of major financing agencies and donors advising financial sector institutions and donor agencies in Indonesia. Due diligence processes need to be improved to realistically evaluate raw material supplies, plantation development prospects, and the likelihood of increasing illegal logging (Spek, 2006). Yet, most banks have little in-house forestry expertise and rely heavily on data provided by the industrial project proponents. Even forestry conglomerates that have succeeded in restructuring their debts could pose future risks to investors and public financial institutions. Creditors still have difficulties pressing their case, partly due to the ineffective bankruptcy court (Kaimowitz, 2006). Major improvements in systems and mechanisms to promote corporate accountability are still needed. The Supreme Audit Agency and the Attorney General's Office have investigated allegations that corrupt practices may have been involved in the sale of some forest assets, including lack of proper due diligence, limited risk analysis, and inadequate review by banking authorities. On the positive side, a growing number of banks are now adopting policies that require better social and environmental assessments of their forest-related investments. In addition, since 2003, 42 of the world's largest lending institutions have endorsed the IFC-sponsored Equator Principles, which commit them to meeting enhanced environmental and social standards in their loans for specific types of projects. Also, innovative financing mechanisms for carbon sequestration or environmental service delivery have some potential to improve the level of replanting and responsible local level forest management (EAP Forest Strategy, 2005).

**Forest Sector Debt Still Hampers the Banking Sector.** Large debts among forestry firms – in the billions of dollars, particularly in pulp and paper – hinder the sector's revitalization and impose a financial burden on the banking sector (Simangunsong and Setiono, 2004; Setiono, 2001). The Indonesian Bank Restructuring Agency's (IBRA) heavily discounted sale of forestry debts in 2002 and 2003 did not resolve or remove the debt issue, but transferred it to government-backed banks such as Bank Mandiri, Bank Negara Indonesia, and Bank Central Asia. These debts continue to undermine the full recovery of Indonesia's banking sector, which is plagued by high levels of non-performing loans (Tempo, 2006). The Coordinating Ministry for Economics and Ministry of Finance are now trying to resolve this banking issue (as well as potential corruption in the transfers of forest industry assets, as mentioned above). These agencies may benefit from technical assistance and advice in these endeavors. The GOI has taken some important steps over the last three years to address legal and regulatory violations associated with the sale and management of forestry debt, and some of these cases are still pending. The manner in which they are ultimately resolved could set important precedents for how corruption and illegal practices are addressed in both the forestry and financial sectors. There is a need to proceed with caution to ensure that settlement agreements (e.g., debt write offs or suspension of interest payments) for uncooperative debtors do not create inappropriate incentives and precedents (e.g., moral hazard) (Kaimowitz, 2006). International agencies focusing attention on these issues could engage in evaluations of past practices and a consultative process to learn lessons and identify steps to improve future practices. Analysis of options for resolving these debts and work with the banking sector could strengthen the political resolve for debt recovery.

Support to civil society organizations could improve their capacity to monitor forestry related debt issues and improve transparency and accountability in the financial sector. More generally, donor agencies could promote improved risk analysis, due diligence, and social-environmental impact assessment for forest-related investments for both private and public financial institutions.

**Reinvestment, Revitalization, and Investment Climate.** Indonesia is now seeking new investment in the forestry sector. Investments that aim to retool, increase efficiency, and diversify value-added processing would help to improve the competitiveness of Indonesia's industry, in line with the Minister's plan for restructuring and revitalization. However, investments that expand processing capacity would put additional pressure on Indonesia's forests, unless accompanied by sustainably managed timber plantations. As this next round of investment goes forward, it will be important that proactive steps (laws, institutions) are taken to improve due diligence, corporate accountability and transparency, and environmental and social safeguards (Kaimowitz, 2006; EAP Forest Strategy). At the same time, several studies have found that the overall investment climate in Indonesia is not conducive, as noted above (WB RICA, 2006).

**Over-Regulation and Rent-Seeking Hamper Efficiency.** As mentioned in Chapter 3, on top of these technical and physical issues, there are financial and governance concerns. Artificial limits (quotas) on production or exports, excessive regulation, and mis-targeted subsidies still plague the sector and contribute to inefficiency and lack of competitiveness.

**Technology Trends, Opportunities and Threats.** The overall decline in area of natural tropical forests, which traditionally produced large-size logs for ply and sawnwood industry, will cause shortages in certain sub-sectors. However, technology is available to produce marketable timber products from smaller and smaller timber sizes, from plantations and logged over forests (as demonstrated in Malaysia). This can be regarded as an economic opportunity, but also a threat to remaining forests. These newer technologies (e.g., smaller spindles, medium density fiberboard) pose a risk of creating the means and the incentive for heavier cutting and utilization of smaller sized trees in more accessible areas. Remaining logged over forests still have valuable timber (potential) to be used in reconstituted panel products, sawn timber (even though log sizes are much smaller), and plywood using different technologies. Continuing to log these degraded forests is economically viable because harvest costs are lower, roads are in place, and technology is available to use these smaller timber sizes. Thus, it is reasonable to expect that forests can continue to be consumed by industrial processes without regard to sustainability for some time. This is also an activity in which small and medium sized enterprises may be engaged, whether legally or illegally. The problems of forest degradation and supply-demand gap could easily become worse, if technological changes in production occur without reforms to increase the supply of legal and sustainable timber. However, with properly managed plantations (social and environmentally sound), a higher level of production based on newer technologies and smaller diameter logs could also be envisioned and sustained. This implies a need for improvements in monitoring and enforcement and careful consideration of the structure and ownership pattern in the future. Analyses or interventions that can help to correct some of these problems may be quite influential in determining the future of the sector.

#### **4.4 Industry Restructuring**

The need for industrial restructuring has become not simply a policy choice, not an environmental plea, but an economic reality. In 2005, the MOFR, CIFOR, MFP, and IPB developed a synthesis

report on forest industry restructuring, focusing on ways to balance supply and demand (MOFR-CIFOR-MFP, 2006). The team developed the rationale for and recommendations toward a strategic action plan for restructuring, re-engineering and revitalizing Indonesia's wood-based industry over the next 15 years. The MOFR has adopted this strategy in its RPJPK 2006-2025.

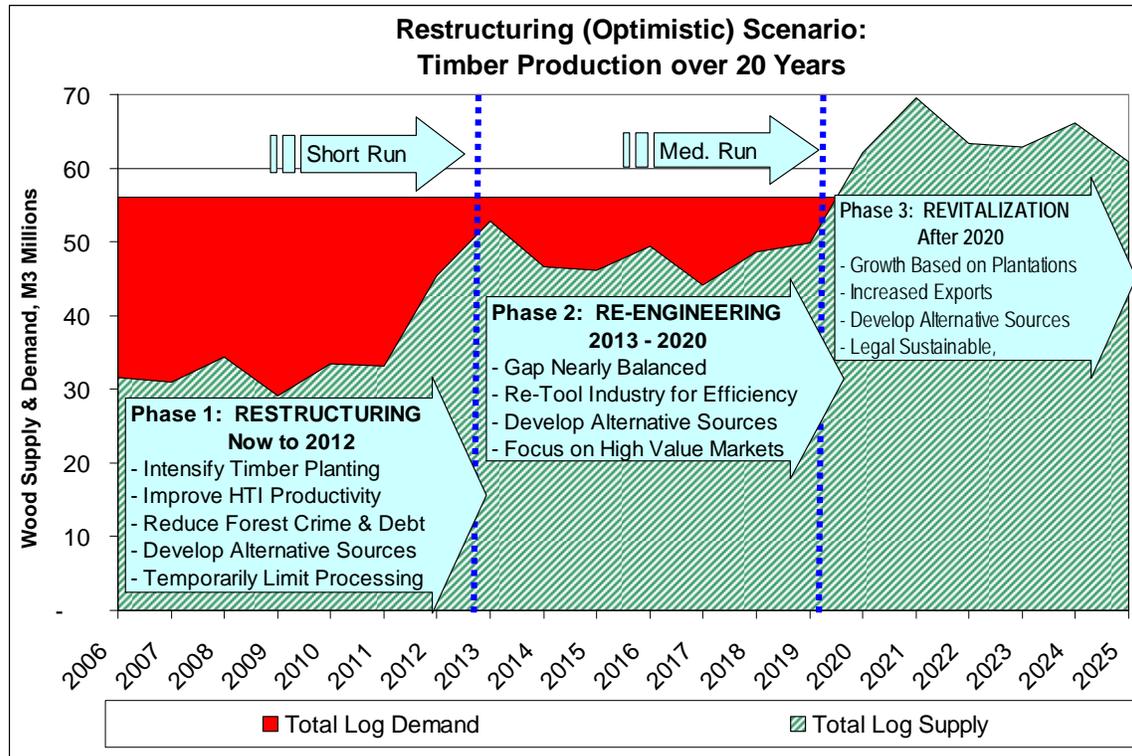
#### **4.4.1 GOI Industry Revitalization Strategy**

The strategy is based on three simple, straightforward recommendations. First, reduce timber consumption from natural forests. Second, increase the rate of planting and the area planted to produce timber in the medium-term and use degraded land, not natural forest. Third, take practical steps toward a medium-term strategy that creates a much more positive future forestry situation, based on incentives and markets. Because fast-growing plantations can produce timber in 7-8 years, it is possible for Indonesia to (mostly) fill the timber gap by the year 2012 and sustain the industry through a period of re-engineering. This requires that plantation establishment rates are doubled and productivity of existing and new plantation lands is substantially improved.

The MOFR has now adopted a three-phased strategy for industry restructuring, re-engineering, and revitalization (RPJPK, 2006; described in the figure following). In the short run, or restructuring phase, the strategy calls for intensifying timber planting, improving the productivity of industrial timber plantations, reducing forest crime and debt, developing alternative sources of supply, and limiting processing to close the gap between sustainable supply and industrial demand. Both demand management and supply enhancement are needed to meet the optimistic medium-run outcome. In the medium run, after 2012, the strategy emphasizes the need to re-engineer industrial processing plants to take advantage of sustainably grown timber supplies and meet market demands for new or higher-quality products. Re-engineering, re-tooling and reinvestment should be focused on technologies that utilize fast-growing timber species and produce more diversified consumer products with high value added, not just wood-based commodities, such as sawnwood and plywood. Some of Indonesia's more progressive firms are already pursuing this strategy. This need for re-engineering (re-tooling) is also necessitated by international markets demanding a more diversified range of products and rewarding producers of higher value added products. The third phase occurs when the retooled industry is growing sufficient timber to allow expansion based on legal and sustainable sources.

**Balancing Supply and Demand.** With an increase in the rate of plantation establishment now, a healthy supply of plantation grown timber can be available by the year 2012. However, the productivity of plantation lands also needs to be increased to improve performance on the large area allocated for this purpose. If these increases are realized and sustained, by the year 2020 (two growing cycles from now), there will be more plantation-grown timber available than current total timber demand. By that time, industrial demand can increase to make use of this new, larger supply, or exports of plantation grown timber can be considered. Of course, the mix of timber will be different in this future scenario. A much larger share of supply will be plantation-grown timber, which can be effectively used by pulp mills and sawmills, and even by plywood mills with some retooling and changes in practice. This analysis focuses only on total timber volume, not the regional distribution of demand and supply, which will be a critical factor in success. However, it is clear that the mix of industry will need to evolve over the next 10 to 15 year period to take advantage of this changing supply mix. This is part of the rationale for industry reengineering and retooling. As shown above, structural changes have occurred over the last 20 years, so a similar level of change over the next 20 years should seem reasonable.

This three-phased strategy offers a general vision of the future to be achieved through policy and management interventions. Following this strategy in the longer term, it is hoped that Indonesia's forest products industry can truly be revitalized. Industrial expansion can occur based on sustainable, renewable sources of timber. Timber supplies will be stable and secure. Indonesia's industry can access global markets based on verifiably legal and sustainable timber supplies. However, it must be noted that this is an optimistic scenario based on increased plantation establishment. Achieving medium term goals depends on increased efforts in the short run. If short run efforts fall short, the large timber legality gap (baseline or current scenario, as outlined at the beginning of this chapter) will not be reduced in the time frame presented in the figure.



**Potential Cost Considerations.** If planting and managing one hectare of timber plantation costs about \$1000, the incremental cost of this effort would be about \$1.5 Billion over ten years (not discounted). The strategy is based on increasing the rate of planting to 250,000 ha/year, or an increment of about 150,000 ha/year over the average recent level of plantation establishment by the private sector. This investment is about comparable to what the GOI is currently spending on the National Movement for Land and Forest Rehabilitation (GERHAN, see Chapter 6 for more information). This does not mean to suggest that all the land or trees developed under a plantation revitalization plan should be owned or managed by the GOI, just that the level of investment is comparable to other recent initiatives.

**Ministry of Forestry Strategy  
Revitalization of Forestry Industry (see Annex C)**

**Programs**

- Facilitating improvements in industry performance
- Implementing sustainable forest management on 200 unit natural and plantation forest concessions
- Improving production of NTFPs
- Optimizing forest harvesting fees and reforestation levies
- Facilitating establishment of 5 million ha industrial timber plantations
- Facilitating development of 2 million ha community forests

**Progress**

- Comprehensive study on forest industry (ITTO, CIFOR, WB, USAID)
- Inventory of Primary Industry Wood Forest Product (1,670 units with input needs of 66.3 M m<sup>3</sup>/yr)
- Re-register primary industry business permits (Ministerial Decree No. 300/kpts-II/2003) for sawmills, veneer mills, wood and laminated veneer, and chip mills
- Improve efficiency and competitiveness by replacing old technology and relocating chippers and lathe mills closer to sources of raw material
- Revise rules to encourage the industrial timber plantation investments
- Settle cases of 130 small scale natural timber concessions (of which 20 have handed over the business permit to MOFR and 9 others have settled)
- Assess performance of 24 industrial timber plantations in 2005, and another 39 in 2004
- Cancel 23 District Regulations and 1 Provincial Regulation to improve competitiveness and reduce nuisance taxes
- Evaluate small scale concession licenses issued by District Governments
- Increase the effectiveness of collection of Forestry levies (PSDH and DR)

**4.4.2 Restructuring to Broaden the Benefits**

Although balancing supply and demand would be an extraordinary achievement – within reach of the current Government – it will also be important to seek ways to broaden the benefits of commercial forestry to improve community livelihoods and relieve poverty. Although the existing system has been relatively successful in producing short-run financial returns, it has not been as successful in producing employment or benefits to the poor. Many analyses have shown that small- and medium-scale enterprises are more effective in absorbing labor than large, capital-intensive enterprises, such as pulp wood processing mills. The appropriate balance between financial returns and wider employment will have to be determined as part of the dialogue toward agreed-upon forest sector objectives (World Bank Policy Briefs, 2004). Some suggestions include new ways to organize the production of timber, including out-grower schemes, private timber markets and smallholder involvement. More far-reaching alternatives would include the reallocation of land and reducing the level of corporate control of the sector.

Many Indonesian stakeholders agree that communities and the poor need more opportunities to benefit from use and management of forest resources. However, not all would agree that the best answer is more “participation” or “partnership” in existing commercial forestry management arrangements. Mayers (2006) summarizes evidence on commercial forestry’s ability to reduce poverty, as well as opportunities and challenges for making commercial forestry more pro-poor. Forestry can contribute on all the dimensions of the livelihoods assets framework, but often does not beyond trickle down effects from tax payments toward national development. Various

initiatives are being pursued to offer incentives or recognition for “sustainable” forestry, but not yet for “pro-poor” forestry. Large scale commercial forestry can provide jobs, but there is little evidence for poverty reduction. Small and medium forestry enterprises can reduce poverty, when policy enabling conditions and rights are favorable. There are opportunities to spread the benefits of both large and small scale commercial forestry to broaden livelihood opportunities and provide greater participation and collaboration with the poor. Mayers believes that good information, strong local democracy, fair enforcement of simple rules, creative ideas and models, and a range of highly committed partnerships will all be needed to make this work.

Some measures to broaden the benefits of industrial restructuring to increase the role of communities and SMEs in timber production, processing and export are outlined in this section. Other ways to utilize forest lands to provide greater benefit for more stakeholders, in keeping with the goals of the forest management laws, are taken up in Chapter 5 on poverty and livelihoods.

Without changing the basic corporate industrial organization, more community and smallholder involvement in timber production could be promoted through community-company partnerships. If well designed, these partnerships could reduce conflict, raise rural incomes, and provide sustainable supplies of raw materials. However, such partnerships entail risks to both communities and companies. Possible interventions to improve the prospects for these activities could be based on providing information on markets and contracts, strengthening communities’ negotiation skills, mediating disputes between companies and communities, and creating improved mechanisms for enforcing contracts. Although incentives (e.g., regulatory relief, pilot demonstrations, or efforts to reduce transactions costs) may be needed to get these partnerships started, but ultimately they should be based on the development of mutual benefits between the parties involved.

Although subsidies have been used in Indonesia in the past, and some current discussions envision using Reforestation Funds to support plantation development, there are many cautions associated with subsidies and often, unintended consequences, not to mention the overall expense (e.g., fuel subsidies). Research and experience show that subsidies cannot be effective in inadequate policy environments (e.g. where property rights are insecure, markets are dominated by governments, regulations are burdensome, and taxes and fees are high). Removing policy constraints and regulatory barriers may be a more effective way to pave the way for accelerated private investment.

**Timber Plantations and Communities.** In the medium term, fast-growing plantations with pre-determined markets may be the best potential for community involvement in tree growing, considering the scale and timing of returns. The main issue in promoting these schemes lies in harmonizing incentives for land uses with timber outcomes. The table below summarizes some of the incentive issues for tree growing on private or community land, in partnership with a company or not. Improved tenure security will also be needed to expand and accelerate community involvement in timber plantations or other activities in the state forest zone, as discussed in the next section and in Chapter 5.

<b>Characteristics of Community Involvement in Timber Plantation Schemes</b>	
<b>Important Similarities for All Kinds of Schemes</b>	
<ul style="list-style-type: none"> <li>▪ Communities need to face price incentives that are competitive with other land uses, considering all costs and benefits.</li> <li>▪ Communities may need technical assistance and materials</li> <li>▪ Community members in poverty will have fewer options and less available labor for participation in partnership schemes. Special targeting may be necessary for those most in need</li> <li>▪ Sufficient nursery material will be needed; could be community-based or company-based; could promote SMEs</li> <li>▪ Will need harmonizing incentives in contracts to guarantee a price to the growers and create the initial interest in participation</li> <li>▪ Communities may not make timber-oriented investments (plant and manage trees) without sufficient incentives, such as access or security and efforts to lower transactions costs</li> <li>▪ Government interventions (in regulation and administration) have the potential to raise costs to companies or communities, undermining the incentive framework (based on market transaction through contract).</li> </ul>	
<b>Important Differences in Incentives or Goals</b>	
<b>Schemes with Company Partnerships</b>	<b>Schemes without Company Partnerships</b>
Community-company partnerships are more likely on community land within villages, not individually owned/controlled plots.	Private growing more likely on individually owned/controlled plots.
Communities may want to diversify land uses and plantings	For companies, will want to determine (improved, high quality) species and rotation length to schedule production needs
Communities may want material, technical assistance and special consideration	Companies will want a business relationship, not a poverty alleviation campaign.
<i>Source: compiled from discussions of World Bank Forestry Mission, June 2005.</i>	

For these schemes to succeed, domestic timber markets will have to improve, including market price signals to ensure efficient delivery of appropriate timber types. Communities or individuals may also be able to benefit by growing high value, niche-type species (e.g., sandalwood, eaglewood, mahogany or other species). In non-partnership efforts or niche species, matching the production to potential markets and buyers may be an issue. Intermediate service providers may be needed for extension services, price/market information, and technical assistance. There is a question as to how to supply these services, with what resources. Presumably, communities will not have the ability to pay for these services until there is a substantial increase in their livelihood status. Middlemen can be efficient in collecting and packaging products into larger lots for transport. However, they raise costs and lower prices to communities which may lead to reduced incentives as well as resentment or rejection of the scheme. Efforts based on cooperatives may be more efficient and cost-effective, but have low credibility and acceptance due to past political history and manipulation in Indonesia.

This discussion focused on community involvement in commercial production of timber, not for rehabilitation or watershed protection. In those cases, the incentives and rationales will be different and the main proponent or partner for such efforts may well be the government, not a private company.

#### 4.5 Forest Management by Communities: Livelihoods and Collaboration

Using forests for equitable economic benefits raises questions about the roles, rights and responsibilities of communities and people. Community involvement raises issues of management and benefit, legality and definitions, diversity and equity, tenure and security, and livelihoods and poverty. This section is mainly concerned with management arrangements for economic benefit. Livelihood, diversity, and tenure issues are taken up in Chapter 5.

As an element of the Ministry's five-point strategy there are growing efforts to promote a revitalized forest industry with increased community participation. In a press release dated 3 October 2006 ([www.dephut.go.id](http://www.dephut.go.id)), the Ministry explained its intention to give more access to people and communities to utilize and benefit from forest resources. This initiative could eventually involve millions of hectares of production forest area that is currently in a degraded condition. Several working groups are considering how to accelerate development of community-based timber plantations, restructure industry to balance supply and demand, empower communities and address land tenure issues. These efforts will be supported and enhanced by developing policy recommendations, a vehicle for financing forestry investments, and pilot demonstration efforts in the field.

Smallholders and communities already use and manage forest land (and forested land) to produce agroforestry crops, timber for domestic markets or household use, crops, meat, fiber, and NTFPs. Revenue streams from these activities are substantial, though industrial forestry discussions seldom enumerate these. Smallholder tree crops (rubber, cocoa, clove, coconut and oil palm) managed on about 11 million ha contribute about \$4.1 billion per year to Indonesia's GDP, comparable to earnings from commercial forestry (DFID-MFP, 2005). Not all of this land is within the state forest zone.

Community based forest management in Indonesia is as diverse as the communities and areas being managed. DFID-MFP (2006) usefully distinguishes between customary and formal approaches to community based forest management. Customary community management refers to various traditional or *adat* systems, including upland agro-forestry, practiced widely across Indonesia.<sup>20</sup> These occur on all categories of forest land, and in fact usually pre-date these classifications. 'Formal' CBFM refers to community involvement on state forest land under rules established by the MOFR, often with involvement of forest concessionaire companies.

**Customary/Traditional Management Systems.** Colfer and Wadley (2003) found that communities' traditional management systems<sup>21</sup> – including “areas with defined borders, sets of regulations, sanctions, and methods for applying them” – often took place in the same areas as management systems of timber concessionaires, under government regulation. Though actors at the local level – government officials, traders, and timber company employees – agreed that the communities were the most important group of forest managers and forest sector stakeholders, traditional systems are often under-recognized in capital cities where forest management policy decisions are made. This often leads to the creation of several overlapping management systems

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<sup>20</sup> Local groups have local names for their management systems, including *wono dusun* in Java, 'tembawang' in West Kalimantan, 'simpukng' in East Kalimantan, 'repong' in West Sumatra, 'parak' in Meninjau, 'pangale' in Morowali and many more in Nusa Tenggara (DFID-MFP, 2006). Sometimes, these are collectively referred to as Sistem Hutan Kerakyatan.

<sup>21</sup> The Melayu focused management on fisheries, rattan and wood supplies, while the Iban managed a complex agroforestry system, with long fallow swidden, fruit cultivation and timber stands for multiple use.

– traditional and concession – applied to the same land area. In their study sites in Kalimantan, Colfer and Wadley noted that conflicts were mainly avoided because sparse population allowed negotiation of different activities on different parts of the forest. In other cases in Indonesia, overlapping claims and management regimes in one area have led to conflict between communities and companies or local governments. Colfer and Byron (and many others, notably the World Agroforestry Center, which has created a Negotiation Support System) concluded that a process of local negotiation and collaborative planning will be necessary to resolve competing management systems and claims and arrive at a sustainable forest management solution. However, institutions and mechanisms for creating the conditions for collaboration and the incentives for compromise are not well established in Indonesia.

**'Formal' or State-Sanctioned Community Forest Management.** State-sponsored community participation in timber management on production forest lands usually comes through forms of benefit sharing or partnership with concession companies. Different styles of partnership on different categories of forest land with evolution over time have led to a profusion of terminologies. Kusumanto, et al. (2005) provide a brief overview of developments in social and community based forestry in Indonesia. In the last three decades, the government, NGOs, activists, researchers and donors all played important roles in developing and experimenting with more participatory forest management initiatives. “Over time, these evolved from initiatives in which local groups were merely ‘invited’ to participate in implementation activities to ones that gave them decision authority.” In the 1980s, under the social forestry program in Java, local people were allowed to plant crops and non-timber trees between the teak trees in exchange for labor on the plantations; more recently they have been able to benefit more directly from the teak they planted.

In the 1990s, village community development programs (*Pembinaan Masyarakat Desa Hutan*, or PMDH) and community forestry programs (*Hutan Kemasyarakatan* or HKM) were introduced. PMDH requires concessionaires to compensate communities, without much participation. In contrast, HKM provides local communities with use rights to earn economic benefit from degraded forest land (for example by licenses to market timber or NTFPs), but the government retains authority to grant and revoke rights. In 1999, a national policy allowed the benefits from timber harvesting to be shared between concessions and local communities and groups, but the communities have only limited input into determining the amount of benefits to be shared. More recently, the Government has allowed increased authority in decision-making about forests/partnership in forest management, supported or driven by government decentralization efforts and increasing market forces. Kusumanto, et al., note that these approaches have achieved some successes, but most control over forest land and forest resources remains with the powerful (state and companies), not with the communities.

Over the last 20 years, these systems have evolved and developed, with various degrees of support from the MOFR, NGOs, and development agencies. The regulatory frameworks, definitions, and permissions have varied over time, causing uncertainty and sometimes conflict among the communities and the sponsors of these approaches. Because these systems are state-sponsored on state land, the regulations have often been cumbersome, uncertain and inconsistent, which has been an obstacle to building trust and wide spread application of these approaches. Although these systems have often been successful in improving forest outcomes and people’s livelihoods, there is little certainty or incentive for their long term development. For greater success in encouraging investment and reducing poverty, there appears to be a need for better communication and more local control and decision-making that would allow adaptation through

collaboration. In particular, forest management institutions, which have knowledgeable and skilled technical staff, may need more facilitation skills, flexible monitoring mechanisms, learning approaches, and attention to the process of collaboration in decision making. Kusumanto et al., also believe that this will require more autonomy and decentralization to the field level, coupled with institutional incentives for staff at all levels.

Kusumanto, et al. (2005) provide a useful reminder about the semantics of participation and collaboration in forest management. Participatory, or collaborative approaches strive to move away from the top down approach, where decision-makers far removed from the site of impact impose decisions on actors at the ‘bottom’ of the system. ‘Collaborative management’ is often used positively and interchangeably with co-management, participatory, joint, shared, or multi-stakeholder management. Kusumanto et al. stress the need to go beyond inviting local groups to participate in implementation after all the key decisions have been made. ‘Participation’ may provide improved access, ‘partnership’ may provide a better sharing of benefits, and ‘recognition’ may provide improved rights. The goal of true collaboration, however, is authority over the decision-making process and involvement in all stages of management: a form of self determination for local forest users.

**Who are the Stakeholders?**

“A stakeholder of the forest is an individual, a social group, an institution, a community, or an aggregation in society that has a ‘stake’ in the use and management of the forest. A stakeholder affects and/or is affected by the decisions and actions of others connected to the forest system.” Kusumanto, et al., 2005.

By this definition, those who organized this report are observers, or at best, very distant and foreign stakeholders.

**Agroforestry and Smallholder Livelihood Opportunities.** Though agroforestry practices are often excluded from formal definitions and discussions of plantations and sustainable forest management, these systems provide many of forest functions desired under the rubric of ‘sustainable forest management.’ Van Noordwijk, et al. (2003) highlighted five main constraints that interfere with the development and potential of agroforestry systems as a contributor to timber production, livelihood improvements, and environmental services. These constraints include issues of terminology about forests, functions, and land uses; lack of high quality planting material; lack of smallholder management, processing and marketing skills; over regulation that restricts access to markets or raises costs; and lack of reward mechanisms for environmental services (positive externalities) generated from these systems. They find that in competition for land between large scale plantations and agroforestry systems, the ‘playing field’ (or policy enabling environment) is not level. While, large scale systems often receive direct or indirect government policy support and even subsidies, “the potential to produce wood and ecological services with agroforestry is placed at a disadvantage. Regarding the limits of terminology, Van Noordwijk, et al. note that ‘plantations’ often connotes planting similar trees on cleared land. In agroforestry systems, however, it is also common for trees to be planted among food crops or by ‘enrichment planting’ in forested areas or gaps, such that the species composition is gradually changed without felling.

**4.6 Options for Improving Forest Use for Economic Productivity**

Many of these issues and options are summarized into the table on the following page. This provides a road map to possible interventions to promote economic development, organized according to forest land type and condition. This framework allows separate focus on forested

and non-forested areas. The simple, condensed format also encourages a focus on similarities among possible investment options. For example, economic development activities are very similar on both production forest land and conversion land. Similarly, economic development options are more limited on protection and conservation land. This framework provides the basis for further discussion of prioritized intervention options in Chapter 7.

**The Role of Forest Land in Supporting Sustainable Economic Development**

Forest Types	OBJECTIVE: Support Economic Development	
	Forested	Non-forested
<b>Production</b>		
	<ul style="list-style-type: none"> <li>▪ Invest in industry retooling for efficiency, value added, and downstream products</li> <li>▪ Temporarily reduce industrial timber demand in short run so growth can occur in long run</li> <li>▪ Reform financial sector to allow bankruptcy, improve due diligence, strengthen rule of law &amp; reduce undermining forest management policies</li> <li>▪ Allow timber imports to relieve pressure in short run</li> </ul>	<ul style="list-style-type: none"> <li>▪ Plant more trees for production/timber</li> <li>▪ Improve productivity of existing and new plantations through management, models, cross-learning, and incentives</li> <li>▪ Promote community-company partnerships for timber production</li> <li>▪ Create incentives for timber planting, long term management &amp; marketing</li> <li>▪ Support tenure/access arrangements that support tree planting, livelihoods, and economic development &amp; promote long run investment, stewardship</li> <li>▪ Encourage Community Forestry &amp; SMEs</li> </ul>
<b>Conversion</b>		
	<ul style="list-style-type: none"> <li>▪ Determine highest value use &amp; desired future status, then choose: Preservation or Conversion to other land uses</li> <li>▪ Allow some added timber harvest, forest damage in short run to balance supply &amp; demand, but limit/control/manage</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as above</li> </ul>
<b>Protection</b>		
	<ul style="list-style-type: none"> <li>▪ Allow/promote community livelihoods, co-management, env. service-compatible activities for eligible groups: local communities, extension services</li> <li>▪ Impose restrictions to maintain ecosystem functions</li> <li>▪ Develop/improve agroforestry extension service to provide info &amp; TA to smallholders</li> </ul>	<ul style="list-style-type: none"> <li>▪ Plant more trees for smallholder use &amp; benefit (enhance investment climate, remove disincentives, lower transactions costs)</li> <li>▪ Allow/promote community livelihoods, co-management, env. service-compatible activities for eligible groups: local communities; provide incentives</li> <li>▪ Provide secure access rights to promote LR investment &amp; stewardship</li> <li>▪ Develop/improve agroforestry extension service to provide info &amp; TA to smallholders</li> </ul>
<b>Conservation</b>		
	<ul style="list-style-type: none"> <li>▪ Allow/promote compatible economic uses, which may include community livelihoods, co-management, tourism enterprises, conservation-compatible activities within PAs for eligible groups (indigenous people, licensed concessionaires)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as non-Forested Protection Land, with additional restrictions to preserve or rehabilitate ecosystem functions</li> </ul>

*If the misery of the poor be caused not by the laws of nature, but by our institutions, great is our sin.*

*– Charles Darwin*

*One day, our grandchildren will go to museums to see what poverty was like.*

*– Muhammed Yunus  
2006 Nobel Peace Prize Winner*

## **5. FOREST LAND, LIVELIHOODS AND POVERTY**

To understand how Indonesia's forest lands can be managed to respond better to the needs of the society, in particular the poor, it is necessary to understand the distribution of people and poverty relative to forest lands. It is also necessary to understand how people use forested and non-forested areas to gain economic benefit. This chapter reviews the legal and policy context related to forestry and poverty alleviation, analyzes the regional distribution of Indonesia's population, and provides some estimates of the relationship between poverty and forest cover. The chapter also lays out a framework for understanding how forests contribute to poverty alleviation and provides some estimates of employment potential in industrial forestry and agroforestry systems. Several policy options for reducing poverty are explored.

Any effort to improve conditions or increase employment for the poor or vulnerable through forest land use or allocation will have to recognize the fundamental disparity in population in Indonesia: most of the population is on Java and most of the land is not. Some parts of Indonesia are densely settled agricultural zones, while other areas are more sparsely settled resource frontier zones. This complicates overall allocation of development resources, especially the delivery of services to remote poor areas. At the same time, there are millions of hectares of degraded land that could be moved into more productive uses to benefit the economy and the poor. Issues of land, livelihoods and poverty are central to ongoing policy discussions of reform and governance in Indonesia. This chapter focuses mainly on poverty and forestry, not all the potential issues of land use, allocation and administration in detail. However, some more general recommendations are included based on World Bank advice provided to the GOI in October 2004.

### **5.1 Communities, Livelihoods and Poverty Alleviation**

Forests and forestry play a role in reducing poverty by increasing income, improving food security, reducing vulnerability, improving sustainability of the natural resource base, all of which contributes to increased well-being (Warner, 2000). In addition to fuelwood for cooking, "forests contribute to livelihoods by providing materials for construction, baskets, storage structures, agricultural implements, boats and hunting and fishing gear. They provide inputs for farm systems such as fodder and mulch, contribute to soil nutrient cycling, help conserve soil and water and provide shelter and shade for crops and animals." Beyond foods and materials, forests also contribute to livelihoods in more intangible ways by reducing risks or increasing food security, which may be extremely valuable to the poor. Colchester (2006) reminds that forest dwellers may also supplement forest-based livelihoods by working for wages in timber firms or outside the forest. Livelihood potential and contribution to poverty reduction is also influenced by gender differences in utilization of forest products.

Although forests' livelihood contributions are significant, they are difficult to quantify because people use much of what they collect directly, amounts vary by season and location, and because national statistics do not usually capture household-level use of the full range of forest products (Warner, 2000). In particular, most measures do not account for the valuable insurance effects

that forests provide against shocks and seasonal changes. Similarly, economic measures of livelihood contributions may not capture the differing values at different seasons based on relative scarcity or vulnerability of local populations. Colchester also notes that the lack of information about forest-dependent peoples' numbers and livelihood strategies is a symptom of their marginalization. To increase the contribution of forests to the poor, Warner advocates people-centered approaches, secure access to forest resources, tree planting and management incentives, and improving opportunities. Warner also notes that poverty criteria based only on thresholds of income or consumption do not capture the local complexity and dynamism of poverty or resource potential.

The work of Mukherjee, Hardjono and Carriere (2002) helps to put a human face on poverty through case studies of poor communities using the Sustainable Livelihoods framework. The framework emphasizes that livelihoods and well being are not just based on financial income or consumption, but also on human, physical, social, and natural capital or assets. Their in-depth study of a rural Dayak agricultural community at the forest edge provided valuable insights into the conditions of the poor and their own perceptions and recommendations for solutions. These findings from one site resonate with results from other sites and studies in the poverty and forestry literature (Colfer and Byron, 2001; Kusumanto, et al., 2005).

**Assets and Hindrances.** Mukherjee, et al., found that the rural poor have many livelihood assets, including social cohesion, traditional institutions, physical (often schools or health clinics), and land and natural resources. They believed they were helped by local NGOs assisting with mapping or training, local micro credit schemes (e.g., *arisan*), traditional mutual support institutions, traditional pest control practices, health, birthing and family planning assistance, a road, traditional leaders, and outsiders willing to pay higher prices for seasonally valuable produce (e.g., durian). But they also face many constraints and hindrances to sustainable livelihoods, including declining access to natural resources, declining quality of those resources and the environment generally, unaffordable health and family planning services, as well as schooling and skill development opportunities, vulnerability to natural disasters (sometimes caused by other communities or land use practices in adjacent forests), bad advice from extension workers and outsiders, anti-poor policies from central or local government, and exploitation by owners, middlemen, outsiders and regulators.

In many cases, cultural norms make women even more vulnerable. In the Dayak village, men and women saw different root causes of poverty and gave different assessments of their own vulnerability to poverty. Women saw the key issues as water regulation (flooding and drought), pests and diseases of plantation crops, a buyer's monopoly for products, and the lack of accessible or affordable family planning advice and health care services. Men saw the key issues as over-reliance on chemical inputs, drought, illness, low education, large families, and small holdings. Women and men prioritized both outside interventions and self-help initiatives differently.

**Integrated Efforts.** The study also found that "natural resource sustainability issues are difficult for communities to address on their own," and may require coordinated action by several groups or communities, policy changes, or support from local government and law enforcement agencies. The poor cannot improve their livelihoods alone, but differ on the amount and kind of outside intervention that is appropriate. Multi-faceted interventions that work on several levels were recommended.

**Trust and Intervention.** GOI policy documents, including those from the Ministry of Forestry, increasingly emphasize empowerment of communities and the poor. This necessarily will involve sharing power among the poor, traditional elites, and local government bureaucracies. The Mukherjee study was full of examples of how differential power relations between the poor and land owners, extension workers, middle men, health care providers and government workers serve to perpetuate their poverty, rather than relieving it. Uncertainty also affects livelihoods. Government policies can increase uncertainty when licensing rules, land use and access rules, and decision making processes are not transparent or change frequently over time (as was the case in the immediate post-crisis period in Indonesia).

Poor villagers had a deep skepticism of programs and efforts designed by outsiders (government or NGOs) with the intention to assist them (e.g., improved plant varieties, scholarships) but without consultation or basic understanding of the integrated nature of the problems they were facing. Aid packages (improved planting varieties or flood control assistance) were either short lived or introduced unintended consequences that undermined their welfare. Direct assistance (subsidized rice or scholarship funds) was often diverted by local elites to non-intended beneficiaries. This lack of trust and communication is a major barrier to pro poor policy making and pro poor implementation of programs or interventions. Institutional transformation – through continuing decentralization, empowerment, and participatory approaches – was seen as a key to long term livelihood improvements.

**Legality Affects Livelihoods.** Efforts to improve livelihoods should recognize that legal systems and institutions – from customary laws to international treaties – have significant effects on poor, forest-using people (Colchester, 2006). Communities’ use and ownership rights are often not recognized, or rules may be contradictory and incompatible. Where ‘legal’ forest use is not widely agreed, laws may be selectively applied to restrict forest access and use by local communities. Conversely, large-scale forestry enterprises may be favored by forest laws or their selective implementation and enforcement.

## **5.2 Policy Context for Community Livelihood Promotion and Poverty Alleviation<sup>1</sup>**

**Forestry Law.** As shown in Chapter 2, promoting community livelihoods and reducing poverty is one of the main goals of forest use and management established under Indonesian law. The Forestry Law of 1999 requires that forest lands be managed to provide multiple benefits to multiple user groups and for the welfare of the people. Although the government controls, regulates, and organizes activities in forest areas, this control is expected to respect customary laws, to encourage people’s participation in forestry activities and to effect this participation through assistance from a forestry stakeholders forum. “Customary law communities” have the right to collect forest products for daily needs, to undertake forest management, and to be empowered for improving their welfare. In keeping with the spirit of the legislation, the MOFR has prioritized economic development for local communities in and around the forest in its medium term plan for the period 2005-2009 (see text box on the following page and Annex C) and in the Long Term Plan for Forestry Development 2006-2025.

Despite this legal and regulatory mandate, however, no specific areas of forest land have been set aside to reduce inequity or to improve the welfare or livelihoods of specific communities or

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<sup>1</sup> The World Bank (2001) defines poverty as a pronounced deprivation of well-being related to lack of material income or consumption, low levels of education and health, vulnerability and exposure to risk, no opportunity to be heard, and powerlessness.

groups. In contrast, 75% of land has been allocated for supporting economic development (usually in large commercial holdings) and protecting environmental services. Managers of production forest lands are expected to produce not only forest products, but also wider and more equitable benefits for nearby residents and communities. The efficiency and equity of this allocation could be questioned considering the large number of rural poor and the vast area of land claimed by the state. In 2004, about 16% of Indonesians were in poverty, two-thirds of the poor lived in rural areas, and 48 million lived in the state-claimed forest zone.

**Legislative Initiative.** As noted in Chapter 2, Indonesia's legislature recognizes the need to reform and rationalize the use of forest land, as stated in Decree No. 9 of 2001. The decree outlined the need for reforms in natural resource management and agrarian regulations. This law requires the government to review and harmonize laws on land and natural resources, revise or revoke conflicting laws with negative impacts on poverty and resources, and develop institutional means to resolve land and resource conflicts using just processes. Implementation of these provisions has been slow. The decree calls for the development of a comprehensive land policy reform agenda through consultative processes and public hearings. As noted in Chapter 2, BAPPENAS (2005) has drafted a New National Land Policy Framework, which is now under consultation toward developing a mutually agreed upon land policy strategy.

**MOFR Programs and Progress for  
People's Economic Empowerment Inside and Outside the  
Forest Area (see Annex C)**

**Programs**

- Promoting people's economic development inside and outside the forest area
- Improving the small medium business climate and access to the forest
- Giving guarantee on the availability of the raw material for forestry SMEs
- Continuing the development of "Social Forestry"

**Progress**

- Education for villagers in 552 villages around natural forest concessions and 2,619 villages around planted forest concessions
- PHBM in 5,699 village in around area Perum Perhutani teak management areas
- People's forest development in several provinces for 50,644 Ha
- Social forestry development in 17 places in several provinces inside and outside Java, cooperating with 8 related departments

Currently, several of the principal implementing regulations from the Forestry Law of 1999 are under revision and alternative arrangements are under discussion for use and control of forest lands, especially areas without forest cover. Some efforts have been made to review the Agrarian Law of 1960 and the Forestry Law of 1999, both of which deal with land and access issues. The MOFR has convened a Working Group on Land Tenure since 2001. Researchers, advocacy organizations, and international development agencies have offered various analyses and recommendations for land access and tenure reform (e.g., Forest Trends/ICRAF, 2005; CIFOR/WB, 2004; World Bank Policy Briefs, 2004).

The National Land Agency (BPN) has also drafted revisions to the Basic Agrarian Law (BAL 1960) and conducted some stakeholder consultations. With World Bank support, the Government has also launched a Land Management and Policy Development Program to implement a comprehensive reform agenda on land management and administration, aiming to modernize land administration and build local government capacity to undertake new functions in land management.

**Indonesia's Poverty Reduction Strategy** (September 2004) recognizes poverty alleviation as a basic goal of the Constitution. The strategy aims to “ensure a shared commitment in dealing with poverty through a rights-based approach, to build up a consensus, to mainstream pro-poor policies, and to affirm a commitment to achievement of the Millennium Development Goals.” The strategy is based on multi-stakeholder consultations and is integrated into national development planning documents. The Poverty Reduction Strategy recognizes several key natural resource and forest-based problems faced by the poor, including:

- Inequality of land holding and ownership, as well as uncertainty in agricultural land holding and property
- Restricted access to natural resources and vulnerability towards environmental changes
- Low participation in formulation, implementation, monitoring and evaluation of development policies and programs.

The document establishes general goals and basic principles that would go a long way to resolving many land and access-related issues in the forestry sector, if implemented fully. These include “equal rights without discrimination, common benefits, proper and fair targeting, self-sufficiency, togetherness, transparency, accountability, representation, sustainability, partnership and synchronization.”

At the broadest level, the strategy proposes creating macro-economic stability, promoting economic growth, broadening opportunities for employment and entrepreneurship, and lessening development inequality between regions. Many policies are proposed for fulfilling basic rights “to acquire adequate food, health, education, employment, decent housing, clean and safe water and adequate sanitation, land, natural resources and environment, personal security, and participation.” Those that relate most closely to forestry and natural resources management include promoting:

- The right to employment, including improving the capacity of poor communities to pursue businesses and enter labor markets; and promoting small and medium enterprises, as well as cooperatives.
- The right to land by guaranteeing and protecting individual and communal property rights, protecting customary communities and vulnerable groups, increasing the involvement of poor communities in spatial and land use planning and implementation, and carrying out land distribution selectively and step-by-step.
- The right to resource access by increasing the means for the poor and communities to manage and use natural resources and the environment in a sustainable way.
- Basic rights of the poor in the context of regional development by developing local economies and speeding up provision of infrastructure and basic services.

To execute these policies and actions, the strategy recognizes the need for strong commitment and willingness among all stakeholders to implement laws and regulations consistently, canceling conflicting laws, managing budgets accountably and transparently, and encouraging local communities to participate actively in public policy formulation. The document notes that implementation of these strategies and policies “must be properly institutionalized at both national and regional government levels” and that “an institution with political authority” is needed to effectively execute all strategies and policies and to coordinate policy formulation, implementation, budgeting, monitoring and evaluation.

In a new report, “Making the New Indonesia Work for the Poor,” the World Bank (2006) reviewed poverty reduction policies and programs. The report noted that good governance is a critical ingredient for successful poverty reduction. The GOI’s 2004-09 medium-term plan clearly articulates poverty reduction priorities. However, this does not necessarily translate into poverty focused sector plans and budgets. Because sub-national governments are responsible for 40% of public spending, more attention, accountability, and capacity are needed at that level.

The poverty assessment noted needs for improved systems for translating poverty reduction priorities into sectoral plans and budgets, strengthened capacity and incentives for pro-poor planning and budgeting, and improved poverty analysis, capacity building, and participation at regional/local level. GOI fiscal balancing mechanisms could more effectively address the poorest areas of the country and more effectively reward good local government’s for pro-poor spending. Although poverty surveys and maps have provided sound quantitative data at national level, there is a need for better analysis and more detailed data at regional level, including poverty maps. There is still a need greater clarity of functions among central and local government, as well as the private sector; enhanced focus upon capacity building and incentives; and mechanisms for strengthening the voice and participation of clients and constituents.

The PRSP, the MPR decree, and the Forestry Law share similar principals and aims. Yet, as in other areas of governance and reform, a gap remains between the promise and the reality of forest land use for the benefit of the whole society, including the poor (WB CAS, 2004). The World Bank’s East Asia Pacific Forest Strategy (2005) notes that efforts to address issues of rural poverty in Indonesia must necessarily address issues of forest land use and control. In the rural sector generally, and in the forestry, agroforestry, and small scale plantation sectors in particular, poorer households suffer from uncertain property rights, face pressure to move to marginalized land, resort to unsustainable management practices, and lack access to capital and justice.

### **5.3 Distribution of Land, Forests, and Poverty**

It is helpful to have an overview of the distribution of people and poverty in Indonesia before asking how the forest areas can be better used to improve livelihoods or reduce poverty. It is possible to say a lot about the distribution of the poor relative to administrative and political boundaries, such as districts, provinces, or island groups. Population data are collected by administrative unit and much effort has been put into poverty maps (SMERU, 2005). It is more difficult to provide population estimates for various designations of forest land and forest cover.

#### **5.3.1 Distribution of Population and Poverty**

Several preliminary studies provide a useful base for further analysis (Brown, 2004; Deddy, Boccucci, and Dore, 2005). The table below illustrates some important overview points about the distribution of poverty by major region.

- Although Indonesia is urbanizing, the rural poor still outnumber the urban poor 2 to 1. However, this also varies widely by region. Off-Java the rural poor are a much higher share of the poor, up to 95% in Papua.
- More than half the poor (57%) and half the rural poor (52%) live on Java.
- About 12 million rural poor people live on the Outer Islands (along with 75 million other rural, urban poor, and non-poor people).

- Among rural dwellers, one in five is poor. In the eastern parts of Indonesia, an even larger share of the rural (and general) population is poor.
- Off Java, the vast majority of the poor are rural: over 85% in Papua, Sulawesi and Maluku.

There may be substantially larger numbers of people who are “forest dependent” or who are “vulnerable to poverty,” but more detailed analysis would be needed to identify them. As the World Bank Country Assistance Strategy notes, half of Indonesians live on less than two dollars a day, so they are vulnerable to price and weather shocks. The disadvantaged or forest dependent poor include “forest dwellers, including hunter-gatherers and swidden (i.e., shifting) cultivators; farmers living adjacent to forests, including smallholders and the landless; and commercial users, including artisans, traders, small entrepreneurs and employees in forest industries; and consumers of forest products among the urban poor” (Sunderlin, 2005). The preliminary analysis introduced in this chapter can not yet distinguish population groups by their economic activities or their level of dependence on forests. The poor on Java may be better served by transport, social programs, and delivery mechanisms than the rural poor off-Java. Community Driven Development Programs may be one of the best ways to reach these rural populations with direct services. However, policy constraints also affect their livelihood opportunities negatively.

Population, Rural and Poor by Island Group (in Millions)						
Island	Pop'n	Rural Pop'n	Poor Pop'n	Rural Poor Pop'n	Rural Poor as % of Rural Pop'n	Rural Poor as % of All Poor
Java	127.00	65.11	21.24	12.90	19.8%	60.7%
Sumatra	44.56	29.40	8.13	5.79	19.7%	71.3%
Sulawesi	15.31	11.02	2.69	2.32	21.1%	86.1%
Kalimantan	11.65	7.44	1.38	1.00	13.4%	72.6%
Bali & NTT	11.43	7.75	2.47	1.76	22.7%	71.1%
Maluku	2.07	1.53	0.52	0.45	29.4%	86.7%
Papua	2.35	1.79	0.92	0.87	48.6%	94.5%
<b>INDONESIA</b>	<b>214.37</b>	<b>124.04</b>	<b>37.34</b>	<b>25.08</b>	<b>20.2%</b>	<b>67.2%</b>

Source: BPS, Susenas, 2003

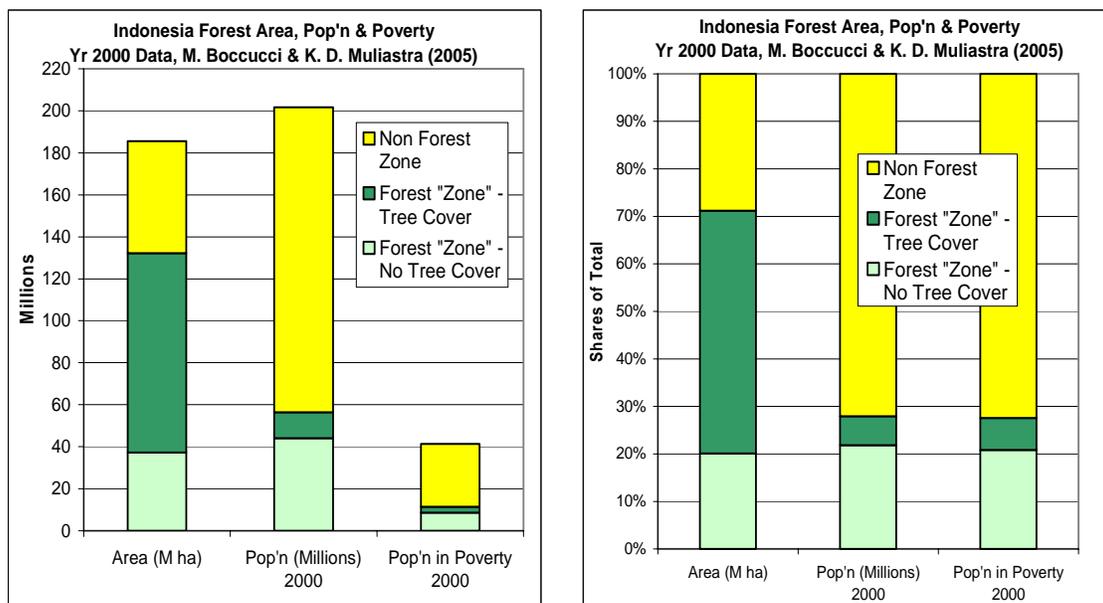
### 5.3.2 Distribution of Forests and Poverty

Two recent studies of poverty and forest cover used different approaches and data sets, but arrived at similar conclusions. Results from Muliastira and Boccucci (2005) are based on maps and population figures from 2000 and a detailed GIS analysis at sub-district and village level. “Forest cover” and “non forest cover” were defined by the MOFR and determined through analysis of satellite imagery. Results from Brown (2004) are based on 2003 population and forest cover data at the provincial level, but a much simpler, non-GIS approach. Both sets of analyses agree that 50-60 million Indonesians (about a quarter) live in the mostly rural, state-claimed “forest zone.” One analysis indicates that the great majority (>70%) of these people live in areas with no tree cover. Of the people living in the forest zone, about 20% are poor, slightly higher than the national average of 17% (in 2003). In areas with forest cover (a smaller area than the

“forest zone”), the poor are low in overall headcount (3-6 million people<sup>2</sup>), but relatively higher as a share of the total (22% in poverty vs. 17% for the country as a whole).

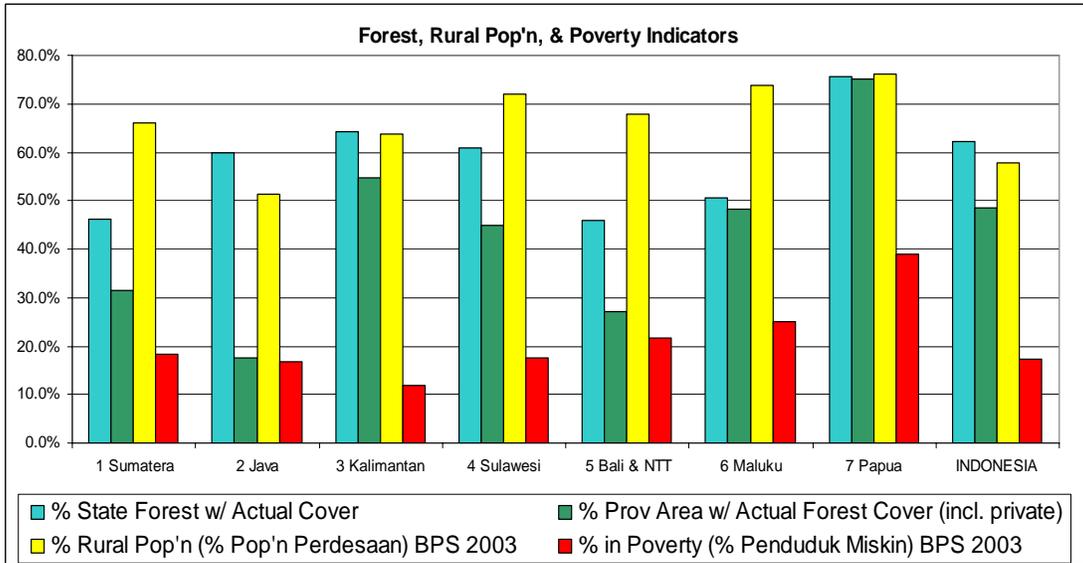
Given these estimates, it would be reasonable to say that there are around 1 million households living in areas of the state forest zone with good forest cover. These may be among the most isolated poor and may include traditional forest dwelling groups. Sunderlin, et al., (2005) note that “severe rural poverty and remaining natural forests in developing countries tend to share overlapping space.” Although this has not been fully documented in Indonesia, this geographic analysis seems to confirm Sunderlin’s view.

The figures below show forest area, population, and poverty for all of Indonesia using data from 2000. These figures illustrate the disparity between the distribution of people and the distribution of forests: seventy percent of Indonesians live on thirty percent of its land.

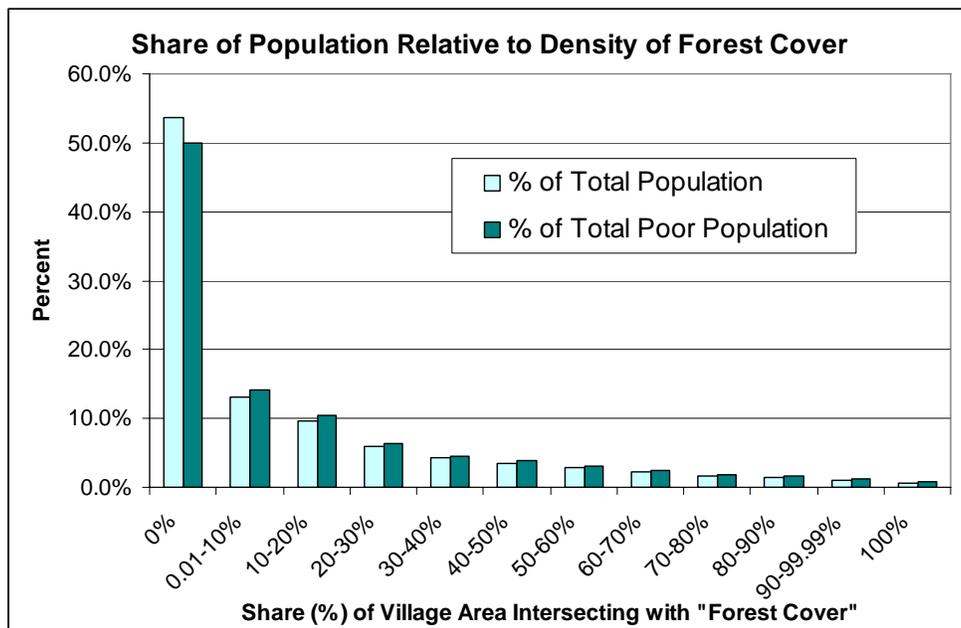


The figure below shows the proportion of forest land, rural population and poor population by major island group. The highest incidence of poverty is in the Eastern Islands, in particular, Papua, which still has substantial forest cover. The highest numbers of poor people are in the West, especially on Java, which has the lowest share of remaining forest cover of all the major islands.

<sup>2</sup> The more detailed analysis (Deddy, et al., 2005) estimates that 3 million people live in forest covered areas of the state forest zone (in 2000), while the provincial level analysis (Brown, 2004) estimates 6 million there (in 2003). This difference is due to the attribution of populations within a polygon (determined by administrative boundaries, the unit of population surveys) to the forested or non-forested areas within the polygon (determined by satellite imagery). If forested areas are less populated (lower density, as is likely) a smaller share of population in a given polygon should be attributed to the forested portion. Focusing on smaller polygons (as in Deddy et al) reduces the potential for overestimation.



The figure below shows the distribution of Indonesian households and poor households relative to forest cover (based on Muliastira and Boccucci, 2005). Village areas (BPS data) were ranked according to their degree of overlap with “forest cover” (MOFR data) and the numbers of households and populations of these villages ranked accordingly. This shows that the vast majority (nearly 80%) of Indonesians live in areas that only have a small intersection (<20%) with forest cover. The figure also shows that the population in poverty is slightly skewed toward greater prevalence in more forested areas. This is consistent with the overall finding that most poor Indonesians are rural.



**Gender, Poverty and Forests.** Attention to gender and diversity issues is critical for sound forest management, for equitable economic benefit, and for good governance. Half of forest sector stakeholders are women, of course, and their roles and ability to benefit from forests need to be strengthened. At the same time, there is a need to recognize all the other diverse groups, who may be marginalized or disadvantaged in similar ways to women, including the elderly, the young, ethnic groups, religious minorities, the landless, even future generations. Gender and diversity analysis pays attention to power relationships, which determine roles and responsibilities of different groups, the way they use and value forest resources, and their representation in decisions about uses and management, and benefit sharing (McDougall, 2001). Colfer and Byron (2001) note that gender and diversity are not simply issues of fairness. Stores of indigenous knowledge (often held by women, the elderly, or marginalized tribal groups) are in fact an asset that should be maintained and nurtured, not undermined, homogenized or destroyed.

Maria Suryaalam (2004) reports that gender discrimination in control over natural resources occurs based on patriarchal customs or interpretations of traditional laws. She argues that some national laws have not done enough for gender equity, when, for example, the roles and rights of women are left to be sorted out by traditional institutions. In this way, women “traditional communities actually experience double marginalization:” first as members of a marginalized community and second within the patriarchal tradition of their own group. She believes national institutions and laws, even the Constitution, should assure and protect gender equality and justice, even where it is contrary to traditional community practices.

**Diversity and Gender Differences in Forest Uses.** Men and women use and value forests and forest products differently and engage in different forms of management. Women may be more engaged in firewood collection, charcoal production, gathering and application of nutrient enhancements (manure, mulch, fertilizers, etc.) and collecting medicinal plants. While forest managers or economists may value forest areas based on a few commercial timber species, locally diverse stakeholders may value a wide range of goods and services (Colfer and Wadley, 2001). Non-timber forest resources, such as fish and water, may be critically important for certain indigenous groups, women, or families, especially seasonally. This wider perspective complicates thinking about “forest management” in traditional ways.

Many field studies (McDougall 2001, Effi Permata Sari, et al. 2004) identify cases where women face different problems of access or use of forests than men, and receive relatively less benefit. In terms of access to local forest management decision making processes, the elderly or ethnic minorities may face different issues from women and may be constrained from full participation by language differences, lack of education, illiteracy, distance or lack of mobility. For example, the Punan in East Kalimantan (McDougall, 2001) were stakeholders in village forest management decisions, but worked in more distant areas, constraining their involvement in village meetings. Yet, increasing the role or power of women in village governance or forest management decisions is not easy. Sometimes women themselves reject such changes for cultural reasons, or simply because they believe more involvement would mean more work when they are already overburdened with child care, cooking, and food production.

### **5.3.3 Directions for Further Analysis**

Deeper analysis of the forestry and poverty distribution would require more subtlety on both the population side and the forestry side of the question. On the population side, there is a need to examine different states and definitions of poverty, including the relative depth and vulnerability

to poverty, rather than a simple poverty head count. On the forest side of the question, a deeper analysis would have to recognize that there is a broader spectrum of forest cover and forest types beyond the simple forest vs. non-forest dichotomy.

Hadi and van Noordwijk (2005) have made a good start on the forest cover and land use question. They estimated the area, population and density in a range of different landscapes/agro-ecosystems at district and island level, but did not focus specifically on poverty. Although the method is sound and the results useful, this analysis could be improved by using more recent population data (currently 1993) and a more detailed scale of resolution. Chomitz (World Bank, work in progress) also notes the need for consideration of a broader spectrum of forest types, including ‘transfrontier’ and ‘frontier’ forests, as well as ‘mosaic lands’ with a mix of forest cover and agricultural activities. He also emphasizes that different actors and dynamics in these areas will respond differently to policies or interventions.

Hadi and van Noordwijk estimated population and forest cover in various systems including lowland rice, tree crops, upland mixed cropping mosaics, highland mixed systems, pastoral and forest areas. They found that half of Indonesians live in high density

“lowland rice agro-ecosystems with ‘upland crop mosaics’ as their upstream neighbors.” Another “23% of Indonesians live in the upland mosaics and 9% live in tree crop systems downstream of the upland crop mosaics.” The lowland rice areas cover only a small percentage of

Agro Ecosystem	Average Rural Population Density (persons/square km)
Lowland rice	240
Intensive upland mosaics	100
Tree crop systems	35
Sparsely populated forest systems	<15

the total land area, but contain nearly 4 times as many people as the uplands. Similar to the above, Hadi and van Noordwijk (2005) found a negative relationship between forest cover and population density. Average population densities are reported in the table. They noted that the simplistic “forest – agriculture dichotomy has little relevance” in Indonesia because “there is substantial tree cover within the agricultural zone” and substantial non-forest (on average 25%) even within “the last stretches of continuous forest systems with low population densities.” More analysis would be needed to link these results with poverty mapping and targeting initiatives.

Forest policy analysts have only recently begun to develop the data and tools to determine where people live relative to forested areas and how they are affected by policy changes. Knowing the number of people potentially affected by a policy can only improve understanding of its impact and potential support among the populace. More needs to be done to understand who most needs and benefits from state forest land and from “forested land.” Some questions that remain unanswered include:

- Are the poor (and women and children) in forested areas relatively better or worse off than the poor elsewhere and are government social programs able to reach them?
- Are forest dwellers (and women and children) readily and accurately enumerated in the population and socio-economic census results reported by BPS?
- What are the implications for forest dwellers (and women and children) or those earning livelihoods from forests, if more forest is cut or preserved?

DFID-MFP, ICRAF, and CIFOR are pursuing additional analytical work to determine, for example: how extensively or intensively people use the forested and non-forested areas, the kinds of economic activities they conduct on State-claimed “forest land,” the returns to these activities relative to other land uses, and the implications of land reallocation. Preliminary results of these efforts are reported in Section 5.5. The next section lays out a framework for understanding how forests can help to reduce poverty.

## 5.4 Forests and Poverty: Employment and Livelihoods Potential

This section strives to present relevant and quantitative information about how the poor use and benefit from forest lands. As noted above, however, national level economic data are too aggregated to allow detailed consideration of the poverty conditions of women and marginalized groups.

### 5.4.1 Forests and Poverty Alleviation Framework

Sunderlin (in FAO’s State of the World’s Forests 2003, and publications in 2004 and 2005) summarizes literature and provides a useful framework for considering forestry and poverty alleviation issues. This framework is adopted as a basis for presenting Indonesia-specific information about land use, earnings potential, and employment in forest-related activities. Sunderlin notes that forests help to avoid or mitigate poverty by providing small sources of income and a safety net for hard times. Forests can help to eliminate poverty “by functioning as a source of savings, investment, asset building and permanent increases in income and welfare.” Sunderlin identified five categories of forest uses that can improve livelihoods and benefit the poor, including conversion, timber products, non-timber products, environmental services and employment. Some estimates of the contributions from each of these uses in Indonesia are outlined in the following paragraphs.

**Conversion of Forests To Agriculture.** Holmes (2002) notes that Indonesia has lost millions of hectares of forests since 1985 through conversion by large owners and smallholders, as well as fires. Some of this land has gone into agriculture or agroforestry and some is simply degraded and unproductive. Agroforests and tree plantations provide some of the environmental benefits of forests, while also contributing to livelihoods. Rural smallholders engaged in tree-based production systems contribute a significant amount to the Indonesian economy. Smallholders manage plantation crops on about 11 million ha of land.<sup>3, 4</sup> (Community timber and non-timber forest production occupy only very small areas, by comparison.) Based on 2002 data, smallholder tree-based and forest-based production activities together – including plantation crops (e.g., coffee, oil palm, rubber, spice trees, etc.), non-timber forest products, and private forest production (*hutan rakyat*) – contribute \$ 6.2 billion in economic value each year (BPS, Ministry of Agriculture). This is over 3% of Indonesia’s overall economic output and provides jobs for nearly 4 million people. Smallholder plantation crop activities are very diverse and the

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<sup>3</sup> This is a lot of land -- but it does not represent all of agriculture (e.g., annual and food crops, and fruit trees are not included) and it does not represent large corporate estates and timber plantations, which provide some employment for rural and poor populations. Also, a much larger area (~60 million ha) is allocated to commercial forestry, which produces about \$ 2.1 billion in value added from timber harvesting and another \$ 2.4 billion from processed wood products. This is about 2.4% of overall economic output and provides jobs for half a million people (BPS, Ministry of Agriculture, 2005).

<sup>4</sup> The location of smallholder tree-based activities relative to the official forest zone is not known. Presumably, some of this land is under private control and not within the state forest zone.

mix of crops varies widely across islands. Although millions have gained access to land through forest clearing, there can be negative environmental consequences if too much land is cleared on too-steep slopes or on too-poor soils. Also see discussion in Chapter 2 on forest loss.

**Wood Products.** As documented in Chapter 4, the timber harvesting and wood processing industry in Indonesia has generated enormous economic gains, rents, assets, and tax revenues. The vast majority of smallholders and the rural poor do not derive much benefit from this activity. Sunderlin (2003) notes several reasons why little of this flow of benefits has accrued to the poor. Timber extraction is “capital-, technology-, and skill intensive, operates best at larger scale, and is aimed at specialized consumer markets.” Timber growing requires long term investment, secure land tenure, management of high risks, while the poor are often landless, or control land only informally. The poor also need cash in the short run and prefer to avoid risk. Further, he notes that “poor people are excluded from access to timber wealth [by laws, tenure and licensing arrangements] precisely because the value of timber is so high and because they lack power.” Employment in this sector is discussed further in Section 5.4.2.

**Non-Timber Forest Products.** NTFPs include game, medicines, fruits and nuts, as well as materials for housing and shelter and forage for domestic animals. NTFPs may be more accessible and provide more direct benefits to the poor because, as Sunderlin (2003) notes, they “require little or no capital and are available in open-access circumstances.” He notes also that NTFPs can be seen as a safety net (emergency sustenance in times of hardship), but also as a poverty trap (because extractible benefits are low). NTFP collection, use and values also likely differ between genders, with women gathering and processing different products for domestic use or for local markets. There is often gender-differentiation in terms of the types of products collected and the processing and marketing activities associated with NTFPs. Sunderlin also notes that “natural forests are often inferior production environments with little infrastructure, high transport costs because of remoteness, few buyers and exploitive marketing chains. The net benefits of NTFPs are often too low to justify articulating property rights, and as a result there is limited incentive to invest and increase yields.” Though people generally employ diversified strategies and spread risks, NTFP production may be better for poverty avoidance than elimination.

More than 90 non-timber forest products (NTFPs) are traded in Indonesia, either locally, nationally or internationally (FAO 2002). Official statistics may underestimate the value of non-timber forest products, as they exclude the vast local and regional trade of NTFPs. Data are also lacking on production or earnings by women vs. men. However, these products do provide substantial contributions to livelihoods for specific populations in localized areas, for example rattan farmers or *adat* communities.

The most substantial and least recognized aspect of NTFPs is their subsistence use, which allows people to meet basic needs when they lack cash and easy access to markets (Pierce, et al., 2002). NTFPs are particularly suited to serve as social safety nets in times of household hardship or economic crises, as well as a source of cash during periods when families have no other sources of income (Wollenberg and Nawir, 1998). Rattan is among the most important non-timber forest product in terms of export value. It also provides substantial employment for rattan farmers, especially in Kalimantan (O’Rourke, 2004).

Rapid urban population growth and expanding global markets are creating new opportunities for smallholders to collect, process, and market forest products, including traditional medicines,

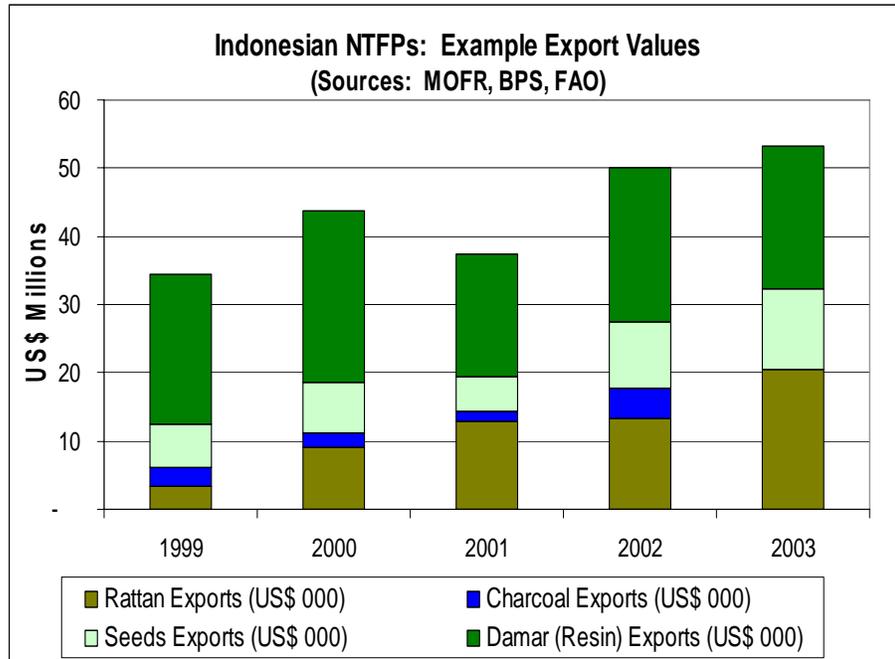
handicrafts, bird nests, honey, and others. Some NTFPs also play an important cultural or spiritual role in traditional practices. Due to the open access nature of many plant and animal resources, however, increased commercialization of NTFP production may lead to overexploitation (CIFOR, 2004).

Much of the value added and profits from NTFP activities is in the transport and marketing from which poorer households tend to be excluded. NTFPs are accessible to the poor due to their low market value, and as they become valuable powerful interests generally appropriate the benefits (Dove 1993). In other cases, the emergence of cheap substitutes in the global market can limit their potential for commercialization. Sometimes growing consumer demand for ‘green’ and ‘fair trade’ products can make smallholders more competitive and affirm the value of local management systems.

The MOFR reports export values and volumes for a limited range of products including: charcoal, cinnamon, copal, *damar* and other resins. BPS reports figures for *damar*, seeds, and spices. These figures indicate export earnings of \$50 million are possible in peak years.

Exports of spices yield \$200-300 million per year, but these commodities are not all NTFPs. Production data are tracked intermittently for a much wider range of products, including gum resin, pine resin, and turpentine,

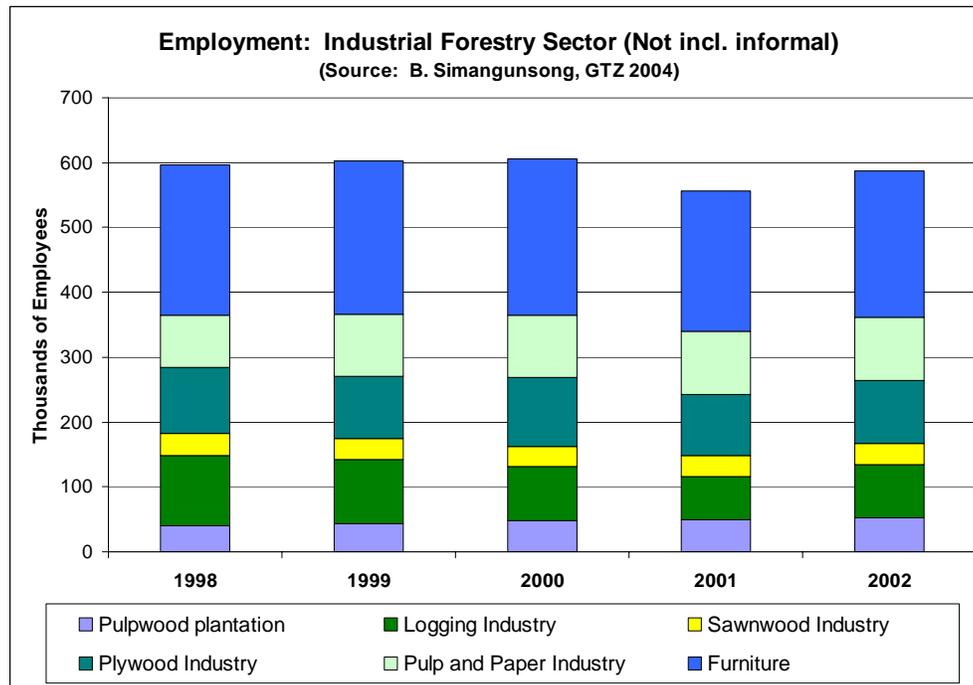
sago, silk/mulberry, bamboo, and eucalyptus oil. Spices, seeds, quinine, medicinal plants, and honey are also mentioned as NTFP products by BPS. Actual volumes and values are likely to be much higher because these figures do not include domestic trade or small scale unreported production.



**Environmental Services.** Forests can produce direct and indirect benefits through environmental service delivery. Direct benefits include water supply, soil fertility, pest control, and seedstock that local people use in their regular livelihoods. As above, there may be gender differences in the way environmental services are enjoyed (e.g., water for sanitation vs. soil fertility for agriculture) and in the way the benefits are distributed. Environmental services form part of the “safety net” function of forests identified by Sunderlin (2003). Indirect benefits may include services perceived as valuable at a distance, such as watershed protection for downstream users or

biodiversity protection as a global public good. If institutional or market relationships can be developed where downstream or distant beneficiaries are willing and able to pay for the production of these services, then forest dwelling or upland poor may benefit with direct cash payments. These transfer payments or payments for environmental/ecological services “have some potential to improve the livelihoods of forest dwellers and help to eliminate poverty” (Sunderlin 2003), but these kinds of schemes have not been widely practiced in Indonesia. ICRAF, with support from IFAD and other agencies, has been operating the project entitled “Rewarding the Upland Poor for Environmental Services” (RUPES) project to study ways of making environmental service payment mechanisms operational in Indonesia and other Southeast Asian countries. Sunderlin also notes that tourism is another way to provide a form of transfer payments or benefits to improve livelihoods in some areas. He notes that even small cash transfers (per tourist or per downstream beneficiary) can benefit the upland poor significantly. As noted below, the distribution of costs (e.g., labor in tree planting or maintenance) and benefits (direct payments or infrastructure) of PES schemes need to be evaluated for differences among social groups, especially the poorest, the marginalized, and women.

**Employment and Indirect Benefits.** Sunderlin (2003 and 2005) identifies direct employment as a fifth category of forest use that can help to alleviate poverty, though actually these are just jobs created by the other activities discussed above, including industrial processing of harvested timber. In the late 1990s, there were roughly 600,000 employees in the formal forest sector in Indonesia, including about 200,000 involved in furniture making. Sunderlin also notes that forestry activities create local multiplier effects and trickle-down effects. These issues are discussed in the next section.



Considering all these issues, Sunderlin suggests that a “forest-based poverty alleviation strategy should include: establishment of a people-centered agenda; removal of tenure and regulatory restrictions; improvement in marketing arrangements for marginalized people; creation of partnerships between poor people and forest enterprises; redesign of transfer payments; and integration of forest-based poverty alleviation efforts into rural development and poverty reduction strategies.” Indonesia’s Poverty Reduction Strategy addresses some of these points regarding policy reforms and tenure, but does not specifically mention forest resources and environmental services.

#### **5.4.2 Timber/Commercial Forestry-Related Employment Possibilities**

The main components of Indonesia’s industrial forestry sector employ about 400,000 people. These jobs are in mills or concessions, which tend to be relatively large and capital intensive firms supplying a small set of wood-based commodities, primarily aimed at export markets. The downstream furniture industry employs another 200,000. The furniture sub-sector involves smaller, more diversified operations supplying both domestic and international markets. Jobs in logging concessions and plantations would tend to be more rurally based (about 150,000 jobs), while jobs in pulp and paper,<sup>5</sup> ply and saw mills would be more urban based (about 250,000 jobs). These figures are based on survey data from the Central Statistics Board and include data from established businesses large enough to report. Some forest sector jobs may be seasonal or intermittent. These data do not include small scale operations and informal sector employment. In particular, these data do not include jobs in illegal operations (Simangunsong, GTZ, 2004).

Though the forest sector provides substantial economic benefits, it is not a major source of employment in the context of Indonesia’s workforce of 100 million. In comparison, as shown above, about 4 million people work in the agroforestry sector. The fisheries sector employs over 3 million people. Agriculture employs many tens of millions. This provides an indication of the employment absorption capacity of the industry, rather than its impact on urban or rural poor. Although some poor people may be engaged directly or indirectly with forestry, the sector is unlikely to provide sufficient jobs to lift a large number of the nation’s poor out of poverty. Given the current forest crisis, the sustainability of some of these jobs could also be questioned.

**Multiplier Effects.** As Sunderlin notes, forest sector activities create local employment multiplier effects because these operations and their employees create demand for local goods and services, such as food, housing and energy. Forestry activities also improve transport and market access for the isolated rural poor. There may also be negative impacts on local culture or on environmental services from the forests that communities depend upon. “Multiplier effects” occur because production of a good stimulates secondary demand for other inputs, thus stimulating other sectors of the economy. In general, raw material production activities (timber, paddy, rubber) have lower multiplier values, while manufacturing activities and other value adding activities have higher values. Based on BPS (2000) data and analysis, timber production has a relatively low multiplier value compared with other available agroforestry uses of land (e.g., rubber). Among wood processing activities, manufacture of furniture and building components have higher multiplier values than pulp or plywood manufacturing. Even if forestry activities provide multiplier benefits, one may reasonably ask whether ‘forestry’ or some other activity provides a higher level of multiplier benefits, or benefits more narrowly targeted to the rural poor.

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<sup>5</sup> Note that these data are highly aggregated and jobs in the paper sub-sector are not normally included in discussions of the “primary forestry sector.” Many note that pulp mills are highly capital intensive and produce few jobs relative to other sub-sectors.

**Trickle Down?** Sunderlin also mentions trickle-down effects as a source of forest-based poverty alleviation. Forestry contributes to poverty reduction by contributing to economic growth, but little is known about the impact on poverty alleviation in Indonesia. By generating \$4-6 billion per year over the last 20+ years, forestry (harvesting and processing) has contributed well over \$100 billion to the Indonesian economy, not even counting informal sector contributions. Yet, the forestry sector has been in partial decline in recent years and has not contributed to overall growth (BPS, 2004). Most observers (ICRAF 2005, World Bank policy briefs 2004, CIFOR 2004) seem to agree that the rural and forest-dependent poor have not seen a major share of these benefits. If trickle-down is expected to benefit the poor, policies have to be in place to ensure that some trickling can occur and it happens in the right places.

**Small and Medium Enterprises.** The World Bank and the IFC (Policy Brief 2004) note that SMEs are a leading force of economic growth and job creation. They operate in a highly competitive and uncertain environment and are heavily influenced by the macroeconomic situation and regulatory environment. The forestry sector, as noted in Chapter 4, is quite highly concentrated with 8% of the large firms using 60% of the wood in export-oriented production, while 80% of the firms are small or medium-sized firms oriented to the domestic market (NRM, 2000). Furniture manufacturers tend to be smaller and more diverse than processing mills. This is characteristic of Indonesia's "missing middle" in industrial structure, with a small number of large firms at one extreme, and a large number of small firms at the other. A recent synthesis commissioned by the MOFR recommended promoting SMEs as part of a larger industry restructuring plan (MoFR, CIFOR, MFP 2005). SMEs are flexible and more diversified than large firms and can more easily adapt to future market demands and contribute to exports and trade. The World Bank and IFC have recommended a number of reforms to improve the business environment for SMEs, including reducing regulatory burdens, streamlining tax administration, increasing access to credit and supporting business education.

**Plantations and Outgrower Schemes.** Given the wide gap between sustainable supply and industrial demand for timber in Indonesia, it is clear that some degraded forest land will be converted into timber plantations in coming years. CIFOR (2004) and others have suggested that smallholders and the poor could gain from involvement in plantation development/outgrower schemes or other forms of partnership with large commercial forestry operations. As noted in Chapter 4, the Ministry of Forestry has launched an initiative to improve community access to forest resources and to encourage their participation and investment in timber production and plantation forestry. Nawir and others (CIFOR, 2003) have studied this issue and identified characteristics of successful partnerships. A spectrum of arrangements can be considered – from community ownership (growing trees under contract to firms) to company ownership (with leasing of land to growers). Successful schemes must be based on mutual benefit, including financial viability, tenure security, and reduced conflict. These efforts must also overcome a lack of trust and improve on planning, re-investment, community needs assessment, and negotiation skills. The long term viability of these schemes has not yet been demonstrated.

Though communities may benefit financially, it must be acknowledged that timber plantations are not very labor intensive relative to other agricultural or agroforestry land uses, so the labor absorption capacity of these schemes is not likely to be high (as shown in employment figure above). In choosing locations for new plantations, it will also be important to take note of the findings of Maturana, et al. (2003) and Cossalter and Pye (2003) of CIFOR. Cossalter and Pye note the pros and cons of fast growing tree plantations and caution that plantations should not be

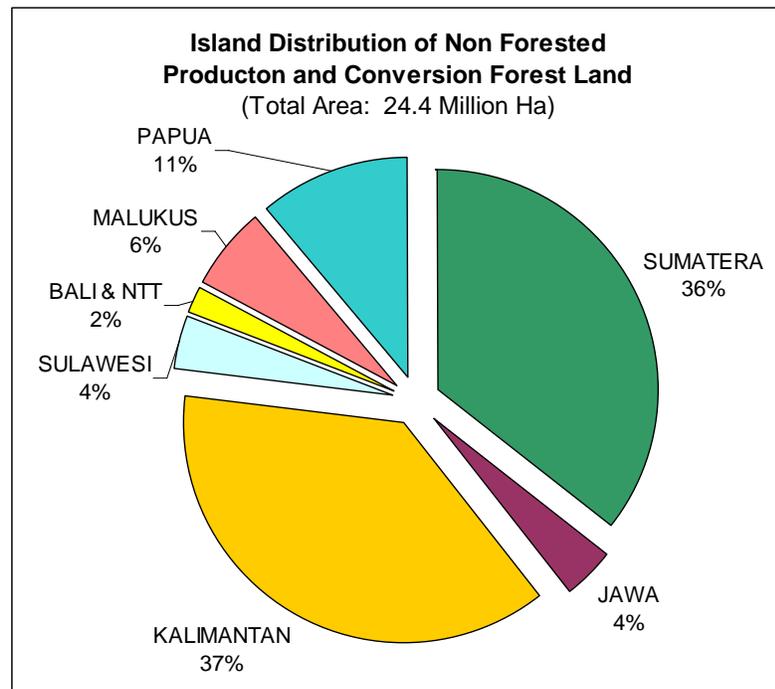
established where the activity could lead to the loss of natural forests, prevent the delivery of forest goods and services at landscape level, or affect local communities adversely. Maturana and colleagues found that communities can earn \$350-700 per hectare/year (or \$630-1400 per household/year) on degraded and logged over forest lands by producing a diversified mix of over 300 kinds of products in seven use categories. Unless plantation partnership schemes can produce similar livelihood benefits, communities will not accept them and efforts to establish them may lead to conflict.

**Employment Effects of Industrial Restructuring.** As noted in Section 4, industrial restructuring is essential for the long term sustainability of the sector, including a better balance between supply and demand. This will involve a transition from mills using old growth timber to mills and products that can use plantation-grown timber. Ideally, the wood-based processing industry should diversify and rely more on small and medium enterprises, which are more flexible and adaptable and absorb more labor. Moving from the current state to a future improved state will involve a transition in employment over time. Some initial analytical work (FFSA, BAPPENAS and NRM 2004) indicates that jobs created through accelerating plantation development may be enough to offset jobs lost through plant closures in less efficient and competitive sub-sectors. Expanding SME activities in downstream processing and exports also has the potential to absorb more labor than large processing mills. Similarly, turning over degraded forest land to more productive uses also has the potential to create more jobs that can offset any losses from industrial restructuring.

### 5.4.3 Employment/Livelihood Potential from Land Use Rationalization

Efforts to address issues of rural poverty in Indonesia must necessarily address issues of forest land use and control. Reallocation of degraded, deforested land to productive uses by smallholders and the poor has been recommended as a way to rationalize land use and reduce poverty (ICRAF 2005, CIFOR 2004, DFID-MFP 2006, World Bank 2004). Recent analysis by the MOFR reveals that a quarter of Indonesia's designated "forest zone" (32 million ha) lacks tree cover (NSDH, 2004). Some of these forested areas are actually community-managed agroforests and some of the non-forested areas are not simply degraded forests, but are agricultural lands (ICRAF, 2005).

Rationalizing the use and management of these lands would benefit the economy and the people by allowing degraded lands to move into



more productive uses and by removing uncertainties that are a barrier to rural investment. There would also be a benefit to the MOFR by reducing the cost of managing and defending these unproductive and degraded land areas as “forests.” It has been shown that most people living in the forest zone inhabit non-forested areas. It is not clear how intensively people are already occupying and using this land or how dependent they are on nearby forest resources. Still, a quarter of Indonesians have the potential to benefit from a policy of rationalizing the use and allocation of forest land.

Deininger (2003) has studied how land policies can contribute to growth and poverty reduction and concluded that improving tenure security can have important impacts on investment and asset values. Deininger views land reallocation and tenure security as an economic proposition, an investment in sustainable development. Providing secure land tenure can double investment, land values, and the wealth of the poor. It is also an investment in equity and security because tenure security means the poor spend less on securing property rights and are affected less by conflict. In contrast, tenure limits or restrictions not only decrease supply and access to land, but also raise transactions costs (a drag on the economy), and undermine investment, long term contracts, and land rental markets (illegal or non-transparent rental practices increase inequity and hurt the poor). White (2004, see text box in Section 5.5) notes that tenure issues are complex and must be approached in an inter-disciplinary manner. For example, land reallocation or tenure improvements could have different costs or benefits to different groups, including women and marginalized groups, and these would need to be carefully evaluated. There is also a need for pro-active dispute resolution mechanisms, which Indonesian stakeholders all realize.

Production Forest and Conversion Forest areas make up 60% of the overall “forest zone.” These areas contain 24.4 million ha of degraded, deforested land. This represents three-quarters of all of Indonesia’s degraded forest land. These lands are already allocated for productive economic uses,<sup>6</sup> so the suggestion is merely to move them to a more productive land use and ownership pattern, especially one that may increase tree cover and protect the land. Nearly 30% of these production and conversion forest areas lack tree cover.<sup>7</sup> The figure to the right shows the geographic distribution of this non-forested land. Most non-forested areas are in Sumatra and Kalimantan. Still, smaller islands may have locally significant areas of degraded land (1-3 million hectares) that could make a large contribution to employment and poverty alleviation at the regional level.

Economists from the DFID Multi-stakeholder Forestry Programme have estimated the size of improvements possible under different enabling policies, such as increased land availability, secure access and tenure, or improved productivity (DFID MFP, 2006). This analysis shows that small reallocations of land or increases in security for investment in land productivity can yield high returns, up to \$1.4 billion per year in added revenues and possibly 1.6 million more jobs. If these were good quality jobs that sustain families, then this kind of initiative could benefit up to 8 million people. Even with good targeting, though, not all of the beneficiaries of such a program

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<sup>6</sup> The suggestion to reallocate degraded areas is rarely applied to Conservation Forests and Protection Forests because these are allocated for production of environmental service benefits, not direct financial benefits from production activities.

<sup>7</sup> Sources and accuracy of data are always controversial when it comes to forest land. These figures are based on the Recalculation of Forest Resources from 2003 that is published with the Statistik Kehutanan in 2004 and is reported on the MOFR’s web site ([dephut.go.id](http://dephut.go.id)). This may not be entirely accurate, but it is publicly available, covers the whole country, and has some official status, as opposed to more accurate data that may be available to specific researcher for specific areas. Areas with no data are excluded.

would be poor. These benefits would materialize over a decade as investments in land mature and reach markets. Certainly on economic grounds, this proposal is worth exploring further, especially in the context of the MOFR's commitment to improve rural livelihoods.<sup>8</sup>

SMERU (2002), in a study of the impact of a systematic land titling project, found that improved title led to improved access to credit (through mortgaging), increased investment in land (mainly housing), increased transactions in land, and increased value of land (greater asset base). The improvement levels were usually small, but significant, in the range of 5-15%. However, impacts on land values were much larger: respondents perceived an average increase of 65% on land prices due to land certificates. In a study of Thailand, Byamugisha (1999) showed that land titling and public expenditure on land registration both have significant positive long run effects on financial development and economic growth (though there were some negative effects in the short run, perhaps due to uncertainty and speculation). This and other studies have shown that private property rights contribute to the development of market economies. Both of these results provide some additional economic justification for a deeper consideration of land rationalization and tenure security improvements. However, much of the literature on tenure and security in Indonesia is based on limited case studies or success stories. More rigorous examination is needed of the economic value of tenure security to communities and smallholders, as well as a better understanding of the links between improved tenure and improved forest management.

**Targeting the Poor, Preventing Leakage.** If forest land use rationalization were to be implemented, it would be important to include measures to ensure that the poor and landless benefit, including women and other marginalized groups, and that they have the means to invest in the land and make it productive. Targeting approaches would be needed to ensure that land reallocation schemes reach poor and disadvantaged groups in relevant areas. There is also an issue of what activities are currently taking place on this land, through unauthorized occupation, encroachment, etc. Some of the land may already be occupied or controlled by wealthier or elite groups at the local level, thus reducing the ability of land reallocation efforts to reach poor and vulnerable groups. Targeting efforts can be aided by poverty maps and recent initiatives to register the poor and disadvantaged in the context of the fuel price hike (SMERU, 2005). Policies would have to be carefully constructed to avoid perverse incentives or misdirection of benefits. For example, providing tenure security to those who improve land could create an incentive for further forest clearing, as occurs in Latin America. Such a policy could even favor those with sufficient capital for credit to clear and improve land, rather than the poor.

Also, targeting land allocations to the poor, women, the disadvantaged or landless would not be sufficient alone to reduce poverty or to rehabilitate land. Poor people would also need access to seed stock, technology, credit and markets. At the same time, local or national governments may want to impose zoning restrictions on reallocated land to ensure continued achievement of certain functions. For example, zoning to ensure that land remains in agricultural or agroforestry uses may be appropriate in watershed protection areas. Effective enforcement of zoning restrictions has not been widely demonstrated in Indonesia, however. This is also an area with potential for corruption and rent-seeking.

The issue of access, use, control and tenure on forest lands is a source of conflict and uncertainty in the forest sector. Clarifying tenure and access rules would reduce uncertainty and conflict and

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<sup>8</sup> Land allocation or redistribution can be considered as a privatization issue, asking what the value of the land is as a private asset vs. a public asset. This analysis has not been pursued in Indonesia.

provide an incentive for increased investment. There has been some limited progress in the recognition of local ownership in the agricultural sector and various innovations in limited local use rights have been introduced in the forest sector (Contreras-Hermosilla and Fay, 2005). Although changing forest land use remains a sensitive area, the MOFR has prioritized rural economic empowerment and specifically discusses tenure in recent medium and long term planning documents. As noted in Chapter 2, the implementing regulations of the Forestry Law of 1999 are currently being reviewed and revised in ways that may create opportunities to improve livelihood options for poor and disadvantaged groups living in or near the forest zone. Donors are supporting dialogue processes and public consultation processes to promote appropriate policy changes.

### **5.5 The Broader Question of Land and Poverty Alleviation**

In September 2004, the Bank prepared Policy Briefs for the incoming Indonesian Government on key development issues, including poverty, employment, investment, corruption, decentralization, agriculture, forests and many other topics.<sup>9</sup> The Bank offered several recommendations on issues of poverty as they relate to land and the forestry sector. Many of these suggestions provide operational details for concepts already embedded in the legislative edict, TAP MPR IX/2001, and the Poverty Reduction Strategy, neither of which has yet been fully implemented by the GOI.

- **Give the poor access to land title.** Indonesia could accelerate land titling in areas where individual title is appropriate; review and revise the core land laws, the forestry law, and basic agriculture law; redistribute idle land to poor and landless households; accommodate communal use in land titling; support community-based resolution of land disputes; and devise measures to ensure greater land security for poor communities living on forest land. Forestry land presents several special land tenure issues (individual vs. communal tenure, use rights vs. ownership rights).
- **Create sustainable microfinance institutions to serve the poor.** Half of households lack effective access to micro-credit and fewer than 40 percent have savings accounts (even fewer in rural areas). The brief suggests not more subsidized credit, but rather fostering increased lending by commercial banks to good microfinance institutions through legal and institutional reforms (in microfinance and cooperatives laws), institutional linkages, and capacity building and outreach. The rural poor near forests can use credit to develop value added businesses processing timber or NTFPs. Care would be needed to ensure that any timber processing activities are appropriately located and licensed to ensure that credit availability does not exacerbate forest degradation.

Given the large land area claimed as state forest land, issues of poverty, forestry and land administration and management are clearly linked. The Bank's 2004 Brief on Land Policy, Management and Administration noted many issues that need to be addressed, including:

- **Efficient and sustainable resource use:** Unless land rights are clearly defined, it is difficult to provide land users with proper incentives for sustainable and efficient management and prevent degradation.
- **Investment climate:** Non-transparent, corrupt, and inefficient systems of land administration and allocation are obstacles to conducting and expanding business.

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<sup>9</sup> All Indonesia Policy Briefs are available at <http://www.worldbank.or.id>.

- Credit market access: The development of efficient financial markets will critically depend on the ability to use land as collateral and transfer it at low cost.
- Land taxes are another potential revenue source for local governments: Currently, only a very small share (about 7%) of local government spending is covered by own revenue sources. Increasing local government revenue sources – and land taxes are a good source of such revenue – will help to promote greater accountability for local government decisions.
- Social safety net: Land access and secure tenure are part of the critical safety net that can help millions of people both to mitigate poverty and to climb out of poverty.

The policy brief laid out a strategic vision and offered specific next steps to move toward this vision. These steps are consistent with other recommendations and concepts embodied in TAP MPR IX/2001 and in other research reports (Contreras-Hermosilla and Fay, 2005). Steps were suggested to clarify the legal basis for land ownership and provide opportunities for ownership of forest land, which has been explored in the previous section. Some additional recommendations are summarized below.<sup>10</sup>

- **Allow community land ownership:** In many situations, *adat* rules for land access and ownership come under stress and are no longer fully adequate. Allowing communities to control and manage land, provided they conform to minimum levels of accountability, could help ward off intrusion by outsiders, and increase investment incentives, yet still allow a later transition to alternative or individual ownership arrangements.
- **Delineate and register state forest land** to protect public assets and provide the basis for effective management and land use planning by the state. Contreras-Hermosilla and Fay (2005) also see this as a critical step to distinguish which lands should be subject to which kinds of management and control.
- **Strengthen *adat*:** In addition to acceptance of traditional laws as a basis of evidence for land claims, recognition of a range of occupation and use patterns can provide a basis to strengthen *adat*. Clearer rights and standard agreements could allow communities to negotiate terms of harvesting rights with concessionaires, subject to the forest management law and more effectively share in resource development benefits.
- **Improve conflict management and sustainability in forest areas.** Uncertainty breeds conflict, clogs the courts, and slows investment. Participatory community mapping, alternative dispute resolution, and integration with local spatial plans are all possible paths to reducing conflict and uncertainty in the rural and forestry sectors.

**Practical Case Studies.** The International Association for the Study of Common Property held in Bali in 2006 included a number of papers that summarized some of the issues concerning community forest management, tenure and common property claims. The authors note that understanding of remote, forest-area poverty is especially weak amongst national and local government agencies. Few poverty interventions tackle the specific challenges of remote, forested areas. Nor is there much understanding of the poverty impacts of forestry interventions and how they could better target the poor. They also note that poverty in remote areas can be the result of

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<sup>10</sup> Some additional steps were recommended that have more to do with the administration system and clear legal authorities, rather than the status of land or people living in poverty. It has been recommended to modernize the land administration and documentation system, separate issuance of land rights from land use, create efficient and decentralized mechanisms for land transfers, promote transparent and participatory land use planning at the local level, and define government's land rights and duties and establish an inventory of government land, and create a single national land administration system.

externally imposed land-use decisions, where access to the forest commons is withdrawn. Although official policies and institutional means for listening to the voices of the forest poor and recognizing customary tenure arrangements are still lacking, some progress is being made. Through the efforts of innovative local governments, local and national NGOs and donor assistance projects, cases are starting to emerge where local land use innovations and tenure relationships are being tested and proven workable for the mutual benefit of the communities and the quality of the forest. Cases in Sulawesi and Papua demonstrated that communities can (and have historically) manage land communally for mutual benefit, and even for commercial success. One example is a certified community-managed forest in Konawe, Southeast Sulawesi that allows people to earn 11 times more for their home-grown timber, Unggul and Maring, 2006. In Lombok, Oka, Zaini, and Berliani (2006) report that due to community organizing and pressure from farmers' groups, Government planning processes are beginning to address the needs and aspirations of poor people and women, by seeking broader input, providing financial support, and scheduling meetings at more accessible times and locations.

#### **Poverty, Community, and Tenure Arrangements**

At the International Conference on Land and Resource Tenure in Indonesia: "Questioning the Answers" (Yayasan Kemala, 2004), Ben White noted that resource tenure issues are not mainly about the "relations between 'people and land,' ... but between people and other people": within and between communities and between people and government. Tenure systems – and tenure problems – tend to be complex and multidimensional and "cannot be understood within a single discipline or framework"

White's view is that "land and other natural resources are too important a resource (economic, social, political) to be held in (pure) private ownership, to be controlled by a minority elite, or to be traded in 'free' markets.... It is also too important a resource for its control to be left in the hands of regional authorities, or local 'custom' without some involvement of central states and without strong, popular-based watchdog institutions." Laws and rules are needed to protect the weak (including women, minorities, etc.), "by limiting the freedom of individuals, groups and governments."

White argues that many characterizations of programs to change tenure arrangements are unbalanced or unworkable. As examples, slogans such as 'decentralization' and '(return to) customary law', even 'community-based' resource management may lead to anti-democratic or anti-poor outcomes (e.g., control by patriarchal elites), "unless rules to protect the interests of the weak within communities are made from above and enforced from above and below."

At the other extreme, exhortations to 'privatize, free land markets and let the market do its work' may not work for the poor either. Land registration and individual titling is costly, may not provide tenure security, and may allow "wealthy elite groups to acquire permanent land rights at the expense of weak and marginal groups (such as the poor, displaced, women, and minorities)."

Collective and customary tenure can potentially provide the necessary social control, security and context for sustainable investment, but also may deny "property rights to less powerful members of customary groups including women.... Formal recognition of customary rights may perpetuate inequalities, through 'freezing' custom, which ...needs to be constantly reinterpreted and renegotiated by all parties concerned."

White emphasizes the importance of checks and balances in design of tenure arrangements to counterbalance the power of political elites that tend to benefit from the status quo.

## **5.6. Options for Improving Land and Forest Use For Livelihoods and Poverty Reduction**

The discussion in Chapter 3 of forest functions, objectives and land status provides a framework for organizing options for improvement. Since production and conversion forests are both suited for economic activities, similar options for promoting livelihoods or reducing poverty can be focused in these areas, though with differences. In contrast, livelihood options on protection and conservation land or options may be constrained by guidelines or zoning designed to reduce negative impacts on environmental services and biodiversity. This leads to a natural grouping of possible options for livelihood support for different categories of land. This provides a road map to possible interventions to promote livelihood improvements for poverty reduction. This framework allows separate focus on forested and non-forested areas. The simple, condensed format also encourages a focus on similarities among possible investment options. This framework is the basis for further discussion of prioritized intervention options in Chapter 7.

Forest Types	<b>OBJECTIVE: Promote Livelihoods, Reduce Poverty</b>	
All	<ul style="list-style-type: none"> <li>▪ Target safety net and protection programs to forest-dwelling and –dependent poor and vulnerable groups. Develop more refined analysis of poverty by land use/forest type.</li> <li>▪ Expand credit options for the rural poor, including vulnerable, forest dependent and traditional groups</li> </ul>	
	Forested	Non Forested
<b>Production</b>		
	<ul style="list-style-type: none"> <li>▪ Invest in timber processing, technologies for the long run, NTFP processing &amp; value added activities</li> <li>▪ Encourage Community Forestry &amp; SMEs (e.g., MOFR Social Forestry program)</li> <li>▪ Promote community-company partnerships for timber production.</li> <li>▪ Engage communities more actively in production forest management</li> <li>▪ Support tenure/access arrangements that support above (Beware negative land clearing incentives)</li> <li>▪ Retrain restructured/closed mill/concession employees</li> </ul>	<ul style="list-style-type: none"> <li>▪ Rationalize land use and control: move degraded lands into more productive uses that benefit the poor &amp; vulnerable</li> <li>▪ Plant more trees for smallholder use &amp; benefit</li> <li>▪ Promote Comm. Forestry &amp; SMEs</li> <li>▪ Promote community-company partnerships for timber production</li> <li>▪ Support tenure/access arrangements that support above (risk: offering security on deforested land may create land clearing incentive)</li> </ul>
<b>Conversion</b>		
	<ul style="list-style-type: none"> <li>▪ Determine future status: Preserve/swap by changing land status -- or liquidate (see Section 6 on Environmental Services)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as above</li> </ul>
<b>Protection</b>		
	<ul style="list-style-type: none"> <li>▪ Allow/promote community livelihoods, co-mgmt, env. service-compatible activities for eligible groups: local communities, extension services</li> <li>▪ Restrict to activities that preserve forest cover</li> <li>▪ Develop/improve agroforestry extension service to provide info &amp; TA to smallholders</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as above</li> <li>▪ Include zoning restrictions to protect ecosystem functions.</li> </ul>
<b>Conservation</b>		
	<ul style="list-style-type: none"> <li>▪ Allow/promote compatible economic uses, e.g., community livelihoods, co-management, tourism enterprises, conservation-compatible activities within PAs for eligible groups (indigenous people, licensees)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Limit the range of allowable activities on reallocated land</li> <li>▪ Include zoning restrictions to protect ecosystem functions.</li> </ul>

*What, have they not regarded the earth, how many therein  
We have caused to grow of every generous kind? Surely in that is a sign.*

*– Qur'an 26:7-8*

## **6. FOREST LAND, ENVIRONMENTAL SERVICES AND BIODIVERSITY VALUES**

Forests are important because they help maintain the fertility of agricultural land, protect water sources, stabilize soils, and store carbon that mitigates climate change. Forests also provide important pollination and pest management functions that usually are not captured by markets. They also contain or protect cultural and spiritual values (which are difficult to quantify) for specific societies and groups. Just as forest resources can provide positive benefits, their destruction can cause negative externalities, including fires, haze, runoff, siltation, and erosion.

Indonesia recognizes the biodiversity values and environmental services coming from forested lands, as seen in the allocation of 50 million hectares (more than a quarter of total land area, similar in size to Spain or Thailand) to the protection and conservation of forests, watersheds and biodiversity. Twenty-two million hectares have been allocated to conservation and biodiversity protection (the size of Senegal or Syria) managed at the national level. Indonesia is a recognized mega-diversity country, spanning three bio-geographic regions and a diverse range of habitats, altitudes and climate zones. It includes the most extensive and species-rich forests in Asia and is recognized as a global hotspot for marine and freshwater diversity.

Thirty million hectares of steep and critical lands have been allocated for watershed protection forests (23% of total forest zone) managed at the local government level. Besides forested land within the designated state forest area, millions of hectares of additional land are forested or are managed agroforestry systems that contribute to conservation of forest biodiversity and environmental services that support exceptional agricultural and hydroelectric potential (ICRAF 2005, NRM/USAID 2004).

Forests produce both biodiversity protection benefits and environmental or watershed services at the same time. Indonesia's protection forests can provide environmental services and watershed services under various land uses. Conservation areas, however, protect biodiversity best under original habitat conditions. While multiple uses are possible, allowed uses should be non-extractive and habitat preserving. In both cases, management and enforcement are needed, but aimed differently. The two categories of benefits are discussed sequentially in this chapter to ease exposition and to follow the Indonesian land use designations. The issues and potential management interventions on these two types of land may be different in Indonesia due to the legal framework, level of management, and protection needs, so this distinction has some value. There is no intention to maintain a sharp division between the two.

In the following sections, the main environmental service characteristics are described, governance and management frameworks are discussed, and alternatives and innovations are mentioned, along with financing options. In a later section, key issues affecting environmental service delivery and biodiversity protection are summarized. The chapter closes with a summary framework for organizing options for improvement. Information and data on Indonesia's forests are improving over time, but gaps and inconsistencies are still present. This chapter tries to present results from secondary sources where available and provide direct analysis where possible.

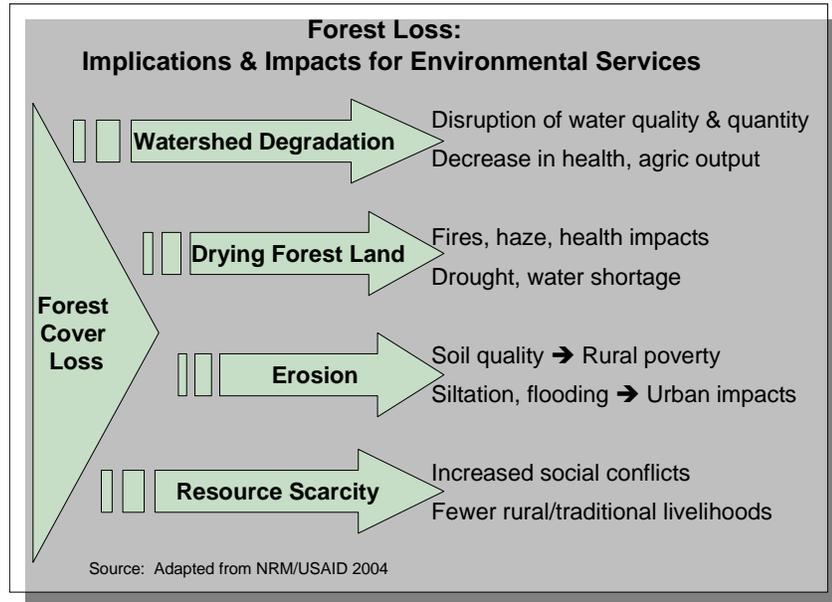
## 6.1 Environmental Services from Protection Forests

Protection forests are designated to safeguard essential, locally-important environmental services, particularly hydrology and erosion control. Protection forests include riparian areas, steep slopes, and watershed areas that preserve ecosystem functions.<sup>11</sup> Protection forests are Indonesia's second-largest class of forest land and thus form an important part of the forest conservation landscape. The legal and management framework for protection forest is not well-developed, compared with conservation or production forests. Protection forests within local government jurisdictions are not generally patrolled or protected (with some important and increasing exceptions – see 6.2.2). Protection forests within active timber concessions rely on the operator to employ proper management measures.

### 6.1.1 Description of Environmental Services

Forests produce some environmental services and protect others. Some of these services are not readily verified or marketed, but may impose costs when they are missing. Though environmental services are reasonably easy to describe, they are complex to quantify, measure, and attribute to specific sources or environmental or land management features. In recent years, a number of publications have focused on the nature of the link between forest cover and watershed services and the differences between public perceptions and scientific understanding, especially with respect to water flows and flood protection. The text box on the next page reviews 'Forest-Water-Flood Perceptions and Perspectives' and discusses concerns that have been raised about production and measurement of environmental services. These differences in perceptions have been the subject of much recent scientific and popular media attention (e.g., FAO and CIFOR, 2005, DFID 2005, and ETFRN 2006).

**Forest Loss.** Indonesia's remarkable rate of forest loss has important negative implications for environmental services, as well as biodiversity, as shown in the figure. Forest cover analysis has been improving in recent years, yet there is still a need for more detailed and current analysis of conditions and trends. Although overall forest cover loss is high, a breakdown by forest zone (Chapter 2) shows that the rate of loss is lower in protection and conservation forests than in production and



<sup>11</sup> Production forests also produce these services and protect biodiversity. Management of these lands does not focus on producing these benefits, however.

conversion zones. Thus, even in the weak governance and management conditions in Indonesia, protected status confers some benefits for preserving forest cover and its associated environmental services. The concern is how to protect and manage these areas as pressures on forests – including illegal logging, fires, land clearing and encroachment – increase in the future.

**Forest – Water – Flood: Perceptions and Perspectives**

(Summarized from ETFRN News, 2006)

Experts' understanding about the links between forest cover and watershed protection are quite different from perceptions of the public. Though this scientific understanding is not new, the issue has gotten headlines in recent years, both in the popular press and the scientific literature. These issues and recent publications were discussed in a recent issue of the European Tropical Forest Research Network News.

**Flood Protection Questioned.** A developing expert view questions whether forests and replanting programs provide positive water supply benefits (van Noordwijk), although it is clear that “water flows at landscape scale are influenced by the patchwork of land cover plus the drainage system, ... pattern of rainfall, ... geology, slopes and subsurface flow conditions.” Scientific results show that retaining forests or planting trees does not necessarily restore water regimes or protect against catastrophic flooding, especially on larger scales. Catastrophic events are influenced by the rate and severity of rainfall, not presence or absence of forest cover.

**Sparse Evidence.** Enters and Durst note that despite the seemingly “intuitive causal link between deforestation or forest degradation in the uplands and floods in the lowlands, ... the reality of hydrological systems is far from simple and hard evidence of the link is sparse.” They point out that on smaller scales – up to 500 km<sup>2</sup> – “the presence of forests can indeed affect peak river flows and thus floods.” Perhaps this is why people in specific localities seem to perceive an “intuitive causal link” between upland degradation and lowland hazards.

**Reforestation Benefits Questioned.** Due to the prevalence of the discredited “forest as sponge” concept in the public imagination, reforestation schemes are often advocated in areas where it may be useless or counterproductive in improving water yields or mitigating floods. The slogan “down with trees” is even discussed in scientific journals.

**Don't Blame the Upland Poor.** Due to this same causality myth, the upland poor and their land management practices – including illegal logging and forest degradation – are too often blamed for flooding and landslides. Palmer raises the concern that governments are wasting vast sums on reforestation and soil conservation measures in the misguided “belief that they are attracting rainfall or facilitating recharge of groundwater.”

**Alternative Views.** Yet others argue that this ‘myth busting’ has gone too far and that “the longer term impact of tropical forestation is more likely to be positive, to strongly depend on climatic conditions and certainly to be much more complex than commonly presented” (Chappell and Bonell). Looking beyond water flow alone, Chappell and Bonell mention longer term or less visible beneficial effects of forests on soils, sediment loads on rivers, and water usage rates of more mature plantations as factors that need to be figured into the debate. They believe that scientists should be “more cautious about portraying tropical forestation as either wholly negative or wholly positive.”

**Flooding Has Real Impacts.** Regardless of causality, Enters and Durst note that impacts are clear: “Damage from floods is greater than ever before due to economic growth, skyrocketing investment in floodplain infrastructure, a growing floodplain population, and the fact that many have forgotten or discarded traditional approaches for coping with rivers and floods.” Walpole points out that inappropriate blame on illegal loggers or upper watershed land uses diverts attention and resources “from addressing the security of people in high-risk areas,” such as floodplains.

Though water is not the only environmental service of concern, ecosystem-based management, often manifested at the level of watersheds, provides one important basis for sustainable forest and environmental services management. “Watersheds provide an example of a manageable environmental system where conservation and development can be brought together in a practical, concrete, and timely manner” (NRM/USAID 2004). The value of appropriate watershed management may best be seen when it is lacking. The November 2003 floods in northern Sumatra that took the lives of at least 180 people and landslides in Java and Sulawesi during 2004 and 2005 have highlighted the issue of resource degradation in the media and in the public imagination. At the same time, experts caution against considering reforestation as an antidote to downstream flooding.

**Other Forest and Land Types.** The concept of watershed protection forests, or even forests generally, may be too narrow for a discussion of environmental services. Important environmental services are also produced by mangrove forests and agroecosystems, both of which occupy substantial areas of land or coast in Indonesia. This chapter, however, focuses on issues of terrestrial forest land.

- **Mangroves.** Mangrove forests grow in muddy, tidal, coastal areas where there is some protection from wave action. Mangroves provide diverse functions and benefits including nutrient cycling, nurseries for fish and crustaceans of high value, as well as other coastal and marine creatures. Mangroves also produce timber, fuelwood, chemicals for tanning and dyes, oils, green manure, and other locally valued NTFPs (IBSAP, 2003). Mangroves once covered about 6.5 million hectares in Indonesia, but half or more of that area has been lost (cited in IBSAP 2003).
- **Agroecosystems.** Agroecosystems provide environmental services and biodiversity benefits also. Some kinds of agroecosystems in Indonesia, such as *damar* forests, have a structure and function similar to natural forests (World Agroforestry Center, 2005). Indonesia’s diverse agroecosystems and agroforestry systems not only benefit the economy and millions of households, but also harbor high levels of plant biodiversity. Agroecosystems also provide for cultural needs such as offerings and ceremonies, as well as raw materials for handicrafts (IBSAP, 2003). Good documentation on agroecosystem degradation and genetic erosion is not available, yet IBSAP 2003 mentions that it is occurring at an alarming rate.

**Critical Lands.** The concept of “critical lands” and the national land rehabilitation program provide some insight into land and watershed management needs as defined by the GOI. Twenty-three million hectares, or 12%, of Indonesia’s lands are classified by the MOFR as “critical.” This assessment is based on the level of degradation and the decrease of ecological functions, including land cover, crown density, slope, erosion and land management in protection forests (MOFR, 2003b). An analysis of critical lands (NRM/USAID 2004) shows that Western Indonesia’s more populous and developed islands tend to have a higher concentration of critical land. On the smaller, intensively-used island of Bali and in NTT, which has steep slopes and relatively low rainfall, 23% of lands are in critical condition, twice the national average. Only a third of this critical land is inside the state forest zone, reflecting the fact that a majority of Indonesian’s reside on the minority of land outside the forest zone, increasing pressure on those lands. Less than 10% of forest area is judged to be in critical condition, while nearly a quarter of non-forest land is in that degraded condition. As explained in Chapter 3, not all protection forests have been designated on steep and ‘critical’ lands (Muliastra and Boccucci, 2005).

## Distribution of Critical Lands Inside and Outside State Forest Zone (Million Ha)

Major Island	Critical Land Outside Forest Zone	Critical as % of Land Outside Forest Zone	Critical Land in Forest Area	Critical as % of Forest Zone
Sumatra	4.35	17%	1.99	9%
Java	1.70	18%	0.37	12%
Bali & NTT	1.31	32%	0.36	11%
Kalimantan	4.57	22%	2.61	7%
Sulawesi	0.95	14%	0.97	8%
Maluku	0.51	65%	0.18	3%
Papua	1.72	~100%	1.65	5%
<b>TOTAL</b>	<b>15.11</b>	<b>22%</b>	<b>8.14</b>	<b>7%</b>

Source: BPS, Statistik Indonesia 2002, MOFR, 2002.

### 6.1.2 Protection Forest Governance and Management

Under the decentralization framework implemented in 2000 and revised in 2004, responsibility for management of protection forests has been devolved to local governments. This devolution has not, however, been accompanied by guidance and performance standards for the management and maintenance of environmental service functions from these lands. Some local governments have taken positive initiatives to protect and establish regulatory frameworks for protection forest lands.

Good management regimes are more likely in places where the direct benefits of forest protection can be readily perceived by the local population or where water supply is a critical and financially valuable resource. These conditions exist in Balikpapan (East Kalimantan), where the City Government has adopted regulations and funded a management regime for the Sungai Wain Protection Forest, which provides 25% of local water supply, an important source for a large oil refinery that contributes substantially to the City's tax base. Bontang (East Kalimantan), Jayapura and Manokwari (Papua), where local protection forests harbor city water supplies, have each followed a similar course (NRM Lessons Learned, 2004) and there are likely many other positive examples across the nation. Unfortunately, there are many other examples where local governments have issued land clearing permits and allowed other destructive practices in protection forests (World Bank 2004).

#### Decentralized Co-Management Example Sungai Wain Protection Forest, Balikpapan

The City of Balikpapan established the Sungai Wain Protection Forest Management Board in 2002 to preserve a vital watershed for the municipality and to protect the habitat of the endangered sun bear and hornbill. The City developed this local regulatory framework in response to public awareness campaigns about biodiversity and economic studies that demonstrated the value of water resources from the forest. The Board includes representatives from key City departments and civil society. An Implementation Unit, funded by City government revenues, is responsible for day-to-day programs, including joint forest patrols to combat illegal logging, clarify boundary demarcation, and improve community livelihoods.

At the national level, the GOI has recognized the value of watershed protection forests and the environmental services they produce through a long history of reforestation and land rehabilitation efforts. The GOI's purpose in forest and land rehabilitation is to "recover the degraded natural forest and land resources in order to achieve optimal function and maximum benefit for all parties, to ensure environmental balance and water scheme in watershed areas, and to support sustainable forestry development" (Forest Ministry decree No. 20/Kpts-II/2001, January 2003).

**Rehabilitation Movement (GERHAN).** The MOFR's National Land and Forest Rehabilitation "Movement," known by the Indonesian acronym *GERHAN* (*Gerakan Nasional Rehabilitasi Hutan dan Lahan*) gives one indication of the political and financial value placed on protection forests, critical lands, and the environmental services they produce ([www.dephut.go.id](http://www.dephut.go.id)). Launched in 2003 for a five year period, this GERHAN program seeks to rehabilitate 3.1 million hectares of forest and critical land in 68 priority watersheds involving 27 provinces and 242 districts and cities. Since 2003, the GOI has invested about \$400 million per year in this program (based on a replanting cost of Rp. 6 million (about \$700) per hectare, or Rp. 18.5 trillion over five years), the largest single effort managed by the MOFR. New watershed management initiatives have a substantial base to draw upon, but significant challenges, as well. Even if successful, this rehabilitation program will only affect a small fraction of degraded lands, while forest loss and degradation continue at a much higher annual rate.

Analysis of the distribution of land in the rehabilitation program was reported in NRM/USAID 2004 (see table). This large program will affect only a small part of critical lands. Also, the distribution of impact is targeted on Sumatra and Sulawesi, rather than uniformly based on extent of critical lands. Maluku and Papua are not targeted, perhaps for administrative reasons. It appears that Java, Bali, and NTT are under-represented, given their high concentrations of critical lands.

**Areas Covered by National Land and Forest Rehabilitation Program (Million Ha)**

Island	Total Rehab Program Area (Ha)	%	Rehab. In State Forest (Ha)	%	Rehab. In non State Forest (Ha)	%	Rehab as % Critical Land
Sumatra	1.832	59%	0.772	51%	1.060	66%	29%
Java	0.186	6%	0.022	1%	0.165	10%	9%
Bali & NTT	0.120	4%	0.050	3%	0.069	4%	7%
Kalimantan	0.577	19%	0.437	29%	0.140	9%	8%
Sulawesi	0.393	13%	0.228	15%	0.165	10%	20%
Maluku	0.001	0%	0.000	0%	0.000	0%	0%
PAPUA	0.000	0%	0.000	0%	0.000	0%	0%
<b>TOTAL</b>	<b>3.109</b>	<b>100%</b>	<b>1.509</b>	<b>100%</b>	<b>1.600</b>	<b>100%</b>	<b>13%</b>

Source: MOFR, 2003. GNRHL. Adapted from NRM/USAID 2004.

Nearly half of rehabilitation efforts are focused on the state forest zone, with 60% of investment in production forests, 30% in protection forests, and 10% in conservation areas. Two-thirds of critical lands are outside the forest zone, but only half the rehabilitation investment is focused

there. This pattern reveals a preference for investment in production and environmental service values on state-claimed lands.

**GOI Evaluation of GERHAN.** In a review of the GERHAN Program, the Director General for Land Rehabilitation of the MOFR (DirJen RLPS, 2005) found many issues in implementation. Land degradation is a symptom of many underlying causes, which the land rehabilitation program cannot address directly. However, the review found that the program was implemented in a very centralistic manner, without good participation and very limited budgetary support from local governments. Similarly, the participation of local farmers groups and accompaniment by local NGOs was considered to be sub-optimal because of the limited time for socialization and community organization (3-5 months). Extension services and training were also below optimal. There were also problems of funding, when funds came too late, with no incentives, and with limited local buy in. When funding and physical needs, such as seedlings, arrived late, activities were ineffective because they did not match the appropriate season for planting. On the basis of this analysis, changes are being instituted in the program to reduce the potential for these kinds of problems.

Based on this evaluation, the planting and rehabilitation program has been restructured and launched in a new form in concert with the President's initiative to revitalize the forestry, fisheries and agriculture sectors. On Earth Day, April 22, 2006, the President of Indonesia declared "Indonesia Planting Day" (*Hari Indonesia Menanam*). Also, the Ministry of Forestry in collaboration with NGO Suara Hijau and the business sector, launched an exposition (together with concert performed by, Iwan Fals, one of Indonesia's most famous singer/songwriters) entitled "Indonesia: Planting." This represents a more sophisticated and high level use of public awareness and media to focus attention on key forestry issues ([www.penyuluhkehutanan.com](http://www.penyuluhkehutanan.com), April 2006). The program will likely be funded at similar or higher levels compared to past GERHAN efforts.

The GOI also maintains a regulatory framework for environmental management and monitoring under the Environmental Impact Management Law of 1997. The environmental impact analysis process (known by the Indonesian acronym AMDAL) allows for impacts of development projects on environmental services to be assessed and addressed. This process has some potential to identify and mitigate harmful effects on forests or environmental services and to inform the public about these concerns. In practice, however, this tool is not often applied to forest-related activities (e.g., road building, land clearing) or to reduce the harmful impacts of land and forest degradation. Also, administrative complexity or political resistance can thwart efforts to enforce these rules, which are basically sound. While there is room for improvement in performance standards, monitoring, and remediation plans, the main issue lies in implementation and follow through on environmental management requirements (World Bank 2001).

### 6.1.3 Alternatives, Innovations and Financing Options

**Payments for Environmental Services (PES).** There have been many efforts to improve protection of environmental services by linking to markets or transfer payments that reward land uses and users who employ sound (or at least sanctioned) management practices. These kinds of transfer payment schemes also have some potential to improve the livelihoods of the upland and forest-dwelling poor (Sunderlin 2005). In Indonesia, the World Agroforestry Center (ICRAF), with support from IFAD and other agencies, has been operating the *Rewarding the Upland Poor for Environmental Services* (RUPES) program since 2001 to study ways to make PES

mechanisms effective and efficient. The RUPES program in collaboration with an Indonesian national network on environmental services is facilitating development of a government regulation that would allow revenues from environmental services (including watershed services, biodiversity, carbon sequestration and landscape beauty) to be used directly on forest and watershed conservation. At the local level, RUPES has been supporting the development of institutional mechanisms for implementation of PES schemes in villages around Singkarak Lake in West Sumatra. USAID's Environmental Services Project is also promoting sustainable ways of using and protecting fragile upland water sources while, at the same time, conserving protected areas of high biodiversity. The project supports local governments and stakeholders in developing watershed management plans, rehabilitating land and forest, managing conservation, and encouraging policy support. The project also aims to increase stakeholder support for effective watershed management through conservation awareness campaigns.

PES approaches are more applicable in cases where environmental services produce tangible economic benefits for specific groups of beneficiaries, for example:

- **Water supply.** Often downstream users and local governments can see the benefits of proper watershed management practices. Sunderlin (2005) mentions payment schemes in Latin America to compensate upstream forest owners for the protection of hydrological services important to downstream users such as hydroelectric plants, drinking-water consumers and farmers using irrigation.
- **Carbon storage.** Increasingly, there are efforts to develop carbon sequestration initiatives tied into carbon markets and tradable credit schemes developed under the Kyoto Protocol. Tree planting to reduce forest degradation may also be able to demonstrate positive effects on carbon storage.
- **Tourism** is also cited as a way that local people can convert environmental service delivery into financial returns. Even if only a small share of tourism revenues accrues to the upland dwellers and the poor in a given scheme, the actual payments may be a significant contribution to local livelihoods in some cases (Sunderlin 2003).

Environmental services that are intangible (yet need to be protected) will be more difficult to “sell” to local stakeholders in a transfer payment scheme. However, spiritual values and beliefs can help in specific areas where forest using groups attach special features and values to forest areas or protected areas (e.g., spirit forests, sacred mountains)

Several issues are currently being debated about the application of PES schemes. The “water-forest-flood” debate questions whether tree planting can actually protect against floods or provide improved downstream water quantity and quality. The “water-PES” debate questions whether downstream water flows can be successfully and rigorously linked to upstream activities and producers to allow accountability and market development. Even if benefits could be attributed perfectly, the “PES-poverty” debate still questions whether PES approaches really provide significant benefits to the poor in comparison to alternative land uses or livelihood opportunities. The following discussion highlights issues of making PES schemes operational and targeting the benefits toward poorer groups.

**PES and Watershed Services.** Bond (PES and CBNRM, ETFRN 2006) describes the basic watershed PES approach. “Typically, downstream consumers of watershed services are expected

to compensate upstream land managers, for either maintaining indigenous vegetation or implementing specific farming practices or on-farm conservation activities.” Public PES schemes are more common than private ones. Van Noordwijk (Rapid Hydrological Appraisal of PES, ETFRN 2006) notes that although “the concept of payments for watershed protection services has become popular.... there is no shared opinion between scientists, farmers and policy makers about what these services are, how they depend on the condition of the landscape (and the amount of forest that is part of it) and how payments or rewards can be made transparent (linking reward to delivery) and robust (surviving paradigm shifts).”

**PES and Poverty.** Mills and Porras (2002), Wunder (2005) and Hope, et al., (ETFRN 2006) discuss the effects of PES programs on the poor. In general, it seems, the most important environmental services may not be closely related to the activities of the upland poor, though PES schemes can add features to target or reach the poor with benefits. Individual payments may be too low to induce participation in land use changes because of competition with higher value alternatives. If participation is low (e.g., tree planting in uplands), environmental service benefits may also be low and more difficult to justify. Bond (2006) notes that where payment levels are high (e.g., wildlife tourism in Africa), local governments may impose taxes or fees that lower the benefits that target groups can achieve. People’s perceptions, the project management structure, and a number of barriers can hinder efforts to reach the poor with PES approaches. Local people often distrust government involvement in these schemes. Transactions costs can be high, which affects the poorest and most remote groups most. Hope, et al., also found that larger land holders or those with secure land titles (relatively less poor) may be more able to commit to and benefit from PES efforts. The landless poor, in particular, cannot often benefit from these schemes, which focus on land use change. Hope, et al., (2006) noted that lack of secure land rights “weakens necessary institutional arrangements between downstream payments to upstream service providers,” though community-based (rather than individual-based) efforts as well as capacity building may help to overcome this constraint. Also, alternative compensation mechanisms may be preferred: for example, transport and market access or health and education benefits may be more influential than cash payments.

Bond (2006) notes that PES programs aimed at the upland poor can have indirect benefits beyond cash or bio-physical improvements, such as “empowerment of farmers with the confidence to engage and achieve better arrangement in other aspects of their lives.” He also sees land use change as a long term process that needs both flexibility and diversity in design and implementation. PES efforts will need to “nurture the necessary changes within national and local governments to allow rural farmers to benefit directly from relatively intangible environmental services.” Murdiyarso and Ilstedt (2006) add that the biggest challenge is bringing the most marginalized groups and their institutions into policy and practical decision-making.

**PES and Carbon.** Indonesia’s forests are an important global carbon sink (3.5 billion tonnes of carbon), but forest degradation and fire could turn them into a net source of carbon (FWI/GFW 2002). The Kyoto Protocol’s Clean Development Mechanism (CDM) provides incentives storing carbon through afforestation and reforestation activities, and may provide incentives for avoided deforestation in the future. Indonesia has made progress in creating the institutional and legal frameworks for implementing CDM, though technical and institutional challenges remain. There is some hope that the CDM may contribute to environmental protection and poverty alleviation by providing much needed incentives for small scale forestry projects.

Indonesia has ratified the Kyoto Protocol in 2004, established a Designated National Authority, conducted a National Strategy Study on the CDM in the Forest Sector (MOE 2003), created a national definition of ‘forest’<sup>12</sup>, to be used for measuring baselines and changes in forest areas and passed regulations to overcome legal and institutional barriers to CDM-forestry implementation. In addition to national efforts, development agencies have provided technical assistance and capacity building, including ADB funding for preparation of several CDM-forestry pilot project sites. However, CDM forestry projects face the same obstacles as other tree plantation projects in Indonesia (see Chapter 4), including uncertainty of land tenure, regulatory and institutional barriers, lack of access to timber markets, and distorted timber prices. CDM also requires strong institutional linkages among the central government, the local government, and local project stakeholders.

Preliminary results from ADB-funded pilot schemes in Indonesia suggest that carbon funding alone is not enough to make commercially non-viable projects financially attractive (Rizaldi Boer, personal communication, 2006). The low market value of ‘carbon credits’ from forestry, high transaction costs, and policy barriers to tree planting suggest that the CDM in its current form is unlikely to be a primary driver of land use decisions (van Noordwijk, et al., 2005). Van Noordwijk, et al. propose that smallholder farmers may benefit more if the CDM is applied at a local government scale, and funding is used to reduce existing investment barriers for farmers, such as local taxes and costs of land titling. Such a programmatic (as opposed to project-based) approach could also form the basis for ‘avoided deforestation’ incentives proposed for the second commitment period of the Kyoto Protocol.<sup>13</sup>

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<sup>12</sup> “Forest” according to the national definition must meet the following criteria: land area of at least 0.25 ha, at least 30 percent crown cover, and at least 5 m tree height.

<sup>13</sup> Indonesia also has important stocks of carbon in about 20 million ha of peatlands, which are not yet covered by a market-based mechanism. Murdiyarso (2005) estimated that as much as 40 million tons of CO<sub>2</sub> were lost from around 500,000 ha of peatlands in Jambi, South Sumatra, and Central Kalimantan in the past 10 years, excluding emissions due to fires in El-Nino years in 1983 and 1997. Projects to conserve forests through ‘avoided deforestation’ CDM projects would need to consider the potential for leakage if conservation of forests leads to accelerated degradation of peatland, due to conversion for pulp or other plantations.

## 6.2 Biodiversity Protection (and Environmental Services) from Conservation Forests

Conservation areas produce most of the same environmental service benefits that protection forests do, but they are especially set aside to protect biodiversity, as well as more intangible benefits or global public goods such as landscape beauty and existence or bequest values. The GOI has recently produced – with assistance from GEF and the World Bank – the Indonesian Biodiversity Strategic Action Plan (IBSAP 2003), a comprehensive assessment of biodiversity resources and a strategic plan for protecting them. IBSAP states that “biodiversity is an asset for development and the prosperity of the nation... However, this ‘living’ asset is not easy to manage. So far, biodiversity has been regarded as a resource that can be exploited easily with little regard for its sustainability.” Indonesia’s rich biodiversity is increasingly under threat from rapid landscape change, pollution and over-exploitation. Indeed, the country is often noted to be in an environmental crisis. This chapter does not strive to provide an inventory or status report, but rather seeks to summarize key issues, interventions and innovations in progress, and some options or alternatives for continued development agency assistance in the future.

### 6.2.1 Description of Biodiversity Values

Indonesia is a recognized megadiversity country, spanning three bio-geographic regions and a diverse range of habitats, altitudes and climate zones. It includes the most extensive and species-rich forests in Asia and is recognized as a global hotspot for marine and freshwater diversity. Indonesia has been identified by all recent international conservation priority-setting exercises as a global priority for actions to conserve biodiversity. The Indonesian archipelago and its unique island ecosystems include 21 of the WWF 200 Globally important eco-regions, 227 of Birdlife’s list of 2,295 Important Bird Areas in Asia and 38 of the total global list of 218 Endemic Bird Areas. These figures highlight that Indonesia harbors globally threatened species and range-restricted species, as well as critical ecosystems and wilderness areas in the Sundaland and Wallacea global biodiversity hotspots identified by Conservation International. It also has 10% of the world’s flowering plant species and ranks as one of the world’s centers for agrobiodiversity. Terrestrial biodiversity is particularly rich in Indonesia’s once-extensive lowland tropical forests, which are the first economic choice for exploitation and conversion to other uses. This report has focused attention on forest cover as an indicator of habitat quality for Indonesia’s charismatic – and threatened -- megafauna, such as orangutans, tigers, and rhinos.

Birdlife’s 38 Endemic Bird Areas in Indonesia	
Aru Islands (secondary area)	Northern Maluku
Banda Sea Islands	Northern Nusa Tenggara
Banggai and Sula Islands	Northern Papuan lowlands
Bornean coastal zone (secondary area)	Riau and Lingaa islands (secondary area)
Bornean mountains	Salayar and Bonerate Islands (secondary)
Buru	Sangihe and Talaud
Central Papuan mountains	Seram
Enggano	Seribu Islands (secondary area)
Geelvink Islands	Simeulue (secondary area)
Java and Bali forest	South Papuan lowlands
Javan coastal zone	Sulawesi
Kalimantan lowlands (secondary area)	Sumatra and Peninsular Malaysia
Kangean (secondary area)	Sumba
Masalembu (secondary area)	Timor and Wetar
Mentawai Islands (secondary area)	Trans-Fly
Natuna Islands (secondary area)	Tukangbesi Islands (secondary area)
North Papuan mountains	West Papuan highlands
North Sumatran lowlands (secondary)	West Papuan lowlands
North-east Bornean islands (secondary)	Yapen (secondary area)

Further, Indonesia is one of the world’s centers of species diversity of hard corals and many groups of reef-associated flora and fauna. Indonesia’s location across several biogeographic

regions in the wet tropics and its complex geological history help to explain this unusually high level of species richness and endemism (IBSAP 2003).

IBSAP (based on Mittermeier, et al. 1997 and other sources) indicates that Indonesia ranks first in the world for number of palm, swallowtail butterfly, and parrot species. It ranks second in the world for number of mammal species, fourth for reptiles, and fifth for birds. “If the diversity of coral reef species Indonesia and soil and cave biota are taken into account, Indonesia could well be on the top of the list in terms of biodiversity richness” (IBSAP). The following table provides a limited, yet quantitative, overview of Indonesia’s high level of biodiversity and endemism.

**Indonesia’s Species Diversity and Endemism by Region**

Island	Birds	Endemic (%)	Mammals	Endemic (%)	Reptiles	Endemic (%)	Plants	Endemic (%)
Sumatra	465	2%	194	10%	217	11%	820	11%
Java Bali	362	7%	133	12%	173	8%	630	5%
Kalimantan	420	6%	201	18%	254	24%	900	33%
Sulawesi	289	32%	114	60%	117	26%	520	7%
NTT	242	30%	41	12%	77	22%	150	3%
Maluku	210	33%	69	17%	98	18%	380	6%
Papua	602	52%	125	58%	223	35%	1030	55%

Source: IBSAP, 2003.

Despite this rich diversity and global rankings, the sad truth is that Indonesia could be losing a species a week, or even more (cited in IBSAP). IUCN’s Red List indicates an increasing number of Indonesian species threatened or endangered. However, IBSAP also notes that data quality and accuracy about the state of biodiversity are often incomplete and outdated.

**Threats.** Although it is universally recognized as a top priority for global biodiversity conservation, in recent years Indonesia’s rich forest habitats have been threatened by illegal logging, expanding agriculture and poor governance, as noted in prior chapters. Political change and decentralization of decision-making and responsibility for local budgeting (and creating local sources of revenue) to districts have further exacerbated this process.

**Indonesia's IUCN Endangered Species**

IUCN Red List Category	Mammals	Birds	Reptiles
<b>Critically endangered</b>	21	17	8
<b>Endangered</b>	50	30	9
<b>Near threatened</b>	94	200	5
<b>Vulnerable</b>	93	72	11
<b>Total</b>	<b>258</b>	<b>319</b>	<b>33</b>

Source: IUCN 2003

Although Indonesia still maintains a substantial protected area network, it is clear that forest conservation and management are faring poorly. In addition to forest loss, the illegal wildlife trade is an increasing threat to biodiversity in many places across the archipelago.

## **6.2.2 Protected Areas Governance and Management**

Indonesia's legal basis for protecting biodiversity and managing protected areas is reasonably sound. There is still a need to strengthen the capacity to translate legislative intentions into proper management frameworks and real action on the ground remains problematic, however. The GOI's earliest biodiversity protection rules were based on international agreements. The GOI ratified the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) in 1978 and the Ramsar Convention on Wetlands in 1991. Both conventions are important, but their management principles have not been integrated into a comprehensive national policy. Indonesia ratified the Convention on Biological Diversity (CBD) through Law No. 5 of 1994. This law governs ecosystem and species conservation, particularly in protected areas, but applies only to the forestry sector and conservation areas, not to threatened ecosystems outside of the protected area system. IBSAP (2003) notes that there are no implementation guidelines for Law No.5 of 1994 and the means for verifying fulfillment of international obligations under the CBD are not clear.

In 1993 the GOI produced the Biodiversity Action Plan for Indonesia. Ten years later, this was replaced by the Indonesian Biodiversity Strategy and Action Plan (IBSAP), published after a lengthy and participatory development process. The IBSAP provides a fairly clear-eyed assessment of the many issues and interlinked factors that influence the "biodiversity crisis."

**Protected Areas.** The MOFR manages Indonesia's network of over 500 protected areas covering almost 29 million hectares of land and sea. There are six types of protected areas, as enumerated in the table below. Of these, 462 are terrestrial protected areas covering nearly 23 million hectares of land and forest. Most of the protected area lies within national parks. Strict nature reserves and wildlife sanctuaries make up most of the remaining protected areas. Many of these protected areas were first established in the 1980s based on the approach of representing various habitats, species, and biogeographic diversity.

In 2004 and 2005, Indonesia established several new national parks, bringing the total to 50 across the country. New parks were established in 2004 and 2005. In March 2006, the Forestry Minister established management units for 16 new national parks. This provides a management structure and resources for implementation that goes beyond simple declaration. The new national parks are Kayan Mentarang in East Kalimantan, Lorents in Papua, Manupeu Tanadaru in East Nusa Tenggara, Sebangau in Central Kalimantan, Togeian islands in Central Sulawesi, Sembilang in South Sumatra, Aketajawe Lolobata in North Maluku, and Lake Sentarum in West Kalimantan. The other new national parks are Batang Gadis in North Sumatra, Bukit Dua Belas in Jambi, Laewangi Wanggameti in East Nusa Tenggara, Bantimurung Bukusaraung in South Sulawesi, Tesso Nilo in Riau, Gunung Ciremai in West Java, Merapi Merbabu in Yogyakarta and Mount Merbabu in Central Java.

Expansion of overall ecosystem representation is an encouraging development, as is the appointment of highly committed conservation-oriented staff in key positions in the MOFR. The conservation system has good quality human resources and capacity is steadily improving. Financial resources for management remain constrained (see 3.3.4 below). The Ministry for Marine Affairs and Fisheries shares some responsibility for management and protection of marine National Parks.

## Indonesia's Protected Area System 2004

Type	Terrestrial Areas		Marine Areas		Total PAs	
	No.	Area (million Ha)	No.	Area (million Ha)	No.	Area (million Ha)
Strict Nature Reserve	219	4.33	9	0.22	228	4.55
Wildlife Sanctuary	69	5.12	7	0.34	76	5.46
Nature Recreational Park	99	0.30	17	0.77	116	1.06
Game Hunting Park	14	0.23		-	14	0.23
National Park	43	12.40	7	4.05	50	16.45
Grand Forest Park	18	0.34		-	18	0.34
<b>Total</b>	<b>462</b>	<b>22.72</b>	<b>40</b>	<b>5.37</b>	<b>502</b>	<b>28.09</b>

Source: Statistik Kehutanan, 2004

Despite its size and diversity, many believe the protected area system does not fully safeguard Indonesia's biodiversity due to limited capacity and resources, large area, threats from outside the system, lack of local government support, an inadequate legal framework, and the short term nature of many sources of funding from donors and NGO projects. Some of the alternative management approaches that have been tried include: giving management control to an independent special-purpose body (e.g., Leuser International Foundation), providing a concession for park management (e.g., Komodo National Park), or developing a multi-stakeholder management body (e.g., Bunaken National Park). Newer approaches that are only now being developed include co-management with local partners, conservation concessions in forest lands, and local or provincial protected areas. Some of these innovations are described in the next section.

Purnomo (2005) notes that biodiversity does not confine itself to protected areas, but moves through wider habitats. Therefore, "improving habitat preservation, reducing extractive resource use patterns, and developing environmental and conservation awareness will be important both inside and outside protected areas." These areas include protection forests, production forests, wetlands and agricultural areas, as noted in prior chapters (see "Agrobiodiversity" text box below).

Several other agencies also have biodiversity management and protection responsibilities, including the Ministry of Environment and the National Commission on Genetic Resources. The Ministry of Environment coordinates and helps to formulate policies on environmental issues and managing their impacts. It is also the national focal point for coordination and implementation of the CBD, but some believe it does not have sufficient authority for this function (IBSAP 2003).

#### Agrobiodiversity

IBSAP 2003 notes that biodiversity is important for agriculture and that "agrobiodiversity includes all cultivated plants and animals, their wild relatives, and various species involved in their life processes such as pollinators, symbionts, pests, diseases and competitors." Indonesia has a wide range of agroecosystems, developed over hundreds or thousands of years. Traditional agroecosystems harbor many cultivated species and specialized cultivars, or variants. Indonesia is also home to a number of agriculturally important species, whose global center of distribution is Indochina, including banana, coconut and sugar cane. This region is also important in terms of diversity of bamboo, rattan, tropical fruits, and taro and ginger families. Clove, nutmeg and cinnamon are also historically and globally-traded indigenous species.

### Inland Waters and Wetlands

Inland waters and wetlands are “increasingly affected by flooding, sedimentation, urbanization, industrialization, and accompanying pollution. Land conversion (forests to agriculture or settlements) and land filling (for development projects and settlements) affect both watersheds and wetlands, with increasing evidence of imbalanced hydrologic regimes seen in seasonal drought and flooding.” Destructive logging and land clearing practices have affected water regimes and moisture retention, exacerbating problems associated with fire. The “million hectare rice project” has destabilized a vast area of fragile swamp forest habitat in central Kalimantan, home to orangutans and other endemic species (IBSAP 2003).

### 6.2.3 Alternatives, Innovations and Financing

Although the devolution of planning and decision-making to the local government level has led to increased pressure on Indonesia’s forests, decentralization has also provided the opportunity for innovations in conservation approaches. Many conservation practitioners today are also capitalizing on the decentralization process by encouraging better stewardship at the local level.

Recent local initiatives and success stories are documented in “*The Winds of Change: Recent Progress towards Conserving Indonesian Biodiversity*” (Purnomo, 2005), based on interviews and documents from BirdLife International, Conservation International, Fauna and Flora International, The Nature Conservancy, the Indonesian Biodiversity Foundation (Yayasan Kehati), Wildlife Conservation Society, and WWF-Indonesia. Similarly, medium-sized projects funded by the Global Environment Facility (GEF) have managed to enhance conservation in local sites where commercial logging is a lesser threat and less significant to the local economy (Whitten, 2006).

**Decentralized Co-Management Approaches.** Purnomo (2005) documents that central and local governments have set aside new protected areas, strengthened law enforcement, initiated rehabilitation efforts, developed new policies, and developed innovative approaches and partnerships to improve conservation. Some of these approaches are founded on the idea that shared benefits, livelihood improvements, and results visible to local stakeholders have greater potential for success than approaches that emphasize conservation for its own sake. Examples of co-management approaches and partnerships are summarized below and in the “Co-Management” text box.

- Multi-stakeholder management boards for protected areas (collaborative management) are now recognized and promoted by the Indonesian government. Public-private partnerships applying co-management principles have been demonstrated through experience in Bunaken NP and Komodo NP, as well as less prominent examples in Bali, South Sulawesi, East Kalimantan, and Central Java.
- Local partnerships, sometimes supported by NGOs, have created innovative practices that can be expanded and replicated. Forest boundary conflict resolution efforts in East Nusa Tenggara show how ‘participatory boundary demarcation’ and ‘Village Conservation Agreements’ can be used to resolve conflicts and allow management of community land inside protected reserves.

- Co-management approaches based on traditional wisdom have been pioneered in a marine tourism area in the Padaido Islands, West Papua (*sasien*, a local fishing customary law), a black water (peat swamp) ecosystem (*air-hitam*) in Central Kalimantan, and community forest management (*Rotu*) in Sumba, Nusa Tenggara.
- Private company and community partnerships have been initiated to conserve habitat for orangutans in Berau District, East Kalimantan and for marine conservation in Komodo National Park.
- Public consultations in local spatial planning have been supported in many successful local applications, both by NGOs and development assistance projects. Technical assistance and scientific inputs (mapping and data on soils, hydrology and forests) have been integrated with traditional classification of land use and local management practices, to produce spatial plans that reflect local priorities and sustainability. One of many examples has been demonstrated on the island of Tanimbar, Southeast Maluku District.
- A recent forestry regulation (SK. 159/Menhut-II/2004) allows production forests to be managed for rehabilitation, conservation and sustainable use, rather than for harvesting and production. The aim is to restore ecosystem functions and economic potential through carefully targeted interventions. Some conservation NGOs, notably Birdlife Indonesia, are pursuing this opportunity to obtain a concession license for ecosystem restoration. The first concession of this type may be established by the end of 2006.

All of these provide reasons for optimism that local initiatives can, under certain conditions, overcome downward national trends in conservation management.

#### Co- Management & Decentralized Protected Areas

Increasingly, Indonesia's regional governments are using new-found authorities and collaborative management arrangements with communities and NGOs to create new conservation management institutions, sometimes with technical, institutional, and logistical support from donors.

**Bunaken National Park (BNP).** In this centrally authorized protected area, the MOFR, Provincial and District Government have developed innovative co-management arrangements to assure the support of local communities and create a multi-stakeholder management authority. The BNP Management Advisory Board, established by joint decree, includes representatives from central, provincial and district government, park communities, and the dive tourism industry. The Board is authorized by decree and regulation to collect a tourism entrance fee, which provides sustainable financing for park management. The BNP Concerned Citizens Forum represents the 33 settlements and 30,000 people living in and near the park through democratically elected representatives, who make up the largest voting block on the Advisory Board (NRM Lessons Learned, 2004).

**Berau District Level MPA, East Kalimantan.** The UN World Heritage Marine Working Group identified the islands in Berau District as an area of outstanding biodiversity value. International and Indonesian NGOs, a donor project and Berau District government formed a joint secretariat to develop a new Marine Protected Area (MPA) for this critical site. Based on participatory processes, technical assessments and legal analyses, Berau district government decreed the boundaries and function for a new Derawan Islands MPA of 1.2 million hectares of ocean and coastal area, including mangrove habitats, coral reefs, and endangered turtle nesting grounds, and four small islands. This first district-level MPA in Indonesia has a professional management authority funded by local government (CRMP Lessons Learned, 2005).

**Public Awareness Approaches.** Another important innovation is the development of public awareness campaigns and environmental education programs. There have been scattered and short-run efforts in this area; a comprehensive and long-term plan that pulls partners together and builds on existing local initiatives is needed.

- **Wide National Campaigns.** Concerted public awareness campaigns have been attempted through both the GEF-supported INFORM program and the USAID-supported GreenCom effort. These programs tried to improve forest protection by stimulating interest and concern among the general public and key decision-makers about the loss of forests and biodiversity. These projects included training for local journalists, development of documentary films, advertising programs, and other training in how to develop and run public awareness campaigns, including how to target non-conventional audiences, such as religious leaders and teachers.
- **Faith-Based Initiatives.** The World Bank-supported “faith-based conservation” initiative has supported development of guidance documents and tree planting programs at Islamic schools (*pesantren*) (CI, 2005).
- **Environmental Education.** The City of Balikpapan, East Kalimantan has an innovative, successful, decentralized environmental education initiative. A broad coalition of partners, working directly with the school system and the local government has created a local curriculum based around “blue, green, and brown” environmental issues. This demonstrates how the local content section of the curriculum can be an entry point for building partnerships and constituencies for environmental and conservation education. Other cities in East Kalimantan are now adopting similar program (NRM Lessons Learned, 2004). The Leuser International Foundation has developed a conservation education curriculum with special books aimed at each grade level. CRMP (2005) developed environmental curricula for several locations in Papua province.
- **Multi-Media Communication Approach.** USAID, CIDA and WWF have formed partnerships with *Yayasan Lestari* in Sulawesi to promote and spread multi-media communication methods to improve environmental and natural resource management awareness at the provincial, district, and local level. The multi-media campaign approach works through print, radio, and television to provide high-impact messages focused on a key local issue each month. The effort reaches hundreds of thousands of people with regular messages over a long time period. The aim is to improve natural resource governance processes by raising awareness, building constituency, and promoting public consultation and participation ([www.wwf.or.id/attachments/factsheet\\_wwflestartar1.pdf](http://www.wwf.or.id/attachments/factsheet_wwflestartar1.pdf)).

**Conservation Financing.** The GOI has insufficient financial resources to manage its protected areas system properly. In an important new study, McQuistan, et al., (2006) found that Indonesia has about \$53 million each year for protected areas management, with about a quarter coming from NGOs and donor assistance. Relative to protected area management needs, this study estimates an annual shortfall of about \$82 million (or more depending on assumptions about management intensity and cost). This would be in line with international assessments showing that management costs range from \$2-3 per hectare on average for terrestrial parks (James, Greene, and Paine, 1999), though management needs may be greater in some heavily visited or threatened parks. In addition to financing, improvements are also needed in management,

efficiency, cost-effectiveness, and resource allocation among parks. It is also important to note that the scale of conservation funding is small relative to the volume of wealth and tax revenue being extracted from the forests (see Chapter 4).

In September 2006, the three key GOI agencies responsible for biodiversity protection and protected areas management (the Ministry of Environment, MOFR and Ministry of Marine Affairs and Fisheries) announced a joint initiative to increase financing to improve management and protection of parks and protected areas in Indonesia. This initiative recognizes that many kinds of NGO and donor grants, endowment funds and project-based support are currently contributing – but that more is needed. In addition, the three Ministries have also called for greater contributions from Indonesian sources, including fiscal mechanisms, entrance fees, private sector partnerships, and other means. These kinds of incentive-based instruments have been successfully implemented in other countries, but have not yet been widely applied to support conservation in Indonesia. Brown and Dunais (2005) identified conservation finance innovations worth exploring, including:

- **Fiscal Instruments.**<sup>14</sup> Taxes and fees have strong potential and deserve further exploration for application in Indonesia. Fiscal instruments rely on changing the tax code, reallocating revenue streams, or tapping new sources of funds). Regional governments could also begin to experiment with new mechanisms, if the legal framework allowed this kind of flexibility. Taxes or fees on extractive industries could be one way of balancing incentives and shifting the development paradigm, as expected in IBSAP (2003). Even without direct taxation, improvements in conservation financing could be achieved by allowing individual and corporate charitable donations to be deducted from taxes.
- **User Fees and Entrance Fees.** Tourism has great potential, given Indonesia’s fantastic range of ecosystems and exotic species. However, this potential is most likely to be realized in the most accessible and visitor-friendly locations. More remote terrestrial protected areas cannot expect to achieve substantial revenues from tourism fees, but some accessible marine parks have already demonstrated the ability to generate substantial income from tourism and entrance fees. Currently, the National Park entrance fee is 2500 Rupiah (about a quarter of a dollar), a value set before the economic crisis devalued the currency by a factor of four. Two hundred thousand people visited Indonesia’s National Parks and Grand Forest Parks in 2003; one quarter of them were foreigners. Higher entrance fees are one component of a broader financing base. Increasing the potential for financing from tourism would require investments in transport and lodging infrastructure and incentives for the tourism industry (NRM 2004).
- **Local Government Incentives.** The World Bank (2001) indicates that there is a need to engage local governments in national park management. Yet, local governments often perceive protected areas as a zone of lost revenue, imposed by the central government. Because central government fiscal balancing transfers, in part, reward districts with greater flows of revenue from extractive industries, districts with large protected zones may be penalized financially. The World Wildlife Fund Indonesia Program is exploring and developing the concept of a “Conservation District Government” (*Kabupaten*

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<sup>14</sup> Taxes as policy instruments are also discussed in Chapter 4.

*Konservasi*) and BAPPENAS has considered revising the fiscal incentive structure to improve the incentive for preserving conservation areas.

- **Conservation Trust Fund.** A trust fund can serve as a stable and transparent source of funding for conservation activities or for specific protected areas. A well-run trust fund could also attract additional contributions from other donors or sectors. Some Indonesia-based examples exist, notably Yayasan Kehati. However, experience with trust funds has not been wholly positive (e.g., Papua Conservation Trust Fund) and the governance arrangements of such a fund would have to be carefully developed.
- **Debt-for-nature swaps and carbon credits** have been suggested as possible funding sources for Indonesian conservation programs, but these have not materialized at significant levels for the scale of Indonesia's protected areas system. Both mechanisms would require a stronger legal and institutional base to develop significantly in Indonesia.

### 6.3 Key Issues in Protecting Environmental Services and Biodiversity

IBSAP (2003) includes a comprehensive discussion of technical and governance factors that affect biodiversity protection, including law enforcement, decentralization, conflict and inequity. These issues have been discussed in earlier chapters and have special relevance for protected areas and biodiversity preservation, which are intended to preserve Indonesia's heritage for the future. The World Bank (2001) identified habitat loss, fragmentation and degradation, over-exploitation, and secondary extinction (forest dependent species that die out as forests disappear) as factors contributing to biodiversity loss, but these are mainly the symptoms of deeper governance difficulties. Climate change is another factor likely to have an increasing impact in the future. Most of these are not specific to protected areas or environmental services, but are linked to broader issues in the whole forestry sector, raised in previous chapters as well. This section echoes the main issues of governance, management, enforcement, and conflict discussed in Chapter 3, and aims to provide some additional detail relevant to biodiversity protection needs.

Governance problems affecting biodiversity are deeply rooted in public attitudes and structural issues built into Indonesia's development paradigm (discussed in Chapter 3). One added point specifically relevant to conservation relates to the original creation and imposition of the protected areas system. Jepson (in NRM/USAID 2004) points out that in the 1980s the protected area system was overlaid across existing administrative boundaries, management arrangements, forest user groups, and the political relationships among all of these and their potential to generate income from these areas. To this day, some local governments see protected areas as 'public bads' because they are unable to glean revenue from them, relative to areas allocated to production forestry. Local government acceptance is important to the success of protected areas to ensure and maintain linkages into a larger matrix of wildlife and habitat corridors for the preservation of species and ecosystems. Chapter 3 also noted that conflict is a continuing concern because of inequity in the distribution of Indonesia's resource wealth, including areas of high conservation value. Some other issues mentioned in Chapter 3 have specific manifestations with respect to conservation and protection of environmental services, as follows.

**Law Enforcement.** Even where laws are strong, enforcement is weak. Enforcement is further complicated by the decentralization process. The process of holding local governments accountable for adhering to national laws is only beginning. As noted in Chapter 3, increasing

efforts to combat illegal logging are increasing and showing some results. This will help some national parks, though the majority of illegal logging occurs outside the park system. For biodiversity protection, encroachment and poaching are critical law enforcement issues.

- Encroachment is a continuing concern, both at the village level and the level of local government decision-making. Local governments sometimes sanction activities that are inconsistent with the goals and mandates of parks and protected areas, such as roads, plantations or even resource extraction concessions. Where habitats are encroached, wildlife come into closer contact with villagers and agricultural areas, triggering human-wildlife conflicts, as is the case with elephants in Sumatra, especially in oil palm plantations. Off Java, Indonesians are generally not 'land poor,' so encroachment is about economic incentives: free land or timber is the attraction. It is an attraction because it is not protected and the legal consequences are minimal.
- Trade in endangered and threatened wildlife is an everyday occurrence in Indonesia. Rare birds are captured and sold as pets in open public markets, likewise bush meat from forest wildlife. Even extremely rare and charismatic mega fauna are not spared: tigers and rhinos are butchered for the lucrative Asian specialty medicine trade. Protected areas play a role in preventing this trade, with proper monitoring and enforcement of boundaries. However, much more action is needed in markets, customs, borders, and international fora to raise these issues and stimulate action by multiple governments and agencies. Although Indonesia has taken a leading role in ASEAN's Regional Action Plan on Trade in Wild Fauna and Flora 2005-2010 and signed an MOU with the World Conservation Congress and the Southeast Asia office of TRAFFIC, there is still a need for more action on this issue (World Bank, *The Illegal Trade in Wildlife*, July 2005).

**Management Practices.** The World Bank's EAP Forest Strategy (2005) places special emphasis on forest law enforcement and governance as the critical issues of management. Some of the management issues in Indonesia include land conversion, the use of fire and harmful technology.

- Forest conversion to agriculture or settlements is part of the issue of forest degradation and, in fact, is part of a conscious GOI policy legitimized in the designation of "conversion forest" within the forest management law and framework. Although forest conversion is supposed to be regulated through a licensing system authorized by the MOFR, the decentralization process and various layers of policies have resulted in an unclear status and an excess of conversion being allowed through local government permits. Improvements in land allocation policy and administration are needed to ensure that conversions are restricted to suitable areas, though this becomes an issue of center-region politics over control of land use decisions.
- Forest and land fires have affected millions of hectares in Indonesia. ADB (1999) estimated that 10 million ha were burned during the 1997-98 fire events (exacerbated by the ENSO climatic pattern) and about half of this was non-forested and agricultural land. This released 700 million tons of carbon dioxide into the atmosphere and caused about \$9 billion in economic losses, including health impairment due to haze. Fire is still used for land clearing on a regular basis for plantation development and by shifting agriculturalists. In addition to creating smoke and haze-related health effects in the short run, use of fire and poor agricultural practices can encourage the spread of the *alang alang* grass (*Imperata cylindrica*), which dramatically alters the ecology and biodiversity

of massive areas of Indonesia. RePPPProt (1990) estimated that 10 million hectares have been converted to *alang alang*.

**Public Attitudes and Popular Mandate.** Environmental awareness is an essential part of biodiversity conservation. Though there have been improvements in recent years, and much more coverage in the media, Indonesia still has a way to go in terms of developing an informed public constituency for improved conservation. Increasingly, civil society organizations are becoming more empowered and vocal and showing increasing interest in conserving forests and biodiversity. Recent environmental disasters (e.g., floods, landslides, drought and pollution) have stimulated greater environmental concern among the public at large. Even when awareness is better developed, public attitudes and desires still need to be translated into action. Problem recognition needs to be connected to manageable corrective actions that are visible and effective.

Awareness is also needed as part of a broader mandate for conservation. Jepson (in NRM/USAID 2004) notes that “protected areas need the support of a strong popular will, overall vision, and mandate for their continued existence” and that they work best “when conservation values are imbedded in the values and beliefs that people associate with their national or regional identities.” Indonesia has not achieved this. IBSAP notes that lack of awareness “is aggravated by the greed of those possessing the means to exploit biodiversity.” The issue of attitudes is closely linked to the undervaluation of natural resources and ecosystems. Although these ecosystems produce valuable, and sometimes marketable environmental services, local markets and government planning decisions do not usually place sufficient value on these resources or services. Natural resources are simply exploited as cheap commodities. Yet, as seen above, the loss of these services can impose costs and cause losses, such as the cost of fire damage.

**Structural Issues of Development.** Beyond these technical factors, IBSAP points to several underlying “structural” factors in the management of biodiversity, including: exploitative, centralistic, sectoral and non-participatory policy; economic growth and sector-based approaches; inefficient management of natural resources (compounded by legal inconsistency); the use of extra-judicial force in conflict management; and the lack of community participation in key decisions. IBSAP also cites weaknesses in institutional arrangements, legal frameworks and law enforcement, research, information systems and human resources. In addition, the development process itself can have an impact on forests, environmental services and biodiversity. Population growth creates pressure to open land for settlements and agriculture, as well as increased urbanization of upland and rural environments. As noted in Chapter 3, Marifa (2004) has argued that macro-level institutional and structural changes are needed to address these concerns.

#### 6.4 Overall Assessment and Options for Improvement

IBSAP notes that “good environmental governance is still lacking, even after the transition and political reform towards democracy.” Further, improved biodiversity management requires “a shift in development paradigm; a new social contract among government and stakeholders; strengthened “preconditions for sustainable and equitable biodiversity management;” and a “change in people’s attitude and behavior to support biodiversity management.” It is hoped that this strategy “will create a sense of belonging, sense of responsibility, sense of accountability, even a sense of crisis towards conservation and utilization of biodiversity.” Though likely true, this does not provide a very practical agenda for action. The overall vision and strategy for improving biodiversity management (see text box) are fleshed out with several “operational strategies” for IBSAP implementation:

- Mainstreaming to develop national policy and legal frameworks that build on relevant international conventions.
- Capacity building to disseminate knowledge of laws, concepts, methods, models, and technology on sustainable management, rehabilitation and conservation.
- Decentralization to build capacity of local governments and communities to address specific local problems.
- Participation to involve all components of the nation in implementing IBSAP in the form of an action-oriented and synergistic movement.
- Monitoring and evaluation to ensure the success of IBSAP implementation at the sectoral level and regional level.

**IBSAP 2003 Strategy: Five Objectives**

The vision and mission for biodiversity management at the national level:

1. Develop the quality of individuals and society
2. Strengthen resources for supporting science, technology and the application of local wisdom
3. Reduce and stop the rate of biodiversity degradation and extinction at all levels during 2003-2020, along with rehabilitation and sustainable use efforts.
4. Empower institutional, policy and law enforcement arrangements at all levels for the management of biodiversity in a synergic, responsible, accountable, fair, balanced and sustainable manner.
5. Achieve fair and balanced roles and interests of society, as well as to reduce conflict potentials among all relevant sectors.

Within this broad framework, three areas stand out as opportunities for improvement, through donor assistance and partnership with appropriate Indonesian authorities and institutions.

**Ecosystems and Watershed Management.** Many believe that an ecosystem approach is the most effective way in the long run to maintain environmental services and protect biodiversity (World Bank 2001, ICRAF 2005, NRM/USAID 2004). Major international conservation organizations and research studies have developed the concepts of broad scale planning efforts as a way to deal with the increasing threats to environmental resources. The World Bank (2001) states that ecosystem level planning and management “embraces a continuum of different land uses from strict protected areas to production landscapes.” It also means retaining a permanent forest zone with representation of major forest types, together with buffer zones and corridors to link and protect them. The World Bank (2001) also cautions that it will be important to prepare for the future and seek “new options for managing forests after logging, rather than allowing conversion to inappropriate forms of agriculture. Such forest management could involve various management systems e.g. agroforestry, community management of production forests, and afforestation of degraded lands but should be designed to encourage natural regeneration, maintain native species and maximize biodiversity benefits.” Some options for preserving and rehabilitating landscapes for continued environmental service delivery include:

- Improve management frameworks at district and provincial level for protection forest landscapes and environmental service production.
- Provide institutional development support to clarify management framework and roles/responsibilities at each level.
- Assess existing areas providing critical watershed and environmental services and prioritize protection efforts.

- Enforce management rules to reduce forest crime, wildlife crime and trade, and encroachment in protection and conservation forests.
- Recognize possibilities for multiple uses compatible with watershed functions (including CBNRM, agroforestry) on selected land (not steep or fragile).
- Promote and enhance Payment for Environmental Service schemes, where appropriate and viable. Keep expectations for poverty alleviation low.

**Protected Areas Management for Biodiversity Protection.** On the positive side, Indonesia's protected areas system is based on representation of bio-geographic diversity, includes substantial human resource capacity, and has experienced professionals linked to international networks. However, compared to effective and successful protected area systems in other countries (NRM/USAID 2004), Indonesia lacks a national vision; brand name recognition within the conservation community and the national parks, public personalities who promote nature appreciation and integration with popular culture; well-developed local tourism markets linked to domestic recreation needs; an aware and concerned public; and a monitoring framework to track conditions and trends. Implementation options offered by NRM/USAID 2004 are more specific, but basically echo those from IBSAP:

- Stronger partnerships between central government and local government agencies.
- Empowered protected area managers who can collaborate and form partnerships with local governments and communities.
- Increased emphasis on strategies that provide livelihoods for local stakeholders.
- Improved financial and human resources for conservation and protection.
- Improved capacity and skills among CSOs to engage as useful partners with government.
- Institutional development support to clarify roles and responsibilities of different levels of government in more effectively managing protected areas.
- Education to address the long-term nature of conservation problems and to capitalize on the decentralization of the formal education system, which allows local governments to develop a portion of the curriculum.
- Initiatives to combat wildlife crime and trade in endangered species.

Given the conflicts of decentralization and local encroachment efforts, there may also be a need to develop a clearer mandate and agreed upon delineation of protected areas in collaboration with local communities. Most parks have not been fully demarcated (or *gazetted*).

**Public Awareness.** As noted above, there is also a need for a deeper cultural understanding of the value and need for protected areas, which can only develop over time. There is a need to build constituency and awareness for the long term, but this may be helped along by public awareness initiatives in the short run, especially those linked to existing traditional and popular cultural streams, including religion. As well, the school system offers great opportunities to include environmental awareness and action messages. The range of local initiatives should be assessed, better resourced and scaled up for wider coverage.

Charismatic species play an important role in raising public awareness and national pride in biodiversity protection. On November 22, 2006, news agencies (Reuters, Jakarta Post) reported that 48 orangutans (an endangered species) rescued from an amusement park were returned to Indonesia with great fanfare. A diverse partnership of conservation agencies, media companies and private sector firms helped to facilitate and fund this return, including NGOs Swara Hijau and the Borneo Orangutan Survival Foundation (BOS), the Indonesian military, PT Musimmas,

Taman Safari, The Association of Indonesian Palm Oil Producers (Gabungan Pengusaha Kelapa Sawit Indonesia, or GAPKI), International Timber Corporation Indonesia (ITCI, a forest concessionaire in East Kalimantan), and Gatra, a weekly news magazine. This effort shows how conservation initiatives can succeed when political will and public perceptions are high.

**Other Issues.** Recommendations for improving law enforcement and addressing conflict have been developed in Chapter 3. For watersheds and biodiversity protection, the steps would be the same, though perhaps more closely focused on particular land areas or types of violations, such as wildlife trade. On conflict, recommendations related to land tenure, community participation, and multi-stakeholder management approaches have already been laid out in some detail.

Of course, there is always room for more capacity building, though it makes sense to focus on governance and management frameworks first. Some of the specific training needs that have been identified in various reports include: public consultation, participatory planning, environmental policy, resource valuation, environmental impact analysis, public service delivery, law enforcement, conflict prevention, management, and resolution, outreach and communication, constituency development, and planning and management capacity (NRM/USAID 2004, World Parks Congress 2003).

### **6.5. Options for Sustaining Environmental Services and Biodiversity Values**

As in prior chapters, the key issues and recommendations are summarized into the table on the following page. This provides a road map to possible interventions to promote economic development, organized according to forest land type and condition. For example, environmental service delivery options are similar on protection and conservation land. These areas would also tend to be a higher priority for these activities. Likewise, activities to promote improved environmental service delivery are very similar, though limited, on both production forest land and conversion land. This leads to a natural grouping of recommendations. This framework provides the basis for further discussion of prioritized intervention options in Chapter 7.

**Using Forest Land to Provide Environmental Services and Biodiversity Values**

Forest Types	OBJECTIVE: Provide Environmental Services and Protect Biodiversity Values	
	Forested	Non Forested
<b>Production</b>		
	<ul style="list-style-type: none"> <li>▪ Enforce management rules to reduce impacts of LEGAL logging (RIL, Certification, riparian zones) &amp; preserve existing forest for future production (Performance bonds?)</li> <li>▪ Support land re-classification that harmonizes slope/condition with function</li> </ul>	<ul style="list-style-type: none"> <li>▪ Promote land/landscape rehabilitation, including planting trees for WS/ES protection, but recognizing that other land uses &amp; options also protect WS functions</li> <li>▪ Enforce management rules to reduce impacts of land clearing &amp; risks of fire</li> <li>▪ Provide institutional development support to clarify management framework and roles at each level.</li> </ul>
<b>Conversion</b>		
	<ul style="list-style-type: none"> <li>▪ Enforce management rules to reduce impacts of land clearing &amp; risks of fire</li> <li>▪ Support land re-classification that harmonizes slope/condition with function</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as above</li> </ul>
<b>Protection</b>		
	<ul style="list-style-type: none"> <li>▪ Manage forest landscapes for environmental services</li> <li>▪ Protect existing areas providing critical WS/ES (after assessment)</li> <li>▪ Enforce mgmt rules to reduce forest crime, wildlife crime &amp; trade, &amp; encroachment</li> <li>▪ Allow WS/ES compatible activities (including CBNRM, agroforestry) on selected land (not steep or fragile)</li> <li>▪ Promote/enhance PES schemes, local government partnerships, markets for environmental services and links to climate change funding.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as above, with more focus on watershed protection functions</li> <li>▪ Consider/evaluate admin, mgmt, &amp; legal frameworks for managing this land for production of ES/WS</li> <li>▪ Provide institutional development support to clarify management framework and roles/responsibilities at each level.</li> <li>▪ Promote/enhance PES schemes, local government partnerships, markets for environmental services and links to climate change funding.</li> </ul>
<b>Conservation</b>		
	<ul style="list-style-type: none"> <li>▪ Strengthen PAs: Empower managers to collaborate &amp; partner with local gov'ts and communities; Improved financial and human resources</li> <li>▪ Enforce mgmt rules to reduce forest crime, wildlife crime &amp; trade, &amp; encroachment</li> <li>▪ Develop/expand financing options for conservation: fiscal mechanisms, sustainability</li> <li>▪ Build capacity in CSOs to engage as partners</li> <li>▪ Promote education and awareness programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Promote land/landscape rehabilitation in critical areas and wildlife corridors, including planting trees for WS/ES protection &amp; biodiversity preservation</li> <li>▪ Build capacity in CSOs to engage as partners</li> <li>▪ Promote education and awareness programs</li> </ul>

*I never see what has been done; I only see  
what remains to be done.*

*– Buddha*

*If one way be better than another, that you may  
be sure is nature's way.*

*– Aristotle*

## **7. OPTIONS FRAMEWORK AND POTENTIAL ASSISTANCE AREAS**

As noted in the introductory chapters, forestry issues are interlinked with poverty alleviation, economic management, rural development, decentralized governance and most other issues facing Indonesia today. This report has tried to develop and explain those links. Donors and development agencies approaching Indonesia from different perspectives will find here the entry points for engagement on issues of poverty, democratization, decentralization, investment climate, public finance, service delivery, justice and rule of law, transparency and accountability. At the same time, efforts to address issues “outside the forestry box” should be built on recognition of the existing legal and institutional frameworks for managing forests and land. While broad governance and democratization reforms continue to evolve, practical progress can still be made in many areas, even within the usual forest and land classification framework in place today. This chapter provides a synthesis of options and recommendations developed in prior chapters.

This chapter provides a framework for organizing and prioritizing options for possible interventions to address issues identified in previous chapters. The framework is based on the forest management objectives, forest land classifications, and environmental quality indicators (forest cover) introduced in Chapter 2 and discussed throughout the report. The three main objectives for managing forest land identified in Indonesian law (and World Bank policy) are: supporting economic development, improving rural livelihoods and reducing poverty, and producing environmental services and benefits. Improving governance to achieve these objectives is another important underlying concern. Indonesia’s four primary classifications of forest land are based on the functions of production, conversion, protection, and conservation. Forest cover provides a simple measure of forest resource status and quality, even though there may be some definitional issues related to quality and cover. This framework allows matching of policies to problems on different types of land and better targeting of activities and investments to the needs of different people and forest uses on different areas.

### **7.1 An Organizing Framework for Priority Setting**

For each combination of objective and forest classification, different policies and interventions will be most appropriate to better align practices with goals. Also, different types and numbers of people may be using the forests in these various zones and these groups will have different responses to policies and interventions in these areas. For example, interventions toward the objective of improving rural livelihoods will be more appropriate on non-forested conversion areas than on forested protected areas. Thus there is convergence between goals, allocated forest functions, and environmental conditions in some cases and discord in other cases. As well, there are large areas of land and people in some categories and relatively smaller amounts in other categories. Convergence of goals, functions and status on one hand and land area on the other provide the basic elements of a prioritization scheme for proposed activities or options to improve

forest management. The matrix below illustrates the organizing framework, with areas of greater convergence between objectives, functions and status identified through darker shading.

Forest Land Function Categories	Land Area* (Ha Million)	Overall Objectives		
		Support Econ Development	Improve Livelihoods & Reduce Poverty	Provide / Protect Environmental Services
<b>Forested</b>				
Production Land	43.6	Compatible goals, functions and status (see 7.3.1)	Compatible goals, functions and status (see 7.3.1)	
Conversion Land	12.1			
Protection Land	24.8			Compatible goals, functions and status (see 7.3.3)
Conservation Land	14.6			
<b>Non-Forested</b>				
Production Land	17.6	Compatible goals, functions and status (see 7.3.2)	Compatible goals, functions and status (see 7.3.2)	
Conversion Land	10.3			
Protection Land	5.8			Status does not support functions to meet goals (see 7.3.4)
Conservation Land	3.6			

\* The precise numbers in this scheme can be refined as new results are developed. The important point is the relative sizes of the different categories as an indicator of priority for action.

**Examples of Convergence of Objectives and Functions.** Several examples may help to clarify the scheme. Both Production and Conversion Lands are compatible with supporting economic development, whether they are forested or not, so these areas of intersection in the matrix are highlighted in dark green. These land functions are also compatible with the goal of improving livelihoods and reducing poverty, whether forested or not, though some clarification of rights and rules may be needed to better achieve livelihood benefits. In *forested* areas, traditional forest-related economic activities can be considered (e.g., harvesting and processing, NTFP production). In *non-forested* areas, other kinds of activities can be considered, such as allowing plantations or agroforestry activities. Since the status of non-forested lands is not fully supporting forest functions, it may be reasonable to consider changing the land classification to allow a broader range of economic activities. Production and conversion lands may produce some environmental services, but they are not intended or managed primarily toward that end, so these areas are not shaded (whether forested or not).

On *forested* Protection and Conservation Areas, the goal of protecting environmental services converges with assigned functions and status, so these areas of intersection are shaded in dark green. These lands are not intended primarily for producing economic development, improving livelihoods or reducing poverty (though some economic benefits will be achieved), so these areas of intersection are not shaded (whether forested or not). *Non-forested* protection and conservation lands (lower right of matrix) are less capable of producing or protecting the full

range of environmental services (associated with forests). However, these lands may be able to provide some benefits (e.g., watershed protection through non-forest land cover, wildlife corridors) if managed or rehabilitated. Alternatively, these lands may be able to contribute in some ways to livelihood improvement and poverty reduction goals, but only after some clarification of rights and rules.

Based on these considerations the matrix provides a very preliminary prioritization scheme. The amount of land in each category also contributes an understanding of the relative priority among different goal-function-status grouping.<sup>15</sup>

**Similar Options/Interventions on Different Land Classifications.** For many types of technical and management issues, the possible interventions (e.g., plantations, rehabilitation) can be targeted to specific land classifications or objectives. For example, on *non-forested* lands, some kinds of interventions are possible (e.g., tree planting, reallocation to smallholders), while others are not (e.g., natural timber production, biodiversity protection). Further, certain kinds of interventions are quite similar, even if they occur on different classes of lands. For example, suggestions to improve the lot of small-holders include reallocation of land and improved access to credit and markets. The basic options for intervention would be similar, whether organized on Production or Conversion land. But, on *non-forested land*, the proposed interventions could be different. In addition to land access, small-holders may need seedlings and technical assistance and extension to establish and manage a transition to agroforestry landscapes.

This framework also illustrates these areas where similar kinds of interventions may be compatible for several land function-goal-status classes. For example: *non-forested* Production and Conversion Areas can be managed to produce economic development goals in similar ways (e.g., allowing plantations or agroforestry activities). The level of livelihood benefits to the poor would depend partly on how the activities are organized and eventually owned. On *forested* Protection and Conservation Areas, similar kinds of co-management and law enforcement activities that help to preserve ecosystem functions may be appropriate.

These areas of intersection and similarity provide a means to organize discussion of the entry points and intervention options that have already been introduced in the four previous chapters. The remainder of this chapter aims to describe ways to improve management of specific land areas toward better performance in achieving the overall objectives for which the land is allocated. Priority is also focused on areas of convergence where there is relatively more land. For example, poverty reducing activities on *non-forested* land would have greater impact in the largest blocks of such land in the production and conversion lands, rather than in the relatively small amount of deforested protection forest area. Areas of non-convergence (e.g., economic production on conservation land) are considered a lower priority for interventions. This is because the feasible interventions are aimed at producing results that are not fully consistent with the land use designation.

Governance and management issues and entry points do not fit neatly into a geographic priority scheme, but rather cut across all geographic areas and objectives. Possible governance improvements are discussed in the next section, 7.2. Section 7.3 is organized according to the prioritization scheme in the matrix. Following this scheme, Section 7.3.1 discusses economic

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<sup>15</sup> Geographic analysis of the land areas in each category and the population and poverty distribution could also contribute to an understanding of the relative numbers of people who might be affected by various interventions. However, that information is not yet available at the level of forest land classification.

development and poverty alleviation options in *forested* areas and Section 7.3.2 covers these issues in *non-forested* areas. Section 7.3.3 discusses promotion of environmental service delivery in *forested* protection and conservation areas and Section 7.3.4 discusses these issues in *non-forested* protection and conservation areas. In section 7.4 some of the lower priority options for intervention are mentioned briefly.

As noted in the Introduction, this report focuses more on what can be done to improve forest management to achieve goals of production, livelihoods, and sustainability, rather than a detailed prescription on how to do it. Of course, the “how” will have to be worked out by Indonesian stakeholders and responsible GOI agencies at many levels. Donors and development agencies can assist through technical assistance, partnerships, and analysis in many of the areas outlined in the following sections.

## 7.2. Options for Improving Governance and Management

To accomplish any of the objectives for improving management of forested or non-forested land, considerable work on governance and management issues will be needed. Governance includes establishing the agreed-upon enabling environment and the rule of law that allows actions and actors on the ground to proceed in a proper fashion toward mutually-agreed objectives. However, since the forestry governance framework in Indonesia needs improvement, an important intervention option is to support ongoing efforts to build and extend national dialogue processes on forestry sector organization, rights, rules, roles, and responsibilities. In September 2006, as this document was being produced, the GOI and diverse forest sector stakeholders convened the Fourth National Forestry Congress and established a new National Forestry Council with representatives from government, business, communities, NGOs and universities. These new institutions provide important entry points for expanding and deepening dialogue processes, while also increasing trust and transparency. The following options are identified based on the discussion in Chapter 3.

**Transparency.** Transparency and rule of law are two essential pillars of good forest governance. The MOFR and other key agencies initiated a national dialogue on promoting transparency in Indonesia’s forest sector at a workshop in February 2006. The workshop resulted in a declaration on forest sector transparency and provided recommendations toward an action agenda that includes supporting development, implementation, and widespread use of the Forest Monitoring and Assessment System (FOMAS) along with reporting frameworks and dissemination means; providing capacity building and technology for dynamic decision-making based on reliable, accurate and up-to-date information; and supporting development and implementation of a comprehensive disclosure policy on forestry-related information and data. Promoting transparency, independence, and accountability in the use and management of data on forestry land and production data is an important component of this effort. This would have to be coupled with effective disclosure mechanisms so that the public and affected stakeholders can access the information in ways that are effective and useful to them in interacting with forest sector decision-makers. This work is being pursued by the MOFR with support from the World Bank, WWF-WB Alliance, Government of the Netherlands, World Resources Institute, and others.

**Law Enforcement.** Law enforcement is a key pillar of improved forest governance. Law enforcement can deter and dissuade people from engaging in forest crime and may improve overall governance and the rule of law, strengthen forest and natural resource policy frameworks, curb illegal and financial transactions, and promote more sustainable forest resource

management. Three major actions could help to improve law enforcement in Indonesia, especially in the area of illegal logging: 1) build capacity to carry out law enforcement; 2) amend national laws and regulations to strengthen law enforcement efforts and 3) prosecute those behind major forest harvesting, processing and transportation crimes. Of the three main components of a law enforcement approach – prevention, detection, and suppression – many development assistance agencies may be more comfortable avoiding actual suppression activities in the field. However, there are intervention options that focus on training and improving capacity to plan, organize, and target law enforcement actions, without actually supporting interdiction efforts. The MOFR’s “11 Step Program to Combat Illegal Logging” provides a logical framework and activities that can be supported. In addition to these specific options, law enforcement priorities and programs should be integrated with national level efforts to harmonize understanding of forest laws and enlist support/involvement of provincial and district governments in implementation. It may also be productive to support Civil Society Organizations’ efforts to use media and investigation to expose corruption and crime.

Law enforcement initiatives also need to be integrated with efforts to improve implementation and oversight of financial sector rules and good practices. There are opportunities to assist GOI agencies to strengthen the financial sector regulatory environment, improve financial due diligence practices, increase social and environmental impact review in the banking sector, and learn lessons to help resolve and prevent future recurrence of major debt issues in the forestry sector.

There are also many opportunities to work with multiple agencies on issues related to financial crimes. Anti-money laundering workshops were held in Jakarta in November 2005 and June 2006 with participation from PPATK, MOFR, Coordinating Ministry for Security and Law, Police, Attorney General’s Office, and Financial Regulators. Participants discussed the establishment of an interagency task force to investigate and prosecute significant forest crime cases using financial intelligence investigative techniques. The MOFR is also developing more specific legal instruments for fighting forest crime.

Also, it is useful to recognize that different lands will have different law enforcement priorities. Some of these may be addressed (e.g., illegal logging in national parks) without a grand debate about the legal framework. In other cases, there may be a need for a specific discussion and agreement before actual enforcement initiatives proceed to ensure that there is full understanding of the rules and an effort to ensure equity in the application of law. On forested production and conversion lands, beyond illegal logging, there is a need to enforce rules that help to reduce the negative impacts of *legal* logging, improve the payment and collection of fees and taxes, improve tax administration, and recover delinquent payments. On conversion land and non-forested lands, enforcement efforts could usefully focus on reducing impacts of land clearing and the risks of fire. On Protection and Conservation Lands, beyond efforts to curb illegal logging, enforcement could usefully focus on defining and marking boundaries to prevent encroachment and allow community self-policing. Also, increased efforts to curb the illegal wildlife trade could be recommended.

**Conflict Resolution.** There is a great need to develop mechanisms to prevent and resolve forest and land use conflicts. This will need to be a national and broad based effort, similar to that envisioned under the process and framework established in MPR Decree No. 9 of 2001. This appeared to be a timely and useful initiative when it was passed, but it has largely not been implemented. Although there are many local and CSO-led conflict resolution initiatives that

could be supported, it may also be useful to study the recent experience with the MPR Decree process, identify where it stands, what assistance it needs, or what pitfalls need to be avoided in future efforts. Some suggestions that could be followed up after this initial review of experience include:

- Develop and implement mechanisms (all levels of government) to address concerns, resolve conflicts, process grievances, settle claims, and compensate for losses
- Establish legal aid teams, conflict resolution teams (and provide with appropriate roles and responsibilities grounded in law)
- Raise standards for social impact assessment for investment/infrastructure projects on “forest land.” Improve monitoring and implementation of mitigation plans.

These considerations could also be worked into new legislative initiatives, such as the proposed Law on Natural Resources Management or proposed revisions to the Basic Agrarian Law.

**Decentralization.** There is a great need to strengthen district and provincial forestry agencies in concert with the central government. Options for interventions to improve the decentralized governance framework could begin with institutional development support to help clarify roles and responsibilities for district/province governments in management, implementation, licensing, and monitoring activities on forest lands. Recent legislative changes in the decentralization framework have clarified some elements of the legal framework, but there is still room for socialization of the results, training in implementation and interpretation of new rules and relationships, and fine tuning of the arrangements based on experience. There is also a great need for capacity building in regional government forestry bureaucracies. Coupled with this, it may be useful to consider the institutional structure of the central MOFR and how that could be made more responsive to the needs of decentralization.

Issues related to decentralized forest administration will also vary with type of land. These issues could be addressed incrementally, based on willingness of national and regional governments to engage in constructive discussion toward resolution. For example:

- Production and Conversion areas: Issues include licensing, tax administration, rights and access, conflict, monitoring and enforcement of forest stewardship rules
- Protection and Conservation areas: Issues include boundary definition, encroachment, licensing of compatible uses, access and use rights
- In non-forested areas, issues include use rights and access, transfer/re-allocation rules, plans for economic development investments (plantations and roads), and conflict.

**Dialogue-Decision Processes.** Multiple actors and agencies on many levels are increasingly working together to promote, establish, support and sustain dialogue and decision processes on the future organization and management of the forestry sector. The newly formed National Forestry Council provides a useful venue and focal point for new assistance initiatives. Prior donor efforts have assisted the development of the National Forest Program and a wide network of communities and NGO’s through the Multi-Stakeholder Forestry Program, the Ford Foundation, and the GEF Small Grants Program. Development agencies can usefully continue to support these kinds of groups and dialogue forums that will address the following kinds of issues:

- Legal Framework and Decentralization – What to do where laws/rules are regarded as unjust, outdated, unenforceable, undesirable? What negotiation/resolution processes can

- be established, strengthened? How to evaluate effectiveness of local innovations, new policies?
- Forested Land Quality and Quantity – What are the best uses? How much is enough? Are existing designations right? What analyses/ assessments are needed for decision making? What compatible economic activities should be allowed?
  - Deforested and Degraded (low and flat) Land – most economic activities are compatible, so what benefits the most people and who gets access and control? What are management objectives after forest is gone? (For high, steep land rehabilitation is priority)
  - Protection forests – What are the best management arrangements to ensure delivery of watershed and environmental services (carbon, biodiversity), noting also that tree cover may not be the only or the best protection regime.

As part of the dialogue, conflict resolution, and decentralization processes, one recurrent theme will be land use, allocation and access. As seen earlier, large areas of the state forest zone lack trees. Reallocating some of this land and allowing a more diverse set of use and management rights to a more diverse set of user groups could encourage investment in land and forest resources, increase productivity and earnings, improve rural welfare and relieve poverty, and contribute to reducing conflict. Community-oriented and collaborative management approaches are increasingly being developed and tested and legal frameworks may be emerging that would allow more widespread application. Any dialogue and decision process about land allocation and access needs a framework for focusing on the key areas where change is possible and beneficial.

### **7.3 Discussion of Priority Interventions for Specific Land Areas**

This section provides more detailed suggestions for activities that could be focused on resolving issues in specific areas of forest land, based on the prioritization scheme developed in Section 7.1. These are presented in the order of the amount of land area affected, from the largest to smallest.

#### **7.3.1. Economic Development and Poverty Alleviation in Forested Areas**

Currently, about 55 million ha of forested land lie in lands allocated for production and conversion functions, an area the size of France or Kenya. Intervention on these lands is a high priority because this is a such a huge area of the globe's remaining tropical forest and because these areas support the large and politically and economically important commercial forestry sector.

**Commercial Forestry.** To promote economic development on these lands currently devoted mainly to commercial forestry activities, high priority actions would include support for the MOFR's industrial restructuring and revitalization strategy. Elements of this strategy (beyond the fundamentals of law enforcement) include the following. Temporarily reducing industrial timber demand is needed in the short run so that growth can occur in the long run. Assistance could be helpful on the criteria and legal means to employ in making these reductions effective. Creating incentives to promote investment in industry retooling for efficiency, value added, and downstream products is an important longer run activity, which would require access to capital, marketing assistance and technology advice. The IFC is currently working in this area with SMEs in the furniture industry.

To accomplish forest industry restructuring for more efficient and legal economic development, improved enabling conditions would also be required, including reform of the financial sector to allow bankruptcy and improve due diligence in the review of projects and investments. There is also a need for greater coordination between financial sector policies and forest management policies to avoid confusion and contradictory incentives. Some have argued for more positive incentives for private sector forest managers (e.g., regulatory relief for law-abiding and certified firms) to balance greater disincentives for illegal activities.

On conversion forest land, it may be appropriate to allow some added timber harvest (and forest/land damage) in the short run to balance industrial timber demand and supply. However, this policy of convenience should be linked to specific enforcement initiatives and policy incentives to reduce and limit the amount of damage (e.g., by disallowing the use of fire) and to compel existing plantation companies (mostly linked to pulp mills) to comply with existing commitments (e.g., timber self sufficiency from own plantations). For existing, forested conversion lands, another option is to evaluate the current status, determine the highest value use and desired future status, then reallocate land status and regulatory framework to achieve that end. For example, some plantation companies are entering into voluntary agreements with environmental NGOs to help identify and develop management plans for areas of “high conservation value forest.”

Of course, improving management on forested lands through industry restructuring and law enforcement will also have a positive long term effect on forest cover, which will produce some environmental services and biodiversity benefits. This discussion has not focused on these benefits, because they arise as a side effect of the economic activities for which the land is assigned.

**Livelihood Enhancement.** To make economic development on these Production and Conversion Forest lands more equitable and oriented toward producing livelihood benefits and alleviating poverty, some options could be considered for focusing on smallholder needs and investments, as well as the needs of communities, women and marginalized groups. Actions aimed at involving more groups in existing and allowed activities, such as timber production and processing include:

- Encourage community forestry and SMEs, perhaps including aspects of the MOFR’s Social Forestry program. This could involve providing incentives, clearer rights and technical assistance to community groups or cooperatives.
- Invest for the long run in timber processing technologies aimed at smaller scale and more flexible companies or cooperatives. Appropriate value adding activities with future potential include furniture, moldings, building components, and more labor intensive downstream processing into finished products for consumer markets.
- Invest in the sustainable small scale production of NTFPs and handicrafts made from them. Donors and NGOs have supported these kinds of activities in the rattan industry, also providing institutional development support, marketing assistance, and business management skills for producers’ cooperatives.
- Promote community-company partnerships for timber production (in forested plantation portions of the production forest area) to increase the employment potential in pulp plantations and different forms of timber production more generally.
- Engage communities more actively in production forest management, possibly using innovative licensing arrangements or partnerships. Another alternative, being proposed in Papua, is allocating forest management rights to communities, then allowing the

communities to manage forest harvesting contractors. It has not been demonstrated, however, that communities have the capacity to strike fair bargains with timber conglomerates and professionally monitor their practices.

Success in this direction will require work on underlying enabling conditions to support/allow tenure/access arrangements that benefit the poor and encourage investment. This approach must proceed with caution to avoid or mitigate the possibility of negative or perverse incentives, such as clearing of forest land to establish tenure claims.

For Conversion Lands, all of these activities are also possible. However, it will be important to review the quality of remaining conversion lands, determine the desired future status, then re-designate these lands based on the desire to preserve the forest cover, or to continue with the planned conversion to other uses (agriculture, plantations). This option may have to wait for broader agreement on the status of land and a governmental willingness to consider land reallocation.

Some other lower priority options include expanding or facilitating timber imports to relieve pressure on the forests, though this would not be a major area of work for a development agency. There is also a need to retrain mill/concession employees as industry restructuring and dynamic evolution change the nature of skills and jobs needed in the various sub-sectors.

### **7.3.2 Economic Development and Poverty Alleviation in Non-forested Areas**

Indonesia currently has 38 million hectares of land without trees under the administration of the MOFR. This is an area the size of Japan. Of these, 28 million hectares are on lands allocated to support economic production and development. This is an area almost as large as the Philippines. These non-forested and degraded lands are a high priority for intervention because of the vast land area involved, the rapid rate of change of land status from forested to non-forested, and because of the relatively unmanaged status of much of this land. This is also a high priority because it is one of the most obvious and logical places to begin to think about rationalizing the forest estate and allowing more equitable and pro-poor access and activities.

In Production Areas (which include industrial timber plantations), there is a great need for interventions that support planting more trees for production/timber uses; improve productivity of existing and new plantations through management, models, cross-learning, and incentives; and promote community-company partnerships to open new kinds of benefit sharing, as well as new lands, for timber production. Tree planting will succeed only if better incentives for long term investment, management, stewardship and production are also provided. Community forestry, social forestry, cooperatives and SMEs can also be promoted on these lands. These options have the advantage of creating more jobs than large, concentrated, capital-intensive industrial firms.

These options could be carried out on production lands or conversion lands, as long as some flexibility and creativity are employed in the designation of land uses and the establishment of use and access rights. Ultimately, alternative access and stewardship arrangements will be needed to promote investment and smallholder economic productivity on this land. In the long run, these activities will improve land cover, which should provide a range of environmental services, as well as market opportunities and livelihoods. Some pilot projects and test cases can be built on existing examples to identify reliable models for general application and scaling up.

New rules and interpretations within the MOFR are opening space for communities and smallholders to be involved in forest utilization and management with longer time horizons. Communities, smallholders, and disadvantaged groups will need assistance and improved capacity to deal with the application, licensing, and monitoring requirements that come with the use and access rights. There is a need for service providing organizations (e.g., universities, NGOs, or GOI agencies at field level) to bridge the needs of communities with the regulatory requirements so that these new opportunities more accessible and available to communities. Technical services and skill development efforts could include legal aid, extension services, marketing and business management services, land rights registration and mapping assistance, license facilitation services, and conflict resolution mechanisms. There may also be a need for central or regional institutions producing general training programs and information clearinghouse services to allow sharing of information and approaches across regions. Many existing civil society organizations may not have the institutional structure and wide reach necessary for a nationwide effort.

Degraded and deforested conversion lands are a logical entry point to a broader discussion about access and tenure arrangements, beginning with the least forestry-important lands. The experience with this discussion and initial implementation could become the basis for a larger initiative to rationalize land use and control. This would ultimately entail moving degraded lands into more productive uses that benefit the poor and vulnerable.

### **7.3.3 Promote Environmental Services in Forested, Protection and Conservation Areas**

The forest cover analysis shows that forested protected areas are somewhat less threatened than lands allocated for economic purposes. However, these lands are allocated for preservation of Indonesia's heritage, as well as global public goods (carbon storage and biodiversity), so any threat is serious. Also, the lowland forests that are the most valuable for biodiversity conservation are also the most economically valuable and accessible, so are relatively more threatened. Forested Conservation and Protection areas represent nearly 40 million hectares, so it is a high priority to ensure that these lands can produce the services for which they are allocated (assuming that they are allocated properly for high conservation value or steep, vulnerable slopes).

Recently, land slides, floods, erosion, siltation of dams and other effects of land and forest degradation have caught the public imagination. Although scientific evidence does not support the need to plant trees to prevent flooding, some actions, including rehabilitation with a range of cropping systems, can be recommended based on the need for continued environmental service delivery, as well as preventing the risks associated with wider environmental degradation and collapse. Also, there is evidence that biodiversity is threatened by habitat loss across Indonesia, so some responsible action can be recommended based on the fact that Indonesia is an epicenter for many kinds of biodiversity. Note also that some biodiversity and environmental services benefits will be achieved by improving forest and land management on lands allocated for economic ends, as discussed above.

Support for collaborative management of forests, protected areas and watersheds have shown great promise in Indonesia. Activities in forested watershed protection areas could include establishing rules and partnerships (within the decentralization framework) for managing larger forest landscapes for environmental service protection and production. Assessments would be one component of an effort to identify and develop multi-stakeholder management plans for

existing protection areas that provide critical watershed and environmental services. These plans, which presumably would operate at the district level, except for larger watersheds that cross provincial boundaries, could potentially allow compatible economic activities (including CBNRM, agroforestry) on selected land (not steep or fragile). Intervention options could also focus on establishing and enforcing management rules on these areas to reduce forest crime and trade, wildlife crime, and encroachment.

For forested Conservation Areas, Chapter 6 outlined a range of possibilities for improvement. In summary, options could include strengthening Protected Areas, their networks, and their managers. This could include empowering managers to collaborate and develop partnerships with local governments and communities to sustain and protect the essential functions and values of the protected areas. Community-driven development approaches are being explored as one way to involve local communities in environmentally sound and conservation-friendly development activities. Enforcement initiatives would likely best be focused on forest crime and trade, wildlife crime and trade, and encroachment on legitimately established boundaries. There are also many options and opportunities to develop and expand sustainable financing options for conservation (including for fiscal mechanisms), build capacity in CSOs to engage as partners, and promote education and awareness programs.

#### **7.3.4 Promote Environmental Services in Non-Forested, Protection and Conservation Areas**

Non-forested Conservation and Protection lands account for less than 10 million ha of land, the smallest component of the framework established at the beginning of this chapter. Assuming these lands were classified properly, based on high conservation value or steep slopes and marginal soils, these lands may be a relatively high priority for rehabilitation to restore and protect ecosystem functions. In a deforested and degraded condition, these lands are currently not delivering the full range of environmental services for which they are intended. This can be a burden on downstream urban dwellers or the poor, who rely on water, soil and fertility services that may be an important part of their livelihoods. As seen in Chapter 6, the GOI is already spending rather large amounts to rehabilitate lands through the GERHAN program, and about 30% of this investment is in protection forests. Unfortunately, protection forests are also among the least well-managed categories of forest lands and rehabilitation investments may not pay off in this open access situation, until management frameworks are clarified and strengthened.

If, however, these lands are not classified properly – and remote sensing interpretation shows that half of protected forests have lower slope than required for this designation – then these lands should be a high priority for reallocation to economic purposes so that they can play a role in producing economic goods and reducing poverty. A major reclassification of land is not likely in the near future, so this activity is not prioritized. The initiatives developed here are incremental steps that can be taken while dialogue and data gathering proceed and movement toward forest land rationalization can begin at a larger scale. At a minimum, it will be important to ensure that new policies for land use changes do not create or reinforce incentives for land clearing on protected landscapes.

Since it is not possible to return these lands to a fully natural state, activities may be considered to rehabilitate/manage these areas to a state where they can produce more of the services for which they are allocated. Activities could include:

- Promote land/landscape rehabilitation, including planting trees or other crops for environmental services and watershed protection, recognizing that other land uses and options also protect watershed functions. Focus rehabilitation on steep slopes and riparian land.
- Consider and evaluate administrative, management, and legal frameworks for managing this land for production of environmental services and watershed protection functions without complete tree cover, in a mixed mosaic of cropping and cover patterns.
- Support land re-classification that harmonizes slope/condition with function. For example, steep areas should be reconfirmed as watershed protection forests, in collaboration with local stakeholders and governments. High conservation value forests within the protection forest areas might be good candidate areas for reallocation into conservation areas, especially if they are part of critical wildlife corridors or within the range of endangered or endemic species.

While these activities are primarily aimed at preserving or restoring environmental functions, they also have the (potential) advantage of producing some livelihood benefits and economic opportunities for smallholders and the poor. These groups can be actively involved in rehabilitation efforts and can be invited/encouraged to conduct environmentally compatible activities (with suitable monitoring and management limitations). These activities could be designed with more emphasis on economic development and poverty alleviation. However, this would entail working actively to change the status and primary function of protected land, which may encounter political resistance, as well as create perverse incentives. Also, this is a relatively small area of land, so the primary focus of economic development and poverty alleviation efforts should be on the larger stocks of deforested land in production and conversion forests, as mentioned in Section 4.3.2 above.

#### **7.4 Interventions in the Context of Regional Decentralization**

This section discusses decentralization as a reality that must be addressed in implementation, not as a governance issue (as in Section 7.2). Decentralization and autonomy provide opportunities to pursue some of these actions and interventions at the provincial or district level. More could be done to tailor this framework for each of the forest-critical island regions (Kalimantan, Sumatra, Papua, Java-Bali, Sulawesi). Dialogue processes could also provide some insights into the different approaches that may be appropriate in different regions. Any specific assistance strategy will have to recognize the reality of decentralization and incorporate a more localized approach than appears in this overview document.

The shift in power from the center to the districts is both a concern and an opportunity. Local governments now have more authority, responsibilities and resources. Substantial authority over administration of commercial forestry has been decentralized in recent years (Barr, et al., 2006). Local governments are exerting increasing influence on forest sector policies and land management at the local level. In recent years, local governments have been increasingly willing to make policy “on the ground” by authorizing actions that may or may not be fully legal, according to the central legal framework, at least. Thus, opportunities to work at the regional level must be tempered with the need to have reasonably consistent approaches and overall conformance with national laws.

This consideration indicates a possible constraint on the level of regional specialization that development assistance agencies build into their forest sector assistance programs. Regional

governments may be willing to innovate in areas where the central government still retains control, for example National Parks. Regional work will need to be balanced with a certain amount of governance work at the center to create appropriate space and criteria for regional forestry programs to develop and innovate within a proscribed pathway.

Regional differences would also have to be considered in developing activities at provincial or district level. In terms of forest cover, governance, and management issues, all the outer islands are more similar to each other than to Java. Most of the good quality natural forests and large protected areas are located off Java. Most of the smallholders and poor are located on Java. Off Java, there are also important differences between forest-rich and forest-poor districts and provinces. The options in this report bear mostly on the major forest zones off Java. With further study and discussion with regional governments, some of these options could be more closely tailored to take account of the differences between Sumatra and Papua, for example. However, it is likely that the basic sets of activities and governance priorities would be relatively similar for all the outer islands.

### **7.5 Prioritization and Next Steps**

This framework provides a range of options for creating an intervention strategy over the medium term. A major intervention program is dependent on actions by a number of parties, not least is agreement on basic objectives and milestones among a wide range of stakeholders. One short run step would be to promote discussions toward sustained, multi-donor support for dialogue and agreement on directions for the forestry sector, indeed for all natural resource management concerns. New institutions are emerging as useful partners in such engagement. There is also room for policy studies that can fill information gaps or can provide additional detail about legal or procedural options, perhaps based on success in other countries. Development assistance agencies can also readily support ongoing initiatives that have solid support from both the GOI and civil society organizations, including the transparency initiative and the growing campaign against forest crime. The MOFR's medium term and long term planning documents are good starting points for discussion of actions and possible partnerships. The priorities and options mentioned in this report are already largely consistent with the Government's plans.

As a contribution to the larger policy dialogue, it would also be helpful to develop alternative visions of the future of the forestry sector under different policies or interventions. For example, what would the future look like with no intervention to improve forest sector governance, as opposed to gradual or strong intervention. Similarly, analysis could help to identify what would be the future implications of interventions under each of the sets of options outlined above. These analyses could help to develop and explain the implications of different actions on different lands and consider regional trends with relevance to the decentralization process.

Political economic analysis can also be an important component of strategic planning for investments or interventions in the forestry sector. Development agencies should have a clear view of the potential gainers and losers associated with particular reforms, as well as the political or financial obstacles that stand in the way of achieving the overall objectives of achieving economic growth with equity, poverty reduction and environmental protection. Based on experience and recent history, it is clear that there are disconnects between policy and law on the one hand and action-on-the-ground on the other. The political economy of money and power has an important bearing on the potential for success in movement toward greater economic, social and environmental sustainability in Indonesia's forest sector.

*I hate quotations. Tell me what you know.*

*– Emerson*

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### Web Sites for Further Information

A representative, not exhaustive, list of sites where more information can be found about forests, economics, livelihoods, environmental services and biodiversity in Indonesia.

#### Government of Indonesia

Ministry of Forestry: <http://www.dephut.go.id/>  
Central Statistics Board: <http://www.bps.go.id/>  
National Development Planning Board: <http://www.bappenas.go.id>  
Ministry of Environment: <http://www.menlh.go.id/>  
Coordinating Ministry for Politics, Law and Security: <http://www.polkam.go.id/>  
Coordinating Ministry for Economic Affairs: <http://www.ekon.go.id>  
Ministry of Finance: <http://www.depkeu.go.id/>  
Ministry of Agriculture: <http://www.deptan.go.id/>  
Ministry of Industry: <http://www.dprin.go.id/>  
Ministry of Energy and Mineral Resources: <http://esdm.go.id>  
Ministry of Marine Affairs and Fisheries: <http://dkp.go.id/>  
Ministry of Home Affairs: <http://www.depdagri.go.id/>  
National Mapping and Survey Coordination Body: <http://www.bakosurtanal.go.id/>  
National Forestry Council (Dewan Kehutanan Nasional): <http://www.hutan.net/>

#### International Conservation Organizations Working In Indonesia

Birdlife: <http://www.birdlife.org/>  
Conservation International Indonesia: [www.conservation.or.id](http://www.conservation.or.id); Critical Ecosystem Partnership Fund: [www.cepf.net](http://www.cepf.net)  
Fauna and Flora International: <http://www.fauna-flora.org/>  
Indonesian Biodiversity Foundation: [www.kehati.or.id](http://www.kehati.or.id)  
The Nature Conservancy: [www.nature.org](http://www.nature.org)  
Wildlife Conservation Society: [www.wcs.org](http://www.wcs.org)  
World Wildlife Fund: [www.worldwildlife.org](http://www.worldwildlife.org); WWF-Indonesia: [www.wwf.or.id](http://www.wwf.or.id)

#### International Organizations, mainly multilateral

Asian Development Bank: <http://www.asiandevbank.org/>  
European Union: <http://europa.eu.int/en/comm.html>  
Global Environment Facility: <http://www.gefweb.org/>  
International Finance Corporation: <http://www.ifc.org/>  
International Fund for Agricultural Development: <http://www.unicc.org/ifad/home.html>  
United Nations Development Program: <http://www.undp.org/>  
World Bank Office, Jakarta: <http://www.worldbank.or.id/>

#### International Research Organizations

CIFOR - Center for International Forestry Research: [www.cifor.cgiar.org](http://www.cifor.cgiar.org)  
World Agroforestry Centre (ICRAF): [www.worldagroforestrycentre.org](http://www.worldagroforestrycentre.org)



## **ANNEX A: OVERVIEW OF PRIOR WORLD BANK INVOLVEMENT IN INDONESIA**

World Bank lending for forest conservation and management has historically been restricted to a relatively short period between 1988 and 1996. However, World Bank operations before that period did influence forest conservation and use and forest issues have remained an important component of the Bank's policy dialogue with Indonesia since 1996. The impact of past World Bank involvement in the forest of Indonesia was systematically reviewed by the Operations Evaluations Department (OED) in 2000 (World Bank, 2000).

The World Bank's overall assistance strategy to Indonesia in the pre-1991 period was focused on the issues of economic growth, population growth and poverty reduction. However, the OED review found that the impact of macroeconomic policies and the cross sectoral impacts of other policies such as agricultural policy was rarely considered during this period. In particular, OED cited the failure of the Bank supported transmigration program to consider its impacts on either forests or indigenous peoples. OED found that, while these projects were successful in terms of reducing poverty, they were focused on poverty reduction in Java and they did not anticipate the serious conflicts between the trans-migrants and the poor Indonesians living in the outer islands. OED suggested that this reflected the general lack of attention to environmental and social planning issues at the time. The OED also pointed out that these programs have had "serious and probably irreversible impacts on the forests and indigenous people".

Since the late 1980's, the Bank has financed two direct forest sector projects (1988 and 1990), a watershed conservation project (1994), an integrated forest conservation and development project with the GEF (1996), and a number of agricultural projects that have included tree planting activities. In terms of impact on overall outcomes on the sector, the OED's assessment of these projects was that they were highly unsatisfactory, given that they have had no discernable impact on either the rapid pace of deforestation or the highly inequitable distribution of benefits from forest exploitation.

The two direct forest projects, Forestry Institutions and Conservation Projects (FICP I and FICP II) were approved in 1988 and 1990 and were designed to complement each other. The projects aimed at institutional development and sectoral capacity building for the long-term management of forest resources, and to reduce the pace of deforestation. While the project completion reports judged both projects to have been successful in terms of meeting narrowly defined project objectives, OED found that they had had negligible impact on the wider processes of sectoral planning and forest management.

Underlying problems included a lack of ownership and commitment by the then Ministry of Forest and Estate Crops to the institutional and policy reforms being promoted by the projects. Two components of the second project were dropped: the implementation of a concession management component and the construction of a research facility in Irian Jaya/Papua. Fifty percent of the loan was cancelled and MOFEC cancelled a substantial forest component of

another project. It also terminated the preparation of a larger third forest sector project which was intended as part of a longer-term involvement in the sector.

Similar problems were experienced with both the GEF and watershed management projects that influenced forests. The Watershed Conservation Project aimed to increase both the technical quality and cost effectiveness of soil conservation programs and to foster more coherent and participatory approaches to watershed management throughout the country. However models for more participatory planning did not evolve and the loan was reduced by more than 70%. The OED review again notes the lack of commitment to participatory planning and the government's unwillingness to make institutional and policy changes as factors that inhibited the effective implementation of the project. The Kerinci-Seblat Integrated Conservation Project and Development Project experienced similar problems, where lack of support from two of the four bordering provinces and continued pressure from illegal logging and encroachment into the park had undermined the sustainability of investments. Local NGOs had limited capacity to help communities develop village development plans and negotiate agreements with park authorities and local governments. The project had a complex management structure that depended on coordinated action by three separate agencies and four provinces. Field presence from central government was also limited and general capacity issues undermined both conservation and development outcomes.

The OED review found that these limitations were due largely to breakdown of sectoral dialogue between the Bank and the MOFEC. OED ascribed the termination of the lending program to the MOFEC's dissatisfaction with the Bank's forthright 1993 economic sector report which was discussed with the Government but never officially released. This report called for far-reaching policy and institutional changes. It noted the tradeoff between development and conservation objectives, the political nature of the demarcation of forest boundaries, the need to bring forest utilization under more effective control to ensure the sustainability of forest resources. It also recognized the problem of illegal logging and the need to develop appropriate institutional capacity.

OED noted that the proposals put forward in this report provided the basis for much of the Bank's subsequent policy dialogue with the Government. The focus of the Bank's reform proposals were on economic efficiency, appropriate pricing of natural resources, equity and environmental sustainability. The key elements of the proposed reforms included the removal of policy distortions and the provision of incentives to promote investments for better management of forest resources (both natural forest timber concessions and plantations). The reforms also sought to bring transparency and competitiveness in the timber and processing units. To improve implementation and management and overcome the constraints imposed by poor governance and corruption, the Bank's proposals also called for greater participation of local communities in the management and protection of forest resources, as a precursor to the satisfactory resolution of titling and user rights issues. The report proposed a consultative process to resolve tenurial conflicts and improved incentives for provincial and local governments to manage, regenerate and protect forest in their jurisdiction. Many of these proposals were unacceptable to the Ministry of Forestry and Estate Crops and as a consequence, the government did not involve the Bank in the sector and no progress was made on even policy dialogue between 1995 and 1998.

With the increased leverage following the 1997 financial sector crisis, the Bank re-introduced forest issues to its country dialogue by including conditions on adjustment lending and subsequent policy reform support loans. Following discussions with the Bank, the January 1998

IMF reform package included a number of conditions that were based on the Bank's previous ESW. These included:

- Increasing the forest land tax;
- Transferring the Reforestation Fund to the official budget and ensuring that it was used exclusively for reforestation purposes;
- Abolishing the export tax on logs, sawn timber and rattan and replacing these with a resource rental tax;
- Removing the restrictive marketing arrangements embodied in the exporter's cartel;
- Reforming logging concession regulations, with periodic review of stumpage fees;
- Lengthening concession terms and allowing the transfer of concession rights;
- Implementing performance bonds; and
- Reducing land conversion targets to environmentally sustainable levels.

More specific conditions were included in the Bank's subsequent policy reform support loans. These included:

- Linking forest royalties to world prices;
- Reducing export taxes on forest products;
- Introducing an independent system of monitoring forest lands and encouraging participation of local communities and protection of indigenous forest dwellers;
- Developing an improved methodology for allocating forest land in consultation with stakeholders;
- Completing an updated map showing correct forest boundaries;
- Placing a moratorium on the issuing of new licenses and permits until these new measures were in place; and
- Developing sustainable forestry land management targets.

OED endorsed the general thrust of these proposals but noted the rushed conditions of their preparation during the emergency conditions of the financial crisis and questioned the adequacy of the ESW behind some of the recommendations<sup>1</sup>. They noted that implementation of the reforms covered by the conditions has been poor despite the formal agreement of the government and several changes in laws, regulations. These patterns have persisted beyond the OED review with many of the reforms being ignored or resisted through counteractive measures by the MOFEC and others. OED noted the critical problem of country ownership and commitment to the reforms, particularly as many of the reforms require strong political will to be effective and, to date, there have been few strong champions to develop effective constituencies for change.

OED noted that while "stroke of the pen" reforms can be decreed, they are unlikely to be implemented in an environment with persistent governance problems and corruption. This requires institutional change and the capacity to implement and enforce regulations. OED notes

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<sup>1</sup> OED found that Bank "Economic and Sector Work" was inadequate in a number of key areas. These included understanding the linkages between forest sector issues and the livelihoods of the poor so that their interests could be better reflected in poverty reduction strategies and both sectoral and macroeconomic policy dialogue; understanding the impact of agricultural incentives in the context of the quality of economic growth, poverty alleviation and the unsustainable exploitation of natural capital; and understanding the conditions where sustainable forest management will be competitive vis-à-vis other land uses.

that such processes of institutional change are slow and that they require years of partnership, working side by side with partners and stakeholders interested in change.

A key process-related lesson emerging from the experience with forest and adjustment lending in Indonesia noted by the OED was the problem of the Bank's credibility. OED found that there was a lack of awareness of how adjustment lending worked and both the objectives and the details of the proposed reforms. This resulted in a significant amount of criticism of the reforms introduced in the adjustment packages. OED argued that the Bank needs to make an important industry such as forestry an integral part of its CAS, adopting a genuinely multi-sectoral approach. They suggested that this would require a long-term commitment on the part of the Bank, with adequate resources for economic sector work; developing partnerships with reform minded officials, institutions in civil society and among donors; maintaining an open and consultative policy dialogue; and developing a healthy mix of innovative instruments.

## ANNEX B:

# DONOR ASSISTANCE TO INDONESIAN FORESTRY SECTOR: 1985-2004

This Annex to the options paper, entitled *Sustaining Economic Growth, Rural Livelihoods, and Environmental Benefits: Strategic Options for Forest Assistance in Indonesia*, provides an overview of spending in the forestry sector by international donor agencies from 1985-2004. It also reviews the donors' key areas of assistance – or main themes – during this period.

### Overall Funding Levels

According to a study carried out by GTZ, total donor funding to the Indonesian forest sector between 1985 and 2004 totaled US\$ 1 Billion. Funding during this period peaked at US\$ 335 million from 1990 to 1994 and dropped to US\$ 163 million for the most recent five year period.<sup>2</sup>

LIST OF DONORS COMMITMENTS TO THE FORESTRY SECTOR  
(IN CONSTANT USD VALUES BASED ON EU OFFICIAL EXCHANGE RATES OF APRIL 2004)

DONORS	1985 - 1989	1990 - 1994	1995 - 1999	2000 - 2004	TOTAL
World Bank	150,000,000	60,000,000	79,400,000	1,140,000	290,540,000
JICA	23,000,000	51,000,000	42,600,000	36,086,792	152,686,792
EC		44,484,731	90,824,836	17,360,861	152,670,428
UK		51,385,690	9,880,641	43,779,075	105,045,406
ADB	61,300,000	34,288,000	250,000	800,000	96,638,000
USAID		18,421,085	24,188,000	25,878,000	68,487,085
Germany		30,914,551	14,955,297	609,350	46,479,198
NIB/NDF		23,425,729			23,425,729
ITTO		6,557,422	6,793,145	8,921,308	22,271,875
Ford Foundation	2,000,000	4,500,000	5,000,000	9,409,000	20,909,000
The Netherlands	11,962,440			6,542,250	18,504,690
Canada	1,500,000	3,750,000	4,380,000	7,090,000	16,720,000
Denmark			7,872,000	3,028,456	10,900,456
Australia		5,800,000	2,660,000	492,000	8,952,000
Finland	4,110,481	928,517	780,282		5,819,280
France	1,846,958			431,476	2,278,434
Korea			600,000	1,485,000	2,085,000
Sweden			560,810		560,810
<b>DONORS TOTAL</b>	<b>255,719,879</b>	<b>335,455,725</b>	<b>290,745,011</b>	<b>163,053,568</b>	<b>1,044,974,183</b>

\* Figures exclude direct assistance to universities and non-project related further training.  
All figures based on direct information, except EC and World Bank.

Following is a brief breakdown of donor assistance within four major thematic areas that have been the main entry points for assistance in the past. Each theme includes a matrix of specific past and ongoing projects. The four main themes are:

<sup>2</sup>GTZ-SMCP, Fact Sheet #4: Donors Commitments to the Forestry Sector, May 2004. Data compiled by Jozsef Micski

- Forest Mapping and Monitoring
- Governance
- Processing Industry, Markets, Trade Interventions
- Environmental Services Interventions

Although poverty alleviation is discussed in the main report (Chapter 5), most donors and projects did not adopt this as their main organizing principle during the period for which these data are available. A notable exception is the DFID Multi-stakeholder Forestry Project, which includes a specific focus on poverty within its overall framework.

### **Forest Mapping and Monitoring**

A lack of clear information about rates of deforestation, and the current state of the forests continues to be an obstacle to effective intervention in the Indonesian forest sector. The vast size of the Indonesian archipelago and the difficulty of access to many forested regions make on-the-ground surveys difficult. In part, this problem is avoided by the use of remote sensing (RS) technology which, over the past two decades, has been the basis for several donor-funded projects. These national scale mapping projects have been complemented by smaller scale biodiversity inventory surveys, as well as efforts to monitor occurrences of fire in Indonesia.

Efforts to create a national scale land cover map of Indonesia have been confounded by several technical and analytical shortcomings. Persistent cloud cover over many areas has meant that image data sets are often incomplete. The use of low resolution satellite images has left room for error in tree cover analysis. For example small agro-forest plots have been difficult, or impossible, to pick up. Terrain and possibly lack of institutional motivation or funding has meant that necessary ground-truthing has not been adequate.

The most recent available maps of national forest cover are from 1997. For that year, there are three studies: one carried out by the MOFR, one by the World Bank with the GoI, and one by the European Union (EU). The estimates for total forest cover are 93.4 million ha, 100 million ha, and 110.8 million ha respectively. The MOFR study excluded Java, Bali and Nusa Tenggara, and the WB/GoI and EU studies were based on satellite data with a coarse resolution and involved little ground-truthing. Differences in methodologies and image resolutions used in the studies make it difficult to compare results and to analyze trends. Analysis is another point where problems occur. Different definitions of forest lead to different estimates of forest cover. Thus some studies count bush and scrubland as forest while others do not. Some regard plantations as forests while for others only natural forests qualify.

Forest Mapping and Monitoring				
Year	Study	Forest Cover		Notes
		Million Ha	% of area	
1950	Indonesian Forest Service (Hannibal)	162.3	84%	Aggregated plantations as part of “forest” category. Includes secondary forests.
1985	RePProT	119.7	63%	Used existing reports, aerial photographs, and satellite or radar imagery.
Early-1990s	NFI MoF/FAO	121.2	64%	Based on MSS satellite data combined with plot sampling. Included bush and scrub as forest.
1997	WB/GoI	100	50%	Based on Landsat data. Coarse scale, little ground truthing. “No data” areas cover ~18 % of measured forest area. About 6.6 M ha classified as natural forest might be under timber or estate crop plantations. (FWI)
	MOFR	93.4	47%	Excluded Java, Bali and Nusa Tenggara.
	EU	110.8	55%	Based on low resolution NOAA-AVHRR data.

Other advances in forest monitoring have been made in conjunction with various other programs. These include biodiversity assessments by various NGOs within specific regions or protected areas. Work done in relation to fire monitoring has also helped to increase our knowledge of the state of the Indonesian forest. There has also been important but limited progress in the monitoring of logging activities. One approach has been to create greater transparency through the use of on-the-ground log tracking systems and third-party mill inspections. In the early decentralization era, however, this approach was only partially successful due to a lack of cooperation between the timber industry, government agencies and project sponsors, compounded by rigid legalistic requirements on the nature of evidence. Another approach has been to increase transparency in international trade of wood products sourced from Indonesia. To this end several importing countries have entered into agreements with the GoI. While there has been substantial progress in mapping in the past few decades, much work remains, especially in the area of routine and systematic monitoring for decision making.

### Governance

Many of the policy intervention approaches above could also be considered efforts to improve forest sector governance. Since the 1997-98 economic crisis and political opening, four main governance themes have influenced the range of possible donor interventions: decentralization, rule of law, equity for communities, and press freedom.

Decentralization allowed more project work at province and district level and more direct involvement of forest sector stakeholders at the local level. Donor projects took on local level land use and mapping issues, local regulatory processes, analysis of the impacts of decentralization, and opportunities to improve decision making processes (e.g, USAID/NRM, DFID, etc.)

An increasing focus on rule of law meant much more opportunity to discuss and take action on illegal logging (or forest crime, more generally), as well as the role of specific actors. The EU

Illegal Logging Response Center was one of the most prominent donor efforts to provide technical assistance and evidence gathering. Donors have funded prominent NGOs, like Telapak and Forest Watch Indonesia, with a range of activities in this area. Though donors have supported analysis, advocacy, and media outreach, most donors do not support specific efforts to target specific law breakers and gather evidence – a fundamental responsibility of government.

The political transition after the fall of the New Order regime allowed more scope for discussing the roles and rights of communities and small holders in access and ownership of forest lands. Networks of advocacy organizations have been formed, a wide range of analyses have been conducted and many community and NGO grants programs have been developed. There have been some policy/legal successes, notably TAP MPR No. 9/2001, but much less progress on implementation of improvements on the ground. As noted above, DfID, Ford, and USAID have supported NGO grants and advocacy organizations. The WWF-WB Alliance activity on Forest Law Enforcement and Governance aimed at developing a systemic strategy to tackle illegal logging and at creating a constituency to implement it.

An increase in press freedom allowed an increase in efforts to inform the public and build constituency for forest sector reform. Many NGOs have sponsored information campaigns at local or regional level, with various kinds of donor support. GreenCom (funded by USAID) and INFORM (funded by GEF) were two manifestations of an initiative to create a national awareness campaign on forest issues. These produced television and newspaper ads, but have not been increased or sustained to the level needed to result in a major shift in public perceptions (e.g., compared to health and family planning awareness campaigns).

<b>Governance Interventions- Post-Suharto Era</b>	
<b>Type of Intervention</b>	<b>Organization/Process</b>
Decentralization <ul style="list-style-type: none"> <li>• Land use planning</li> <li>• Institutional capacity building</li> <li>• Forest policy framework</li> </ul>	USAID/NRM, CIFOR, ICRAF, GTZ, DfID/MFP, AusAID, WB
Rule of Law <ul style="list-style-type: none"> <li>• Legislative changes</li> <li>• Strengthening of judiciary</li> <li>• Clarification of illegal logging definition</li> </ul>	UK-GoI MoU, EU ILRC, Telapak, FWI, USAID/WWF/TNC (Global Development Alliance), CIFOR
Equity for Communities <ul style="list-style-type: none"> <li>• Rights of indigenous people</li> <li>• Alternative livelihoods</li> </ul>	ADB, ITTO, WB, EU, Norway-GoI Mou, ICRAF, CIFOR, DFID-MFP
Strengthening civil society <ul style="list-style-type: none"> <li>• Raising public awareness</li> <li>• Constituency building</li> </ul>	WB/INFORM, USAID/GreenCOM, EU

### **Processing Industry, Markets, Trade Interventions**

Over the years, interventions have worked on supply side, policy enabling conditions, social forestry, and demand side approaches. More recently, these have started to overlap with governance approaches, through constituency/public information approaches.

In the first half of the 1990s, there were a number of technical project interventions (research, training, management, demonstrations and pilots) mostly on the supply side: to improve the quality of forest management and the capacity of concessionaires to harvest forests using more

sustainable methods (e.g., Reduced Impact Logging). By the mid-1990s, there was increasing recognition that governance issues and the policy enabling conditions had a much more profound effect on the quality of forest management and the behavior of timber processing companies. Many projects and donors turned attention to policy analysis and efforts to improve enabling conditions.

NGOs, with support from a range of donors and foundations, notably Ford, conducted analyses and advocacy to promote greater community rights and activities on state forest land, which would allow local people a greater share in the benefits of forest harvesting and management. After the financial crisis and political transition, these efforts became more mainstream with greater funding of social forestry activities, policy studies and grants to NGOs. The Ford Foundation, GTZ, USAID (BSP/Kemala) and DfID were important donors.

By the late 1990s, most donors and NGOs concerned with commercial forest management were focusing on policy reform, rather than technical forest management issues. These efforts converged in the Bank-assisted effort to include forestry in the CGI agenda in 2000. This raised the level of attention and focus for a number of years, but did not achieve sterling success partly because the CGI recommendations were never followed through with very serious consequences of non-performance. Many donors downsized their efforts in the forestry sector, notably GTZ, or shifted to activities in the broader environmental or decentralization realm, notably USAID.

Success was limited on supply side, policy, and social forestry related interventions. Some donors and NGOs in the last few years have turned to efforts to manage demand (mostly external to Indonesia) and to increase awareness and constituency for change (mostly internal to Indonesia). Efforts to use market demand to encourage better forest management practices began in Indonesia with the formation of the Indonesian Ecolabeling Institute in 1994. After 2002, bilateral MOUs proliferated as a means to combat illegal timber trade, but with unclear or difficult implementation arrangements. Efforts to influence large timber buyers in first world markets are supported by a number of NGO coalitions, including the WWF-WB Alliance and the USAID-funded WWF-TNC Alliance. It may be too soon to judge the effectiveness of these approaches.

<b>Processing Industry, Markets, Trade Interventions</b>	
<b>Type of Intervention</b>	<b>Organization/Process</b>
Supply side (since early 1990s) <ul style="list-style-type: none"> <li>• Plantation support</li> <li>• Sustainable forest management</li> <li>• Reduced impact logging</li> </ul>	ITTO, JICA, CIFOR and others.
Policy enabling/Social Forestry (since late 1990s)	CGI process, Ford, GTZ, DfID and others.
Demand side (recent) <ul style="list-style-type: none"> <li>• Certification</li> <li>• Trade agreements</li> <li>• Customs improvement</li> </ul> Money laundering laws Financial institutions	ITTO, Smartwood, LEI, EU FLB, EU FLEGT, USAID/WWF/TNC, bilateral trade agreements, IWGFF, ADB, AusAID, CIFOR

## Environmental Services and Biodiversity Interventions

The main approach to protecting forest biodiversity in Indonesia has been to create protected areas. Throughout the 1990s, the international community provided at least US\$ 300 million, through donor project assistance, largely to support such protected areas (Rhee, et al. USAID, 2004). However, these areas have suffered widespread encroachment, and efforts to curtail it have had little effect, particularly with regards to efforts to protect lowland dipterocarp forests.

Many protected areas are subject to prior land claims and were created with little consideration of this fact. There are also few incentives to ensure a local participation in protection of these areas. The problems raised by these issues led to a rethinking of the protected area approach and gave rise to integrated development and conservation projects. Thus, since the mid 1980s, most protected area initiatives include a co-management component.

Environmental Services Interventions	
Type of Intervention	Organization/Process
Within Protected Areas (since 1980) <ul style="list-style-type: none"> <li>• Management</li> <li>• Training</li> <li>• Research</li> <li>• Species protection</li> <li>• Co-management with communities (since mid 1980s)</li> </ul>	WB, EU, ADB, JICA, ITTO, CIFOR, WWF, TNC, CI, WCS, Birdlife Int'l, Wetlands Int'l
Outside Protected Areas (since 1990) <ul style="list-style-type: none"> <li>• Forest fire prevention</li> <li>• Land management and rehabilitation</li> <li>• Sustainable forest management</li> <li>• Reduced impact logging</li> <li>• Carbon sequestration and Watershed services</li> </ul>	GTZ, EU, JICA, CIFOR, WWF EU, JICA EU, ITTO, CIFOR, Tropenbos, WWF ITTO, JICA, CIFOR JICA, CIDA, USAID/ESP, CIFOR

While much funding and attention has been focused on relatively few, but large, national parks, other efforts are aimed at protecting the environmental services of forests outside of designated protected areas. While improving the protected areas system is critical for sustaining the environmental services provided by forests, there has been recognition that adequate management of forests outside of parks and protected areas is equally important. Several programs have therefore taken an ecosystem approach that involves parks, other protected areas and biodiversity corridors. Other work has aimed at the sustainable management of production forests through concession policy reforms, the use of reduced impact logging, and fire prevention measures. Environmental services provided by forests, other than biodiversity are also receiving increasing attention. Several projects focus on carbon sequestration, soil conservation, and watershed functions of forests.

## **ANNEX C: KEY ELEMENTS OF MINISTRY OF FORESTRY'S STRATEGIC PLAN, 2005-2009**

The Ministry's vision is "forest management that guarantees sustainability and improves the people's welfare." The Minister has determined five priority targets for medium term development:

- Eradication of illegal logging from state forest areas and illegal timber trade
- Revitalization of the forest sector, especially the forestry industry
- Rehabilitation and conservation of natural forest resources
- People's economic empowerment inside and outside the forest area
- Determination of the forest area

Based on analysis of the condition of the forest relative to the desired state, the Ministry identified two key problems that the strategic plan aims to address: forest management is not yet optimal and the distribution of benefits is not yet just. The strategic plan (which is currently being improved) lays out objectives, targets, policies and programs consistent with the vision and mission of the Ministry. The programs for each of the key target areas are outlined here. Progress toward those goals was outlined by the Director General for Nature Conservation at a seminar in Pekanbaru in March 2006 (and must be regarded as a snapshot from that point in time).

### **Eradication of Illegal Logging from State Forest Areas and Illegal Timber Trade**

#### Programs

- Providing information on locations prone to forest crime
- Mobilizing people that care about the eradication of forest crime
- Reducing the forest disturbance
- Intensifying coordination measures with the National Police, Attorney General and related parties in overcoming illegal logging and for operations to settle forest crimes
- Carrying out operations in eradicating illegal logging and trade

#### Progress

- Sustainable Forest Operation I in E. Kalimantan (106 cases, 134 suspects, 101,000 m<sup>3</sup> evidence)
- Sustainable Forest Operation II in Papua (173 suspects, evidence: 72,000 logs, 20,000 m<sup>3</sup>, 361 false documents and 1,269 unit of equipment).
- Wanalaga Operation II in W. Kalimantan & Operation on Handling Concession Permit Falsification
- Forest Security Operation in Betung Kerihun National Park and Gunung Palung NP
- Completion of forest product management business (Revision of Ministry Decree No. 126/Kpts-II/2003 into Permenhut No. P18/Menhut-II/2005 and replacement concession permit document)
- Socialization and Consolidation of implementation of Presidential Instruction No. 4/2005
- Working out cooperation with PPATK and Establishing Fast Reaction Forest Police Unit
- Working out cooperation with timber consumer countries, NGOs

### **Revitalization of the Forest Sector, Especially the Forestry Industry**

Programs

- Facilitating improvements in industry performance
- Implementing sustainable forest management on 200 unit natural and plantation forest concessions
- Improving production of NTFPs
- Optimizing forest harvesting fees and reforestation levies
- Facilitating establishment of 5 million ha industrial timber plantations
- Facilitating development of 2 million ha community forests

Progress

- Comprehensive study on forest industry (ITTO, CIFOR, WB, USAID)
- Inventory of Primary Industry Wood Forest Product (1,670 units with input needs of 66.3 M m<sup>3</sup>/yr)
- Re-register primary industry business permits (Ministerial Decree No. 300/kpts-II/2003) for sawmills, veneer mills, wood and laminated veneer, and chip mills
- Improve efficiency and competitiveness by replacing old technology and relocating chippers and lathe mills closer to sources of raw material
- Revise rules to encourage the industrial timber plantation investments
- Settle cases of 130 small scale natural timber concessions (of which 20 have handed over the business permit to MOFR and 9 others have settled)
- Assess performance of 24 industrial timber plantations in 2005, and another 39 in 2004
- Cancel 23 District Regulations and 1 Provincial Regulation to improve competitiveness and reduce nuisance taxes
- Evaluate small scale concession licenses issued by District Governments
- Increase the effectiveness of collection of Forestry levies (PSDH and DR)

**Rehabilitation and Conservation of Natural Forest Resources**

Programs

- Supporting the effectiveness of implementation of forest and land rehabilitation programs on 5 million hectares (60% forest area, 40% outside the forest area)
- Management and beneficial use of conservation area in 200 unit KSA/KPA
- Establishing and operating 20 model National Parks
- Prevention of forest fires
- Ensuring that 282 priority watersheds (DAS) function optimally
- Improving the management of environmental services through recreation forest management.

Progress

- Continuing the National Forest and Land Rehabilitation Program (GERHAN) in 372 districts
- Take initial steps for rehabilitating 10 priority watersheds in Java, Sumatera and Sulawesi)
- Handling the critical areas by using model pattern of “Pot” in 2 Districts in Java
- Establishing a plan for post-tsunami disaster during 2006-2010 (preliminary study, master plan arrangement, planting trial in the protection area 500 ha, and rehabilitation of coastal forest)
- Promotion of “Planting when small, Harvest when tall” program of cooperation with Education Ministry, district/town government and the parents of the students
- Developing participative model for forest and land rehabilitation
- Deciding new conservancy area in 9 new national parks (Batimurung-Bulusaraung, Togeang Islands, Sebangau, Ciremai Mountain, Merbabu Mountain, Merapi Mountain, Tesso Nilo and Batang Gadis)
- Developing Wild Animal Center cooperating with several NGOs
- Rehabilitating wild animal to their original habitat

### **People's Economic Empowerment Inside and Outside the Forest Area**

#### Programs

- Promoting people's economic development inside and outside the forest area
- Improving the small medium business climate and access to the forest
- Giving guarantee on the availability of the raw material for forestry SMEs
- Continuing the development of "Social Forestry"

#### Progress

- Education for villagers in 552 villages around natural forest concessions and 2,619 villages around planted forest concessions
- PHBM in 5,699 village in around area Perum Perhutani teak management areas
- People's forest development in several provinces for 50,644 Ha
- Social forestry development in 17 places in several provinces inside and outside Java, cooperating with 8 related departments

### **Determination of the Forest Area**

#### Programs

- Facilitating the establishment of forest management units KPHP, KPHL and KPHK
- Making efforts to finish the demarcation of forest area (kawasan hutan)
- Promoting forest area settlement decision on 30% of forest area that has been mark for the boundaries
- Carrying out coordination, synchronization with other sectors in the process of forest area use
- Maintaining the existing forest area
- Providing complete information on forest resources, including land cover, commercial and non commercial potential, the potential of non timber, wild life, environmental service and recreation
- Providing spatial and non-spatial data and information on forests

#### Progress

- Determination of 35 forest units with area 1.1 million ha
- Issuing the Ministerial Decree regarding the designation of forest and water areas in all provinces
- Evaluating the release of forest area for agricultural cultivation in Sumatera, Kalimantan, Sulawesi, Maluku and Papua
- Establishing a permanent organizing committee of the Ministry of Forestry for overcoming dispute about usage of forest area
- Issuing circular regarding the location permit approval / recommendation for back up of forest area released for plantation cultivation



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