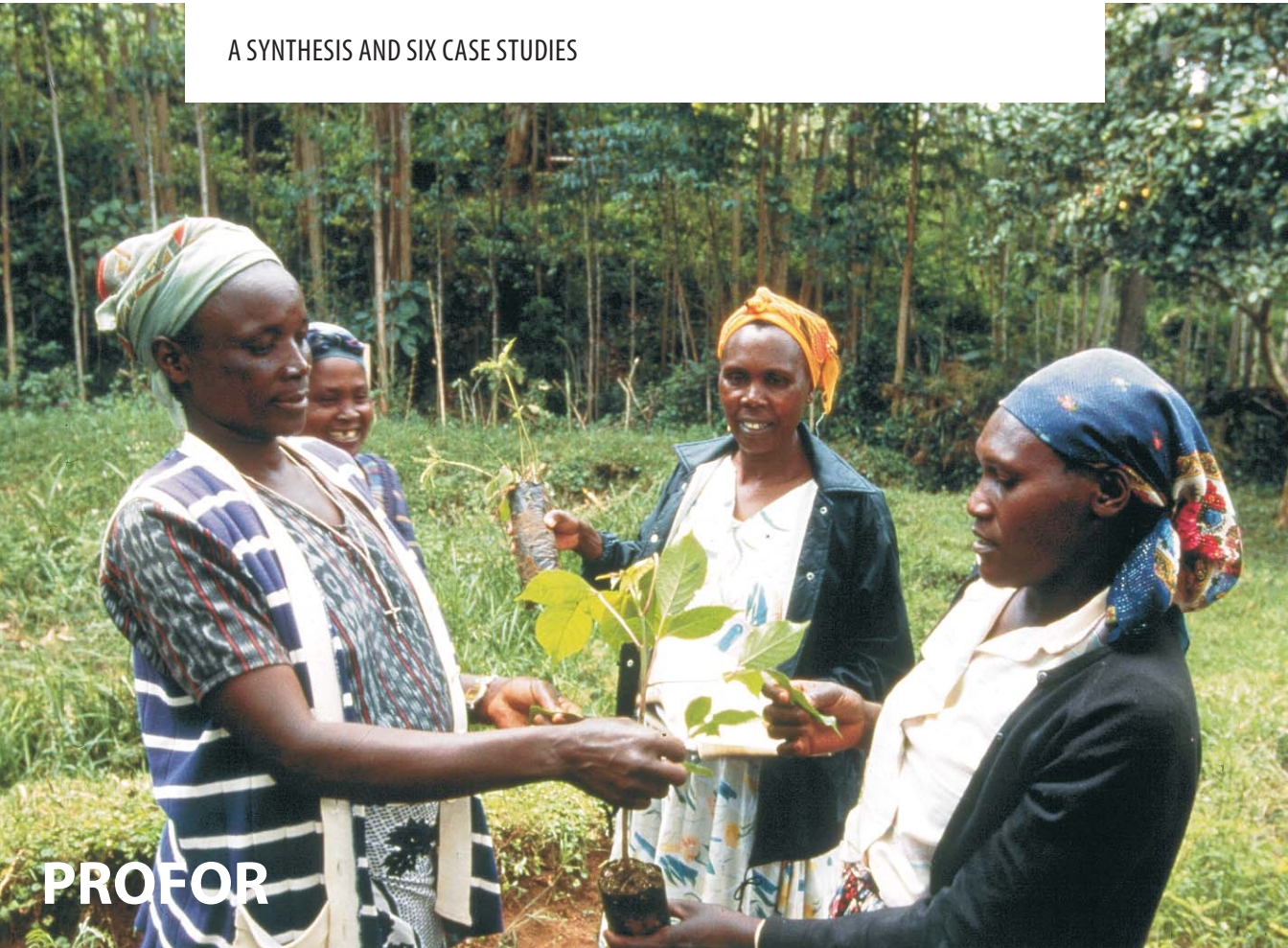




# POVERTY AND FORESTS LINKAGES

A SYNTHESIS AND SIX CASE STUDIES



**PROFOR**

**POVERTY**

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**LINKAGES**

A Synthesis and

Six Case Studies

**PROFOR**

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# Acronyms and Abbreviations

APHI	Association of Indonesian Forest Industries (Asosiasi Pengusaha Hutan Indonesia)	DFID	Department for International Development
BPKH	Ministry of Forests	DFRS	Department of Forest Research and Survey
BPS	Central Statistics Bureau (Biro Pusat Statistik)	DNEF	Direction Nationale des Faux et Forêts (National Directorate of Waters and Forests)
CBFM	community-based forest management	DNPWC	Department of National Parks and Wildlife Conservation
CBNRM	Community-based natural Resource Management	DPIP	District Poverty Initiatives Program
CBO	community-based organization	DFE	Department of Forests and Environment
CBS	Central Bureau of Statistics	DOF	Department of Forest
CESS	Centre for Economic and Social Studies	DTE	“Down to Earth” Journal, Delhi India
CIFOR	Centre for International Forest Research	ENRMA	Expanded Natural Resource Management Activity
CFM	Community Forest Management	FAO	Food and Agriculture Organization
CFR	community forest reserve	FBD	Forestry and Beekeeping Division
CFUG	community forest user group	FDA	Forest Development Agency
CSO	Community Support Organization	FRC	Forestry Research Centre
DAFEO	District Agriculture and Forestry and Environment Offices	GAA	German Agro in Action Accord
DAFO	District Agriculture and Forestry Office(r)	GDP	Gross Domestic Product
DAP	Papuan Customary Council (Dewan Adat Papua)	GF	Guinean franc
DDC	district development committee	GNI	gross national income
		HDI	Human Development Index
		INGO	international nongovernmental organizations

IPKMA	customary community timber harvesting license (Ijin Pemungutan Kayu Masyarakat Adat)	NPEP	National Poverty Eradication Program
I-PRSP	Interim Poverty Reduction Strategy Paper	NRM	natural resource management
ITTO	International Tropical Timber Organization	NrP	Nepalese rupee
IUCN	The World Conservation Union	NTFP	non-timber forest product
IUCN-CEM	IUCN-Commission on Ecosystem Management	ODI	Overseas Development Institute
JFM	Joint Forest Management	OTSUS	Special Autonomy (Otonomi Khusus)
KPH	forest management units (Kesatuan Pengelolaan Hutan)	PAFO	Provincial Agriculture and Forestry Office(r)
KPH-HKM	community forestry management unit (Kesatuan Pengelolaan Hutan—Hutan Kemasyarakatan)	PCSSF	Papuan Civil Society Support Foundation
LAFR	local authority forest reserve	Perdasus	special regional regulation (Peraturan Daerah Khusus)
Lao PDR	Lao People's Democratic Republic	PESA	Panchayat Raj (Scheduled Areas) Act
LFP	Livelihood Forestry Programme	PF	private forest
LSFP	Lao-Swedish Forestry Programme	PMO-RALG	Prime Minister's Office-Regional Administration and Local Government
MAF	Ministry of Agriculture and Forestry	PNG	Papua New Guinea
MDGs	Millennium Development Goals	PP	Implementing Regulations (Keputusan Pemerintah)
MNRT	Ministry of Natural Resources and Tourism	PRA	participatory rural appraisal
MOEF	Ministry of Environment and Forestry	PROFOR	Program on Forests
MOF	Ministry of Finance	PRS	poverty reduction strategy
MOFSC	Ministry of Forests and Soil Conservation	PRSP	Poverty Reduction Strategy Paper
MRP	Papuan People's Council (Majlis Rakyat Papua)	RIM	Medium Term Plan (Rencana Jangka Menengah)
MT	metric tons	RUPFOR	Resource Unit for Participatory Forestry
NAFRI	National Agriculture and Forestry Research Institute	SP	Woodworkers Union (Serikat Pekerja)
NBCAs	National Biodiversity Conservation Areas	ST	Scheduled Tribes
NBSAP	National Biodiversity Action Plan	SWAP	sectorwide approach
NESAC	Nepal South Asia Centre	TAL	Terai Arc Landscape
NFC	National Forest Commission	TPTI	Indonesian selective cutting system (Tebang Pilih Tanam Indonesia)
NFP	National Forest Program	VDC	village development committee
NFR	national forest reserve	VFMP	Village Forest Management and Protection Committee
NGO	nongovernmental organization	VLFR	village land forest reserve
NPC	National Planning Commission	WWF	World Wildlife Fund
NGPES	National Growth and Poverty Eradication Strategy	YBAW	Foundation for the Customary Development of Walesi (Yayasan Bina Adat Walesi)





## CHAPTER ONE

# Linking Poverty Reduction, Livelihoods, and Forests

## INTRODUCTION

The majority of the world's poor are concentrated in rural areas and consequently depend on natural resources, and often forests in particular, for their livelihoods.<sup>1</sup> It is estimated that 60 million indige-

*Forests are important for livelihoods of the rural poor. The potential of forests in poverty reduction is not often recognized by national economic planners.*

nous people are totally dependent on forests, 350 million people are highly forest-dependent, and 1.2 billion are dependent on agro-

forestry (World Bank 2004). The forest-dependent poor lack the basic necessities to maintain a decent standard of living, such as sufficient and nutritious food; adequate shelter; access to health services, energy sources, safe drinking water, and education; and a healthy environment. With the adoption of the Millennium Development Goals (MDGs), the countries of the world have set a target of halving global poverty by 2015. Given the importance of forests for the rural poor, it is increasingly argued that these can be a resource for poverty reduction.

An emphasis on the potential of forests to contribute to poverty reduction, however, is limited by

the fact that national economic planners and policy makers do not often recognize the extent to which forest resources contribute to the rural economy and rural livelihoods. Poverty Reduction Strategy Papers (PRSPs) for most countries tend to show little awareness of the potential contribution of forests to alleviating poverty, or at best are vague about how the potential can be harnessed. National forest action plans tend to ignore poverty altogether, or simply assume that changes in institutional arrangements in sustainable forest management will address poverty. Consequently, there is a need to provide documentation in a form that will highlight the economic value of forests for poverty reduction in order to facilitate better incorporation of forests in poverty reduction strategies, and to encourage appropriate investment.

A working group partnership was formed in late 2003 among staff from the World Bank's Program on Forests (PROFOR), the International Union for Conservation of Nature (IUCN), the Overseas Development Institute (ODI), the Center for International Forestry Research (CIFOR), and Winrock International. This partnership aimed to build on the knowledge base from field work and research efforts in identifying the different ways forests can (and cannot) benefit the poor. In May 2004, a working group on poverty-forest linkages was launched by these same organizations. The objective of the working group was to identify the contribution that forests make to poverty reduction

---

1. A livelihood comprises the capabilities, assets (material and social resources), and activities required for a means of living. Assets important in livelihoods are natural, physical, human, financial, and social assets (Kusters et al. 2005).

by facilitating inclusion of forest-poverty linkages into the PRSPs and, where possible, poverty issues into National Forest Programs (NFPs). The strategy was to develop a methodology that, with a reasonable degree of confidence, gauges the economic and welfare contributions of forests. The objective was twofold. The first was to devise a rapid methodology to appraise forest-livelihood linkages from field research and case study examples, and to explore how sustainably managed forests can help to enhance rural livelihoods. The second was to make a case at the national level, using local-level data, for the poverty-forest linkages and to enrich national-level instruments such as PRSPs and NFPs. The output from this activity consists of a set of case studies and a toolkit describing the methodology developed, including tools for local-level study and the results of the series of case studies.

This report presents an edited version of the case studies,<sup>2</sup> which document the important role of forests and natural resources in poverty reduction and livelihood security, focusing on both the household and community levels. The case studies also describe links to national-level indicators of welfare that inform national strategy and are used to measure progress toward the MDGs. This introductory chapter presents a brief discussion of the literature on poverty-forest linkages and highlights those linkages found in the case studies. Furthermore, it summarizes the PRSP process in the six countries and analyzes how it has incorporated the potential of forests into strategies for poverty reduction. Highlights of the case studies are given and findings discussed, along with lessons learned and suggestions for how forests can be further mainstreamed into poverty reduction strategies.

## FORESTS AND POVERTY LINKAGES

*There is a strong correlation between forests and poverty.*

According to the World Bank, more than 1.6 billion people worldwide depend on forests for their livelihoods; 1.2 billion of these people live in extreme poverty. Of that number, it is estimated that 60 million indigenous

people are totally dependent on forests, and 350 million people are highly dependent on forests for subsistence and income. In developing countries, about 1.2 billion are dependent on agroforestry farming systems that help to sustain agricultural productivity and generate income (World Bank 2004). The chronically poor tend to live disproportionately in rural areas, leading to an overlap of severe rural poverty and remaining natural forests in developing countries. While there are many areas of chronic poverty without forests, and some forest areas without chronic poverty, the reality is that the correlation between forests and poverty is strong (Sunderlin et al. 2005).

The convergence of the poor and forests is a result of many factors. Forests tend to be located in remote areas where the reach of the market economy is inhibited and technological progress is slow. Often, investment by national governments in rural areas is minimal. Furthermore, primordial poverty exists among traditional indigenous peoples whose dependence on forests is deeply rooted in history and long predates modern social change. Forests are also a refuge for relatively powerless and poor rural people fleeing war. And because access to them is open, forests are a magnet for the poor, as they provide new agricultural lands and economic opportunities for people with limited options. Commonly, forest-dependent people tend to be politically weak or powerless (Sunderlin et al. 2005; Sunderlin et al. 2006).

Approaches to defining poverty have evolved and changed over time, moving from an exclusive emphasis on monetary income to recognition of the critical importance of including goods not entering the marketplace into the definition. Later, an empowerment and institutional extension was added to the poverty concept (Angelsen and Wunder 2003). Poverty is normally contextually defined in relation to a particular socioeconomic context, but overall it is multidimensional, with deprivation relating not only to lack of basic material resources such as food, shelter, and medical treatment, but also to lack of social resources, such as access to education, information,

*The World Bank defines poverty as a pronounced deprivation of well-being related to a lack of material income or consumption, low levels of education and health, vulnerability and exposure to risk, no opportunity to be heard, and powerlessness.*

2. For the original versions of the case studies, please contact PROFOR (contact information is available at the following Web site: <http://www.profor.info/contact.html>).

and respect. It is also complex and dynamic, with conditions being shared among people experiencing similar hardships that are difficult to overcome (FAO 2006). The World Bank defines poverty as a pronounced deprivation of well-being related to a lack of material income or consumption, low levels of education and health, vulnerability and exposure to risk, no opportunity to be heard, and powerlessness. While emphasis on traditional income measures of poverty is common, efforts to develop adequate indicators and measures of the more qualitative aspects of poverty, such as security and empowerment, continue (World Bank 2001).

## STRATEGIES FOR POVERTY REDUCTION

*Strategies for poverty mitigation are important. However, there is a need for renewed emphasis in policy on poverty reduction*

### Poverty Mitigation versus Poverty Reduction.

While it has been suggested that forest resources represent great potential to alleviate

poverty, it is important to define what that actually means. First, there is extensive documentation of the many products that are used for food, fiber, medicine, and other purposes as part of a subsistence-level livelihood (Neumann and Hirsch 2000). Veldeld et al. (2004) found that beyond consumption at home, forest resources provided about one-fifth of the total income of rural households. Second, forests are used as a coping strategy, or “safety net,” where people draw on available resources to meet needs between seasons or when there is an emergency (Angelsen and Wunder 2003; Ruiz Perez et al. 2004; Sunderland et al. 2004). Both the current consumption and safety net roles of forested areas serve to reduce the severity of deprivation and keep people from becoming poorer. This can be termed the “poverty mitigation component of poverty alleviation. The third component of poverty alleviation is “poverty reduction or elimination.” This use of forest products helps to lift the household out of poverty by functioning as a source of savings, investment, accumulation, asset building, and lasting increases in incomes and well-being (Belcher 2005; Sunderlin et al. 2005).

**Forest Tenure.** While an emphasis on poverty mitigation is important, in order to lift people out of

poverty in forested areas there needs to be renewed emphasis on poverty reduction strategies in policy. This will involve a need for people-centered forestry where local people, as the main stakeholders, are given a greater voice in managing forests to improve their livelihoods. However, many national governments retain natural forests as state assets and restrict local people’s rights of access. The poor are statutorily excluded from access to timber wealth because of its high value and because they lack power to compete for access to high-value resources. Therefore, transfer of forest land tenure from governments to indigenous or other communities should be a leading strategy for improving the livelihoods of the rural poor in forests areas. While in many cases governments tend to decentralize management for the least valuable forests, this should change so that the more valuable forests, including timber, are transferred to communities. Furthermore, ways to avoid “elite capture” by the most powerful in communities need to be devised (Angelsen and Wunder 2003; Sunderlin et al. 2003; Sunderlin et al. 2006).

*Poverty reduction strategies need to include secure tenure for local people in forested areas. There is a need to devise strategies to avoid “elite capture” in communities.*

*Poverty reduction strategies include making markets work for the forest-dependent poor.*

### Improving Market Access.

A key part of poverty reduction is increasing market access for the rural poor. While trade in forest products provides substantial income for the poor, because of the informal nature of this trade, its impact on livelihoods and poverty reduction remains poorly understood in policy circles. Many policies pose formidable barriers for low-income producers, discriminating against community forest enterprises, keeping prices low, and limiting income opportunities. Therefore, increasing market access for the poor will involve leveling the playing field by removing policy barriers that discriminate against small producers. Furthermore, strategies need to be put into place to aid the rural poor in developing forest enterprises that respond to consumer preferences, and in developing improved market strategies (Scherr et al. 2003, 2004). Additionally, partnerships could be developed between smallholders or communities and commercial timber companies. Such

arrangements could ensure a supply of wood for the company and adequate economic return for the community. While non-timber forest products have been a main focus in discussions of improving livelihoods for many years, research indicates that this is only possible in limited circumstances (Belcher 2005; Ruiz Perez et al. 2004; Sunderlin et al. 2006).

*Payments for forest environmental services have potential as a poverty reduction strategy, but there is a need to nurture the ability of forest people to access these payments.*

**Payments for Ecological Services.** With the increasing concern about global climate change, there is great potential for the forest-dependent poor to benefit from payments for forest environmental

services. Compensation mechanisms are potentially relevant in four forest areas: carbon storage and sequestration, biodiversity, conservation, hydrological services, and tourism (Angelsen and Wunder 2003). If forest dwellers are compensated to keep forests standing, or to restore them, it will contribute to their well-being as well as to the public good. However, in order to maximize participation of the poor in such schemes, it is necessary to proactively nurture the interest and capability of marginal landowners, and to devise ways to minimize transaction costs (Sunderlin et al. 2003; Sunderlin et al. 2006).

In summary, to achieve poverty reduction based on forest products, there is a need to remove policy constraints to increasing the creation of wealth through forest product production, processing, and marketing, and for mechanisms to ensure that some of that wealth is captured by the intended beneficiaries. This can be accomplished only when there is a real demand for the products, and the necessary physical and institutional structures are in place. Forest sector policy can also address the empowerment and rights aspects of the poverty definition through changes in governance, which devolve the decision making about and the benefits from forest management to the people living in and around forests (Belcher 2005). Unfortunately, the value of forest resources, particularly timber, is often the basis for a political patronage system linking heads of state, the military, and the private sector. Although there have been some

*There is a need for emphasis on poverty reduction in policies and for development of institutions to implement policies.*

positive changes in recent years, forestry laws and regulations in many countries were written to assure that the privileged had access to timber wealth, and to prevent counterappropriation by the poor (Sunderlin et al. 2005). This limits the consideration of the forest sector in national poverty reduction strategies. Despite these challenges, potential exists in the PRSP process to leverage the mainstreaming of forests in poverty reduction policies through targeted strategies to benefit the poor.

## METHODOLOGY

Case studies were chosen from six countries that represented different volumes and types of forest resources, ranging from the vast tropical rainforests of Indonesian Papua to the miombo woodlands of Tanzania. Each case study explored the national context of poverty-forest linkages, including policy and policy implementation, and carried out local-level studies at one or more rural sites. In some case study areas, the forest resources were represented by dense primary forest, and in others the forests were secondary growth or degraded from unsustainable use. Four of the countries were in Asia and two were in Africa.<sup>3</sup> All of the case study countries had developed a PRSP with the World Bank, except for India, whose Tenth Plan outlined that country's plan for poverty reduction.

Data were collected using a mixed methodological approach, including both quantitative and qualitative measures.<sup>4</sup> In the rural case study areas, data on the contribution of forests to the livelihoods of the rural poor was collected using quantitative surveys and Participatory Rural Appraisal (PRA) tools, such as wealth ranking and mapping. Other qualitative methods used included semistructured interviews and focus groups. Different categories or groups of rural people were targeted in data collection based on differences such as gender, ethnicity, or status within a community. Information on the PRSP process was collected through review of the related government documents and also through interviews with government officials, donors, and civil society groups involved in the process. It should

3. A seventh case study on Mexico was planned, but the report is not yet ready for publication.

4. Case studies used different methodologies in data collection.

be noted that the editor also reviewed electronic copies of PRSP documents and the Tenth Plan of India to fill in information gaps in some case studies.

## SYNTHESIS OF FINDINGS FROM CASE STUDIES

### Rural People and Forests

*There are high levels of poverty in case study areas.*

#### Forests and Poverty in Case Studies.

Consistent with the literature, people in the case study areas were considered to be poor by both country and world standards. For example, in Papua, the level of rural poverty, at 45 percent, is the highest in Indonesia, according to national poverty standards. One-third of Papuan children do not go to school, and 9 out of 10 villages do not have a health center, doctor, or midwife. According to national poverty data, the standard of living in Papua fell by 15 percent over the last 20 years, and rural poverty rates in Papua are higher inside the national forest estate than outside. Among the rural poor in India are 89 million tribal people, the most disadvantaged section of society, of whom more than half live in forest fringe areas. In Guinea, there is a strong connection between farming and poverty, with farmers, who represent 61 percent of the population, representing 80 percent of the poor. Therefore, in the case study areas it is evident that most forest-dependent people in rural areas are considered to be living in poverty.

#### Dependence on Forests.

Research conducted in the case study areas indicated that forests played an important role as part of the livelihood strategies of the rural poor. Most people in case study areas, however, did not depend solely on the forest and its products as sources of sustenance and income. For the most part, they are partly dependent people who derive a greater portion of their livelihood from agriculture but may depend on the forest for certain products. Therefore, their livelihood strategies from the forest consist mainly of using forest resources for subsistence needs and as a source of cash income. However, it is important to note that the rural poor are not a homogenous group. Therefore, the level of

*Most people are partly dependent on forests. They derive their main livelihood from other activities, such as agriculture.*

dependence on forest resources differs according to many factors.

*Forest products are used for food, construction, medicinal, cultural, or spiritual purposes.*

**Subsistence.** Subsistence use of the forest in the case studies mainly consists of the collection of forest products for use as food, in construction, for medicinal, and also cultural or spiritual purposes. In one study undertaken in the poorest district of the poorest province of Lao PDR, non-timber forest products (NTFPs) were found to contribute one-third of the household economy; almost all energy, medicinal, and building needs; 80 percent of (non-rice) food consumption by weight; and 30 to 50 percent of all protein types. In India, 70 percent of the rural population depends on fuelwood to meet domestic energy needs. The forest provides an estimated 30 percent of household subsistence needs in Indonesian Papua. In countries such as Guinea, with a tradition of shifting cultivation, the forested areas are also used in farming. Furthermore, the forest is often a key part of a community farming system in providing fodder and bedding for livestock. This was clear from the increased availability of such products from restored traditional *ngitili* in the Tanzania case study. In Nepal, some rural farmers graze their livestock in the forest.

**Income.** The collection and sale of both timber and non-timber forest products provide a source of cash income for the rural poor. Research in Guinea indicated that villagers derive up to 25 to 30 percent of their income from collecting and selling forest products. PRA assessments in Indonesian Papua showed that 40 percent of household cash needs were met by the forest. Estimates of household and village economic contributions from restored *ngitili* in the Shinyana region of Tanzania were US\$14.00 per month, which is significantly higher than rural Tanzania's average per-person monthly spending of US\$8.50. Of the 16 products commonly collected, fuelwood, water, and medicinal plants were of greatest economic benefit to households. In other semi-arid regions of the country, 58 percent of the cash income of farmers came from collecting forest products, one-third of which came from honey alone. In forest-dependent

*Depending on the context, sale of forest products can provide up to 50 to 60 percent of household cash income. They also have importance as a "safety net."*



villages in Lao PDR, NTFPs sales commonly generate about 50 percent of cash income to households. These sales are very important because they allow the purchase of goods and services in situations where there are few alternative income sources. However, in other countries such as India, rural people generally earn very little cash income from forests because of poor roads, a focus on low-value products, poor forest quality, and weak market linkages.

The collection and sale of forest products also provides a very important safety net function for the rural poor. In remote upland areas in Lao PDR, households commonly experience rice shortages for up to three months. NTFPs provide food security through either direct consumption or through their barter or sale to obtain rice. The safety net function of NTFPs is even more important in bad times, when crops fail or are destroyed. In Tanzania, according to the surveyed farmers, agriculture has become less profitable, which induces them to find other means for earning a living through collecting and selling forest produce. Infrastructure improvements have made it easier for them to bring their forest products to markets for sale. Therefore, forest resources clearly provide an important safety net for resource-poor households, particularly at times when other income sources are unavailable, such as when rains fail and harvests are poor.

*Forest-dependent poor are not a homogenous group. Level of dependence varies on the basis of age, gender, ethnicity, and status within a community.*

**Heterogeneity in Degree of Dependence.** While the rural poor exhibit significant dependence on the forest to provide for subsistence and cash needs, it is important to note that the rural poor are not a homogeneous group.

Findings in the case study areas showed that the level of dependence on forest resources varies based on gender, age, ethnicity, and status within a community. Levels of dependence are also greater for settlements nearer to forest areas and further from towns. In Indonesian Papua, for example, forest dependence is high for young, unmarried men not yet entitled to their own agricultural land. As cash is of growing importance, the sale of timber constitutes one of their only reliable sources of cash in remote areas. Women, however, are generally somewhat less dependent on forests and use them mainly for subsistence through the collection of firewood, fruit, and wild vegetables.

Status within a community, which is often linked with ethnicity, also determines levels of forest dependence. In India, tribal groups represent a significant share of the population in forested and hilly areas, and depend on forests for their cultural and spiritual needs, and to varying degrees, their economic needs. Tribal-dominated communities are among the poorest groups in society. In Nepal, an increased emphasis is being placed on access of women, disadvantaged groups, and Dalits (untouchables) in community, leasehold, and collaborative forests because of their level of dependence on forest resources. The case study in Nepal showed that normally the households that are wealthier in a community benefit more from revenues from community forests. Similarly, the Lao PDR case showed that the poorest people were the most dependent on forests. Therefore, the market interventions for NTFPs were successful in providing an escape ladder out of poverty.

### Forests in National Economies

Forests are important assets in the case study countries, offering numerous goods and services in the national economy, to society at large, and to local livelihoods. With the exception of Indonesia, however, forests are not seen as major drivers of economic growth. Consequently, they are undervalued. The GDP contribution from forestry and logging in India was 1.1 percent in 2001, versus 20.7 percent for primary agriculture, almost a 20-fold difference. However, the strict definition of GDP underestimates the total economic value of forests in India. Many goods and services from the forests are not traded in formal markets: for example, subsistence NTFPs, fuelwood, and vital ecological service functions, such as carbon sequestration, aesthetic values, and soil stability on slopes.

Similarly in Tanzania, the official forest sector contribution to the economy is between 2 and 3 percent of total GDP, but evidence shows that the cash and noncash contributions made by forests and natural resources to household income and livelihoods are not accurately captured by official statistics. Values of forest goods and services are often underestimated, wrongly attributed to other sectors, or entirely omitted. These include nonmarketed tim-

*The true value of forests is not captured in GDP. Undervaluation limits integration of forests in national economic plans.*

ber, NTFPs, forest products harvested illegally (possibly up to 80 percent of all forest harvesting), tourism and recreational services, and ecosystem services such as the positive influences of forests on agricultural production, water quantity and quality, energy sources, carbon storage, and biodiversity protection. Studies taking the nonindustrial or informal forest sector into account estimate that the contribution of the forest industry, nonindustrial forestry, and logging in 1989 was 13.9 percent of GDP.

Therefore, official GDP figures, on which the analysis of economic growth is made, do not necessarily reflect the “true” economic importance of the forest sector to the national economy. This “undervaluation” matters because the contribution to GDP and its growth determines decisions made by national governments, and also to some degree its development partners, regarding the allocation of financial resources. The Guinea case demonstrates that economic growth is necessary, particularly in the rural sectors, in order to generate benefits that can be targeted to the poor. However, it is important to note, as indicated in the Nepal case, that economic growth and income generation in any sector are not enough to ensure that benefits reach the poor.

## POVERTY REDUCTION STRATEGY PAPERS

Since 1999, Poverty Reduction Strategies have become a major national development framework in many countries. Originally set as a requirement for debt relief under the Enhanced Heavily Indebted Poor Countries (HIPC) facility, many non-HIPC-eligible countries have also invested in preparing these plans (Bird and Dickson 2005). The Poverty Reduction Strategy Papers (PRSPs)<sup>5</sup> are long-term, strategic planning instruments that describe a country’s macroeconomic, structural, and social policies and programs that promote growth and reduce poverty, and also identify external financing needs to achieve goals. The PRSPs are broadly endorsed by the World Bank and the International Monetary Fund (IMF) as a requirement for concessional assistance through the International Development Association (IDA) and the IMF through the Poverty Reduction Growth Facility. When preparing PRSPs, the government of a low-income country is expect-

5. Information from The World Bank (2007), FAO (2006), and Contreras-Hermosilla and Simula (forthcoming).

ed to involve broad participation by civil society, the private sector, and bilateral, multilateral, and non-governmental development partners, including the Bank (see box 1). The resulting document is expected to explain poverty and its causes in the respective country, analyze constraints to faster growth and poverty reduction, set goals and targets, and establish indicators to measure progress.

Experience so far highlights some of the difficulties with formulating approaches to address the complex dimensions of poverty. In some instances, there was little correlation between national priorities and budget allocations; local and district priorities were not always reflected in national priorities; and a large proportion of resources to reduce poverty were directed to government ministries at headquarters, rather than to investment and services in rural communities.

*A review of 43 PRSPs showed that forests are not well integrated into poverty reduction.*

### Overview of Integration.

While it has been well established that forests contribute to the livelihoods of many rural people, it is increasingly argued that they can be a resource for poverty reduction. Recent research indicated that while forest sector issues have been well integrated into some PRSPs and Country Assistance Strategies (CAS), for the most part, forests have not been satisfactorily factored into strategies for poverty reduction and development. A review of the PRSPs of 43 countries showed that in 24 countries there was some discussion of the main challenges facing the sustainable development of forest resources and opportunities for interventions. However, in some countries with a substantial portion of their land area under forest cover, there was no discussion of forests in their PRSPs. In 23, there was a discussion of policy and program responses to address the challenges and opportunities identified, but only 12 PRSPs translated these responses into a coherent strategy of policy and institutional reforms to improve forest management within the context of overall poverty reduction strategies. In almost all cases, the quality of analysis was poor.

The absence of and poor treatment of forest issues in PRSPs may be to the result of lack of political support for the sector, or an insufficient capacity

*Absence of forests in PRSPs may be due to sensitive national and international dimensions of forest resources.*

## World Bank Guidelines for PRSPs

The five core principles for the design and implementation of PRSPs:

<i>Country-driven and country-owned</i>	They should be produced by the government, with the broad participation of civil society and private sector at all stages from design to implementation.
<i>Results-oriented</i>	They should focus on specific results that would benefit the poor.
<i>Comprehensive</i>	They should include multidimensional actions to reduce poverty.
<i>Partnership-oriented</i>	They should involve the coordinated participation of development partners.
<i>Based on medium- and long-term perspectives</i>	They should recognize the long-term nature of actions to reduce poverty.

of country governments to properly integrate forests in their PRSPs. As the countries design PRSPs, governments are expected to closely identify their actions with the objectives and priority programs of their own strategy papers. It may be easier for governments to give a positive image of themselves, and the partnerships they favor, when presenting social sector poverty reduction strategies, such as health and education, than natural resource-based ones. This is particularly true regarding forest resources, which have sensitive national and international public goods dimensions. There may be less controversy as to the legitimate role of the state, and the necessity and benefits of state intervention, where social sector issues are concerned (Bird and Dickson 2005).

Issues of forest tenure may also limit the mention of forests as part of poverty reduction strategies. Many countries may be reluctant to relinquish their state control over forests, and the benefits they

*Other reasons for deficiencies may include issues of forest tenure, lack of awareness of forest potential and possible impact, and issues of participation of local people in consultation processes.*

bring, to rural people as a pathway out of poverty (Bird and Dickson 2005). The low level of awareness of the role that forests can play in poverty reduction may also be a main cause of inadequate integration of forest sector issues in

PRSPs. Additionally, sufficient data and information to design forest-based interventions are generally

not available, or interventions may be considered high risk. Public consultations done as part of the PRSP development process have not revealed a strong concern for forestry issues among the poor. This may be a result of the enormous power imbalances and conflict between local people and outside interests concerning forests resources. This would likely be a disincentive for the poor to express their views on forestry in open, public meetings (Bird and Dickson 2005). Therefore, these deficiencies in integrating forests into PRSPs not only reduce opportunities for Bank engagement in forests, but also pose barriers to the management of interactions that originate from changes in macro policies or in other sectors having considerable impacts on forests. Furthermore, a country's effort to reduce poverty is also constrained by not taking advantage of opportunities that forest programs can provide.

### Forests as a Strategy for Poverty Reduction

The important role of strengthening environmental and natural resource management, in order to have sustainable development, was recognized in the poverty reduction strategy documents for all six case studies (see box 1.2; table 1.1). This significant mention of environmental and natural resource issues in the PRSPs of the case studies is likely a result of the recognition in government

*Poverty-environment linkages are recognized in PRSPs of six case studies.*

programs of the cross-cutting nature of poverty and environmental issues. In particular, the unsustainable use of the natural resource base, coupled with natural disasters, was seen as constraining rural growth, eroding sources of livelihoods, and ultimately contributing to poverty. This recognition of poverty-environment linkages, however, does not necessarily translate into specific planning strategies that actually contribute to poverty reduction in forested areas.

*Indicators in PRSPs do not adequately capture contribution of forests to livelihoods of rural poor.*

**Measuring Poverty-Forest Linkages.** This recognition of the role of sustainable management and development of

forests in poverty reduction was particularly strong in the PRSPs of some countries. Tanzania is clearly making significant progress in mainstreaming the environment into poverty reduction strategies. This is also evident in the overall goal of the National Forest Policy, which is to “enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations.” However, in order for that contribution to be fully realized, information on their importance must be captured, measured, and targeted toward poverty reduction policies. Unfortunately, the current poverty-environment

indicators do not have the ability to capture forests’ and natural resources’ contribution to livelihoods accurately. The indicator, worded as “proportion of households whose main income is derived from the harvesting, processing, and marketing of natural resources products,” loses the noncash contribution that forests and natural resources have to livelihoods, and also does not capture the multitude of households that do not derive their main income from forests and natural resources. Given that poor households must put together a particularly diverse portfolio of livelihood options, this is a significant loss of information on the important role that forests and natural resources play in livelihood strategies.

*Participatory forest management is a common theme in PRSPs.*

**Forest Tenure and Local Management.**

A recurrent poverty reduction strategy theme in PRSPs is the importance of involving local communities in management of forest resources. In Indonesian Papua, where lack of recognition of customary tenure in forested areas has led to violent clashes with timber companies, the emphasis on the importance of community arrangements in determining the poverty outcomes of forest management are particularly acute. The PRSP calls for the consistent application of the Basic Agrarian Law in all natural resource sectors, including forests, which would institutionalize collective land management and

**BOX 1.2**

**Poverty Reduction Strategy Documents**

Country	PRSP or other plan	National Name for the PRSP (if any)
Tanzania	PRSP	MKUKUTA*
Guinea	PRSP	National Growth and Poverty Eradication Strategy (NGPES)
Lao PDR	PRSP	
Indonesian Papua	PRSP	
Nepal	PRSP	Tenth Plan
India	Tenth Plan	

Source: Author’s (H. Carolyn Brown) compilation.

Note: \*The Kiswahili name for the new strategy is Mkakati wa Kukuzo Uchumi na Kuondoa Umaskini Tanzania (MKUKUTA).

involve the poor in spatial planning processes. This case, in particular, highlights the importance of issues of control of resources, as opposed to existence of resources, to poverty reduction.

Local arrangements and secure tenure also contribute to sustainable forest management as well as poverty reduction. In the case of Tanzania, poverty and forest degradation continued in parallel until the institutional framework was changed in such a way that forests were restored and contributed to poverty reduction. In the case of Lao PDR, development of local institutions and marketing arrangements contributed to poverty reduction. In other countries such as Nepal, forestry is not mentioned in reference to governance in the PRSP, despite the fact that community forest user groups (CFUGs) are one of the few remaining local institutions in areas heavily affected by the ongoing Maoist insurgency.

### **Community Forestry and Marginalized Groups.**

Community-based management of forest resources is a prominent theme in some case study countries, such as Nepal and India, which have long-standing community forestry programs. In Lao PDR, enhancing village-based natural resource management for poverty alleviation and sustainable forest management is a new and important part of the PRSP (see box 1.3). In Nepal, while discussion of the role of forestry in poverty reduction occupied a full chapter of the PRSP, the history of performance of the community forestry program in addressing poverty has not been particularly impressive. The PRSP, however, continues the focus on participatory forest development activities as a means for supporting poverty reduction by creating opportunities for income generation and employment for the poor, women, and disadvantaged groups. The plan proposes three main strategies for achieving this objective: (i) expansion of leasehold forestry to create employment for disadvantaged member households that are below the poverty line; (ii) increased access of women, disadvantaged groups, and Dalits (untouchables) in community, leasehold, and collaborative forests; and (iii) promotion of private-sector investment and exports for sustainable management and proper utilization of valuable non-timber forest products. The plan also introduces the concept of leasehold forestry within community forests to benefit subgroups of the poor and

disadvantaged by establishing forest-based microenterprises.

The issue of targeting marginalized groups such as tribal communities—which are among the poorest groups in society—through community forestry is also evident in the Tenth Plan of India. Tribal communities represent a significant portion of the population in forested and hilly areas, and the forest

*Nepal and India planning documents specifically mention strategies to reduce poverty among marginalized groups.*

occupies an important place in their psyche as the mainstay of their social and religious practices. The policy of joint forest management (JFM), while making

some strides in forest conservation, unfortunately does not usually recognize the unique characteristics of tribal peoples, which can reduce the effectiveness of project thrusts and their impacts on poverty. Furthermore, JFM has been prone to elite capture, where the poorest may actually be made worse off as those with more power take advantage of new opportunities for their own benefit. Additionally, the current JFM model is weighted in favor of state forest department control over planning, management, investment, harvesting, and marketing. JFM does not enable communities to legally exploit the full potential of forests to improve local livelihoods. For communities to capture this untapped potential, wide-ranging and phased reforms are required at both the national and state levels. The Tenth Plan states that it will adopt an effective strategy that takes into account the prospects of the tribal peoples, as well as protection of forests, complementing each other in such a way that the tribal peoples are closely and gainfully involved with all the activities related to regeneration, afforestation, protection, and management of forest areas under JFM. Therefore, while improved forest management, economic growth, and income generation are important, poverty reduction seems often to require targeted intervention in order to address the concerns of the poor and marginalized.

**Market Barriers.** All the PRSPs emphasize the role that the lack of infrastructure, markets, and market access play as barriers to achieving poverty reduction and growth. The case

*PRSPs indicate the need to improve market infrastructure and marketing strategies.*



study in Lao PDR was particularly impressive in showing that investment in market interventions for NTFPs, through the establishment of NTFP marketing groups, and adding value through enhanced processing, made a substantial difference in improving the wealth status of poor households. Therefore, it is perhaps not surprising that in Lao PDR's PRSP, participatory management and processing of NTFPs is mentioned as a poverty reduction strategy. India's Tenth Plan states that measures will be initiated to strengthen efforts to promote commercial cultivation and collection of medicinal plants as one of the avenues for reducing poverty among tribal communities. In some other countries, however, such as Nepal, forestry is not mentioned under trade in the PRSP, even though substantial volumes of NTFPs are exported both legally and illegally each year.

*Timber production is not named as a poverty reduction strategy.*

**Timber Production.** In all case study countries, little emphasis is placed on poverty reduction strategies from commercial timber production, although that clearly could be a source of revenue for the poor from community-managed forests. This was particularly evident from the case study in Indonesian Papua, where timber companies and community groups appeared to have common interests. It was not clear

from the PRSP, however, that this was seen as a poverty reduction strategy. In Nepal's PRSP, forest timber production is not mentioned, despite substantial potential, particularly in the Terai region. The plan also does not mention timber harvesting with respect to CFUGs.

*Costs of PRSPs often are vague and lack concrete plans to achieve goals.*

**Limitations.** The recognition in PRSPs and NFPs of the importance of forests, however, is not the same as implementing forest management, which actually contributes to poverty reduction. Generally, there seems to be a problem that even where PRSPs and NFPs refer to forests and poverty, the references appear to be very general, and there are usually very few clear pro-poor provisions. This is particularly evident in the case study of Guinea, where general goals of the PRSP and Forest Action Plan are very vague, and are concerned more with protection of the natural potential than with detailed ways to use it to benefit the poor. This lack of specific detail as to how to accomplish stated goals is a common problem with the PRSPs in all case studies. It is in this gap that the Poverty-Forests Linkages Toolkit can play a key role in helping governments to translate often vague strategies into concrete plans for achieving poverty reduction in forested areas.

### BOX 1.3

#### Forests and Poverty Alleviation in Lao PDR's PRSP (Lao PDR, 2004)

The government strives to implement the following measures to alleviate poverty and to ensure more sustainable management of Lao forests:

- Enhancing the village-based natural resource management for poverty alleviation
- Revising the system for harvest determination, from focus on capacity of the wood industry to focus on sustainable supply
- Restructuring the wood industry in Lao PDR to bring processing capacity into closer accord with a sustainable raw material supply
- Controlling unsustainable harvest and export of NTFPs by unregulated traders and promoting sustainable participatory management and processing of NTFPs
- Promoting tree planning; formulating mechanisms for certifying sustainably managed tree plantations
- Preventing encroachment, illegal activities, and biodiversity degradation through effective law enforcement, building capacity, and the participation of villages in conservation activities
- Formulating a national land-use policy and introducing land-use planning at both the macro and field levels.

*Source:* Author's (H. Carolyn Brown) compilation.

## SUMMARY OF MAIN CASE STUDY FINDINGS

### Nepal

The Nepal study examines the policy framework relevant to the links between poverty reduction and forests. It then describes the results of local case studies in three communities, two in the lowland Terai and one in the hills adjacent to the Terai.

The potential contribution of forests to poverty reduction is reflected in policy, but the manner in which it is reflected highlights key issues. The Master Plan for the Forestry Sector (1989–2010) was not concerned explicitly with poverty reduction, but rather with meeting subsistence needs from forests. To the extent that there was a concern with poverty reduction, it involved an implicit trickle-down theory. The PRSP, Nepal's Tenth Plan, has a chapter on forests and poverty that goes beyond a general concern with the potential of forests to contribute to economic growth, and identifies some strategies specifically to target the poor (for example through leasehold forestry). Significantly, there is no reference to the potential for timber harvesting as a source of income for forest user groups (FUGs), which is something that the Ministry of Forests and Soil Conservation (MOFSC) has always been reluctant to allow. The implication here is that having forest-poverty linkages in PRSPs is not enough to lead to the effective implementation of a poverty focus in forestry. Issues of control of valuable resources remain important.

Nepal is noted for its established community forestry program, formalized in the Master Plan for the Forestry Sector and subsequently in legislation. Under the community forestry program, authority to use and manage areas of national forests is transferred to local user groups called community forest user groups (CFUGs), with use subject to management plans negotiated with and approved by the Department of Forests. Although the program originally evolved as a means of achieving sustainable forest management and providing forest products to support community livelihoods, it obviously has implications for poverty reduction. Poverty reduction increasingly has become a focus for many proponents of community forestry. However, as the report points out, the extent to which poverty reduction is an appropriate objective for the forest agencies is debated by forestry officials.

Nepal has two other forest programs that are relevant to poverty reduction. One is the leasehold forestry program, under which degraded land is leased to groups of landless people with a program of support, such as loans. The other is collaborative forest management, which involves joint management by communities and the Department of Forests, with sharing of income benefits. This program was conceived as an alternative to community forestry for the Terai, where commercial harvesting of timber has major potential. This case study researches three community forestry user groups in or near the lowland Terai but, unfortunately, there is no detailed discussion of community forestry in the hills, where community forestry has been most fully implemented. There is a history of reluctance by the MOFSC to apply community forestry in the Terai, largely because the timber in the Terai is accessible and a potential source of major revenue. It is probable that somewhat different issues would emerge in cases in the hills, and care is needed in generalizing from the three case studies, especially the two from the Terai.

The report notes that the forests of Nepal are underutilized in terms of their capacity to contribute to national income. It also notes the common perception that less conservative management of community forests would enable increased and sustainable availability of forest products. The potential for forests to contribute to both provision of products to rural people and increased income is clear from the study. It is also clear that there is potential for an even greater contribution if timber harvesting and processing become a resource for FUGs. A factor limiting the contribution of forests to poverty reduction is lack of access to commercially valuable products. This point applies in many cases beyond Nepal.

For the three local case studies, participatory wealth ranking was used to develop a set of wealth categories. These were then applied to assess the benefits from community forestry for each category. In all three cases, there was a general pattern of wealthier people gaining greater benefits from community forestry in terms of the extent of forest products obtained from community forests. This was particularly clear in the case of Dovan (in the hills adjacent to the Terai). It was slightly less clear in the other cases, probably because wealthier people, with larger landholdings, were able to obtain some products from their own land. Thus, while community

forests did provide products to support the livelihoods of the poor, wealthier people obtained more. This pattern of unequal and inequitable distribution of benefits is consistent with findings from other research on community forestry in the hills, which suggests that the poor frequently obtain a lesser share of forest products than wealthier people (Shrestha 2005; Malla 2000). The reasons for the lesser share are complex, but certainly suggest that mere provision of benefits may not reach the poor unless they are specifically targeted. Cash income from sale of forest products was generally devoted to community development activities (such as roads and schools). Again, while broad community/rural development may benefit the poor, it does not specifically contribute to poverty reduction.

Thus, the performance of community forestry in Nepal in addressing poverty has not been particularly impressive so far. There is no doubt that community forestry has contributed to the supply of forest products for livelihoods and subsistence, to increased household income in some places, and to the generation of funds used for community benefits. However, there is also evidence that the poorest of the poor (bearing in mind that even “wealthy” farmers in Nepal are poor by most standards) often do not get fair shares of forests products or increased incomes, and are sometimes absolutely worse off as a result of community forestry. It is clear that the case of community forestry is consistent with the broader generalization that growth does not necessarily lead to poverty reduction. A key implication from the study is that increasing GDP nationally (or increasing incomes locally) is not enough to address poverty reduction. There is a need for targeted strategies to ensure that growth and income reach the different categories of the poor.

The study does refer to some CFUGs that had internal mechanisms to target the poor, including revolving funds. This makes it clear that inequity is not inevitable in community forestry, and that CFUGs have the capacity to develop means to ensure that community forestry can contribute to poverty reduction. However, more research needs to be done on the factors that lead to such approaches being adopted by CFUGs. How much comes from local leadership? How much from facilitation by outside agencies?

The brief discussion of leasehold forestry in the report highlights the importance and potential of forestry policies that specifically target the poor.

However, it is not clear from the study whether the claims of the program are justified in practice, as none of the local case studies involved leasehold forestry.

## Guinea

The Guinea study looked at the economic, institutional, and policy context of forests and poverty. This included analysis of the part played by forests in Guinea’s PRSP, and the extent to which the NFP addresses poverty concerns. This was complemented by the study of the role of forests in the local economy in villages in and around the Sinçery-Oursa Classified Forest in central Guinea.

Key findings from the research showed that timber and wood products do not play a large role in Guinea’s exports, but forests are important for domestic trade. There is a strong connection between farming and poverty with farmers, who represent 61 percent of the population and 80 percent of the poor. While none of the farmers interviewed in the survey was classified as forest-dependent, which is defined as fully dependent on forests for their livelihoods, villagers typically derive up to 25 to 30 percent of their income from collecting and selling forest products.

The report shows that PRSPs and NFPs, which recognize the importance of forests for poverty reduction, are not the same as implementing forest management that actually contributes to poverty reduction. While it is important to have such recognition in policy documents, the detailed description of the PRSP and the Forest Action Plan suggest that the focus of the goals is very vague. The Forest Action Plan seems to have very conventional forestry objectives, with an implicit assumption that sustainable forest management will lead to poverty reduction. The PRSP’s forestry focus is more concerned about the protection of the environmental and timber benefits from forests than with detailed ways to use it to benefit the poor. A key point is that forests have a role in helping to sustain rural livelihoods, but this is not the same as lifting people out of poverty. As there is little or no growth occurring in Guinea in rural sectors, this suggests limited scope for benefits targeting the poor.

The lack of infrastructure, markets, and market access is seen as a barrier to achieving poverty reduction and growth. An important point is that the existence of good forest management provisions for

forests is not enough to achieve poverty reduction and growth. A viable commercial system is essential.

National policy encourages peoples' participation in forest management, especially in the form of "collaborative forest management." However, the report finds that willingness to participate "is clearly related to their need for forest products ... as well as their access to and availability of those resources."

### Indonesian Papua

This case study presents an analysis of policy issues relevant to forests and poverty reduction for Indonesia generally, and more specifically for the Indonesian province of Papua. It is particularly concerned with institutional change processes likely to allow better flow of benefits to communities (which include the poor). It highlights the importance of institutional arrangements in determining the poverty outcomes of forest management.

Although the paper does not attempt a detailed assessment of the contribution of forests to livelihoods, or poverty reduction in the province or in any particular field site, it does present a brief analysis of correlations between poverty and forests in Indonesia generally, based on existing national data and surveys. Based on these data sets, it concludes that:

- Villages in and near forest areas were worse off in terms of infrastructure and services.
- The percentage of poor households in villages and near forests is greater than for villages far from forests, even in Java, the wealthiest region.
- Poorer households were more dependent on forest income than richer households.
- There is a clear correlation between poverty and forests in Indonesia, the result partly of the fact that both forests and the asset poor are found in remoter areas, and partly that living in or near forests reduced income overall in some way, despite the opportunities the poor identified for deriving income from forests.

On the last point, the paper notes that "lack of access to and use rights in forests are the other crucial component of forest-related poverty, but the correlations summarized here do not deal with that fact." Nevertheless, the paper pays a great deal of attention to the need to establish secure rights in

Papua. It strongly supports the importance of issues of control of resources (as opposed to existence of resources) to poverty reduction.

The paper describes in detail the policy framework within which forest management operates in Papua. The broad context is the contradiction between decentralization policies and the grant of special autonomy to the province, and tensions over such matters as the granting of logging licenses to communities and the absence of mechanisms for registering collective claims to land.<sup>6</sup> It is clear that contradictions between policy instruments and authorities often make application of policies very difficult.

The great value of the paper is the analysis of the multi-actor processes leading to creation of an institutional framework for devolved control of resources to communities. There is a common assumption that the interests of timber companies and local communities are usually (if not always) antithetical. In Indonesian Papua, various stakeholders have found lack of clarity of tenure to be a barrier to investment. This has led to coalitions of industry, communities, and provincial authorities concerned with advocating change in national-level regulations and policies.

One interesting implication of the study (not explicitly discussed) is that commercial timber production may have the potential to contribute to poverty reduction. It is sometimes assumed that commercial timber production provides few opportunities for community income because of needs for capital and expertise (see, for example, Wunder 2001). It seems from this study that there is potential for timber companies to have common interests with communities. These could be activated in the form of community concessions where communities have resource control, the companies can provide the expertise and capital, and the communities can benefit from the fees.

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6. The emphasis on communal tenure reflects the concerns of communities for the maintenance and recognition of customary title, seen as a resource for economic development, not as a disincentive. Regarding the issue of communal tenure in Papua, there has been a debate in Australia led by the conservative economist Helen Hughes arguing that development in Melanesia (by which she mostly means PNG) is not possible without privatization (Hughes 2004). This has been vigorously attacked in a recent collection edited by Fingleton (2005).

## Tanzania

The Tanzania report examines policy instruments related to poverty reduction and forests in Tanzania. It then examines the experiences of the HASHI project in the Shinyanga region of northwestern Tanzania in promoting forest restoration based on traditional local institutions. These activities have had significant implications for poverty reduction.

In terms of national policy, the report points out that the most recent poverty reduction strategy recognizes the contribution of natural resources to poverty reduction. It also shows how the Forest Policy of 1998 explicitly recognized the contribution made by forests to poverty reduction and human welfare. However, the impacts remain hard to assess, largely as a result of poor monitoring and evaluation.

The discussion of the Shinyanga experience, over almost 20 years, suggests very impressive achievements, especially in terms of scale for poverty reduction. The HASHI project has supported restoration of forests through the recognition and restoration of *ngitili* (forest and shrub land set aside as traditional grazing and fodder reserves). Rights to use and sell forest products from *ngitili* are recognized, and technical support is provided to improve productivity. Support is also provided for expanding markets for products and for the development of new products. By 2004, at least 350,000 hectares of *ngitili* had been restored or created in 833 villages, encompassing a population of 2.8 million. It has been estimated that the benefit per person per month of *ngitili* is US\$14. Income from *ngitili* has also been used to support schools and other forms of rural development.

Prior to the establishment of HASHI, the forest lands of Shinyanga were highly degraded, largely as a result of government (both colonial and postcolonial) policies, such as villagization and commercial coffee growing. The important point is that the relationship between poverty and degradation, and the relationship between local use and degradation, were reversed as a result of policy changes, which returned control to the community and transformed pressures to degrade the environment into incentives to restore it (Fisher et al. 2005).

## Lao PDR

This report focuses on factors that have affected the broader adoption of approaches to forest-based livelihood developed by the NAFRI/IUCN NTFP

Project (National Agriculture and Forestry Research Institute/IUCN—The World Conservation Union) in the Lao PDR. The project operated from 1995 to 2001. It discusses the importance of NTFPs to livelihoods in Lao generally, and then documents project intervention strategies and results of interventions in Ban Nampheng in Oudomxai province. The report compares impacts on livelihoods and poverty based on data collected in 2002, just after the project ended, and in a 2006 followup study. A short summary of the role of forests in the PRSP is also included.

Participatory poverty assessments undertaken in 1996, 2002, and 2006 used locally recognized indicators of wealth and poverty, and had village informants rank each household accordingly. There was a very substantial change in the wealth status of various households, with the overall percentage of households in the poorest class dropping from 33 percent in 1996 to 13 percent in 2006. Importantly, “fourteen households graduated one wealth class between 1996 and 2002. Over the next four years, another seven households graduated one wealth class, while previous gains were held by all but one household that slipped back a class.”

These changes arose primarily out of the NTFP interventions, which revolved around marketing and local institutional development. An NTFP Development Fund, which collected 10 percent of NTFP sales, funded a large number of community projects and continued to grow and function after the project ended in 2002. Individual households made significant income from sale of NTFPs.

The most striking developments mentioned in the report relate to the unplanned replication of the approach throughout Lao PDR. The report found that interventions undertaken by the project were being replicated by other projects and communities almost throughout the whole country by 2006. (The replicated interventions included domestication of marketable NTFPs, the establishment of NTFP marketing groups, and forest land allocation with management of NTFPs.) This “sideways” spread is attributed to a number of factors, including general awareness of the project, formal visits to the project site, ad hoc visits by people passing by, and relocation of pilot site households to other villages. There was some “vertical” spread of ideas from the project, with the project influencing the forestry sector in terms of policy and practice. This was largely a result of the project’s conscious efforts “to learn, document, and present its lessons to a wider audience.”



Clearly, the report has major implications with regard to the concerns of the Forests as a Resource for Poverty Reduction project by finding ways to influence policy makers and scale up useful interventions. Generally, the most important thing that comes out of the report is the evidence that “nothing spreads like a good idea.” It is remarkable how much unplanned replication has occurred. However, this is not accidental. Having conscious strategies for critical documentation and distribution, as well as training and public awareness strategies, were crucial. This is clearly a generalizable finding and one that should be noted in similar projects.

It is a striking paradox that sideways replication by projects focused heavily on the technical innovations, rather than the institutional ones. It is interesting that the more spontaneous, nonproject-supported innovations took more account of the social ones, as if villagers understood their importance better than the staff of “copycat projects. It would be quite interesting to know why the social innovations were not more directly copied, and why the package was treated more as a menu of items to be selected one by one. Is it because many project staff tend to be more technically oriented? Is it because they tend to be locked into log frames that don’t allow much room for out-of-the-box thinking?”

The finding that government of Lao PDR staff did not promote the approach, except where there was external funding, has important implications. It seems that the absence of financial support from the government of Lao PDR may have been a major factor. This relates to the emphasis in the PROFOR project on getting to national economic planners in order to encourage investment in the forestry sector. The report refers to government officers, but they seem to be mostly from forestry and natural resource management (NRM) agencies. The idea (Recommendation U.1) of preparing materials for national assembly members could be expanded to preparing materials for financial bureaucrats. Along the same line of thought, Suggestion U.4 refers to decision makers in the forest and agriculture sectors. This should be broadened to include the finance sector.

Analysis of Lao PDR’s National Growth and Poverty Eradication Strategy (NGPES) indicated that one of its priorities was to strengthen natural resource and environmental management. In the section on the role of forests, one of the measures to reduce poverty outlined is to promote sustainable

participatory management and processing of NTFPs. While unknown, it is possible that the decision to include this strategy in the PRSP may be a result of the vertical spread of ideas from this successful project.

In terms of methodology, the application of the wealth-ranking methodology over time could be usefully applied elsewhere to demonstrate the impacts of poverty-related interventions. The methodology is relatively simple and quite robust.

## India

The case study for India differs from the others as it focuses primarily on analysis of the potential of forests from the document *Unlocking Opportunities for Forest-Dependent People in India* (World Bank 2006), which focuses on joint forest management (JFM). Additionally, a methodology being developed by CIFOR for measuring changes in livelihoods at the village level is presented.

Forestry is the second largest land use in India after agriculture. An estimated 275 million people in rural areas depend on forests for at least part of their livelihoods. Forest dwellers, which include a high proportion of tribal peoples, are among the poorest and most vulnerable groups in society. The government of India has adopted JFM as the principal approach for community forestry. The program now covers 27 percent of the national forest area across 27 states, and encompasses 85,000 village committees.

The current JFM model is heavily oriented toward forest conservation and commercial plantations managed by state forest departments. Although evolving, JFM does not enable communities to legally exploit the full potential of forests to improve local livelihoods. Most communities still use forests mainly as a safety net during difficult economic periods, or for seasonal subsistence products like fuelwood and fodder. For communities to exploit the untapped potential of forests, wide-ranging and phased reforms are required at both the national and state levels addressing: (i) stronger forest rights and responsibilities for forest communities; (ii) more effective management systems targeted at community forestry models; (iii) improved access to more efficient market systems for major and minor products; and (iv) more effective and flexible institutions and capacities. India’s Tenth Plan focuses on many of these reforms, particularly as they relate to forests and tribal communities.

The state of Jharkhand, with support from the World Bank, is planning major new investment in community forest management, with an explicit objective to improve the livelihoods of rural people, especially in forest-fringe villages. Jharkhand is one of the poorest states in the nation, with 44 percent of the population living below the poverty line. A large percentage of the population is from tribal groups. The Jharkhand Department of Forests and Environment (DFE), as an integral part of the program, intends to implement a monitoring system to assess the livelihood changes resulting from their investment. This will facilitate modification of the program as appropriate, in an adaptive management framework.

The case study proposes a tool based on the livelihoods framework to measure village-level indicators. A synthesis of these indicators will be used to assess development trajectories at the village level, and will allow some inferences about household-level livelihoods status and changes. It will be an additional tool for use by the Department of Forests and Environment to help it improve the livelihoods of local people.

## CONCLUSIONS

Quite apart from the rich analysis of the linkages between forests and poverty reduction as they apply in the various countries studied, the reports prepared for the PROFOR project “Forests as a Resource for Poverty Reduction” provide a number of valuable insights with broader applicability.

### Lessons Learned

1. It is clear that forests provide important support for rural livelihoods in many countries. It is also clear that they have great potential to contribute to improved livelihoods and, more specifically, to poverty reduction.
2. Evidence demonstrating the value of forests for livelihoods and income generation, and the impacts of planned interventions aimed at poverty reduction, can be achieved through methodologies combining rapid appraisal methods as used in the case studies and as described in the toolkit. Participatory wealth ranking, combined with the use of well-being indicators (as described in the Lao PDR and India studies) can be particularly valuable if used over time to identify changes in poverty and wealth.
3. It is important to distinguish among supporting livelihoods, wealth creation, and poverty reduction. Forest policies seem to have done better at supporting livelihoods or poverty mitigation than at focused poverty reduction.
4. Economic growth is important in order to benefit the poor, but targeted interventions are required so that the poor actually benefit.
5. The existence of policy instruments that recognize the connections between forests and poverty reduction is not enough to ensure appropriate action. Factors such as contradictory policies, overlapping or conflicting authorities, and reluctance to relinquish control over forest resources often prevent policy intentions from being achieved. Furthermore, forest policy needs to be viewed together with changes in other sectors as part of a comprehensive rural development strategy to reduce poverty.
6. Providing access to forest resources and improved income does not guarantee that the benefits are directed to the poor, or that benefits will be distributed equitably. Many national policies simply assume that the benefits of improved production and access to forests will be distributed in such a way that the poor benefit. There is a need for safeguards to ensure that benefits are not captured by elites at the expense of the poor.
7. Poverty-forest linkages are not inevitable and can be changed through transforming structures. This can be accomplished through local institutions for forest restoration, as in Tanzania, or through the development of local institutions and marketing arrangements, as in Lao PDR. It is also important to note that with increasing demand and market access, it is essential that local institutional arrangements be able to regulate sustainable harvest of resources.
8. Clear, recognized, and enforceable rights of access to resources are among the most important transforming structures. The issue of control of forest resources, including obvious tenure issues and the broader issue of reluctance of forest authorities to relinquish real control of valuable resources, underlies all of the reports, but is not usually addressed explicitly.

TABLE 1.1  
Summary of Case Study Findings

Country	Forests in PRSP	Key Issues in Forests	Key Forest Issues Included in PRSP
Guinea (2002)	Yes	<ul style="list-style-type: none"> <li>• Rural poor derive 25–30 percent of income from forest products</li> <li>• Forests important for domestic trade</li> <li>• Timber and wood products not large part of export trade</li> <li>• Lack of economic growth</li> </ul>	<ul style="list-style-type: none"> <li>• Protection of forests</li> </ul>
India	Yes	<ul style="list-style-type: none"> <li>• Forests are undervalued in GDP</li> <li>• Forests are degraded from unsustainable use</li> <li>• JFM has not resulted in poverty reduction</li> <li>• Dependence on forests, particularly for tribal communities</li> <li>• Interests of tribal communities marginalized</li> <li>• Market imperfection</li> </ul>	<ul style="list-style-type: none"> <li>• Need to ensure environmental sustainability</li> <li>• Need to place forests in broader context of rural development</li> <li>• Revise policy of JFNI to better address poverty reduction concerns</li> <li>• Involve tribal communities in managing and benefiting from forests</li> <li>• Improve market strategies</li> </ul>
Indonesian Papua (2004, full document not available)	Yes	<ul style="list-style-type: none"> <li>• Lack of customary tenure in forested areas</li> <li>• Local conflict with timber companies</li> <li>• Increasing poverty in forest areas</li> <li>• High dependence on forest resources for livelihood</li> </ul>	<ul style="list-style-type: none"> <li>• Calls for forest tenure reform</li> </ul>
Lao PDR	Yes	<ul style="list-style-type: none"> <li>• NTFPs are key source of livelihood</li> <li>• Investment in marketing and local institutional development result in poverty reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Enhancement of local management of forest resources</li> <li>• Participatory management and improved marketing of NTFPs</li> <li>• Rules for sustainable wood industry</li> </ul>
Nepal (2003)	Yes	<ul style="list-style-type: none"> <li>• Forests important as livelihood strategy</li> <li>• Community forestry important in poverty mitigation</li> <li>• Community forestry does not necessarily benefit the poorest of the poor</li> <li>• Lack of access to commercially valuable products, such as timber</li> </ul>	<ul style="list-style-type: none"> <li>• Strategies to target the poor through leasehold forestry</li> <li>• Emphasis on community forestry</li> </ul>
Tanzania (2005)	Yes	<ul style="list-style-type: none"> <li>• Forest products important for livelihoods</li> <li>• Forests undervalued in GDP</li> <li>• Local institutions important in forest restoration and sustainable management</li> <li>• Need to improve markets</li> </ul>	<ul style="list-style-type: none"> <li>• Forests are important for poverty reduction</li> <li>• Emphasis on community management of resources</li> <li>• Importance of sustainable use of resources</li> </ul>

Source: Author's (H. Carolyn Brown) compilation.

## Implications for PRSPs

1. Attempts to change policy to provide better support for poverty reduction through forests can be enhanced by careful documentation of activities, strategies, and impacts, as seen in the Lao PDR study.
2. Building coalitions of interest among stakeholders can also contribute to changing policy.

The fact that the potential for forests to contribute to poverty reduction is not well recognized by national economic planners and policy makers highlights a need for a methodology that allows rapid collection of data and production of key information for national planning and decision-making processes. Such documentation would enable recognition of the opportunities from forests in poverty alleviation, and could secure a better integration of forests in PRSPs and other macro-planning instruments, such as NFPs and CASs. To that end, the PROFOR Poverty-Forests Linkages Toolkit provides valuable methods and resources for government officials and nongovernmental facilitators in making the poverty-forest linkages clear to economic planners. This, in turn, will help to overcome some of the constraints to mainstreaming forests into the poverty reduction policy process.

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## CHAPTER TWO

# Summary of Case Study—India

21

### EXECUTIVE SUMMARY

A recent study by the World Bank indicates that forests offer huge potential for poverty reduction and rural economic growth in India,<sup>1</sup> while also supporting critical national conservation goals. Forestry is the second-largest land use in India after agriculture. An estimated 275 million people in rural areas depend on forests for at least part of their livelihoods. Forest dwellers, which include a high proportion of tribal peoples, are among the poorest and most vulnerable groups in society. Given the complexity of the issues and the diversity of India's forest areas, the Bank has proposed a long-term dialogue with the Indian government to foster common understanding of the constraints to, and opportunities for, poverty reduction in and around the forest areas.

The government of India has adopted Joint Forest Management (JFM) as a principal approach for community forestry. The program now covers 27 percent of the national forest area across 27 states, and encompasses 85,000 village committees. The current JFM model is heavily oriented toward forest conservation and commercial plantations

managed by state forest departments. Although evolving, JFM does not enable communities to legally exploit the full potential of forests to improve local livelihoods. Most communities still use forests mainly as a safety net during difficult economic periods, or for seasonal subsistence products like fuelwood and fodder. For communities to exploit the untapped potential of forests, wide ranging and phased reforms are required at both the national and state levels addressing: (i) stronger forest rights and responsibilities for forest communities; (ii) more effective management systems targeted at community forestry models; (iii) improved access to more efficient market systems for major and minor products; and (iv) more effective and flexible institutions and capacities. India's Tenth Plan focuses on many of these reforms, particularly as they relate to forests and tribal communities.

The potential benefits from such a reform program around community forestry, coupled with gains in forest productivity, are enormous. However, it is important that improvements in livelihoods be quantified. The Center for International Forestry Research (CIFOR) is in the process of developing a tool to monitor these potential changes in livelihoods as a result of JFM. The case study outlines the process and indicators for monitoring such change.

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1. Original information on the case study was prepared by Deep Pandey and Brian Belcher (CIFOR) (November 2005).

## BACKGROUND AND OVERVIEW OF INDIA

India, with an area of 3,287,590 square kilometers, is located in southern Asia, bordering the Arabian Sea and the Bay of Bengal (figure 2.1). The terrain varies from upland plain in the south to flat plains along the Ganges River to deserts in the west and the Himalayas in the north. India, a vibrant democracy, has a population of roughly 1.1 billion, of which 35 percent live below the poverty line—75 percent of whom live in rural areas. However, official estimates show a decline in poverty from 36 percent in the early 1990s to 26 percent in 1999. Nevertheless, India is home to 22 percent of the world's poor. India has one of the world's fastest-growing economies, with average growth rates of 8 percent over the last three years. This diverse economy

encompasses traditional village farming, modern agriculture, handicrafts, a wide range of modern industries, and a multitude of services. Services are the major source of economic growth, accounting for more than half of India's output with less than one-quarter of its labor force. Capitalizing on its large number of well-educated people skilled in the English language, India has emerged as a global player in information technology, business process outsourcing, telecommunications, and pharmaceuticals. However, about three-fifths of the workforce is in agriculture, leading the government to articulate an economic reform program that includes developing basic infrastructure to improve the lives of the rural poor and boost economic performance.<sup>2</sup>

2. Information added by editor.

FIGURE 2.1  
India



Source: The CIA World Factbook.



## Pressures on India's Forests

Pressure on India's forests come from a variety of sources, including the following:

- the increase in population, from 390 million in 1950 to 1 billion in 2001
- the loss of 4.5 million hectares since 1950 through agricultural conversion and other uses
- the high percentage (78 percent) of forest subject to heavy grazing
- exposure of half of all forests to risk from fires
- shifting cultivation, which affects almost 10 million hectares of forest
- encroachment on 1.36 million hectares of forest by 2002, with evictions accounting for only 10 percent of affected land by 2004.

Sources: Indiastat (2005); Bahuguna and others (2004).

### Forest Resources<sup>3</sup>

Forestry is the second-largest land use in India after agriculture, covering approximately 641,130 square kilometers, or 22 percent of the total land base of 3.3 million square kilometers. These 64 million hectares of forest cover (FAO 2005) are allocated among dense (59 percent), open (40 percent), and coastal mangrove (1 percent) categories.<sup>4</sup> The forest type varies according to climate and elevation. Roughly 275 million rural poor in India depend on forests for at least part of their subsistence and cash livelihoods from fuelwood, fodder, poles, and a range of non-timber forest products (NTFP) such as fruits, flowers, and medicinal plants. Seventy percent of India's rural population depends on fuelwood to meet domestic energy needs. Half of India's 89 million tribal people, the most disadvantaged section of society, live in forest fringe areas and tend to have close cultural and economic links with the forest.

An estimated 41 percent of the country's forest cover has been degraded to some degree in the past several decades, and average forest productivity is about one-third of potential rates. Reasons for low productivity in India include human removal of forest biomass that is not recycled into soil nutrients,

grazing pressure, fire, and overcutting (Bahuguna and others 2004). About 41 percent of the country's forest cover has been degraded to some degree in the past several decades (converted to open or scrub forest, for example), due to intense pressure from a range of human and biophysical causes (box 2.1). Timber and fuelwood demand is well above the sustainable harvest level. This underscores the national government's commitment to forest conservation and massive efforts to develop new forests to meet a goal of increasing forest cover to 33 percent of the land area by 2012.

### Forestry Contribution to Gross Domestic Product

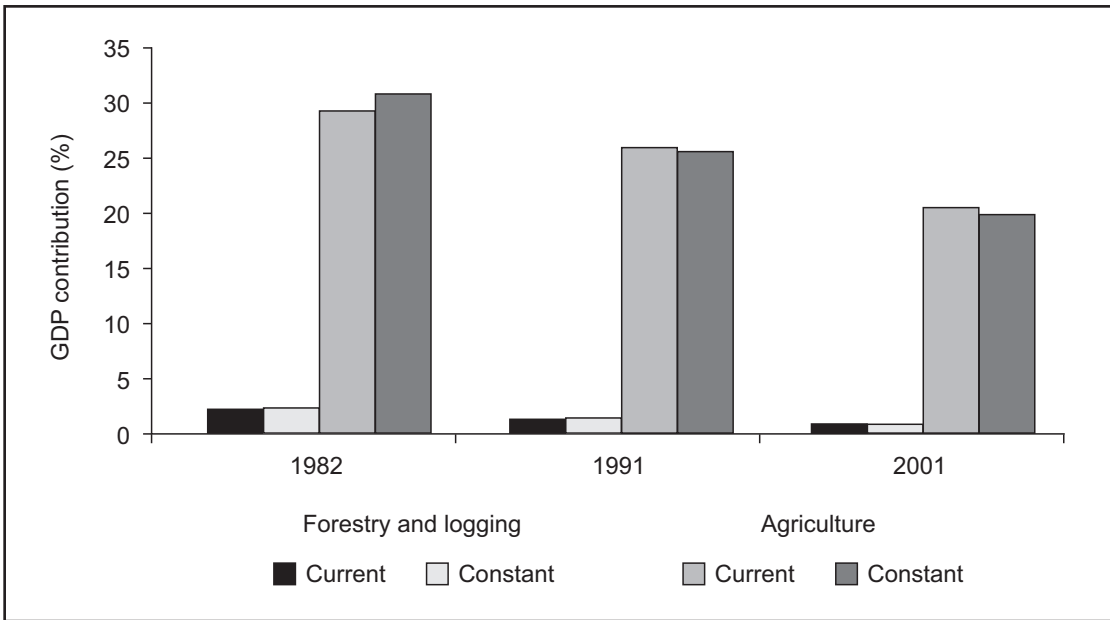
As a major land use, primary forestry pales compared to agriculture, based on the share of gross domestic product (GDP). The GDP contribution from forestry and logging in India was 1.1 percent in 2001, versus 20.7 percent for primary agriculture, almost a 20-fold difference (figure 2.2).<sup>5</sup> The share of Indian GDP for both sectors has declined slightly from 1982; however the percentage drop in forestry and logging GDP contributions is almost double the rate for agriculture. Across selected states, forestry and logging account for between 0.48 and 2.97 percent of GDP in current values. The strict definition of GDP underestimates the total economic value of forests in India. Many goods and services from the

3. Information on forests based on *Unlocking Opportunities for Forest-Dependent People in India* (World Bank 2006b).

4. According to India's Ministry of Environment and Forests, dense forest is defined as land having tree cover with a canopy density of at least 40 percent. Open forest is defined as land having tree cover with a canopy density of 10–40 percent. Other categories include scrub forest, with a canopy density of less than 10 percent; mangrove forest, consisting of salt-tolerant forest ecosystems found mainly in tropical and subtropical intertidal regions; and non-forest areas, in which there is no tree cover of any kind.

5. Source: World Bank database, Central Statistical Organization. It should be noted that state-level GDP data do not disaggregate secondary forestry activity (sawmilling, pulp and paper, millwork, furniture and milling, and so forth) from manufacturing. Thus, GDP comparisons are restricted to logging and forestry services.

**FIGURE 2.2**  
**GDP Shares, Forestry and Logging, and Agriculture, India**



Sources: World Bank (2005a), World Bank databases.

forest are not traded in formal markets, such as subsistence NTFPs, fuelwood, and vital ecological service functions such as carbon sequestration, aesthetic values, and soil stability on steep slopes. The fuelwood trade in India is estimated to have an annual turnover of around US\$17 billion (MOEF 2000a) and is a source of livelihood for over 11 million people, making it the largest employer (formal and informal) in the Indian energy sector. Estimates have been made (Chopra et al. 2002) for ecotourism and carbon sequestration in forest areas, which increases the national GDP share from forests from 1.07 to 2.4 percent. But even adding these values and considering non-market fuelwood and NTFPs, the share of forestry GDP will still be far below that of agriculture.

**Structure of the Domestic Forest-Based Industry**

The majority of processing capacity is small scale. Indian forest-based secondary industry encompasses a wide range of small-, medium-, and large-scale firms that process primary timber (logs) into a variety of products for the domestic market. By far, the vast majority of plants and production capacity

would fall into the small-scale category. It is clear that the secondary forest industry encompasses a broad array of products. There are several emerging investment constraints, including raw material shortages (mainly for logs due to felling bans in many state forests until forest management working plans were completed, and numerous restrictions on log supply from private land and farmers); growing concern over environmental issues (mainly in larger production facilities such as pulp and paper mills); judicial decisions to close unlicensed mills (particularly in the northeast); economic liberalization and competition from imports (especially with pulp imports and impacts on domestic mills); and poor management and technical skills (in sawmills for example, less than 3 percent of lumber meets Indian grading standards).

**National Wood Supply and Demand Trends**

India is facing serious wood supply-demand imbalances. An examination of primary forest product supply and demand is quite telling. For timber (logs) and fuelwood, demand was projected to increase from 1996 to 2006 against a relatively flat supply curve, leading to significant and growing fiber sup-

ply deficits (Bahuguna 2004; ITTO 2003). These projections suggest that by 2006, an estimated 139 million tons of fuelwood will be harvested above the sustainable supply from regulated sources. Other estimates (Saigal et al. 2002) suggest fuelwood overcutting of 131 million cubic meters. Perhaps half of this gap is made up by subsistence collection of deadfall and nondestructive wood sources from natural forests (collecting branches and litter) in rural areas. The balance of the deficit, however, is met through unregulated removal of fuelwood from natural and plantation forests, and regeneration on degraded lands or wastelands, with subsequent impacts on forest productivity and sustainability.<sup>6</sup> Driving the fuelwood deficit is the relatively high cost of liquid propane gas for lower-income households in rural areas, and lack of distributional networks (UNDP/World Bank 2003).

For timber, supplies from natural forests have been limited following the 1988 National Forest Policy, which discourages harvesting of natural stands, and the 1996 Supreme Court decision requiring an approved working plan prior to commercial harvesting of green timber in any state forest division. While supplies are likely to increase in the future as management plans continue to be approved and new plantations come on stream, it will not meet rising domestic demand. The projected timber supply deficit for 2006 is 39 million cubic meters, met partially through imports of logs from overseas suppliers, particularly Malaysia, Myanmar, Indonesia, and Nigeria. Log imports are supported through a favorable tariff regime, with a 5 percent charge on logs, compared to 25 percent for sawn wood. On a volume basis, approximately 95 percent of all wood imports to India are industrial roundwood, mainly tropical hardwoods. On a value basis, roundwood accounts for around 42 percent of total

forest products imports (Australian National University 2003). Yet, in 2000–01, roundwood imports were only 2.1 million cubic meters. For products like pulp and paper, alternative supply options exist such as bamboo, or importing pulp and paper directly. But for timber, the current level of log imports does not come close to meeting the supply gap. While available data preclude a detailed analysis of the national timber market, the inevitable conclusion is that much of the log supply deficit is being met through illegal harvesting, putting additional pressure on remaining high-quality dense forests. The supply-demand situation underscores the national government's strong support for forest conservation, manifested through efforts to protect existing forests and grow new plantations under JFM.

### National Forestry Policy

Forestry is a concurrent subject under the Indian Constitution, which means that both state and national governments share jurisdiction. The Indian Forest Act 1878 and Indian Forest Act 1927 emphasized commercial timber production. The Forest Conservation Act of 1980 and the 1988 National Forest Policy shifted the pendulum strongly toward forest conservation and JFM. This conservation direction was also complemented by the 1972 Indian Wildlife (Protection) Act. As a supporting strategy, West Bengal and a few other progressive states experimented with allocating a specific area of forest to communities, along with limited management responsibilities, in return for a share of forest revenues from timber and better access to NTFP. This model of JFM is now a principal element of forest management strategies in the country, with a primary focus on protection and conservation goals. Since 1988, JFM operations have continued to evolve, with greater attention to rural livelihoods. Programs currently span 27 states, represent 85,000 village committees, and cover over 17.3 million hectares of forest land.

In spite of this progress, forest ownership in India remains concentrated in the public sector. In India, 65 percent of the forest is administered solely by the government, and another 27 percent is reserved for community and indigenous groups (through JFM), but is still largely administered by the government. Additionally, the current JFM model is weighted in favor of state forest department

6. These estimates must be viewed with caution (see Pandey 2001). Much of the supply is not market-based and is used for subsistence. Supplies often consist of twigs and forest litter (non-destructive) rather than larger logs (destructive), especially if natural forests are located far from the village and people are gathering material from wastelands. Most studies do not examine where fuelwood is obtained and in what form. Also, prices (either at collection time or through market prices for commercial fuelwood) are not usually factored into demand estimates. There is an urgent need for a detailed analysis of fuelwood supply and demand at the national level and impacts on growing stock. In the interim, however, most analysts agree that fuelwood consumption is a largely uncontrolled and a major drain on the forest.

control over planning, management, investment, harvesting, and marketing. JFM does not enable communities to legally exploit the full potential of forests to improve local livelihoods. Most forest communities still use forests mainly as a safety net during difficult economic periods, or for seasonal subsistence products like fuelwood and fodder. For communities to capture this untapped potential, wide-ranging and phased reforms are required at both the national and state levels. Another key issue relates to decentralization. The 73<sup>rd</sup> Constitutional Amendment of 1992 supports the government of India's goal for decentralization of governance through Panchayat Raj Institutions.<sup>7</sup> Under the Panchayat Extension to Scheduled Areas Act, 1996 (PESA), *gram sabhas* or village assemblies in tribal areas were endowed with powers over community resources generally, and more specifically with ownership of minor forest produce; to prevent alienation of land in the Scheduled Areas and to take appropriate action to restore any unlawfully alienated land of a Scheduled Tribe;<sup>8</sup> and the power to manage village markets. A number of potential areas of conflict and uncertainty exist between state forest legislation and PESA that need to be better understood and addressed.

### **Forest Livelihoods: Perspectives of Forest Dwellers and Key Issues**

Tribal peoples represent a significant share of the population in forested and hilly areas, and depend on forests for their cultural and spiritual needs, and to varying degrees, their economic needs. Tribal-dominated communities are among the poorest groups in society. While economic exploitation, land alienation, and displacement have all affected scheduled tribes, a further complicating influence in local decision making is the decline of traditional institutions. Government devolution programs or sector-driven initiatives such as JFM do not usually recognize the unique characteristics of tribal peoples, which can reduce the effectiveness of project aims and their impact on poverty. Agriculture, labor, and forests all contribute to rural livelihoods in forest fringe areas. Subsistence products, particu-

larly fuelwood and fodder, are the main contributors from the forest to local livelihoods. Rural people generally earn very little cash income from forests due to poor roads, a focus on low-value products, poor forest quality, and weak market linkages. Communities, including those with large tribal populations, often view JFM as bringing external rules that ignore existing management institutions governing prudent uses of natural resources that incorporate local knowledge and cultural contexts. The JFM formation process is seen by many villagers as a top-down, non-participatory process, which can exacerbate existing social tensions between tribal and non-tribal peoples. Participation in the microplanning process is seen as weak, with a less than full regard for people's subsistence forest requirements and broader development needs. Forestry in most areas is not a high development priority for rural people; the most pressing needs for development expressed by communities tend to be the following: improved agricultural production through irrigation (check dams, ponds, water pumps) and extension services; safe drinking water and simple hand pumps; assistance with village-based income-generating activities; access to electricity; improved roads and better transport facilities; and better access to education and health facilities. Yet rural development programs for remote forest communities appear to be poorly coordinated and suffer from anemic service delivery.

### **Forest Management Systems and Community Forestry**

Several key issues around management planning and resource assessment systems appear to hinder more progressive community forest management. First, resource assessment systems need further strengthening, even in states such as Madhya Pradesh, where forest inventory, and growth and yield systems are reasonably robust. At the community level, resource assessment is quite weak, particularly for NTFPs. Second, mapping capacities vary, but all states examined require significant incremental investments in financial and technical resources. Third, given deficiencies in forest resource assessment systems and mapping, it is difficult for state forest departments to effectively monitor how the forest is changing over time. Forest livelihoods and poverty are also not routinely monitored. The focus of forest departments is on meeting annual targets

7. Panchayati Raj institutions are the units of administration found at the village, block, and district level.

8. Scheduled Tribes are tribal communities that are accorded special status by the Constitution of India.

rather than outputs, impacts, and outcomes. Fourth, the geographic area of responsibility and range of responsibilities for field staff are much higher than in many other countries. More creative options for forest department staffing and mandates need to be considered for field operations that build on resource realities and comparative advantages of forest department field staff, private consultants, and communities. Fifth, community forestry needs more guidance from financial and economic analysis, yet there is little technical capacity in state forest departments and the Ministry of Environment and Forestry (MOEF). Five areas are emerging where economics analyses could support policy reform and program implementation: reviewing alternative tenure and access rights systems, and their relationship to conserving forest livelihoods, forest productivity, and public expenditures; evaluating the economics of silviculture for community forests; assessing local incentives by allocating good-quality forest along with degraded land to communities; analyzing the costs and benefits of farm forestry; and reviewing current benefit-sharing schemes.

### **Forest Marketing Systems and Benefit Sharing**

A range of forest product marketing models exist in India, and they are continuing to evolve. However, for many timber and NTFP species with commercial value, market systems are still largely dominated by state monopolies supported by a restrictive legal and regulatory framework. Private sector involvement in forest resource establishment and marketing appears to be quite limited. An analysis of several major product groups illustrates a range of critical issues and opportunities in forest product market systems. For example, with timber, communities are given very little space to engage in direct marketing, which could open significant opportunities for forest revenues, while also reducing the need to maintain costly state institutions in harvesting and marketing. With Kendu leaf, market forces are not allowed to operate at all points along the value chain. Collectors are simply paid a wage per bag, largely divorced from market signals around product quality. Bamboo is a major product in north-eastern India, which offers excellent opportunities for private growers to supply pulp mills. However, in Assam, market distortions exist through a complex, cross-subsidized purchasing scheme. Meeting

fuelwood demand and improving livelihood opportunities require innovative solutions on both the supply and demand sides. Medicinal plants and aromatic oils offer exciting promise for the future in all states. Madhya Pradesh and Assam provide examples of positive progress in developing demand-driven market systems through partnerships between communities, and public and private sector interests. Approaches in these two states and others such as Andhra Pradesh illustrate that forest departments don't need to control the market, but can instead play a supportive and facilitating role.

The forest fiscal system in India has a number of problems relevant to continued transformation of community forestry. First, the current JFM benefit-sharing system is overly complex, has high transaction costs, and is focused on a narrow range of revenue-generation options at the primary resource level. Second, the policy direction for this approach is not clear, and there are contradictions with economic theory. Further, while some commercial products harvested by communities are subject to benefit sharing, others can be marketed privately, with the state collecting no revenue. Third, average revenue generation from primary forest production by the forest departments is fairly low, reflecting poor commercial opportunities for communities and suboptimal forest productivity.

### **THE TENTH PLAN—INDIA'S POVERTY REDUCTION STRATEGY<sup>9</sup>**

In conjunction with the World Bank, the government of India has outlined a poverty reduction strategy embodied in India's Tenth Five-Year Plan. The Tenth Plan covers 2002/03 to 2006/07 and was prepared over a two-year period, involving an extensive process of consultation (with various tiers of government, civil society, donors, and the private sector) and consensus building. It lays out even more ambitious goals than the Millennium Development Goals, and acknowledges that a higher level of performance will require some radical departures from existing practices in India.

The essence of the Tenth Plan is to change the role and improve the effectiveness of government, so as to better support the private sector and ensure widespread improvement in well-being. The strate-

9. Information added by editor.

gy has four core components. First, governance and service delivery are to be improved. Greater reliance is to be placed on the private sector and on public sector reforms to deliver accountability, reduce opportunities for corruption, and improve the speed and effectiveness of government at all levels. Second, poverty is to be reduced, particularly in the lagging states, through the implementation of policies that encourage growth, employment generation, and access to elementary education (especially for girls) and to primary health care (especially for women). Most of India's poor live in rural areas, and studies consistently show that agricultural growth and improved marketing, expanding opportunities for farm and nonfarm employment, developing physical and social infrastructure, and empowering the poorest citizen to access services are essential for rural poverty reduction. Third, the growth rate is to be increased, including through greater public investments, requiring fiscal adjustment at both the central and state levels, as well as reform of the financial system, and trade liberalization. Finally, improvements in infrastructure and the productive base are at the heart of the Tenth Plan.

### **Forestry in the Tenth Plan**

Ensuring environmental sustainability in India is central to the lasting success of the country's development efforts, particularly in the context of accelerating growth and expanding infrastructure. Forests are considered to be natural assets and provide a variety of benefits to the economy, but the fact that 41 percent of India's forests are degraded means that they are considered to be unable to play an important role in environmental sustainability and in meeting the forest produce needs of the people, industry, and other sectors. The problems and constraints in forestry development include a lack of awareness about multiple roles and benefits of forests, no linkages between management and the security of the livelihoods of the people, market imperfection, and an overemphasis on government involvement and control, with a low level of participation by the people.

Despite significant resource flows and national concern, the potential of forests to reduce poverty, realize economic growth, and contribute to the local and global environment have not been fully realized. The Tenth Plan states that an effective strategy to promote the poverty reduction potential of forests

must consider all activities that can influence forests and related social, economic, and environmental outcomes. It acknowledges that growth alone cannot combat poverty effectively, but more focused interventions are required that address issues relating to opportunity, empowerment, and the security of the livelihood of the poor who depend on forests in different ways. A broader approach to improving livelihoods is proposed that covers productive capacity, institutional and legal structures, market access and tenure, and places forests in the broader context of rural development. The proposed focus is to be on improving governance (especially correcting major distortions in incentives and markets that are reducing the value of the forest resource), developing efficient markets, and encouraging competitive private sector participation in the forestry sector. Among the specific actions outlined in the Tenth Plan chapter on forests and environment are development of special programs for villages dependent on forest use, promotion of agroforestry, marketing of medicinal plants, and changes in JFM to assure appropriate distribution of benefits arising from the forest.

The chapter on India's Scheduled Tribes, who represent 8.6 percent of the population, recognizes that the land is not only a productive resource base for tribal peoples, but also occupies an important place as part of their cultural and religious practices. While the National Forest Policy in 1988 recognized this dependency on forests, the tribes have continually been marginalized and displaced from their traditional lands. Poverty among members of Scheduled Tribes is much higher than for other sections of the population. The Tenth Plan outlines a three-pronged strategy to reduce poverty among tribal peoples through social empowerment, economic empowerment, and social justice. A key action is to restore traditional lands to tribal communities and to involve tribal peoples in JFM, social forestry, agroforestry, and to facilitate collection and marketing of minor forest products. Forest villages would be improved through the basic provision of infrastructure and services. Special focus would be given to women in tribal communities in order to enhance their capacity in the society through effective steps to improve their status. One avenue would be to promote their leadership in JFM. The chapter on other socially disadvantaged groups does not include forestry as a strategy in poverty reduction (India 2002).



## A CASE STUDY<sup>10</sup>

### Overview of the Three Focal States and Tribal Characteristics<sup>11</sup>

The states of Jharkhand, Madhya Pradesh, and Assam are poor, based on income per capita and Human Development Indices (HDI) falling well below the national average. In addition, the percentage of people below the poverty line is much higher than the national average. The small average land holding, low productivity of agriculture, and limited opportunities to earn nonfarm income from other resources such as forests, leads to migration as an important coping strategy for people in many rural areas. Approximately 742 million people, or 72.2 percent of India's population, live in rural areas. Of these, 88.8 million belong to scheduled tribes. The Scheduled Tribes are mainly concentrated in the so-called "Tribal Belt" of central India, with a second concentration in the northeast.

The Tribal Belt represents a distinct geo-cultural region and is home to the main tribal groups throughout India (Gonds, Santhals, Oraons, Mundas, and Khonds), as well as hundreds of sub-tribes, each with distinctive dialects, and specific customs and traditions. Tribal peoples generally dwell in forested and hilly areas, and depend on forests for their cultural and spiritual needs—and to varying degrees—their economic needs. The tribal communities in Jharkhand, Madhya Pradesh, and Assam are among the poorest groups in society. According to Shah and Sah (2004), the following are the key factors explaining the higher incidence of poverty in tribal regions: (i) tribal peoples' low bargaining capacity; (ii) their low degree of political representation and poor quality of local governance; and (iii) constrained access to forest, land, and water. The tribal individuals, regardless of wealth and social position, are not fully integrated into the community unless they own some land in its area. Only land ownership and farming seem to give the feeling of full integration into the tribe (Van Exem 1991). Traditional socio-political systems extend from the village to the cluster and regional levels. Clusters of 10 to 20 villages constitute the next level

10. Case Study based on document by Belcher (undated) CIFOR.

11. Overview from document *Unlocking Opportunities for Forest-Dependent People in India* (World Bank 2006b).

of socio-political organization. Tribal peoples have a very long tradition of tribal governance systems, which conflict with the conventional wisdom of recognizing them as a homogenous group. Government devolution programs to Panchayat Raj Institutions through PESA, or sector-driven programs such as JFM, do not usually recognize the unique characteristics of tribal peoples.

### Background and Study Area

The state of Jharkhand, with support from the World Bank, is planning major new investment in community forest management (CFM<sup>12</sup>), with an explicit objective to improve the livelihoods of rural people, especially in forest-fringe villages. As an integral part of the program, the Jharkhand Department of Forests and Environment (DFE) intends to implement a monitoring system to assess the livelihood changes resulting from their investment. This will facilitate modification of the program as appropriate, in an adaptive management framework.

The monitoring system will be applied statewide, eventually covering up to 16,000 villages, but will focus initially on 50 villages in a pilot phase. It must provide consistent and comparable information about livelihoods and livelihood changes using relatively low-cost and easily accessible data. This case study proposes a tool based on village-level indicators. A synthesis of these indicators will be used to assess development trajectories at the village level, and will allow some inferences about household-level livelihoods status and changes.<sup>13</sup> Thus, the monitoring tool monitors livelihoods and not forests. It is not intended to reduce or replace the conventional efforts of the Department of Forests and Environment to monitor forest quality. It is an additional tool for use by the department to help improve livelihoods of local people.

### Study Area

Jharkhand is one of the least-developed states in India. It is a new state, created in 2000 when it was

12. Also known as Joint Forest Management. In past workshops related to World Bank lending projects, the term CFM has been used and some of the participants in this workshop expressed a strong preference for the term CPM.

13. A second, complementary, survey will be done at two or more time periods for a quantitative assessment of livelihoods status and change at the household and village levels.

separated from Bihar. It is located in east-central India, south of the Ganges River. Jharkhand has relatively high forest cover of 2.5 million hectares, or 32 percent of its total area—mainly *sal* and mixed deciduous. Most of that forest is state forest, under the jurisdiction of the Jharkhand Ministry of Environment and Forests (MOEF). There are high levels of poverty in the state, with an estimated 12 million people (44 percent of its population) living under the national poverty line. State GDP per capita in 2000 was Rs 10,772, compared to the national average of Rs 18,625. Agriculture is the main economic activity, with rice the major commodity (82 percent of food grain output), but only 8 percent of cultivated area is irrigated, and crop yields are low, at less than half the national average. Transportation and communication infrastructure is poorly developed, and an active Marxist insurgency has prevented infrastructure improvement, especially in the more remote areas. With high levels of rural poverty, poorly developed infrastructure, a large tribal population, and large remaining forest areas, it is expected that forest-based income will be high, but to date this has not been well quantified.

### **Livelihoods Impact Pathways**

In order to measure and monitor livelihoods and livelihood change resulting from CFM in Jharkhand, we first need to anticipate what kinds of changes will result, how those changes will translate into livelihood benefits (or costs), and who the winners and losers will be. The actual outcomes will depend on how CFM programming is conceived and implemented. We will need an iterative process to develop the monitoring tool, with ever more precise approximations as the planning (and implementation) of the CFM programming proceeds. It is intended that feedback from the monitoring will inform implementation, making it possible for program managers to support and replicate successes and address problems as they arise.

In its basic form, CFM will operate in designated forest villages (villages adjacent to forest lands) through a committee that makes management decisions and organizes and authorizes management activities (e.g. planting, maintenance, fire protection, guarding against unauthorized use). It is intended that this approach will lead to improvement in the quality and quantity of forests by:

- encouraging forest regeneration, especially through planting and reduced grazing by livestock
- reducing illegal and unsustainable harvesting, through improved discipline by members, improved enforcement of rules, and reduced illegal use by outsiders
- reducing forest losses to fire, through more careful use, fire prevention, and fire suppression by community members
- encouraging community norms useful for collective action

The DFE intends to work with communities to support the development of management plans, to provide information and other extension services to support improved natural resources management, and to provide improved planting material. Members (villagers) will benefit from improved resource flows through direct use of forest resources, through income and employment in the forest sector, and through revenue sharing from forest resources disposed of collectively.

This discussion identifies a first basic division of stakeholders, between those who are included in forest user groups and those who are excluded. People who formerly used forests and who will be excluded under CFM can be expected to be made worse off as a result. Some of the most important forest products used by people in Jharkhand are fuelwood, fodder, various NTFPs (Kendu leaf, mahua flowers and fruits, honey, lac, medicinal herbs and roots), and timber for construction and poles. Increased production of these resources is expected to increase welfare through increased availability and decreased collecting costs for direct (subsistence) consumption, and through increased quantity, and possibly improved quality, of products for sale.

Forests also provide valuable services, though it is not clear how this will translate into benefits to livelihoods. Some of the people consulted in this process feel that improved forest cover and quality will have a positive impact on the quality and quantity of water available. This will be realized if improved cover increases infiltration, therefore regulating the flow or increasing the groundwater levels, or reducing erosion and siltation in streams and tanks. However, increased forest cover might also increase evapotranspiration and lead to reduced water throughput from the system. Biodiversity is

also expected to increase, which may have tangible benefits in increased availability of useful plants and animals (e.g. for food, medicines, pollination).

The actual benefits realized by people will depend on many factors. At a village level, it will depend on the quantity, quality, and potential of the forest resources. This “initial endowment” varies markedly village by village. Jharkhand’s JFM resolution is considered to be relatively progressive in that good-quality (and not only degraded) forests are to be included in the scheme for joint management. Benefits derived will also depend on the kinds of interventions, effectiveness of management, the number of people sharing the resource, market access, and the skills and abilities of people in the village, individually or collectively, to take advantage of new opportunities. Research has shown that entrepreneurial skills are important to market forest products or capitalize on opportunities that arise. CFM investments may directly or indirectly improve capacity in this area through training, improvements in post-harvest processing, development of marketing cooperatives, product development, or other means.

One of the criticisms of JFM, and Community-Based Natural Resource Management (CBNRM) more generally, has been that it is prone to “elite capture,” where the poorest may actually be made worse off as those with more power take advantage of new opportunities for their own benefit. And there is a tendency for men to take control of commercially valuable resources, which may lead to inequities in the home, especially if the resources are or were formerly important in the subsistence economy. This suggests that the indicators may need to take account of inter- and intra-household equity.

The forest department has recognized that there are important constraints at the village level outside the forest sector proper. People in forest fringe villages need better access to potable water. They need better health and education services. They need support for agriculture, particularly improved irrigation. And they want better roads to improve their access to product and labor markets. As part of current and planned CFM activities, the forest department will provide some investment in basic infrastructure—tube wells, school buildings and clinics, check dams, pumps for lift irrigation, and road improvements. Some DFE officers working at the local level even carry primary health care materials.

These kinds of investments are expected to pay off by improving livelihoods directly (e.g. improved health) and indirectly (e.g. improved agricultural production, reduced transport costs).

There are other less tangible, but equally important, potential benefits. Group formation and group strengthening, as well as individual capacity development, can have major payoffs. Efforts to build capacity within communities that focus on Village Forest Management and Protection Committees (VFMPCs) may also have spinoff benefits. The direct effect of improved capacity in the VFMPC may be improved natural resource management. But the same group, or other local groups, can capitalize on new strengths and opportunities to organize collective marketing, new productive development, or any number of other initiatives and activities that will lead to livelihood gains. A prominent example of such an initiative can be the constitution of village self help groups to initiate microcredits and microenterprises.

Here again we need to be mindful of the potential costs, and not just potential benefits. Several respondents expressed their concerns that preexisting and effective forest management groups (i.e. groups formed through local initiative, without DFE intervention) could be compromised or entirely displaced by external (DFE) efforts to build new groups. This is an important concern, and care must be taken in the implementation of the new CFM efforts to strengthen (and not undermine) effective local organizations. There were also important questions about the legal structure of VFMPCs, and concern that decision making must be placed effectively in the hands of the communities. This question is under active consideration by the CFM designers, in consultation with stakeholders.

### *Direct and Indirect Benefits*

Some of the potential benefits identified above will impact directly on livelihoods, contributing to meeting basic needs and reducing vulnerability. Most obviously, increased forest products availability will translate into increased consumption and, possibly, into increased cash earnings, capital accumulation, or productive investment. Improved drinking water and better education and health facilities will translate into healthier and more productive people. Other changes will contribute indi-

rectly to improvement of livelihoods, by improving agricultural productivity (irrigation water, increased fodder), or improving the capacity of village people to engage in markets and so capture more value from their production. The changes are complex and involve many feedback loops.

The “Livelihoods Framework” provides a useful structure within which to organize these ideas. Within each of the categories of “capital assets” we list: (i) anticipated changes due to CFM; (ii) expected causality (why the change is expected), and; (iii) indicators of change. We classify these changes as “direct” or “indirect,” with key feedback loops indicated. Figure 2.3 attempts to capture this in schematic form. “Livelihood” is defined as that which comprises: “...the assets (natural, physical, human, financial, and social capital), the activities, and the access to these (mediated by institutional and social relations) that together determine the living gained by the individual or household.”

Natural capital refers to the forest, land, water—the biological products and environmental services available to people. This is the main focus of CFM. Natural capital can be increased through two inter-related mechanisms. First, CFM is intended to give people more rights and responsibilities over forest resources. And second, CFM is intended to improve the stock and flow of resources. As discussed above, livelihoods will be impacted directly through changes in direct consumption and sales of natural products. Indirect impacts will be realized as inputs to agriculture (e.g. irrigation water, fodder).

Financial capital encompasses savings, credit, remittances, and other cash-based assets. This is the most common (and easiest) measure of welfare. CFM is expected to have an impact on financial capital by offsetting expenses (increased direct consumption) and increasing earnings through sales of forest and agricultural products and processed natural resource-based products. There are also prospects for improved income and employment within the forest sector. If very successful, conditions could be established that facilitate the creation of new enterprises, with associated employment, income, and other benefits.

Physical capital is human-made capital, for example, shelter, vehicles and transportation infrastructure, agricultural machinery, and communications facilities. As discussed above, CFM may involve direct investments in community assets. It is anticipated that some increased earnings will be

invested in physical capital, including productive assets (that will contribute to higher productivity and earnings from forestry, agriculture, and other enterprises) and consumer goods.

Human capital refers to people’s skills, knowledge and information, health, and ability to work. It is important for enjoying life and for productivity. CFM will contribute directly through training and extension, capacity building, and provision of education and medical facilities. There is a high expressed demand for educational and medical services in the area, and it is expected that increased financial capital will be invested in human capital development at the community and household levels (e.g. schools and school fees, respectively).

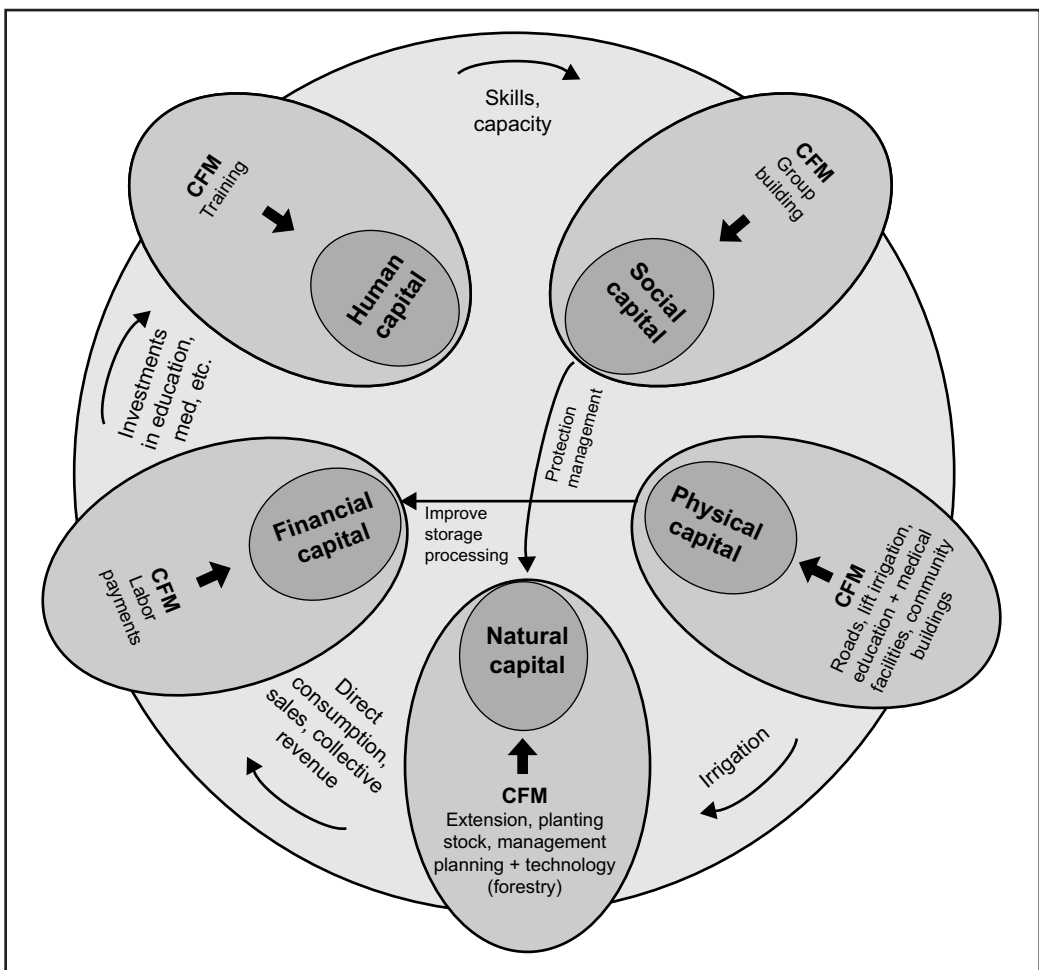
Social capital includes networks, groups, trust, and access to institutions. CFM will involve direct investment in group formation and strengthening, support of groups, and capacity development for forest/natural resources management. The same groups, or at least the skills, trust, and other elements of social capital, can also be applied beyond forest management, for example, in collective marketing, or in terms of political power to help advocate for other changes.

### Indicators

Indicators are used to assess current conditions and changes, to compare across places and situations, to assess conditions and trends in relation to goals and targets, to provide early warning information, and to anticipate future conditions and trends. They allow us to simplify complex phenomena, quantify information so that its significance is apparent, and communicate information between data collectors and data users.

The Jharkhand DFE will use the indicators in all of these ways. They will be used in individual villages to get a snapshot of current livelihood conditions and to monitor change over time as CFM is implemented (and in “control” villages where CFM is not implemented). This will help local managers to identify and capitalize on positive changes, and to address and arrest negative changes. They will be used in program management to assess overall progress and trends, and to do comparative analyses that will be useful in identifying the most successful approaches and those approaches that are less successful. They will help identify major problems and the need for midcourse correction. With this kind of

FIGURE 2.3  
Conceptual Model of CFM Contributions to Livelihoods: Impact



Source: "Poverty And Forestry-A Case Study: India"

overview of the program, it will be possible to anticipate future developments and difficulties, and manage accordingly. If the system is agreed upon by a wide range of stakeholders, and implemented as agreed, it will provide a reasonably objective information base for discussion, including answering criticisms.

Indicators can focus on different aspects. They can indicate program/project performance in terms of inputs (whether planned project inputs are actually purchased/implemented), process (whether intended actions are done), or outputs (whether planned outputs are achieved). These kinds of indicators are mainly important for assessing project implementation. Indicators can also focus on impacts—whether the intended objectives are

achieved. That is the main concern of this monitoring tool, with the main emphasis on impacts on livelihoods. However, given the high level of interaction and feedback between the livelihood components and CFM inputs, it is anticipated that we will need to use some output indicators in conjunction with outcome indicators. Table 2.1 indicates some possible indicators to use to assess changes in different capital assets.

#### Data collection

This information will be collected by forest guards who, by the nature of their work, have a close association and a good knowledge of the village situa-

TABLE 2.1

## Possible Indicators of Livelihood and Livelihood Change at the Village Level in Jharkhand

Capital	Indicators	Source of Information
Financial Assets	<ol style="list-style-type: none"> <li>1. Forest Dept. wages/capita (3-year rolling average)</li> <li>2. Forest revenue/capita (3-year rolling average)</li> <li>3. Number of kiosks selling consumer goods</li> <li>4. Average price of 5 most expensive items</li> </ol>	<ol style="list-style-type: none"> <li>1. Forest dept. records</li> <li>2. Forest dept. records</li> <li>3. Survey of kiosks</li> <li>4. Survey of kiosks</li> </ol>
Physical Assets	<ol style="list-style-type: none"> <li>1. Number of pukka houses/capita</li> <li>2. Number of houses with electrical service/capita</li> <li>3. Number of motorcycles/capita</li> <li>4. Number of functioning wells/capita</li> <li>5. Average travel time (or cost) to nearest market</li> <li>6. Area of irrigated land/capita</li> <li>7. Number of functioning tractors/capita</li> <li>8. Number of functioning water pumps/capita</li> </ol>	<ol style="list-style-type: none"> <li>1. Observation/key informants</li> <li>2. Observation/key informants</li> <li>3. Observation/key informants</li> <li>4. Observation/key informants</li> <li>5. Observation/key informants</li> <li>6. Records/key informants</li> <li>7. Observation/key informants</li> <li>8. Observation/key informants.</li> </ol>
Natural Assets	<ol style="list-style-type: none"> <li>1. Standing volume of timber/capita</li> <li>2. Area of productive fruit tree plantations/capita</li> <li>3. Area of key NTFPs/capita</li> <li>4. Number of livestock (in cattle equivalents)/capita</li> <li>5. Average time spent collecting fuelwood per household per month</li> <li>6. Average time spent collecting water per household per month</li> <li>7. Value of annual timber production (3-year rolling average)/capita</li> <li>8. Value of annual firewood production/capita</li> <li>9. Value of annual NTFP (nationalized NTFPs) production/capita</li> <li>10. Annual rice production (kg./capita)</li> </ol>	<ol style="list-style-type: none"> <li>1. Forest dept. estimate</li> <li>2. Forest dept. estimate/key informants</li> <li>3. Forest dept. estimate/key informants</li> <li>4. Observation/key informants</li> <li>5. Key informants</li> <li>6. Key informants</li> <li>7. Forest dept. records</li> <li>8. Forest dept. records/key informants</li> <li>9. Official buyer records</li> <li>10. Key informants/village records</li> </ol>
Human Capital	<ol style="list-style-type: none"> <li>1. Infant mortality/capita</li> <li>2. Number of deaths during dry season/capita</li> <li>3. Percentage of school age children attending school</li> <li>4. Average age of school leaving</li> <li>5. Number of people who work outside village on a daily basis/capita</li> <li>6. Number of people that leave village to work outside for extended periods/capita</li> </ol>	<ol style="list-style-type: none"> <li>1. Village records/key informants</li> <li>2. Village records/key informants</li> <li>3. School records</li> <li>4. School records</li> <li>5. Observation/key informants</li> <li>6. Observation/key informants</li> </ol>
Social Capital	<ol style="list-style-type: none"> <li>1. Proportion of adult population participating in VFMP</li> <li>2. Proportion of VFMP members who are women</li> <li>3. Number of VFMP meetings and attendance</li> <li>4. Number of other citizens' groups active in the village</li> <li>5. Collective selling of agricultural or forest products results in improved prices (yes/no)</li> </ol>	<ol style="list-style-type: none"> <li>1. VFMP secretary</li> <li>2. VFMP secretary</li> <li>3. VFMP secretary</li> <li>4. Observation/key informants</li> <li>5. Key informants/focus group</li> </ol>

Source: Authors' compilation.



tion. They will also consult with a range of key informants, such as the village head, school teacher(s), NGOs working in the village, and informed citizens. It is suggested that they also organize a focus group meeting. A protocol will be developed and training will be provided. The information will be collected once per year. Copies of the completed form will be provided to the village head and to the chair of the VFMPC or other similar organization for their information.

### Analysis

The data will be used in several different analyses, including an assessment of village-level welfare and inter-household equity. Furthermore, there will be a separate but complementary quantitative survey at the household and village levels. This will be used to “calibrate” the monitoring tool. The data from the broad and frequent collection of village-level welfare indicators will be used to analyze key relationships between village context (e.g. road and market access; forest quality and quantity; tribal affiliation), type and timing of interventions (e.g. forest management committee formation or support; agricultural or transport infrastructure development; fruit tree planting), and village welfare.

### Conclusions

The case study discussion has highlighted general impact pathways by which CFM is expected to contribute to improvement in livelihoods in forest fringe villages in Jharkhand. More detailed assessment will be required as the CFM program planning advances in order to identify specific impact pathways, anticipate particular kinds of impacts, and further refine the indicators.

## RECOMMENDATIONS FOR FOREST POVERTY LINKAGES<sup>14</sup>

Despite the notable achievements of JFM in the past two decades, and many highly skilled and dedicated staff, the current JFM model has not adapted fast enough to keep pace with the rapidly changing business and policy environment, both domestically and

globally. Forests are not a major contributor to cash livelihoods in most communities, yet the potential exists to increase commercial forest-based activities as one step along the pathway out of poverty. Bold yet prudent actions are needed by policy makers at the national and state levels to shift JFM from a command-and-control model with a strong conservation focus, to a more commercial-and livelihood-based approach that empowers communities. **Reforms need to focus on four critical enabling factors:**

### I. Achieving More Secure Forest Resource Tenure and Management Rights

*National legal and policy reform.* The MOEF constituted a National Forest Commission (NFC) in 2003, chaired by the former chief justice of the supreme court, to review the working of the forests and wildlife sector, including the national legal and policy framework. Based on an anticipated report later in 2005 and recommendations for national policy and legal reform, it is important that India consider developing a national consensus on the legal and policy framework governing forestry. To build this consensus, public input beyond what the commission has already gathered may be required, possibly led by a national steering committee comprised of government representatives and broader civil society members.

*State legal and policy reform.* Individual states need to examine practical options for legal and policy reform. In some cases, this might mean amendments to existing law; in others a longer-term task of drafting a new consolidating forest act. Both options must be supported by a more effective regulatory framework. Specific reform options to consider are:

- *Strengthening current forest policies.* Using a participatory process, state forest policies should be revised to recognize historical tenure-based forest resource rights and lay out a new community forest management framework with stronger forest resource tenure for communities. The 2004 Assam Forest Policy is a good model to examine as a starting point; it is quite progressive, innovative, and based on a reasonable level of public input.
- *Instituting stronger resource rights for communities.* There are three broad areas where new approaches are required for tenure arrangements with forest-based peoples as part of policy and legal reforms. First, where historic forest resource

14. Recommendations based on *Unlocking Opportunities for Forest-Dependent People in India* (World Bank 2006b).

rights already exist, these must be clearly acknowledged in policy, codified in law, and spatially recorded. A number of countries, such as Brazil, have successfully addressed this situation. Second, where no historic forest resource rights exist, global experience can help guide reforms. Although the most efficient option might be to assign land title to communities (or households), this is a long-term and politically sensitive issue. As an interim measure, one option is to specify a fixed-term lease, during which the community would have contractual rights and responsibilities over the forest. China has had successful experiences with this approach. Another option is a 20- to 25-year lease that is renewable and extended in five-year increments, based on the community meeting clear performance standards for forest stewardship. This model has worked in Latin America and Canada. Third, tenure rights for nomadic tribal peoples need to be considered. State governments may wish to establish a high-level forest rights review body, chaired by the chief minister's office, with appropriate representation from line ministries, communities, and tribal groups.

- *Revising community forestry implementing mechanisms.* Community forestry needs stronger legal footing, either linked to an existing state law as in Uttar Pradesh and Assam, or merged with new consolidating forest legislation. Tenure agreements with communities, outside of where land title is granted, need to be binding legal agreements, preferably as “management contracts” between the community and state. A more flexible forest user group committee model is required that is better suited for existing community institutions, and which also respects PESA provisions in Scheduled Areas. The government of India and the states should consider a national review of community institutions and the PESA interface to better understand linkages and legal and regulatory constraints, then identify a roadmap for reforms, and develop a program for capacity building and education in relevant line agencies. Recent global experiences from Canada, Nepal, Latin America, and parts of Africa provide useful models.
- *Reforming the harvesting and transit permitting regime for selected forest products.* Although some states have made progress in relaxing these rules,

further reforms are needed. One option is for state governments to convene an independent panel of stakeholders, including the forest department, private forest farmers, JFM committee members, local sawmill owners, major NTFP buyers, local development banks, and interested Community Service Organizations (CSOs). This process would benefit by MOEF issuing a list of only those species that require a more restrictive regulatory framework based mainly on international biodiversity conservation rules, such as the Convention on International Trade of Endangered Species (CITES). Other species should then be de-listed by states, in line with improved monitoring systems.

## **2. Strengthening Forest Management, Monitoring, and Control Systems**

To facilitate a transfer to communities of more rights and responsibilities over forest management, a number of reforms are needed in underlying management, monitoring, and control systems. Reforms should be guided by a comprehensive forest sector strategy that sets out a framework for forest sector development with a focus on conservation and improvement of rural livelihoods. What needs to be done?

*Planning approaches for community forestry need to be strengthened.* As community forestry expands, it will gradually account for a significant share of the forest in many forest divisions. Current top-down working plans will become less relevant and could be transformed into more concise guiding, strategic documents. Better information is required on the forest resource base and changes, economics and market intelligence, and community social capital and institutions. Consideration should also be given to incorporating a reasonable level of public input into working plans, possibly through Forest Development Agency (FDA) structures. Community-level microplanning must be guided by a comprehensive operational manual, which could be based on experience in community-driven development programs in other sectors in India, such as watershed development and District Poverty Initiative Programs (DPIP). Microplanning should also consider clustering communities, where appropriate, to build on inherent tribal institutions and take advantage of economies of scale for planning and program implementation at a watershed or landscape level.

*Increased investments are needed for resource assessment and mapping systems.* The underlying resource assessment and monitoring system must be significantly strengthened at division and community levels to support further shifts in rights and responsibilities to communities, and allow for improved monitoring programs. There are considerable opportunities to utilize communities to gather baseline and change data. Global experience in this area can provide useful lessons to build upon. Enhanced monitoring systems must also account for changes in livelihoods from forest-based activities. Ongoing Bank-funded work in Jharkhand is developing simple tools that could easily be replicated in other states.

*Research and development should be reviewed and refocused.* Although some states, such as Andhra Pradesh and Madhya Pradesh, are gradually reorienting research and development to nontraditional timber and NTFP species, the focus of national R&D is still largely toward plantations and traditional commercial timber species. To improve the linkages between scientific research and development, dissemination, and subsequent uptake by communities across India, MOEF and state forest departments may wish to consider developing a new national strategic plan for research and development, oriented around community forestry transitions and priorities.

### **3. Gaining Access to More Efficient Market Systems**

Forestry appears to be lagging far behind agriculture marketing systems, which have been subject to a series of major reforms in recent years. One of the biggest challenges in forestry market systems is to change the prevailing mindset that forest products, particularly many NTFPs, are “different” from agricultural commodities and therefore marketing has to be managed by the forest department. This attitude is slowly changing in some states, but has not yet reached across all forest products. Some of the key priorities for reform of market systems include:

*Developing new approaches for market access by communities.* Communities and farmers wanting to sell commercial forest products outside of local markets should have the option of using contract sales or outgrower schemes rather than state institutions. These new approaches reduce risk and uncertainty to sellers, while purchasers are assured of a more

reliable supply over a specified time. Purchasers may also provide credit support, inputs, storage facilities, and technical advice to producers as part of the contract agreement, which is factored into the negotiated price. Non-notified<sup>15</sup> NTFPs offer great potential for these new market options; there are already a growing number of examples from states such as Assam, Madhya Pradesh, and Andhra Pradesh. For timber, bamboo, and fuelwood, the experience is less positive, yet there is no compelling reason why, after a period of transition, these marketing approaches can't be extended to communities and small farmers as legal suppliers of these products. Opening up markets will require states to amend forest legislation and possibly Agricultural Produce Market Acts. Concerns over potential loss of revenue to forest departments (and states) by communities and farmers selling their timber outside of the department monopoly structures can be addressed through a review of the current forest fiscal system and applying alternatives, such as better collection of downstream sales or income taxes from commercial forest products. Forest sustainability can be assisted through a more robust monitoring program in addition to stronger tenure rights for communities. Good examples exist in Latin America, particularly Mexico, with market liberalization and fiscal system reforms around community forestry.

*Strengthening the market power of communities.* Producer organizations (associations, federations, cooperatives) at the community level need to be nurtured, based on targeted capacity building. In addition, state-level marketing federations of forest communities should be encouraged to strengthen their market position, facilitate establishment of storage areas, offer training for value addition and more sustainable harvesting methods, and allow consolidated consignments of timber, bamboo, fuelwood, and NTFPs to be sold directly by communities to large processing or marketing firms through auctions or contract agreements. Producer organizations may need state assistance to develop, as seen in the case of NTFPs in Madhya Pradesh, but within a reasonable time period these institutions should have a fully independent federation at the helm, with elected officials and a board of directors representing forest departments holding in a minority position.

15. This refers to NTFPs that are not on the government's list of NTFPs which have associated with it a specific marketing chain.

*Improving extension and technical services.* Most state forest departments are quite weak in these functions, particularly for nontraditional timber species and NTFPs. New models must be explored, bringing in partnerships with the private sector around outgrowing schemes, and considering outsourcing some of this work to the private sector and CSOs. Madhya Pradesh and Andhra Pradesh have made reasonable progress to help villages improve sustainable NTFP production and harvesting, incorporate modest value addition, and build upon local knowledge systems. These models can be built on.

*Enhancing market information sharing and networks.* States need to strengthen mechanisms for gathering and sharing market intelligence within government line departments, and with communities and forest farmers. One policy option to explore is extending the highly successful E-Choupal concept in agriculture to bring Internet-based forest product market information to communities. Alternatively, a new forestry network could be established with suitable private sector support. The Web site of the Madhya Pradesh Minor Forest Product Federation offers a good example of what kind of information a marketing Web site could offer.

*National incentive programs may be needed to induce state marketing reforms.* The government of India should consider instituting a forest diversification program similar to the recently announced scheme called “Development/Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization.” This could induce large investments from the private and cooperative sectors for setting up forest product markets, marketing infrastructure, and support services such as grading, standardization, and quality certification.

#### **4. Developing More Effective and Flexible Institutional Models**

The current staffing constraints in forest departments, coupled with limited, albeit slightly increasing operating budgets, makes a strong business case for repositioning to provide more effective service delivery in narrower core functional areas around the goals of improving rural livelihoods and forest conservation. A new partnership model is needed that recognizes inherent comparative advantages and constraints among forest departments, communities, private forestry consultants, and CSOs.

*Forest departments need to review and rationalize their role.* State forest departments need to strengthen capacity in five core areas: (i) forest management technical advisory services; (ii) research and development and technology transfer; (iii) forest monitoring, mapping, and information management; (iv) forest marketing technical services; and (v) economics, policy, and planning. This revised focus would support a model where communities, in conjunction with *panchayats*, gradually assume responsibility for microplanning, plan implementation, harvesting, marketing, and protection, with technical guidance from the forest department or outsourced private consultants. State forest departments should consider a strategic planning process to guide internal organizational transformation and rationalization.

*But, communities and other local institutions must be permitted, willing, and capable of assuming these new rights and responsibilities.* The proposed transition must be measured and prudent to allow for communities, local authorities, and other supporting institutions such as local producer organizations to gain sufficient experience, new skills, and confidence. Capacity is not usually inherent, but must be created to develop group consensus, enduring and capable institutions, transparent rules and procedures, equity among all groups, and to overcome the individual tendency to free ride. Institution building should consider whether the current JFM model of co-opting all adult villagers into the user committee is more sustainable than a committee comprised only of villagers genuinely interested in forest management and with greater dependency on the forest for their livelihoods. Building social capital requires a long-term commitment between the state and communities, often with CSO partners. This will take time and substantial financial resources, but committing to improved social capacity building will then allow state forest departments to rationalize and direct limited resources to internal core business functions, with less fear of compromising forest conservation. Valuable lessons in building community institutions and capacities can be gleaned throughout India from watershed programs and DPIP, projects, among others.

*Establishing community forestry associations.* To facilitate community empowerment and level the playing field in terms of power relationships with government, community forestry associations are

needed at the state level. These institutions should grow organically, but where interest is shown, a grant from the center or external donors could provide seed funding for a small office, equipment, membership drives, registration, developing a database, and producing materials. The associations could then support their head office through modest annual subscriptions.

*Sharing information across institutions.* An almost overwhelming amount of published and electronic material on community forestry exists in India, but it is scattered. Stakeholders cannot easily build their internal knowledge bases or share experiences both within the country, and more importantly, from other countries where community forestry has also evolved. The government of India, in partnership with appropriate CSOs, private sector, and international organizations, needs to build a strong and sustainable multistakeholder community forestry network. Existing national networks such as the Resource Unit for Participatory Forestry (RUPFOR) could be strengthened as one option. In addition to written and electronic material, knowledge sharing through a well-funded, multiyear, and coordinated program of national and international exchange visits is needed at different levels, including senior policy makers, government officials, and community members. Opening up to other community forestry experiences can be a powerful catalyst for change.

*Options for rural development in forest fringe communities.* Delivering integrated rural development services to more remote forest fringe communities is critical to address poverty, but is going to require new models. Agencies such as tribal affairs, agriculture, and rural development need to play a more central role in rural livelihood programs linked with community forestry. Further, Panchayat Raj Institutions need to become more integrated into rural development in forest communities within their jurisdiction. To help identify and evaluate options, a state-level review of rural service delivery programs in forest fringe communities is suggested, led by the chief minister's office. State governments should also consider establishing an advisory body on rural development and forestry at either the chief minister or forest minister level, led by an independent senior chairperson, with senior representatives from key government rural development agencies, tribal leaders, and selected CSOs.

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## CHAPTER THREE

# Summary of Case Study—Nepal

### EXECUTIVE SUMMARY

Nepal's *Tenth Plan* (2002–2007) (Nepal/NPC 2003b) serves as Nepal's Poverty Reduction Strategy Paper (PRSP)<sup>1</sup> and outlines the country's plan for reducing poverty from 37 percent to 30 percent. Although Nepal has promoted a progressive forest policy that attempts to address the needs of rural people, more needs to be done to address poverty alleviation and equity. Nepal's 20-year-old community forestry program, through which local people are given the right to manage their local forests, has served as a model for other forestry programs.

The *Tenth Plan* was developed through a two-year participatory process with meetings in the different regions and with different groups of people. Within the Ministry of Forestry, some controversy exists at the higher levels on whether poverty should be part of the forestry sector's plan. Some believe that forestry preservation should be the ministry's primary objective; however, this has not been agreed on by members of the ministry departments (especially community forestry and leasehold forestry groups of the Department of Forest [DOF]). People involved in preparation of the PSRP noted that they lacked skills to fully develop log frames and impact indicators that would link forestry to poverty reduction.

Despite the differences of opinion and challenges, the *Tenth Plan* outlines several ways that the forestry sector can contribute to poverty alleviation, proposing several objectives to be achieved through community and leasehold forestry programs, and through tourism. Anticipated impacts include providing income-generating opportunities for 278,680 households in community forestry and leasehold forestry development programs. Furthermore, it is anticipated that 12,000 jobs would be created in village areas through community forestry, collaborative forestry, and soil and watershed management programs. Local autonomous rule will be developed through the formation of 20,000 participatory user groups (on community forestry, leasehold, watershed conservation, and biodiversity conservation) that will directly participate in formulating user plans, making decisions, implementing, monitoring, and evaluation. The poor, women, and disadvantaged castes will also be given a greater role in making decisions and formulating plans.

The five-year plan will build on Nepal's existing forestry programs, such as leasehold forestry, community forestry, and promotion of ecotourism, as means to help alleviate poverty. These programs, some of which date to the 1970s, show how Nepal has attempted to address forestry needs of rural populations. Except for leasehold forestry, which targets only poor and disadvantaged groups such as women and low castes, the forestry programs need to improve how they include and address the needs of the poorest of the poor and not further marginalize them.

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1. The original case study was prepared by Winrock International, including Erin Hughes and Shyam Upadhyaya, September 2005.

Three case studies of villages falling within a conservation area (World Wildlife Fund's [WWF's] Terai Arc Landscape [TAL]) show that people do indeed depend on forest products for their livelihoods, that the use of products and dependency on forests varies based on income, and that community forestry, while providing great benefits to the community, could do more to address issues of equity and poverty alleviation. In addition, the study shows how Nepal's community and leasehold forestry programs are already contributing to the Millennium Development Goals (MDGs). Community forest user groups (CFUGs), for example, are building schools and health clinics with resources earned from the forests.

## BACKGROUND AND OVERVIEW

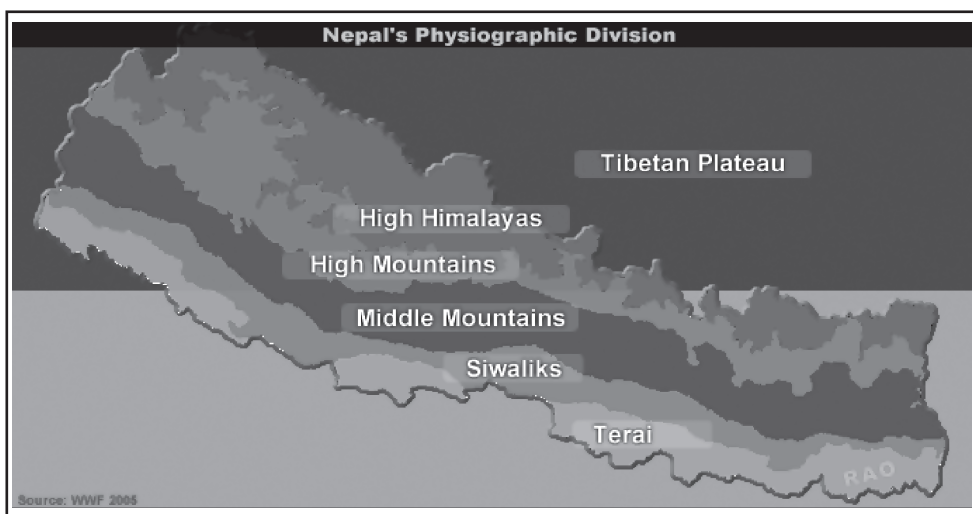
### Poverty in Nepal

Nepal, a 147,181-square-kilometer Himalayan kingdom, shares borders with India to the south, east, and west, and with China (Tibet) to the north. Known for the tallest mountain in the world, Mount Everest, Nepal has diverse topography, ecology, and cultures. The country is commonly divided into three major ecological zones that run east to west across the country and also serve as social, economic, and sometimes political units of analysis. From

north to south, these zones include mountains (4,877 to 8,848 meters in elevation) comprising about 35.2 percent of Nepal's land area and bordering Tibet; the "mid-hills" (610 to 4,788 meters in elevation) comprising 41.7 percent of land area; and the Terai (up to an altitude of 610 meters in elevation), a subtropical plain comprising 23.1 percent of land area and sharing the longest border with India. Siwalik (also known as Chute) is a range of smaller hills that runs east to west between the Terai plains and mid-hills (figure 3.1). Parts of Siwalik lie in Terai districts and others lie in mid-hill districts. For administrative purposes, Nepal is divided into five development regions: eastern, central, western, mid-western, and far western. Two major cities are located in the mid-hills (Kathmandu and Pokhara), and remaining urban areas are in the Terai.

About 24.7 million people live in Nepal, which includes 102 ethnic groups and has 92 languages (Nepal/CBS 2002). Before the 1950s, the majority of the population lived in the mid-hills, but eradication of malaria and improved infrastructure sparked ongoing migration from the mid-hills to the Terai, which is now Nepal's most densely populated region. Based on population and land area, the density of people in the Terai is 10 times that of the mountain zone, and about twice that of the mid-hill zone. The ratio of people per unit of cultivated land, however, is greatest in the hills, followed by the mountain and then the Terai regions.

FIGURE 3.1  
Map of Nepal Showing Five Physiographic Regions



Source: WWF.

Nepal's economy continues to be mostly based on agriculture. Although the share of agriculture in total gross domestic product (GDP) has declined in recent years, about 80 percent of the population still depends on agriculture for its livelihood (Nepal/NPC 2003b). The rest of the population makes a living predominantly in the service and manufacturing sectors. An emerging income sector of Nepal is export of labor to other countries, particularly Malaysia and in the Middle East. The money sent back has significantly affected Nepal's economy and changed the social landscape, leaving more women behind to manage households. Although forests are not considered a major economic sector in Nepal, the role of forests at the household level, and for agriculture, continues to be significant and underreported.

According to the United Nations' Human Development Index (HDI), Nepal ranked 140 of 177 countries in 2003. Poverty is ubiquitous in the country. The national poverty line is defined as the minimum income required to meet the minimum consumption needs of 2,140 kilocalories of food, and other nonfood items, such as clothing, health, education, fuel, and so on (Lanjouw, Prennushi, and Zaidi 1998). The 1996 Nepal Living Standard Survey calculated poverty line income as Nepalese rupees (Nr<sup>P</sup>) 4,404 per person per year.<sup>2</sup> The 1996 survey found that Nepal's incidence of poverty was 42 percent. 37.7 percent of the population of Nepal fell below the international poverty line of US\$1 a day, and 82.5 percent fell below US\$2 a day. Beyond international comparisons, to an average Nepali a "secure livelihood source and sufficient food for the family" is a critical difference between the poor and the rich.

Poverty is higher in rural areas (44 percent) than in urban areas (23 percent). The poorest communities are found in the mountain region of Nepal, where 56 percent fall below the poverty line. In the mid-hills, 41 percent<sup>3</sup> of the people fall below the poverty line. In the Terai, 42 percent fall below the poverty line. Remote and rural areas of the mid-western and far-western hills and mountain regions are the poorest. The mid-term evaluation of the *Ninth Plan (1997–2002)* estimated that the incidence

of poverty declined from 42 percent in 1996 to 38 percent in 1999–2000, although absolute numbers of poor have increased. Poverty also varies among caste and ethnic groups, with the incidence of poverty being highest among Limbus (71 percent), an indigenous ethnic group, followed by Dalits (67 percent), the lowest caste (untouchables) in Hinduism (NESAC 1998).

### Forest Resources and Management

Forests, including shrubland, cover about 39.6 percent of Nepal's area from the timberline at higher altitudes to subtropical regions of the plains. Forest cover has been declining at a rate of about 1.7 percent a year (Nepal/DFRS 1999). The variation in geoclimatic conditions in different parts of Nepal provides suitable habitats for different kinds of tree species, and adds to the country's rich biodiversity. The forests can be categorized into five different types: tropical, subtropical, temperate, subalpine and alpine, based on the three major ecological zones. Some variation exists in tree species found between the eastern and western parts of Nepal as western Nepal, in general, has a drier climate.

The economic value of the various forest types varies greatly, but all forests have value and provide goods, benefits, and services to all Nepalis. The Terai has the most commercially valuable timber within the tropical *sal (Shorea robusta)* forests. *Sal* and *khair (Acacia catechu)* are the two most commercially valuable species. In the mid-hills, forests benefit local communities by providing fodder, fuelwood, food, fiber for houses and baskets, and medicinal remedies. In areas with roads, forest products are sometimes exported to nearby cities or to India. In the mountains, forest areas are valued for their valuable non-timber forest products (NTFPs) and are used for grazing livestock. An estimated 700 to 1,700 species of medicinal and aromatic plants are found in Nepal, of which about 100 are reported as traded. Examples include *Acorns calamus (bojo)*, *Picrorhiza scrophulariflora (kutki)*, *Rheum australe (padamchal)*, *Swerita chirayita (chiraita)*, *Valeriana jatamansi (suganhwal)*, *Cordyceps sinensis (yarsa gumba)*, and *Dactylorhiza hatagirea (panch nwale)*. These NTFPs generate substantial royalties for the government.

Nepal continues to rely heavily on forest resources for energy needs. Fuelwood supplies about 78 percent of total energy consumption in Nepal,

2. One LLS. dollar = Nr 56.25 in July 1996.

3. This includes Nepal's two largest urban areas, which are relatively well off. If urban areas are excluded, the percentage of people below the poverty line would be much higher.

and forests are the main source of fuelwood. Forests provide more than 50 percent of fodder to livestock (Nepal/CBS 2003). Especially in rural mid-hill and mountain regions, households depend almost entirely on forests for their timber needs. The level of consumption of chemical fertilizer in Nepal is low and limited to more accessible parts of the country; farmers in remote hills and mountains still depend on organic manure for plant nutrients. Forests are the main source for raw materials, such as livestock fodder and bedding materials used for making compost, which is then used to fertilize fields.

The 1993 Forest Act recognizes two types of forests based on ownership: private and national. Private forests include woodlots, private plantations, and orchards, for example. National forests include all state-owned land area under forest/tree cover, including scrublands, grasslands, unregistered lands surrounding or adjoining forests, as well as paths, ponds, lakes, and rivers within forest areas. For the purposes of management, national forests are divided into five categories: community forest, leasehold forest, "religious forest," protected forest, and government-managed forest (forest area not yet allocated for the other four types of management). Community, leasehold, and religious forests fall under the participatory management regime. User groups are formed and given responsibilities and authority for protecting and managing such forests. About 61 percent of the total national forest area is reported to be potential community forest area. About 17 percent of the country's area is located in the protected area system, which consists of conservation areas, hunting reserves, wildlife reserves, and national parks. The protected area system has adopted the principle of people's participation in conservation and management. With introduction of the concept of buffer zone area management, community involvement in the protected area system is getting wider recognition (Chhetri, Sigdel, and Malla 2001).

By November 2004, 13,568 CFUGs managed a total of 1,115,317 hectares of forests (about 19 percent of Nepal's total forest area). Community forestry, which originated in the recognition that rural people, especially in the mid-hills, depend on forest resources for their livelihood, are active in 74 of 75 districts of Nepal. Since 1992, Nepal has implemented a leasehold forestry program, in which the government leases patches of degraded land to

groups of poor households for 40 years. This program is presently active in 26 districts of Nepal. A total of 2,100 leasehold groups have been formed.

Overall responsibility for managing Nepal's forests lies with the Ministry of Forests and Soil Conservation (MOFSC). This ministry has five divisions (Planning and Human Resources, Foreign Aid Coordination, Environment, Monitoring and Evaluation, and Administration), five departments (Forests, Soil and Watershed Conservation, National Parks and Wildlife Conservation, Plant Resources, and Forest Survey and Research), and five regional offices. The Department of National Parks and Wildlife Conservation (DNPWC) oversees management of protected areas, and the DOE oversees management of other types of forests. The DOF has district-level offices in 74 of 75 districts of Nepal (figure 3A.1, see appendix).

### *Forest Contributions to the National Economy*

Forests play an important role in Nepal's national economy. Although no separate statistics exist on the contribution of the forest sector to national GDP, the agriculture sector, including forestry, constitutes an estimated 40 percent of GDP, and forestry contributes about 10 percent of agricultural GDP. Official statistics show that between 1988/89 and 2002/03, the forest sector annually contributed Nr<sup>P</sup> 355 million as government revenue, which is about 1.27 percent of total annual government revenue.

It is generally agreed, however, that official statistics grossly underestimate revenues from the forestry sector. Forests contribute value in terms of park fees, timber sales, community forestry benefits, and direct benefits to households. In a recent study, Kanel and Niraula (2004) estimated that community forestry groups in Nepal generate about Nr<sup>P</sup> 1.9 billion a year. In 2002/03, protected areas in Nepal generated about Nr<sup>P</sup> 60.9 million in revenue.<sup>4</sup> It is generally agreed that forests of Nepal, including community forests, have been underutilized and could produce more value if better managed. Great potential exists for increasing income from forests through improving management practices, without compromising their sustainability.

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4. See [www.dnpwc.gov.np](http://www.dnpwc.gov.np).

## National Forestry Plan and Policies

Major policy documents guiding forestry sector programs include the *Master Plan of the Forestry Sector, Revised Forestry Sector Policy* (Nepal/MOFSC 2000), and the *Poverty Reduction Strategy Paper* (PRSP) (Nepal/NPC 2003a) or the *Tenth Plan* (Nepal/NPC 2003b).

### *Master Plan for the Forestry Sector (1989–2010)*

The formulation of the master plan was initiated in 1986 and completed in 1988. The main objective of the master plan is to meet the basic forest product needs of the people in a sustainable manner, and to contribute to economic growth through the promotion of forest-based industries. The plan identifies six primary programs and six supporting programs needed to fulfill its objectives. As mentioned, the primary programs are community and private forestry, national and leasehold forestry, wood-based industries, medicinal and aromatic plants and other minor forest products, soil conservation and watershed management, and conservation of ecosystems and genetic resources. Supporting programs are policy and legal reform, institutional reform, human resources, research and extension, resource information and planning assistance, and monitoring and evaluation (figure 3A.1, see appendix). The plan defines physical targets for each of the above programs and estimates investment requirements.

The master plan formalizes concepts of community forestry that have been initiated at the local level since the late 1970s. It recognizes the importance of people's participation in forest management. The plan, however, does not recognize poverty alleviation as an explicit goal. It reflects contemporary thinking of the 1980s that economic growth will eventually trickle down to the poor. As the plan covers 20 years, unanticipated changes have required amendments to the policy.

### *Revised Forestry Sector Policy*

This policy revision gives continuity to the programs and policies of the master plan and introduces a concept of collaborative forest management for large blocks of forests in Terai and Siwalik (Chore). Collaborative forest management is a partnership between the government and local communities through which benefits from high-value forests are

shared between the two groups. The main changes to the original policy are to introduce a 40 percent tax on the income earned by CFUGs in Terai, Chute, and inner Terai from the sale of surplus timber. After much protest from user groups, the tax rate was reduced to 15 percent and limited to the sale of *sal* (*Shorea robusta*) and *khair* (*Acacia catechu*) for CFUGs in Terai only. The policy does not mention poverty alleviation or the MDGs.

### **Poverty Reduction Strategy Paper: Nepal's Tenth Plan**

Nepal's PRSP, which is also Nepal's *Tenth Plan*, runs from 2002 to 2007.<sup>5</sup> The plan dedicates a full chapter to forestry's contribution, and includes a policy matrix with indicators. The key target is to reduce poverty from 38 to 30 percent by 2007. The plan tracks human and infrastructure indicators, including literacy rates, infant mortality, maternal mortality, life expectancy, access to drinking water, electricity, and roads. To meet its goal, the plan is built on four pillars with cross-cutting approaches (box 3.1).

### *Role of Forestry in the PRSP*

The *Tenth Plan* presents forestry and soil conservation under the heading of high, sustainable, and broadly based economic growth, suggesting that the forestry sector can play a role in all sectors. One of the two objectives of the forestry sector is to support poverty reduction by creating opportunities for income generation and employment for poor, women, and disadvantaged groups through participatory forest development activities. The plan proposes three main strategies for achieving this objective: (i) expansion of leasehold forestry to create employment for deprived households that are below the poverty line; (ii) increased access of women, deprived groups, and Dalits (untouchables) in community, leasehold, and collaborative forests; and (iii) promotion of private-sector investment and exports for sustainable management and proper utilization of valuable NTFPs. The plan also introduces the concept of leasehold forestry within community

5. The World Bank Web site at <http://poverty.worldbank.org/files/NepalPRSP.pdf> has a summary of the PRSP that does not accurately summarize Nepal's tenth five-year plan (the full version of the PRSP). The main difference is that the summary rarely mentions forestry except under agriculture, and lacks indicators in the index for tracking poverty and forestry.

## Four Pillars and Cross-Cutting Approaches of Nepal's PRSP

The poverty reduction strategy of the PRSP is based on the following four pillars: (i) broadly based economic growth, (ii) social sector development, including human development, (iii) targeted programs, including social inclusion, and (iv) good governance. The PRSP emphasizes the need for growth to be broadly based to generate employment for poor people. The agriculture sector, which also includes forestry and irrigation, has been identified as the priority sector for broadly based economic growth, as this sector currently employs about 80 percent of the population. The PRSP further recognizes the need for social sector development, including human development. The PRSP also recognizes that broadly based economic growth and human development would not automatically benefit ultrapoor and socially excluded

marginal social groups; hence, the PRSP proposes targeted programs, including social inclusion for these vulnerable groups. Moreover, the PRSP has identified good governance, as a key to poverty alleviation as well as the following cross-cutting sectoral approaches: (i) redefining the role of the state and limiting public interventions; (ii) enlisting the private sector to play a leading role in employment and income generation and, together with NGOs, INGOs, and CBOs, in complementing government efforts in service delivery function areas, as well as implementing key activities; (iii) promoting community participation in and management of activities at the local levels; and (iv) accelerating the decentralization process.

*Source: Nepal/NPC 2003a.*

forests to benefit subgroups of the poor and deprived by establishing forest-based microenterprises. Forestry is further mentioned as having a key role in promoting health in livestock, making compost fertilizer, conserving the environment, and conserving groundwater resources for watershed management.

Forestry, however, is noticeably absent from other parts of the plan. Forest timber production is not mentioned, even though some speculate that, if sustainably managed, Terai timber production could produce enough revenue to run the entire country. The plan also does not mention timber harvesting with respect to CFUGs. Moreover, illegal harvesting and trade of timber is common. Forestry is not mentioned under trade, although substantial amounts of NTFPs are exported every year through legal and illegal channels. Official statistics show exports of herbal products worth NR<sup>P</sup> 43.1 million in 1999–2000 (Nepal/CBS 2003). (The amount of NTFPs and timber quantities that are traded every year is not known).

Forestry is not mentioned in reference to governance, despite the fact that CFUGs are one of the few remaining local institutions in areas heavily affected

by the ongoing Maoist insurgency in Nepal. Forestry is not mentioned under tourism, despite the need for forested habitat to maintain populations of key wildlife, such as rhinos and tigers. Forestry is not mentioned in reference to energy, despite the significant role that fuelwood plays in rural energy consumption and the need for sound watersheds for hydropower; nor is forestry mentioned in the infrastructure/road section, despite the need to plant hill-sides to prevent landslides after a road is cut.

It is important to note that, throughout the document, the government plans to work with international nongovernmental organizations (INGOs), nongovernmental organizations (NGOs), and community-based organizations (CBOs), including community forestry user groups.

### ***PRSP Forestry and Poverty: Strategy and Indicators***

The plan shows sectoral policies and policy matrices for all the line agencies contributing to poverty alleviation. These matrices are log frames and identify key output, outcome, impact, and process indicators. The sectoral objective for forest and soil con-



ervation is to provide appropriate contributions from the forest sector in poverty alleviation by conservation promotion and proper use of the forest and environment. In other words, forestry will focus on poverty by conserving and improving management and use of forest products and benefits to increase people's income to alleviate poverty. Many of the strategies mentioned focus on the environment. The social strategies include:

- developing livelihood opportunities for disadvantaged people living below the poverty line by expanding leasehold forestry
- expanding community, leasehold, and collaborative forests, and raising the participation and access of poor, women, and disadvantaged communities to these forests
- sustainable management and utilization of valuable NTFPs, promoting investment of the private sector, and promoting exports
- developing community, leasehold, and partnership forests; raising participation and outreach to the deprived, women, and the poor in such forests.

The indicators for these strategies include:

- providing income-generation opportunities in forestry for 278,680 households through community forestry and leasehold forestry development programs
- creating 44,027,000 workdays, and creating 12,000 jobs, of which 34,027,000 workdays would be created in village areas through community forestry, collaborative forestry, and soil and watershed management programs
- contributing to local autonomous rule by developing 20,000 participatory user groups (in community forestry, leasehold, watershed conservation, and biodiversity conservation), that will have direct access in formulating user plans, making decisions, implementing, and monitoring and evaluation
- giving the poor, women, and disadvantaged castes a greater role in decision making and plan formulation.

In order to achieve these goals, the work policies are targeting the involvement of 1,900,000 households in community forest consumer committees,

increasing the participation of women and disadvantaged people in forest-related activities and decision-making processes, and increasing opportunities for marginalized groups. Furthermore, awareness will be raised about community forestry, and the supply of fuelwood will become more easily available. The work policies will arrange management of 13,000 hectares of leasehold forest by 3,000 leasehold groups, of which 1,500 will be formed by people living below the poverty line. They will increase employment of local people and increase people's participation in integrated soil conservation and watershed programs. Another policy will increase employment and income through effective participation of local people in implementing six buffer zone management plans. All programs of the forest sector will be implemented with local participation at the grassroots level in all 75 districts.

### *The PSRP Preparation Process*

The PRSP was prepared through a participatory process. The National Planning Commission (NPC),<sup>6</sup> which had prepared earlier Nepalese development plans, identified poverty alleviation as the overarching goal of the *Tenth Plan*. For two years, NPC held consultations with different stakeholders, and five consultative meetings during preparation of the interim PRSP, which formed the basis for preparation of the approach paper leading to the PRSP or *Tenth Plan*. Three of these meetings took place in the eastern, central, and western development regions. Participants in these regional meetings included representatives from district development committees (DDCs), municipalities, socially disadvantaged classes, major political parties, NGOs, CBOs, academia, the private sector, women and ethnic minorities, and remote areas. Two additional national consultations were held with women's groups.

Five other regional public consultations, one in each of Nepal's five development regions, permitted discussion of the contents of the approach paper draft. Participants in these consultations included chairpersons and deputy chairpersons of DDCs, government officials, and representatives of academia, the private sector, ethnic minorities, disadvan-

6. Nepal began preparing periodic development programs in 1956. Nine development plans were completed, and the PRSP became the tenth.

taged and remote communities, NGOs, and CBOs. Two other public consultations at the central level—one with the Association of the District Development Committees of Nepal, which included chairpersons and vice chairpersons from all 75 districts of Nepal, and one with members of Parliament—were also held to discuss the content of the approach paper. The finalized PRSP approach paper was then submitted to the National Development Council for approval. The members of the council include ministers, representatives from all political parties, chairpersons of different committees of the House of Representatives, secretaries of line ministries, vice chancellors, representatives of the private sector and academia, ethnic minorities, labor unions, women, and national-level NGOs and CBOs.

After approval by the National Development Council, the approach paper was developed into a full proposal. Technical committees headed by the secretaries of the line ministries coordinated preparation of sector strategies and programs. Individual line ministries prepared their plans, which they submitted to NPC and were categorized by NPC as first-, second-, and third-priority programs. NPC analyzed the programs in terms of their potential contribution to poverty alleviation and resource availability (Nepal/NPC 2003a).

As noted earlier, the PRSP does not fully recognize forestry's potential role for contributing to poverty alleviation. A number of reasons for this are possible. First, a conflict seems to exist among staff of the MOFSC on whether the main goal of the forestry program should be conservation or economic development. Some do not view the twin goals of conservation and economic development as being compatible. When a member of the Ministry of Natural Resources was asked why forestry was not more prominent in the PRSP, the reply was that the goal of the ministry was preservation of forests; however, greater agreement on compatibility of the two objectives exists within the forestry department. Second, even when forestry officials agree that forestry could contribute to poverty alleviation and should be a goal, they cannot articulate the linkages between forestry and poverty alleviation. The ministry as a whole lacks the capacity to articulate the relationship among forest resources, economic development, and poverty alleviation, and lacks skills on developing action plans and log frames, and

monitoring results.<sup>7</sup> The social science research capability of the MOFSC is regarded as weak compared with other ministries, such as the Ministry of Agriculture and Cooperatives.

### *Financing*

Trends in financing also indicate the priorities accorded by the government to the forest sector. The government of Nepal combines agriculture, irrigation, and forestry, and their collective budget makes up 24 percent of the total government budget. This same combined subsector, which the plan's authors note is crucial for alleviating poverty, was underfunded in the ninth five-year plan. The percent of expenditures in the forestry sector of the total government expenditure declined from 3.18 percent in 1988/89 to 1.96 in 2002/03.

The ministry said that no link existed between the PRSP and the governmental budgeting process and therefore, there was no incentive to demonstrate the relationship between forestry and poverty alleviation. Ministry officials understood that annual budgets were developed by looking at the previous year's budget and making adjustments as needed. They assumed that if they demonstrated a strong linkage between forestry and poverty by developing activities to address poverty, it would not increase funds for these activities.

### **Donor Programs in the Forestry Sector of Nepal**

All major donor organizations and agencies working in forestry in Nepal emphasize the importance of poverty alleviation. Even the names of programs explicitly mention "poverty alleviation," "livelihood," or "governance." These organizations and agencies view forests as an entry point for livelihood improvement. In some cases, this emphasis could stem from criticism that community forestry further marginalizes the poorest members of the community (Winrock International 2002). In other cases, donors simply have recognized the importance of forestry in poverty alleviation and community forestry's role in local governance, and took action.

7. This was not unique to the MOFSC. Other line agencies had similar challenges. This was one area in which the ministry requested assistance.

## A CASE STUDY

### Sites: TAL Area

The Terai has been a destination for migrants from the mid-hills who seek greater access to roads, jobs, and better schools. The Maoist insurgency of Nepal has also resulted in greater settlement in the Terai.

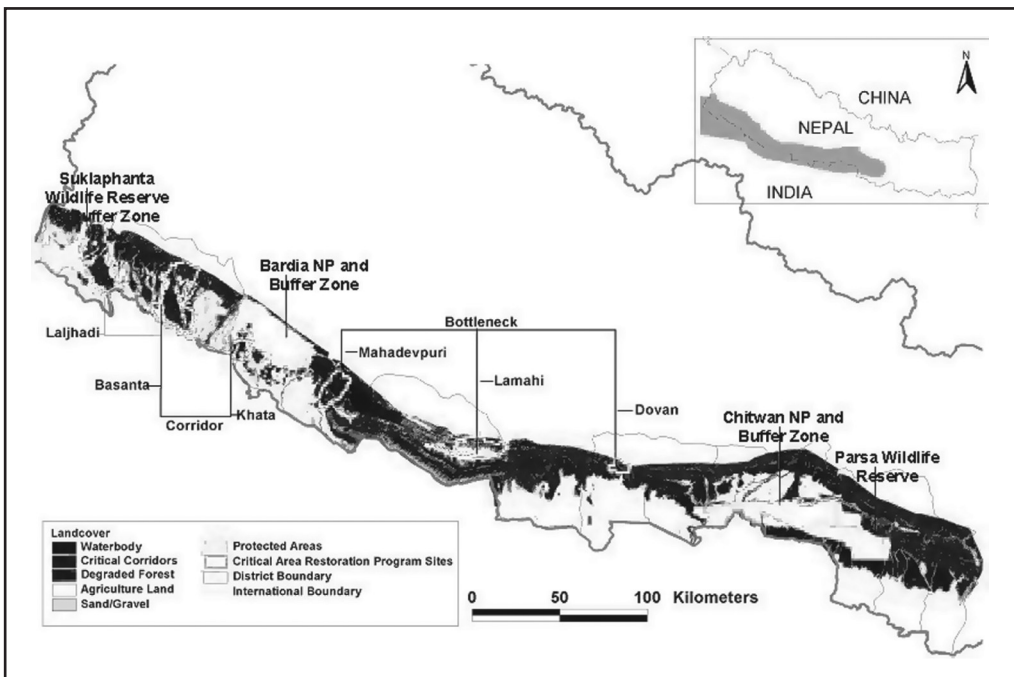
The Terai is home to valuable timber and some of the last remaining habitat for tigers, rhinoceroses, and wild elephants. The wildlife provides opportunities for communities in terms of ecotourism, as well as problems as people encroach on habitat.

As a result of increasing international and national interest in conservation, especially of so-called “charismatic megafauna,” the Terai region has become the focus of an ambitious program: the TAL Program. The DOF, the Department of National Parks and Wildlife Conservation (DNPWC), and the WWF-Nepal implement TAL, which started in July 2001. Its goal is to develop biological corridors to facilitate the movement of large animals from one park to another. Areas where the corridor needs to be re-established are referred to as

bottlenecks. At present, TAL has been working in four protected areas (Parsa, Royal Chitwan National Park, Royal Bardia National Park, and Royal Shuklaphanta Wildlife Reserve), and five areas between the parks (Dovan, Lamahi, Mahadevpuri, Khata, and Basanta).

The sites selected for the case study are adjacent to the TAL program. This case study provides not only insight into how people use the forest, but also an opportunity to see how livelihoods are affected when biodiversity goals are being addressed, thereby furthering understanding on how to meet the dual goals of conservation and development. The case study focused on three communities: Dovan, Lamahi, and Mahadevpuri (figure 3.2). They lie in the bottlenecks identified by TAL that are considered critical for restoring forest connectivity. Two of the three communities lie in Terai and one is in the mid-hills. Most of the households fell below the poverty line, but economic differences existed among households. Wage labor and remittances supplemented livelihoods. For the most part, the households depended on farming to produce food for the household. Forests are a key component of

FIGURE 3.2  
Terai Landscape Corridors and Bottlenecks



Source: WWF Nepal.

the community farming system in Nepal. Livestock depends on fodder leaves (some leaves provide key nutrients during the dry season) and bedding, generally collected from the forest. Manure and compost are added to the fields for fertilizer. In addition, most households depend on wood for fuel.

## Methodology

The objective of the case study was to learn how different groups of people use the forest, and how the forest contributes to their livelihoods. The approach consisted of using a variety of participatory rural appraisal techniques. First, three researchers met with the forest department and village leaders (including the CFUG leader) to inform them of the case study's purpose and, through interviews, get their assessment of the village. They were asked about themselves and the community (how it uses the forests, how wealth is defined, and how it is ranked). These leaders served as informants, guiding the team on other people to interview. The security situation limited the team, as they were restricted to only certain areas. Local people strongly advised the research team not to go to areas far from the roadside. In the case of Terai communities (Lamahi and Mahadevpuri), local leaders helped to gather households in their respective CFUG offices near the highway. In those locations, households were consulted both as a group, and then selected households from different socioeconomic strata were interviewed on an individual basis. In the case of Dovan, a hill area, a small group meeting with the area's ranger from the DOF and CFUG officials was held. These officials directed the research team to households from different socioeconomic groups for interviews. Attempts were also made to consult at least a few female-headed households. Members of households interviewed were those who the researchers met when they visited those households or whom the households sent as their representative. No attempt was made to contact a particular member of a family.

Interviews consisted of casual, informal, open-ended questions. The questions focused on who uses the forest, how they use the forest, and how it contributes to their livelihoods. Information was also gathered on how local community members, especially the poor, perceive WWF's wildlife conservation program in terms of benefits and costs. Key questions

were asked to elicit information on assets, income sources, forest utilization, and other forest-related issues (including the impact of the TAL program).<sup>8</sup>

## Dovan

Dovan is a hill community located adjacent to the Terai. One of the 65 village development committees (VDCs) of Palpa district, Dovan has about 1,230 households, with an estimated population of 6,700 (3,400 female and 3,300 male) (based on Nepal/CBS 2002).

## Results

As in any village, people in Dovan fall along a spectrum of well-being. The wealthiest would still be considered impoverished by Western standards. People in the area relate poverty to the lack of land or inadequate land, and to the lack of stable sources of income. From the survey data, the researchers defined four levels of well-being. Group I consists of five landless, resource-poor households. Of all the groups, only Group I depended on forest products as a source of direct cash income. Group II consists of 16 households with a little land, but their agricultural production is not adequate to feed their family for an entire year. These families, along with those in Group III, depend more on selling livestock than other groups. Group III consists of 11 better-off households whose landholdings are adequate for maintaining their family for most parts of the year. Their income was supplemented by selling livestock, and they used the forest indirectly for a large percentage of their income for fodder and bedding. Group IV consists of five households with landholdings that produce not only an adequate amount for maintaining the family for the whole year, but also enough to sell in the market. They also benefit from remittances from the labor of a family member in a different place.

Agriculture is the primary source of livelihood. The landless households depend on seasonal agri-

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8. Editor's Note: The stated total number of households surveyed in each community in a case study was not consistent with the total number of households reported, as indicated by the four levels of well-being. Therefore, only the data on the number of households by category of well-being was included.

cultural employment. Two of five landless households practice sharecropping. One landless household cultivates crops on government land. Households from Groups II to IV derive all or part of their food needs from agricultural production. The size of their landholdings varies from none to 4.3 hectares per household. Only one household from Group III rents others' land for sharecropping, whereas two households from Group III rent land. None of the households from Group IV rents land. A few well-off households also owned land in nearby Terai districts. Crops grown included paddy, maize, wheat, mustard, gram, masuro, cauliflower, and tomatoes. Groups of households also differed in the types of agricultural crops grown. Farmers from Groups II and III are more likely to grow vegetables as a cash crop. Farmers from Group IV, on the other hand, grow cereals generally for subsistence and barter, but these are not high-value crops.

### **Forest Resources and Their Management**

Of all the VDCs<sup>9</sup> of Palpa district, Dovan is considered the richest in forest resources. This VDC used to export forest products to other parts of Palpa and also outside the district. During construction of the Pokhara-Butwal road (Siddhartha Highway), many laborers moved into the area to work as construction workers. After completion of road construction, many of these workers settled at the edge of the forest near the roadside. Fuelwood collection and selling became a main source of livelihood for these households. Timber traders from Butwal and other areas felled trees indiscriminately. Soon the forest became quite degraded. Because it was a national forest, the local people had neither incentives nor rights to check this deforestation. With formation of CFUGs, the community started banning the sale of fuelwood. Groups of households joined together to form CFUGs and began protecting patches of forest nearby.

9. VDCs, made up of nine wards, are the lowest-level local governance bodies in Nepal. The district development councils (DDCs) are a higher administrative unit and play a substantive role in implementing government policies, decentralization efforts, and development activities. Within each DDC are a number of VDCs and municipalities. Between the DDC and VDC levels are clusters of VDCs called *ilakas*. There are nearly 4,000 VDCs in Nepal.

At present, 28 CFUGs manage most of the forest in the area. An estimated 15 percent of the forest area is still under government control, but none of the respondents in the survey sample said they use government forests. In addition, there is one "religious forest," as defined by the government.

Fuelwood, fodder, grass, timber, NTFPs, and pasture are the main forest products used by households. Only 6 percent of households said they take animals for grazing in the forest. *Khar* (thatch grass) and *babiyo* (*sabai* grass or *Elaliopsis binnata*) are common NTFPs used by the community. In all CFUGs, members are allowed to collect only dead and fallen trees for fuelwood. All households are required to contribute equal amounts of labor to silvicultural operations. Members are allowed to use forest products only for personal consumption. Such rules have hurt those households that used to derive part of their livelihood by selling fuelwood and other forest products. The rules have also benefited wealthier households more than poorer households, as wealthier households tend to use more forest products, either because they have larger size families or because their livestock holdings are larger.

Table 3.1 presents the survey's findings on the average quantity of forest products used by different categories of households. The table clearly shows inequity issues in the use of forest products; rich households are benefiting more from forest. This is based on information from the 14 CFUGs. Fuelwood and fodder use by households in Group IV was almost three times that of households in Group I. Households also need timber for constructing new houses and animal sheds, repair and maintenance of old houses, and agricultural implements.

Many CFUGs have begun to generate community-level funds through the sale of forest products, membership fees, and fines. Timber is the principal forest product sold outside the community. Fuelwood, fodder, and grass seem to be just adequate to meet community needs and are rarely sold outside the community. Last year, the CFUGs in Dovan made an estimated income of NR<sup>P</sup> 20 million. The TAL program provided about NR<sup>P</sup> 700,000 to the CFUG coordination committee in Dovan to launch conservation and development programs.

CFUGs in Dovan's VDC have spent their income on forest conservation and community development activities. For example, in 2003/04,

TABLE 3.1  
Use of Forest Products by Respondent Households in Dovan

Forest Products	Quantity of Forest Products per Household			
	Group I	Group II	Group III	Group IV
Fuelwood ( <i>bhari/month</i> )	4.40	9.60	9.18	11.00
Fodder ( <i>bhari/day</i> )	0.75	0.93	2.09	1.60
Grass ( <i>bhari/day</i> )	1.50	1.33	1.91	2.10
Timber (cubic foot/year)	6.25	17.73	17.14	20.25

Source: Field Survey, October 2004.

Khulkhule's CFUG, the largest such group in Dovan, spent its income for constructing irrigation canals and school buildings, and hiring two forest guards for eight months, one office secretary, and one accountant. Of Nr<sup>P</sup> 700,000 provided by the TAL program, Nr<sup>P</sup> 400,000 was used to build a 2.5 kilowatt microhydro plant. Electricity from this plant is distributed among the households from Barpokhari and Dhaphkholā CFUGs. A portion was also used for electricity distribution to the members of Dhaphkholā CFUG. Other activities supported by TAL include improved cooking stoves, goat farming, buffalo farming, and breed improvement of goats and buffaloes.

The forest also generates employment for local people; a few CFUGs hire salaried staff such as an office secretary, forest guards, and so on. The forest also provides raw materials to forest-based industries that in turn create jobs for local people (box 3.2).

### Lamahi

Lamahi comprises four VDCs (Lalmatiya, Choulahi, Sisahaniya, and Sonpur) in the Dang district. The area had 9,788 households, with an estimated population of 58,795 (29,171 females and 29,624 males) in 2001. Tharus, an indigenous group of people of Nepal's Terai, were the original inhabitants of the area. The community is currently a mix of Tharus and hill migrants.

The households surveyed were classified into four groups of well-being, as they were in Dovan. There were 13 households in Group I, nine households in Group II, two in Group III, and seven in Group IV. Size of landholdings (in hectares) in Lamahi ranged from none for Group I to 0.26 and 0.3 for Groups II and III, respectively. Group IV had the largest landholdings, at 2.19 hectares. Wages constitute an important source of cash income for all categories of households. As in the case of Dovan,

### BOX 3.2

#### Forest-Based Enterprises in Dovan

A Jadaibuti Conservation and Utilization Cooperative was formed in 1999. In 2002, this cooperative established an industry for making herbal oil in Dovan. This industry tried producing oil from *tejpat* (*Cinnamomum tamala*), but it was discontinued due to lack of markets. It then started producing oil from *titepati* (*Artemisia indica* or mugwort). Farmers collect *titepati* from community forests and private land and sell it to the industry at Nr<sup>P</sup> 2 per kilogram. About 600 kilograms are needed to produce 1 kilogram of

oil. The price of *titepati* varies from Nr<sup>P</sup> 2,300 to Nr<sup>P</sup> 3,000 per kilogram. This industry is hiring one full-time and two part-time office staff on a regular basis, and about eight to nine laborers during the season (May 15 to July 15). At present, plant capacity seems underutilized, but there are possibilities for making oil from other NTFPs, such as lemon grass, neem, and *sarpagandha*.

Source: Field Survey, October 2004.



TABLE 3.2  
Use of Forest Products by Respondent Households in Lamahi

Forest Products	Quantity of Forest Products per Household			
	Group I	Group II	Group III	Group IV
Fuelwood ( <i>bhari</i> /month)	5.69	6.82	8.00	3.33
Fodder ( <i>bhari</i> /day)	0.11	0.60	1.50	0.57
Grass ( <i>bhari</i> /day)	0.57	0.70	0.25	1.00
Timber (cubic foot/year)	4.11	2.25	8.00	17.00

Source: Field Survey, October 2004.

livestock as a source of cash income plays a relatively important role for households in Groups II and III. Only households from Group IV earned cash income from remittances. Groups I and III earned some cash from the sale of forest products.

#### **Forest Resources and Their Management**

As in Dovan, this area was once rich in forest resources. Much of the destruction of the forest took place during the construction of the East-West Highway. Events such as the National Referendum (Janamat Sangraha)<sup>10</sup> in 1980 and People's Democracy Movement in 1990 led to further destruction of forest.

Before initiation of conservation programs, the situation became so bad that people were forced to get up at 3:00 a.m. to get to the other side of Rapti to get one *bhari* (about 25 kilograms) of thatch grass. People were initially skeptical about conservation of forest by the community, as they thought it was a trick by a few influential members of the community to register forestland in their names. When a few community people got together one year and put a ban on the collection of thatch grass, there was a significant increase the following year in thatch grass for the community. This helped people to understand the value of conservation.

This area falls under the Narti Range Post of the Dang District Forest Office. About 9,000 hectares have been handed to 28 CFUGs for management. Some forest in the Chure (Silawik) range is still managed as government forest. Forest area per

CFUG varies from 3 to 1,486 hectares, and the number of households per CFUG varies from 27 to 640. The number of women in the executive committee of CFUGs varies from none to 11.

Table 3.2 presents survey findings on the use of forest products by respondent households. Households get forest products free or at a concession price. Some CFUGs require user households to buy a coupon for collecting fodder or cut grass. The price of the coupon varies from Nr<sup>P</sup> 5–10 per season; however, rules vary among CFUGs. For example, the users of Rapti CFUG do not need to pay for fuelwood collected from the community forest for their own consumption. Users can collect fuelwood only on Saturdays. Users who wish to collect fuelwood for sale must pay Nr<sup>P</sup> 15 for four Saturdays. These users can collect only one *bhari* on one Saturday. The market price of fuelwood is about Nr<sup>P</sup> 50–60 per *bhari*. Rapti CFUG does not charge users for fodder and cut grasses. Poles for house construction are Nr<sup>P</sup> 1 per pole and dead and fallen *sal* trees are Nr<sup>P</sup> 50 per cubic foot.<sup>11</sup> Rules tend to vary according to the financial situation of the CFUGs.

CFUGs have also begun to generate community funds. The main sources of income include membership fees, sale of forest products, and contributions from donor agencies. Rapti CFUG, which was identified as the highest-earning CFUG among 28 CFUGs, collects about Nr<sup>P</sup> 500,000 in annual income in years when timber is sold. Three CFUGs earn some money by supplying *babiyo* (sabai grass), a raw material used for paper production, to a paper factory (Bhrikuti Paper Mill) in Nawalparasi. Last

10. Held in Nepal to elicit people's opinion on whether they wanted multiparty or partyless democracy.

11. Fallen *sal* trees command a minimum price of Nr<sup>P</sup> 250 per cubic foot.

year, the TAL program provided about NRP 1.1 million to CFUG coordination committees. Other donors, such as DFID's Livelihood Forestry Programme (LFP) and CARE/Nepal, are also working in the area. Donors have provided support in the form of cash, as well as training and technical assistance.

CFUGs have used community funds to support forest conservation, infrastructure development, and income-generation activities, such as forest-based microenterprises (box 3.3), pig and goat farming, and retail shops. One CFUG's goat/pig farming program provides loans to groups of five poor households. In such schemes, the loan is usually interest free and must be paid back in one year. The money is then given to another group. Such revolving funds normally come from donor projects such as TAL and LFP, but there are a few instances in which CFUGs have invested their own funds in these activities, which generally benefit women and disadvantaged groups. As box 3.3 shows, such enterprises have benefited women and vulnerable groups.

## Mahadevpuri

### The Community

Mahadevpuri VDC has 1,269 households, with a total population of 7,768 (3,733 females and 4,035 males). This is one of 46 VDCs in the Banke district in the midwestern development region, and a community of hill migrants from midwestern and far-western hills and indigenous Tharus. The households surveyed belonged to 10 different CFUGs. As in the case of Dovan and Lamahi, the households were placed in four groups of well-being. Group I had six households, Group II had 15 households, Group III had six households, and Group IV had four. Statistics on caste/ethnicity of respondents indicate that Tharus (indigenous group) and Dalits (untouchables) are more likely to fall toward the bottom of the economic ladder.

Sources of cash income for different groups of households are similar to that of Dovan and Lamahi. Wages constitute an important source of cash

### BOX 3.3

#### Forest-Based Enterprises in Lamahi

*Rope production.* Kalapani CFUG started a small enterprise to produce ropes from *babiyo* grass in March 2003. This CFUG purchased four rope-making machines for NRP 32,000. The TAL program provided NRP 25,000, and CFUG invested NRP 12,000 from their own funds. Six women and two men from the CFUG were trained in the rope-making technology. Two women are now employed on a part-time basis by this enterprise. One kilogram of rope can earn NRP 17.50 to NRP 20 if sold outside the CFUG, and NRP 12 if sold to CFUG members. The income is distributed as follows: NRP 5 for people involved in rope production, NRP 3 for people collecting *babiyo*, and NRP 2 for forest guards. The remaining money goes to the CFUG fund. One of the two women employed in this enterprise is a widow and an ex-Kamaiya. She has three children and very few productive assets. She said it is a part-time job as no adequate market exists for ropes. She has been able to make about NRP 2,100 from this job

so far. She said one person can make about 14 kilograms of ropes in one day.

*Dunn-tapari production.* With NRP 25,000 of support from TAL, three groups of women of Karmadi CFUG have started a microenterprise for making *dunas* (paper bowls) and *taparis* (paper plates) from *sal* leaves. A machine was purchased from the Micro Enterprise Development Programme for NRP 18,000. The women were trained for three days before starting production. *Sal* leaves are collected from the community forest. One *tapari* can sell for NRP 1 and one *duna* can fetch Nit 0.35. Seventy-five percent of sales revenue goes to the women's groups, and 25 percent is deposited in the CFUG fund. The groups can decide themselves how to use such income. CFUG uses its share of income to pay for its electricity bill and other expenses.

Source: Field Survey, October 2004.

**TABLE 3.3**  
Use of Forest Products by Respondent Households in Mahadevpuri

Forest Products	Quantity of Forest Products per Household			
	Group I	Group II	Group III	Group IV
Fuelwood ( <i>bhari/month</i> )	12.17	9.31	8.5	4.75
Fodder ( <i>bhari/day</i> )	0	0.56	0.33	0.56
Grass ( <i>bhari/day</i> )	0.3	1.2	0.83	0.25
Timber (cubic foot/year)	0.67	1.79	7	16.25

Source: Field Survey, October 2004.

income for all groups. Forest products provided cash income for only those households in Group IV. Landholdings (hectares) in Mahadevpuri were smaller on average than in the other two communities. They ranged from zero for Group I, 0.21 for Group II, 0.82 for Group III, and 0.68 for Group IV.

#### **Forest Resources and Their Management**

Forest conditions in this area are reasonably good. Fourteen CFUGs have been formed, ranging in size from 36 to 292 hectares, with 36 to 294 household members. Two or more CFUGs have joined together to form biodiversity conservation groups, of which six now exist. These groups were formed mainly to prevent timber “mafia” and outsiders from destroying their forests, as individual CFUGs were unable to face such encroachers by themselves. Six biodiversity conservation groups have, in turn, formed a Biodiversity Conservation Coordination Committee. This coordination committee has 11 executive members, of whom two are female. The constitution of the coordination committee requires that 33 percent of the members be female.

Table 3.3 presents survey findings on forest products use by respondent households. Users must buy a coupon for Nr<sup>P</sup> 5–10 per season to collect fuelwood. The length of the season varies from 15 days to one month. Some CFUGs open the forest twice a year for fuelwood collection. Similarly, users need to pay Nr<sup>P</sup> 5–10 for collecting fodder/grass during a season of about two months. Fuelwood collected during pruning/thinning of forest is distributed

equally free of charge, using a lottery system among households that participate in thinning/pruning operations.

As in the case of Dovan and Lamahi, CFUGs in Mahadevpuri have generated funds through a variety of means, such as membership fees, permits for vehicles, and sale of fuelwood, timber, and thatch grass. These funds, together with support from TAL, are used to support forest conservation and community development activities. Jobs supported by CFUG funds, such as forest guards, have benefited poor households.

#### **CONTRIBUTION OF FORESTS TO POVERTY ALLEVIATION**

Forest resources are clearly key components of rural people’s livelihoods in Nepal, and offer great potential for contributing to poverty alleviation. While the government has made steps toward this goal, poverty alleviation requires a country to have sources of income and a mechanism for equitable distribution. Despite the great inequities in Nepal, programs such as community forestry and leasehold forestry have recognized the importance of addressing the needs of rural poor, and the MOFSC has in fact developed pro-poor programs. However, criticisms of community forestry in the past 20 years are valid, and more work on this issue still needs to be done. The poorest of the poor still lack access to the full potential benefits of community forestry. Nepal’s government, however, recognizes these problems and is beginning to address them.

## Community Forestry

Nepal is often looked at as the pioneer in community forestry. The Community Forest Program that began in the late 1970s expressed an explicit concern for meeting the subsistence needs of local farmers for firewood, fodder, leaf litter, and some small timber for agricultural implements. Since then, the Community Forest Program and other participatory forestry programs have incorporated local development objectives (Chhetri, Sigdel, and Malla 2001).

Much of the emphasis in assessing community forestry in Nepal has been placed on totaling the number of hectares handed over and the number of user groups formed, but not evaluating the contribution of forests to people's livelihoods. After 25 years of implementation, issues of equity exist within community forestry user groups. The poor do not receive an equitable distribution of goods and services, and in some cases contribute or sacrifice more than other members. As a result of several studies conducted on benefit sharing from community forests, government policy makers and donor agencies are well aware of this second-generation problem of equity.<sup>12</sup>

A few studies have also attempted to assess the contribution of community forests to poverty alleviation and concluded that community forestry has not made much impact on poverty alleviation. For example, Malla (2000) writes: "Overall, the community forestry intervention has had limited positive impact on the livelihood of rural households. The evidence suggests that some households, especially the poorer ones, have been affected adversely." For example, some community forestry groups have greatly restricted collection of forest products, and those that have most depended on the products (the poor) were the most adversely affected. They had to find alternative sources of fodder and fuelwood, often much farther away. Wealthier households have traditionally had the means to substitute (using their home garden forests) or purchase forest products. Many community forestry groups charge a flat fee (no sliding scale) when they sell products. In

addition, community development activities that stem from CFUGs, such as roads, schools, and water taps, rarely serve the poor. Chhetri, Sigdel, and Malla (2001) have reached similar conclusions; however, community forestry as a whole does illustrate the importance of forestry to rural livelihoods and community development.

Kanel and Niraula (2004) conducted a study examining community forestry's impact on livelihood improvement by looking at 1,700 user groups in 12 districts. The study found that community forestry contributed to household livelihoods, community development, and good governance, while improving the environment. The authors estimate that within community forests, products worth about Nr<sup>P</sup> 750 million (approximately US\$10 million) are extracted and sold. CFUGs earn about Nr<sup>P</sup> 914 million per year (US\$12 million) from these products and other sources (fees, fines, grants) and expend about Nr<sup>P</sup> 450 million per year (US\$6 million). Community forestry user groups spent 46 million Nr<sup>P</sup> (US\$630,000) per year on employing local residents as forest watchers (often hiring the disadvantaged). Forestry, through CFUGs, contributed Nr<sup>P</sup> 134 million per year (US\$1.8 million) to community development through construction of roads, schools, school fees, water taps, health posts, and other infrastructure activities, and Nr<sup>P</sup> 12 million (US\$175,000) to pro-poor programs. This is in addition to the fuelwood people use for energy, the fodder people use for animal feed, leaf litter people use for compost, and food and medicines people collect from the forest.

## Leasehold Forestry

In Nepal, the Leasehold Forestry Program was developed to alleviate the poverty of poor and marginalized groups, such as low castes and women. As of 2003, 1,729 leasehold forestry groups of nearly 12,000 households have been established in 14 districts in Nepal (IFAD 2003). The Leasehold Forestry Program, funded by the International Fund for Agricultural Development, provides an alternative to community forestry programs by providing degraded land to resource-poor villagers. The program, which started in 1993, was intended to provide resource-poor farmers with land to grow fodder and a small loan for purchasing livestock. Households could earn income by raising and selling goats and their products. Leasehold forestry

12. MOFSC has recently formed a Gender and Equity Working Group. The members of this group include representatives from different departments and divisions of MOFSC, representatives from forestry projects, and NGOs such as The Federation of Community Forest Users and Himalayan Grass Roots' Women's Natural Resources' Management Network.

brought MOFSC together with the Ministry of Agriculture, and agriculture development banks. User groups and multipurpose cooperatives were formed. The program has been adopted by MOFSC and is now a department within the ministry.

The Leasehold Forestry Program shows how forestry, in combination with other activities, has contributed to poverty alleviation. The program has enabled farmers to raise and sell goats, buffalo, and milk. In some areas, farmers increased their income by NR<sup>P</sup> 25,000 a year. Others earned money from planting and selling bamboo, cardamom, seeds, horticultural plants, and honey. In addition, 120 groups of several leasehold forestry groups each, and 18 multipurpose cooperatives were formed, enabling savings and microcredit activities among the participants.

Evaluators of the Leasehold Forestry Program note that, although hard to track, the Leasehold Forestry Program had a great impact on livelihood indicators, noting that increased livestock and income had a positive impact on nutrition. They also note that mothers saved labor and that more children were able to attend school.

The PRSP Progress Report (June 2006) indicated that a recent evaluation of the Hills Leasehold Forestry and Forage Development Project, begun in 1994, suggests that the program has been able to reduce poverty and empower low-income, landless groups. Leasehold forestry has helped to improve the living standards of 30 percent of poor farmers, and enhanced the foundations for improved economic status. Exclusion of the poor and marginalized groups remains a problem but is improving.<sup>13</sup>

### Protected Areas

Protected areas include national parks and reserves. In some cases, national parks have allocated community forestry buffer zones that operate like community forests, allowing community members to use resources and user groups to use income (primarily from entrance fees) toward community development activities, such as building schools. In Chitwan, a CFUG has managed a buffer zone forest for tourism. The CFUG earns funds, primarily through elephant rides to see rhinoceroses, and canoe trips. The income from the forest and eco-

nomie benefits from this tourism are great, and the disparity between the wealthy and poor has been amplified. The Bag Mara CFUG in Chitwan, for example, has not done a good job of addressing indigenous and landless people's needs.

### Government-Managed Forests

Most of the government-managed forests are "managed" for protection, but in fact are not managed due to lack of staff and resources. If managed for timber production, much of the Terai could produce enough income to pay for the Nepal government's entire budget (Amit Lal Joshi, personal communication). Government-managed forests do contribute to people's livelihoods, although people use the forests illegally. When community forestry was first initiated, and many forests were closed to collection of goods, people turned to national forests for fuelwood and fodder. In the Terai, people have even settled in government-managed forests. Even though it is not acknowledged and the actual contribution is not known, government-managed forests are contributing to poverty alleviation.

### Forestry and the MDGs

Forestry can and does contribute to the MDGs in Nepal. This case study and other donor work in forestry shows how forestry is contributing to the MDGs. Table 3.4 summarizes the findings. Forestry is an integral part of the farming system and livestock development. It is a source of income for many rural households that contribute to basic needs.

### CONCLUSION

In rural Nepal, forests play an important role in people's livelihoods. Forests are a necessity for farmers raising crops and livestock, and provide a source of food, medicine, and fiber for rural populations. Nepal's PRSP does not overemphasize forestry, but mentions its importance and has identified poverty-related indicators to track. The government of Nepal and MOFSC, through their various programs, such as leasehold forestry, community forestry, and buffer zone forestry, recognize the importance of forest resources for local communities. Despite criticisms of and inequities in these programs, com-

13. Information from PRSP Progress Report (World Bank 2006), added by editor.

**TABLE 3.4**  
Summary of Findings

<b>Goal</b>	<b>Role of Forests</b>	<b>Current or Potential Role of CFUGs or Other Programs</b>
Eradicate extreme poverty and hunger	Provides food and income	Allocation of land in forests for crops leasehold provides land and livestock
Achieve universal primary education	Provides income	CFUGs build schools and provide scholarships
Promote gender equality and empower women	Provides income	Women's literacy
Reduce child mortality	Provides food, medicine, and income	CFUGs build health posts and provide training
Improve maternal health care	Provides food, medicine, and income	CFUGs build health posts and provide training
Combat HIV/AIDS, malaria, and other diseases	Provides medicinals	CFUGs build health posts and provide training
Ensure environmental sustainability	Protects air, water, biodiversity, and so on	Sustainable forest management
Develop a global partnership for development	Provides internationally traded goods and NTFPs	

Source: This is the authors' analysis based on primary as well as secondary information.

pared with other countries, Nepal is progressive in acknowledging the importance of forestry and poverty alleviation.

The donor community also acknowledges this importance. All forestry programs of major donors include "livelihoods," "income generation," "governance," and "pro-poor" language in the title of their forestry programs. Donors have recognized that forests provide one of the only renewable communal resources people can access. Forests are the only resource to which the landless have any access; in the mid-hills, there are few other opportunities, and community forestry has created sound local institutions through which other development (for example, health, education, clean water) can happen. If well managed and acknowledged, forests can play an even more important role. If managed for specific products, forests can yield significant revenue and can greatly contribute to poverty alleviation.

Degradation of forests hurts poor households more than rich ones. But, numerous examples also exist in which conservation of forests has hurt the

poor more than the rich. Proactive policies and programs are needed to ensure that forest benefits reach the poor. This study observes that forests are beginning to make some contribution to augmenting physical, financial, human, natural, and social capital of some poor people. Forest-related programs have also to some extent helped empower women, although these programs have failed miserably to empower the poor and other marginal groups. The relatively few success stories of the really poor benefiting from forestry programs in buffer zones or leasehold forestry, however, suggest that participatory forestry programs must find effective ways to move from the community to the individual household or targeted groups within communities in order to play a meaningful role in poverty alleviation, while conserving the forests (Chhetri, Sigdel, and Malla 2001). Although this study has not found any examples in which forest programs have transformed the lives of poor people, many examples exist in which forests have helped poor households to cope with risks and vulnerability. Whether a com-

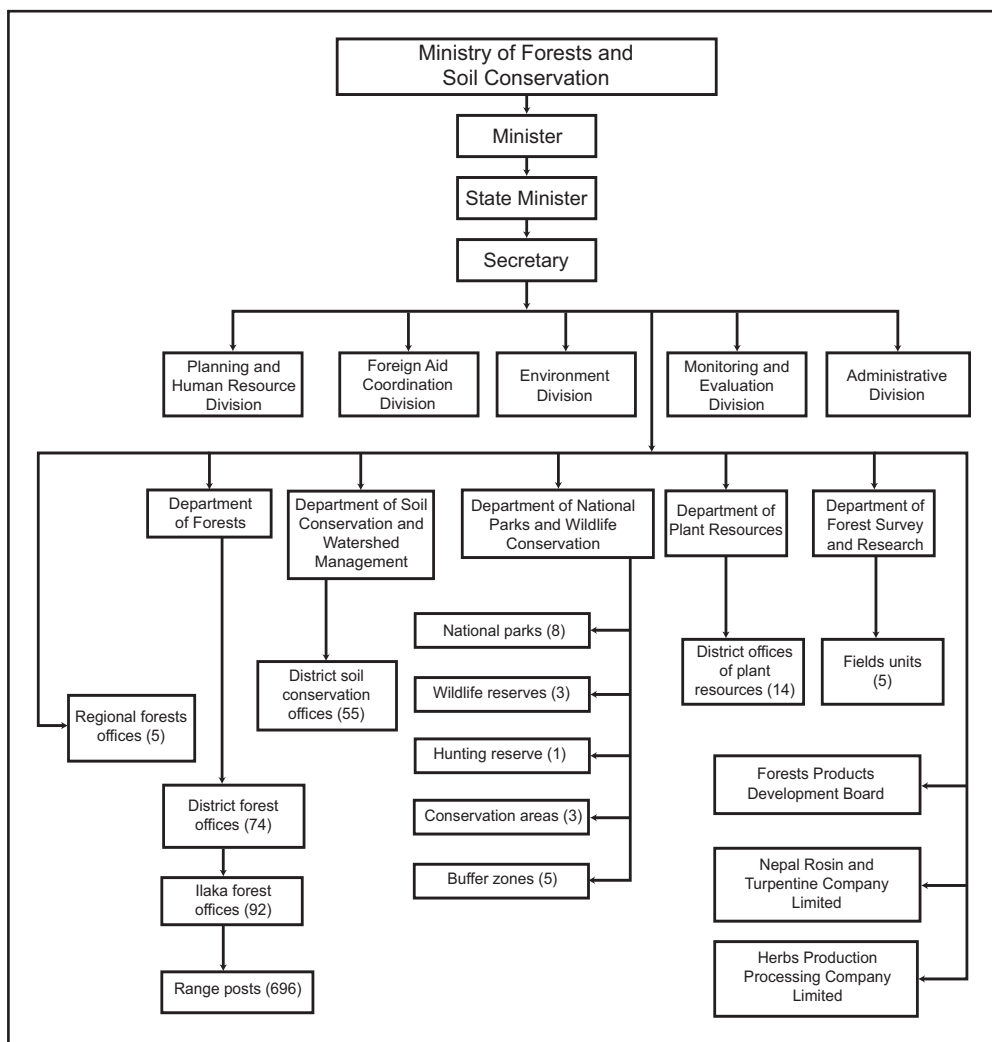


munity forest or a national forest managed for timber, the issue of ensuring equitable distribution of benefits from these resources remains.

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FIGURE 3A.1  
Organizational Chart of the Ministry of Forestry and Soil Conservation



Source: Chhetri, Sigdel, and Malla 2001.



## CHAPTER FOUR

# Summary of Case Study— Indonesian Papua

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### EXECUTIVE SUMMARY

This case study highlights the importance of institutional arrangements in determining the outcomes of forest management.<sup>1</sup> It describes efforts by government, civil society, and the private sector in Indonesian Papua to develop clearer and fairer rules governing the allocation and management of forest lands. These efforts challenge long-held assumptions that customary tenure constitutes an obstacle to economic development, and that the objectives of large-scale investment and conservation are necessarily incompatible with local community-controlled resources.

The failure to give legal recognition to customary rights in Indonesian Papua has fuelled escalating conflict to the point of undermining long-term investment. It also leaves rural communities vulnerable in the face of externally imposed land-use decisions. Despite massive resource wealth, rural Papua suffers the highest rates of material deprivation in Indonesia. There is now broad consensus that both poverty reduction and investor security in Indonesian Papua critically depend on efforts to map, protect, and work with customary tenure, and

that forest ecosystems can only benefit from clarification of these issues.

Papua province is currently at the forefront of reforms to the legal and institutional framework governing customary rights and forest management in Indonesia. This reflects the opportunities for innovation presented by decentralization and, in particular, the granting of special autonomy to the province in 2001. These proposals have been framed as a draft provincial regulation on Sustainable Forest Management Based on Customary Law Communities, within the ambit of Law 21 (2001) on Special Autonomy (OTSUS) for Papua. Once passed into law, this will set an important precedent for reforms to forest management across Indonesia. It also speaks to provisions of the Poverty Reduction Strategy Paper (PRSP) on collective land management and the involvement of the poor in spatial planning processes.

Political will to implement these proposals depends on continued pressure from local communities, requiring a substantial effort to raise awareness of the regulation's provisions and the opportunities it presents to secure peoples' rights. Long-term, programmatic investment is needed in community institutional support, the mapping of customary lands, technical support to implementing agencies, and effective oversight. The success of these reforms also depends on the resolution of ten-

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1. Original case material was prepared by Martin Kayoi, Adrian Wells, and Gill Shepherd, September 2006.

sions with the central government over the powers of the province to license community logging.

However, the results will benefit both poor people and forest ecosystems in Papua, not through tenure change alone, but also through the intensive data gathering, mapping, institutional development and integration, and technical redesign that the process has generated.

## FORESTS AND LOCAL LAND RIGHTS IN INDONESIA

### Indonesia's Poverty Reduction Strategy and Land Rights

Indonesia's PRSP was finally completed at the end of 2004, in time to influence the preparation of the nation's Medium Term Plan (RJM) 2004–2009. Of special relevance to this case study, the PRSP notes that the Basic Agrarian Law No. 5 (1960) has in many cases been ignored by related sectoral laws and policies governing forestry, environment, water, and mining, severely limiting management opportunities for small-scale farmers and fishermen. This is compounded by land policies that have favored land consolidation to facilitate investment, without resolving underlying conflicts over ownership and use rights.

The PRSP calls for consistent application of the Basic Agrarian Law across natural resource sectors. It also calls for acceleration of land titling, and for selective land reform and redistribution targeting the poor. It highlights the need to institutionalize forms of collective land management for which no system of titling currently exists under the Basic Agrarian Law No. 5, and to involve the poor in spatial planning processes.<sup>2</sup>

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2. The Basic Agrarian Law No. 5 governs the entire land base of Indonesia, and provides for private ownership (*hak milik*), as well as six forms of usufruct on land under state control. Regulation 24 (1997) establishes the procedural framework governing these various categories of rights, including customary lands (*tanah adat*), where these rights existed prior to the enactment of the Basic Agrarian Law No. 5 and state land (*tanah negara*). There has been little political will to give recognition to customary claims, with the exception of Ministerial Decision 5, 1999, of the Agrarian Department, which established procedures for the grant of private communal land title. This information is drawn from Contreras-Hermosilla and Fay (2005).

### Indonesia's Forests<sup>3</sup>

Indonesia has approximately 120.4 million hectares of forest, the largest area of tropical forest in the world. With a high degree of biodiversity, these forests are also crucial to fulfilling the needs of current and future generations. For the last three decades, forest resources have been the main source of income for the development of the national economy, which has had a positive effect on foreign exchange earnings, national development, and regional economic growth. In 2002, for instance, the export value of pulp was US\$706.8 million, and US\$363 million for all sawn wood. This dynamic growth, however, has not been without its problems.

A key problem has been excessive forest timber exploitation as industrial demand began to exceed available supply. Forest destruction is evident by the rapidity of deforestation over the last 10 years, amounting to 1.6 million hectares per annum, or 2.8 million hectares per annum over the last five years. This deforestation is the result of many causes, including overcutting and illegal logging, forest burning and clearing, occupation, land requirements for other sectoral development, and poor forest management. The Ministry of Forests (BPKH) attempted to address many of these issues in its 2001–04 work plan, but met with little success, according to its own evaluation.

Additionally, these challenges have been compounded by the new role of the BPKH since Indonesia's rapid decentralization in 1999. While decentralization has increased the authority of district governments, the consequent role of national bodies and programs remains contested, leading to added confusion over control and tenure. The BPKH has continued to operate on the legal basis afforded by Law No. 41 (1999) on forests, which assumes that forestry matters are basically managed from the central BPKH. But this decree is in conflict with Law No. 22 (1999), the government's decentralization decree (recently updated and replaced by Law No. 32, 2004). The BPKH has also developed its work program for 2005–09 based on the assumption that Law No. 41 (1999) on forests is dominant. Some of the deforestation and associated problems noted by the ministry are the direct result of this

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3. This section is based upon the Ministry of Forests Web site ([www.dephut.or.id](http://www.dephut.or.id)) and on Wollenberg et al. (2004).

contest for forest control—and its associated profits—between the center and the districts.

A third problem associated with the dynamic growth in the forestry sector is that local people rarely get a share of benefits from their valuable local timber or mineral resources. Land in most forest areas is formally under state control, and millions of rural people living on forest lands in the Outer Islands are, legally, landless squatters. They have no security of access to land, a farmer's most essential resource. Although most people find ways to use forest resources to meet their livelihood needs, conflicts show that access to forest lands is a problem with periodically violent outcomes. In addition, there has been little policy effort to invest revenues in human, financial, physical, or natural assets for the long term. Instead, local people have suffered the environmental and social consequences of imposed developments without redress, and policy makers have tended to give priority to short-term economic gains at the expense of natural forests.

### **Emerging Opportunities for Change in the Forest Sector**

In the BPKH work plan for 2005–09, there is some recognition of the correlation between forests and poor people, as it lists the economic empowerment of forest-dwelling communities as one of its five priorities for the period. This is the first time the topic has been listed among the BPKH policy priorities, and thus there is evidence of a new awareness that the ministry has some responsibility for the well-being of forest peoples. Nevertheless, given the relative power of the natural resource ministries that control most of Indonesia's land area, reform is unlikely without innovation and political pressure such as is currently being exerted by stakeholders in Indonesia's easternmost province, Papua. This case study in the province of Papua, at the extreme end of the Indonesian archipelago, documents the process by which pressure has built from small beginnings to a real opportunity for change in the forest sector (figure 4A.1, see appendix).

### **INTRODUCTION TO PAPUA**

Papua is typical of many resource-rich regions, where high revenues have not translated into improved welfare for most of the rural population.

Poor service delivery in rural areas, weak revenue management, inequality, and violence give Papua many of the characteristics of a fragile state (DFID 2005). Much of the current conflict centers on national policies governing land and natural resources, which effectively override underlying customary tenure in an effort to facilitate investment.

The failure of government to demarcate customary rights and land use as the basis for designating forestry and mining concessions has exacerbated vulnerability and social exclusion. It is also a source of growing social tension that is, in fact, now undermining long-term investment by extractive industries. In areas such as Bintuni Bay, forestry land-use maps have demarcated virtually no land for community management, but have instead assigned all land either to commercial concessions or to protected areas (figure 4A.2, see appendix). In the absence of negotiated land settlements, many concessionaires are now struggling to provide post hoc compensation to customary owners. Whereas customary land tenure had been perceived as an obstacle to growth, the fact that neither investors nor communities are benefiting from the status quo is leading to growing consensus within Papua that legal recognition of customary land systems is now a prerequisite.

The granting of special autonomy to Papua province in 2001 presented an opportunity to include rural communities in the management and exploitation of the province's vast natural resource wealth. Despite delays in implementation, the forest sector is now at the forefront of efforts to secure recognition of customary rights, and to develop a more just allocation of land and resources under special autonomy in Papua. No other sector has seen such a convergence of stakeholders, spanning customary communities, unions, industry, and local government, arguing in favor of legal recognition for customary land and resource rights.

This case study examines the role of the Papuan Provincial Forestry Office in shaping proposed reforms through participatory analyses of customary livelihood and land-use systems. These analyses clearly showed how the forest sector was exacerbating vulnerability among local communities by taking away secure access to land and resources. The ability of the Provincial Forestry Office to demonstrate a link between endemic poverty, existing law, and policy governing forest land allocation, and the opportunities that would come from a more holistic approach, has been essential in securing central gov-

ernment buy-in for reform. This case study also demonstrates the importance of building strong coalitions at the local level, of linking powerful constituency-based organizations with key reformists within government, of both political as well as technical engagement, and of advocacy grounded in sound legal and policy analysis, in order to secure change.

## **FORESTS IN PAPUA— THE ISSUES AT STAKE**

### **High Growth, High Poverty**

Papua's economy is potentially one of Indonesia's fastest growing, enjoying a 10 percent growth rate for the past 10 years, fuelled by the forestry and mining sectors. While this province provides much of the timber for wood processing industries in Indonesia, and substantial new investments in oil, plantation agriculture, and hydro-power are planned, poverty remains a serious problem. Levels of rural poverty, at around 45 percent, are the highest in Indonesia, according to national poverty standards (BPS 2003). One-third of Papuan children do not go to school, and 9 out of 10 villages do not have a health center, doctor, or midwife (DTE 2005).

While over the 1980s, Papua remitted nearly 50 percent of its total regional product to other parts of Indonesia, the standard of living fell by 15 percent over the same period (Booth 2000). This decrease reflects the policies governing natural resource sectors that have displaced and marginalized local communities. Proof can be found in national poverty data which, in 2003, showed that rural poverty rates in Papua were in fact higher inside the national forest estate than outside (CESS-ODI 2005).

### **Livelihoods and Legal Uncertainty over Land and Resource Rights**

Eighty percent of Papua is designated as national forest estate, spanning approximately 39 million hectares. Fifty-two percent of this constitutes production forest for commercial licensing, while 44 percent is designated for conservation and protection. As national forest estate, this vast land area is effectively state land, and none of it has been formally designated for community management. This is despite the fact that the vast majority of Papua's population lives in and around forests, and is sub-

stantially dependent on forest resources for subsistence and income generation.

With funding from the Department for International Development (DFID) Multistakeholder Forestry Programme, the Papuan Provincial Forestry Office in 2004 and 2005 conducted research in five locations in Papua to assess forest livelihoods and land use. Using redesigned and adapted participatory rural appraisal (PRA) tools, the fieldwork suggested that an average of 40 percent of cash and 30 percent of subsistence needs are met by forests. Levels of dependency are greater for settlements nearer to forest areas and further from towns. They also vary with a person's age and gender. In particular, forest dependency is high for young, unmarried men not yet entitled to their own agricultural land. Cash is of growing importance, and timber constitutes one of the only reliable sources of cash in remote areas. Women are generally somewhat less dependent on forests (around 30 percent), except in the case of mangrove forests. Generally, women use forests for subsistence through the collection of firewood, fruit, and wild vegetables.

The current system of forest land allocation ignores very strong customary tenure systems that characterize almost all areas of Papua. Though often seen as merely collective, these are in fact complex, flexible systems of rights and obligations at individual, family, clan, and tribal levels (Fingleton 2005). The 1960 Basic Agrarian Law stated that indigenous law shall be recognized, but only where this does not contradict with national and state interests. Subsequent forest law has consequently construed customary rights as an obstacle to the development and sustainable management of forest resources. In fact, Law 41 (1999) on Forests classifies customary forest (*hutan adat*) merely as state forest. This is in itself contentious, as the jurisdiction of the BPKH extends only to the regulation and management of forests, and not to ownership or control over the issuing of land tenure rights (Contreras-Hermosilla and Fay 2005).

The failure to demarcate and give legal recognition to indigenous lands, including the individual and collective entitlements that flow from traditional law and customs, underpins increasing conflict between extractive industries and local communities. Without formal tenurial recognition, rural communities in Papua possess no clear rights to free and prior informed consent over the allocation of customary lands to concessions, or a solid legal basis



## Vulnerability to Land-Use Change

PRA work by the Provincial Forestry Office demonstrates that, in livelihood terms, access to land and natural resources cannot be replaced. Without legal certainty over their customary land and forest management rights, Papuan communities are therefore at real risk of being made poorer by governmental land allocations over which they have little or no control.

In many areas, legal processes for gazette-ment of forest lands, including boundary delineation in consultation with local communities, have not been undertaken. Nor are there clear standards or procedures in place that take adequate account of community land-use systems. In the central highlands, substantial areas of agricultural land, as well as forests on which communities depend on for small-scale timber harvesting, now fall within the boundaries of the Lorentz National Park. In Jayapura, the community spoke of forced eviction from areas designated for transmigrant settlers (who, uniquely in

Papua, were given title to the land they were allocated). They also suffered damage to sago plots, and agricultural and hunting areas as a result of commercial logging operations and associated infrastructure development.

In Bintuni Bay, where company-community conflict has been at its most violent, initial assessments by the Forestry Office also pointed to a critical lack of institutional mechanisms to guarantee the transparent, fair, and equitable distribution of funds and development support under company-community agreements. Government has shown limited interest in an adjudication role: communities have brought complaints to subdistrict officers without success, and have been violently suppressed where they have taken direct action.

*Source:* Field research carried out by the Provincial Forestry Office, with Adrian Wells and Gill Shepherd, 2004 and 2005, with the support of the DFID Multistakeholder Forestry Programme (MFP) in Indonesia and World Bank PROFOR.

on which to hold companies accountable for unpaid timber royalties.<sup>4</sup> Nor can they seek restitution for damage to their lands as a result of logging and road building.

Previous deliberate attempts to dismantle customary structures and impose others has further weakened the capacity of community institutions to negotiate effectively with the government and investors. This is especially the case in the lowlands, where interaction with the outside world—on very unequal terms—is of long duration.

While many rural Papuans welcome external investment, a lack of secure land and resource rights leaves them highly vulnerable (box 4.1).

As the PRSP notes, more attention needs to be given to forms of collective land management for which no system of titling currently exists under the Basic Agrarian Law No. 5. Furthermore, local com-

munities need to be more involved in spatial planning processes in order to secure a more just approach to forest management rights in Papua.

### Contested Decentralization

The legal uncertainty faced by rural Papuans has been exacerbated by an ongoing struggle between the provincial and central governments over powers to regulate customary rights in forest management despite the grant of special autonomy to Papua in 2001. Law 21 (2001) on Special Autonomy was a response to political unrest fuelled by land and resource conflict in Papua. The law devolves substantial powers to the provincial government to create, implement, and enforce its own laws. It mandates the province to increase the welfare of Papuan people through the recognition of customary rights and greater legal certainty for investment, (Article 38, paragraphs 1 and 2). It states that customary communities should have maximum opportunities to benefit from community-based economic development (Article 42, paragraph 4).

4. The Gubernatorial Decree SK 148, 2004. Concessionaires in Papua are required to pay timber royalties to local communities as a form of compensation. These are paid at a set rate per cubic meter extracted.

Implementation of special autonomy has, however, been plagued by national-level “foot-dragging” since its inception in 2001. In particular, delays in establishing the necessary legislative structures, including the Papuan People’s Council (MRP), have prevented the province from passing special regional regulations governing customary rights and natural resource management. It was only in December 2004 that the necessary implementing regulation for the establishment of the MRP was issued, and that work on other enabling special regulations was able to begin. In the meantime, the province remains subject to the central government’s interpretation of Law 41 (1999) on Forests. This has restricted the

province from effectively regulating customary rights in forests. Critically, the BPKH in Jakarta has not yet issued Implementing Regulations (PP) governing decentralization of the sector and customary rights under Articles 66 and 67 of Law 41 (1999). The ministry has also restricted local government powers to license logging operations, other than for local community subsistence needs. Customary community timber harvesting licenses (IPKMAs), issued by the provincial government of Papua in 2002 in response to growing social unrest, were declared illegal by the minister of forests in March 2005. The declaration effectively criminalized rural communities in Papua and left them in a legal vacuum (box 4.2).

## BOX 4.2

### Legal Conflict over Community Logging Rights

In 2002, the governor of Papua responded to the need to ensure that *adat* (customary rights) communities saw a fairer share of forest revenues, by granting rights for community logging (SK 522.2/3386/SET, 2002). The gubernatorial decree provided for small-scale community timber concessions, or *Ijin Pemungntan Kayu Masyarakat Adat* (IPKMA) of up to 1,000 hectares for a year. Under the governor’s decree, IPKMAs can only be issued to a cooperative (*Kopermas*) established by customary legal authorities (*Lembaga Masyarakat Hukum Adat*), as recognized by district heads or their partners (private companies or cooperatives).

In practice, the areas issued to these *Kopermas* were much too large for communities to log independently, and they had to rely on alliances with more heavily capitalized logging companies. Thus IPKMA licenses were “captured” by powerful timber syndicates, and local communities saw only trifling benefits from the arrangements.

In 2005, “The Last Frontier,” a report by the UK-based Environmental Investigation Agency, exposed the massive illegal exports of *merbau* stems from Papua to China. Responding to the EIA report, the Ministry of Forests in Jakarta declared IPKMAs in contravention of national forest law, leaving communities with no clear legal rights to the forests that they manage as customary owners. This was despite arguments that:

- (i) the licenses respected provisions of Forest Law 41 (1999) and related implementing regulations on customary rights
- (ii) the provincial authorities were in fact permitted to issue such licenses within the new legal arrangement on administrative decentralization and special autonomy for Papua
- (iii) the licenses were issued with the specific intent of tackling chronic rural poverty, and of giving a form of legal recognition to the claims of customary rights holders.

The subsequent crackdown targeted officials responsible for issuing IPKMA licensing, as well as communities in possession of them.

The withdrawal of IPKMA permits, without providing a viable legal alternative, was not an adequate solution. Instead, Papua province urgently needed support to improve community logging as one of the only options currently available to tackle endemic poverty and conflict. Rather than focusing on the legality of IPKMAs, law enforcement agencies should arguably have placed more emphasis on the capture and abuse of the IPKMA licensing system by local elites and timber syndicates, and worked with the province to establish adequate safeguards against this. Key individuals involved in these syndicates remain at large.

Source: DFID Multistakeholder Forestry Programme (2006).

## The Search for Social Justice and the Rule of Law: Converging Agendas

The Papuan Customary Council (DAP), as a representative of Papuan communities with strong democratic legitimacy, argues for "the right to a livelihood." At the heart of this is customary land tenure. The DAP is also calling for respect of fundamental human rights principles of participation, democratic accountability, equality, nondiscrimination, and the right to a voice in land-use decision making, e.g. for the renegotiation of designated forest boundaries and functions.

The Papuan branch of the APHI is equally concerned about obtaining legal certainty for its members. The association argues that the current refusal of the Ministry of Forests to recognize customary ownership within the national forest estate is hampering its ability to resolve

conflict. The association wants clarification of the powers of the province in forest management, recognition of customary tenure, and a better investment climate for sustainable forest management and local value-added processing.

Separately, the governor of Papua has called for certification of customary tenure to provide legal certainty for investors; more clarity over whom to compensate for natural resource exploitation and land-use change; and a better and legally more secure bargaining position for communities (speech of July 5, 2005, to the Ecoforestry Forum).

*Sources:* Personal communication, Maria Latumahina, DFID Multistakeholder Forestry Programme in Indonesia (MFP). July 2005.

## AN EMERGING CONSENSUS FOR POLICY REFORM

### The Coalition for Change

Ironically, failure to settle indigenous peoples' land claims has now begun to undermine the very investment that national forest laws have so far sought to secure by overriding customary tenure. According to the Papuan branch of the Association of Indonesian Forest Industries (APHI), the high cost of tackling escalating conflict is discouraging long-term investment in sustainable forest management and related value-adding local processing. Rural communities, industry, and the provincial authorities are, therefore, beginning to work toward a common cause (box 4.3). Rural Papuans want to own and manage their forests themselves, and industry wants less conflict. The withdrawal of community logging rights by the BPKH in March 2005 only served to galvanize this coalition of interests. The provincial government in Papua is prepared to meet demands both to increase welfare, and to create a more secure investment environment in Papua.

The Provincial Forestry Office has taken a leading role in spearheading dialogue with the central government in response to attempts to override its authority in the issuance of community logging

licenses, and in the face of strong pressure from customary representatives to grant local communities rights in forest management. Drawing on the results of the earlier research by the Provincial Forestry Office with community-level PRAs, they tabled a set of proposals on sector restructuring and community-based management.

Civil society and private-sector organizations have drawn on these proposals to strengthen their own advocacy. Through their constituencies, they have gained the political support of the Provincial Parliament and Commission IV of the National Parliament responsible for natural resources, as well as the attention of the president's office. By highlighting the withdrawal of IPKMA licensing rights as an example of the failure to implement special autonomy, they have made an explicit link between the resolution of community forest management rights and the future political stability of Papua.

While initially the BPKH offered no alternative to its suspension of IPKMAs, political pressure from Papuan stakeholders encouraged the ministry to engage more closely in identifying options for reform. On August 19, 2005, the minister mandated a joint task force of provincial and ministerial representatives to identify a workable alternative to IPKMA. Tasked with reporting back to the minister at the end of March 2006, this has constituted an

important opportunity for Papuan stakeholders to consolidate and promote their own agenda for forest-sector reform in the province.

## THE MULTISTAKEHOLDER POLICY AGENDA IN PAPUA

Papuan stakeholders are essentially calling for registration of collective title over clan territories by the National Land Agency. Since most of Papua's rural population depends on the rights and obligations that flow from customary tenure, there is a strong rationale for working with, as opposed to supplanting, customary land governance (box 4.4).

As steps toward this, Papuan stakeholders have identified three sets of priorities to achieve sustain-

able forest management and poverty reduction, which are:

- (i) a more just allocation of forest resources between communities and large-scale commercial concessionaires, including the allocation of areas for direct community management, based on participatory mapping of customary lands
- (ii) clarifying the rules for forest management, including more appropriate provision for small-scale community logging, and clearly defined rights and responsibilities with respect to compensation and community development in areas assigned to external investors
- (iii) institutional support, including recognition of customary and village-level decision-making

### BOX 4.4

#### Customary Land Tenure—A Viable Basis for Growth and Poverty Reduction?

The case for upholding customary land tenure, as opposed to private individual rights, lies in the ability of these systems to provide community members with secure access to farmland and natural resources, as well as an institutional framework to resolve disputes.

PRA work by the Provincial Forestry Office showed that, far from constituting open-access areas, customary territories in fact consist of nested rights and responsibilities at individual, family, clan, and tribal levels. These are defined in oral history and regularly reconfirmed in exchanges of goods between communities and individuals. Not only are such systems extremely resilient, but they are also highly flexible, allowing individuals to enjoy a wide range of primary and secondary rights that reflect and support diverse, risk-averse livelihood strategies.

Helen Hughes (2004), referring to Papua New Guinea argues that secure investment and business development require the supplanting of customary tenure by private individual titling. She believes that this will simplify arrangements for purchase and enable individuals to save and raise capital. This view has been opposed by Fingleton (2005), arguing that it could mean individual community members losing important land and resource entitlements that they

would otherwise have enjoyed. He shows how agricultural productivity in Papua New Guinea has increased under customary tenure, but declined where private titles have been issued.

Fingleton argues that customary land systems are sufficiently flexible to guarantee a flow of benefits to local communities, and that safeguards could be introduced through a two-tier registration system, with ownership accorded under group titles, and leases granted to individual users. This is likely the most viable option for future land registration in Indonesian Papua, whereby authority for determining and administering individual rights under a collective clan title would rest with customary institutions.

Community consultations by the Provincial Forestry Office in Indonesian Papua do, however, highlight some significant challenges facing customary tenure. Among others, customary institutions have in some places been weakened by previous attempts by government to dismantle traditional leadership. Processes to give legal recognition to customary tenure in Indonesian Papua will need to take careful account of such issues.

*Sources:* Field research carried out by the Provincial Forestry Office, with Adrian Wells and Gill Shepherd, 2004 and 2005; Hughes (2004), Fingleton (2005).

## Participatory Mapping—Staking Out Customary Management Space

A consortium of Papuan civil society and local government partners, with the support of the DFID MultiStakeholder Forestry Programme, have been working to map customary territories and land-use systems. The process has received technical support from the local planning unit of the BPKH. A new methodology for large-scale mapping, combining satellite imagery with ground-level sketch maps, has greatly increased the speed of the process, as well as the level of community participation.

In Jayapura, two participatory maps are now complete: Kemtuk (100,000 hectares) and Nambluong (57,000 hectares), and four more are in the pipeline. In Jayawijaya, mapping of the Lorentz National Park Buffer Zone has begun in the Baliem Valley, and will shortly be expanded to areas around Wamena, under the leadership of the District Forestry Office. The communities in these areas see participatory mapping as a political tool for protecting their social, economic, and cultural rights, and their customary territories. They also see it as a process leading to more participatory planning, and to fairer and more equitable compensation.

In Kemtuk and Nambluong, with mapping complete, the communities are eager to assess

the existing land-use and resource potential within their mapped territories for community-based forest management and external investment. They also wish to map the internal boundaries between clans within each customary territory, to provide a basis for benefit sharing. The communities also hope to assess potential land requirements 20 to 30 years into the future (to take account of population growth) and, if necessary, to make new agreements over the internal allocation of land and resources to anticipate future needs and avoid conflict.

In Jayawijaya, local stakeholders plan to evaluate existing land-use and resource potentials within mapped areas of the Lorentz National Park Buffer Zone. This will provide input to boundary negotiations and zonation of the national park. It will also enable local communities to make the case for small-scale community logging, as a component of the national park's management plan.

*Source:* Field research carried out by the Provincial Forestry Office, with Adrian Wells and Gill Shepherd, 2004 and 2005, funded by the DFID Multistakeholder Forestry Programme (MFP) in Indonesia and World Bank PROFOR.

structures; support to community economic institutions; stronger vertical integration between community-based producers and small- and medium-scale processing industries; and strengthening of the regulatory and service provision functions of local government.

### TOWARD A NEW WAY OF ALLOCATING FOREST RESOURCES

#### Recalculating Forest Potential

The Provincial Forestry Office is in the process of “recalculating forest potential.” This means optimizing the economic, environmental and social potential of individual forest management units (KPH) by judging the most positive, productive, and

noncontentious ways in which they might be used. The process of recalculating forest potential draws on participatory mapping and on the resource inventories of customary territories (box 4.5), and will work with customary land owners to distinguish those areas best suited to large-scale investment from those best managed by communities directly (e.g. for small-scale logging). It is a way of reconciling customary tenure with the forest land-use boundaries and management categories designated by government. For those areas assigned to large-scale investment, the process will also help clarify to whom investors must pay compensation in respect to underlying customary rights. Short of titling customary lands, an action which lies outside the remit of the Provincial Forestry Office, such a process gives practical recognition to indigenous tenure.

The need to recalculate forest potential is especially urgent given the lack of reliable data on commercial forest potential in the province. Planning decisions are currently based on satellite imagery and very limited ground estimation of standing timber volumes, but is very weak on other forest values (such as non-timber forest products (NTFPs) and environmental values). No account is taken of customary ownership or forest use for agriculture, hunting, forest foods, or sources of cash. This has led to complaints from industry that many concession areas (as currently designated) are uneconomic to log. Companies often struggle to meet projected cutting targets given lower-than-expected standing volumes and escalating conflict with local communities.

As a first step, the Provincial Forestry Office has undertaken a preliminary technical analysis of 69 timber concessions, some as large as 600,000 hectares. This proposes the excision of areas with limited potential for industrial timber extraction (e.g. due to steep terrain).<sup>5</sup> The Forest Office hopes to excise areas with greater potential for direct community management, subject to mapping and overlays of customary land use and ownership. This would leave more compact, economically viable units for future investment, while also securing management areas for local people.

The intention is to apply the same approach to other forest management categories, including conservation areas. To this end, the Forest Office's recent PRA assessments have begun to identify basic criteria for reallocation of forest boundaries. These include assessment of customary land use, which in some areas consists of clearly defined agricultural and forest-use zones, as well as the specific livelihood needs of vulnerable groups, including women and young, unmarried men (e.g. secure access to NTFPs and small-scale logging opportunities). Another criterion is the requirement to leave sufficient land in reserve for future agricultural expansion (in light of population growth and the growing importance of cash crops such as cocoa). These criteria will provide the basis for technical and implementing guidelines to support negotiated land-use planning.

5. Pemerintah Provinsi Papua Dinas Kehutanan, (2003) *Penyusunan Model Pembangunan Hutan Produksi Alam Provinsi Papua*, Pt. Alas Consultants.

## KPH as a Framework for Land Reallocation

The ministry has identified the allocation of KPH as a priority for the current administration. The establishment of KPH is specified in Article 17 of Law 41 (1999) on Forests, as well as in PP 34 (2002) on forest management (undergoing revision) and 44 (2004) on forest planning. The intention is to devolve management authority to the lowest possible level, and to intensify service provision to concessionaires and local communities within each management unit. The allocation of KPH must take into account ecological, social, and economic factors, as well as administrative boundaries and local communities.

The Provincial Forestry Office sees this as an important opportunity, as it provides the framework within which to systematically delineate areas for large-scale investment, conservation, and direct community management as distinct territorial units. Of particular relevance is the guidance to Article 17 of Law 41 (1999) on Forests. This envisages the development of separate community forestry management units (KPH-HKMs) within the national forest estate. These would constitute subunits within larger, watershed-based KPH.

Crucially, Law 41 (1999) conceives of KPH as organizations with responsibility for long-term management. In the context of KPH-HKMs, this has the potential to grant communities management authority commensurate with customary ownership. This is of major significance to communities in Papua who, so far, have been perceived as mere licensees on state land. The Provincial Forestry Office is therefore proposing the allocation of KPH-HKMs as distinct territorial entities, and as a possible replacements for one-year IPKMA. This offers a solution to two significant failures of the IPKMA licensing system. First, the lack of spatial criteria to guide the allocation of IPKMAs resulted in overlaps between community logging on the one hand, and large-scale investors and protected area authorities on the other. Instead, KPH-HKMs are based on the prior demarcation of areas best suited to community management. Second, whereas one-year IPKMAs offered no incentive for sustainable forest management, KPH-HKMs offer sufficient security for long-term investment.

To date, the BPKH has designated 77 KPH in Papua, which are based on key watersheds, and cover some 21 million hectares. However, no



attempt has been made within each unit to differentiate areas for direct community management from those for large-scale investment. Nor has the institutional mechanism for managing the units as yet been defined. The Papua Provincial Forestry Office intends to establish watershed management bodies for each of these KPH, to act as regulatory structures and service providers under local government authority. The Forestry Office proposes that these incorporate representatives of customary land groups to oversee land allocation, licensing, and company-community partnerships. Additionally, it proposes to subdivide each forest management unit into large- and small-scale territorial units for external investment and direct community management respectively, including for KPH-HKMs. This would build on the province's own preliminary assessment of 69 concession areas, as well as on the participatory mapping of customary territories and land use that has already taken place. Papua thus offers a practical vision of how a more equitable form of forest management unit land allocation (KPH) might operate in practice, whereas no clear concept yet exists at the ministerial level.

### **CLARIFYING THE RULES FOR FOREST MANAGEMENT RULES FOR KPH-HKMs**

A review of the IPKMA system by the Papua Forestry Office in 2004 concluded that there should be a stronger legal basis for community logging, and an improved model for community logging, including changes to the size of areas licensed, in order to allow for selective logging and rotation, as well as strengthened management criteria. During the course of PRA work with communities in Jayapura and Bintuni Bay, more specific improvements were identified that KPH-HKMs will need to address if they are to provide a workable alternative. These improvements include the need to specify management criteria for selective cutting by communities that factor in the existing customary regulations on forest management that bind community members internally, and that fit with government regulations. Preliminary assessment suggests that this would not be difficult.

Other improvements include the need to:

- Support customary institutions as a source of management authority. The successful licensing

of community logging will depend on institutional capacity building.

- Simplify administrative and technical licensing criteria for community logging licenses by eliminating the substantial upfront costs imposed on large concession companies (such as the requirement for a bank deposit, the need for applicants to cover the costs of initial surveys by government officials, and a highly complex management plan).
- Limit licensed areas and timber volumes to what local communities are capable of managing sustainably.
- Organize subsidies or access to credit to cover startup costs to prevent the capture of community logging systems by external syndicates.

Building on these suggestions, the Papua Provincial Forestry Office is developing possible scenarios for community logging under KPH-HKMs. Drawing on experience with portable sawmills in Papua New Guinea (PNG) and the Solomon Islands, (box 4.6), the Forestry Office envisages KPH-HKMs of up to 1,500 hectares, managed under cutting cycles of 30 hectares per year over 35 years. This is significantly less than the huge 1,000 hectare-per-year areas previously licensed as IPKMAs. However, further planning is needed to reconcile the extensive nature of “ecoforestry” in PNG and the Solomons, with the more intensive management objectives of the Indonesian selective cutting system (TPTI) as currently applied to production forest. “Ecoforestry” maintains standing timber volume by cutting below the mean annual increment in any one year. TPTI, in contrast, removes all standing volume of at least 50 centimeters in diameter within any one cutting block, which is then, in principle, left for 35 years or replanted with different species.

### **Rules for Large-Scale Investors**

Stakeholder discussions facilitated by the Provincial Forestry Office made it clear that the territorial separation of community and commercial management areas within large watershed-based management units (KPH) should not diminish customary rights. Customary land owners will therefore retain the right to participate in all decisions of the watershed management authority. Underlying customary tenure would therefore still be binding on areas assigned to large-scale investment. This will include

## A Scenario for a KPH-HKM

Assuming an average standing timber volume of 20 cubic meters per hectare of 50 centimeters and up, and the processing capacity of a portable Lucas mill at 1.2 cubic meters sawn timber per day, or 600 cubic meters of round logs per year, the Papua Forestry Office estimates that a KPH-HKM would support a harvesting rate of 200 trees, or 30 hectares, per year on a 35-year cutting cycle. This would require an area of 1,050 hectares, or 1,500 hectares (assuming a 70 percent effectiveness rate). In fact, Greenpeace

assumes that a financially viable community Lucas mill operation requires a minimum of 750 cubic meters of round wood, with an output of 3 to 5 cubic meters per day of operation. Nevertheless, this is still very manageable in contrast to the IPKMA system.

*Sources:* Presentation of the Papua Forestry Office head to the Minister of Forests, August 19, 2005. Personal communication Grant Rosoman and Patrick Anderson, Greenpeace. July 2005.

continued security of access for hunting and gathering (which cannot easily be replaced in livelihood terms), and compensation for resources extracted.

While current arrangements for the negotiation, delivery, and oversight of compensation and community development require a substantial overhaul, there is an emerging body of good practice to draw on that can help to shape future policy. For instance, the PT. Bintuni Utama Murni WI concession in Bintuni Bay is working with community leaders to develop a rotating scheme for distribution of benefits among villages. Equally, the proposed reallocation of forest lands will not diminish the rights of concession holders with valid licenses, and they will retain the right to refuse proposed changes to concession boundaries. In fact, the Papuan branch of the APHI is strongly supportive of the reallocation process.

## INSTITUTION BUILDING

### Strengthening the Role and Inclusiveness of Community Institutions

Customary authorities and their legitimate representative organizations at district and provincial levels have a vital role to play in establishing internal rules for conflict resolution and resource management, and in providing effective oversight of community economic activities. Support for the development of community economic institutions can be a useful means of revitalizing the role of customary

authorities. In this respect, the experience of the NGO *Yayasan Bina Adat Walesi* (YBAW) in the Baliem Valley, central highlands, has convinced the Provincial Forestry Office of the role of traditional leadership in mediating development processes, and of the potential for treating community-based land and forest management as an integral component of the management plan for the Lorentz National Park.

Reforms to forest management proposed by the Provincial Forestry Office do, however, envisage community institutional support at a scale greater than has hitherto been possible. The establishment of the Papuan Civil Society Support Foundation (PCSSF) in 2006, as an umbrella fund for delivery of small grants to community groups, is a major step forward. The intention is that the PCSSF will work as an intermediary in coordinating and channeling government and donor investment in community development and civic engagement, including through the development of community learning centers.

### Building Vertical Integration between Community Producers and the Private Sector

There is broad agreement in Papua that the forestry sector needs restructuring, and this goal aligns well with national-level policy on revitalizing the productive sectors (forestry, fisheries, and agriculture). Reallocating the forest estate between large-scale and community-based forest managers has implications for the scale and form of timber production.

With the support of the APhi, the Provincial Forestry Office hopes to link forest land reallocation with a comprehensive review of processing capacity within the province. This will aim to enhance sustainability and local value-adding capacity.

There are some complex issues to be addressed that arise from the fact that, whereas current industrial capacity is largely geared to exports, urban growth within Papua is almost entirely dependent on informal timber supplies from local communities. Large-scale industrial capacity will require substantial rationalization in order to be able to deliver a sustainable supply of raw material from redesignated concession areas. There will also need to be greater emphasis on linking KPH-HKMs with enhanced small- and medium-scale processing, targeting local markets. But linking KPH-HKMs with local business also demands adequate safeguards to prevent “capture” of community production by external interests, as in the past.

The PRA research work done by the Papua Provincial Forestry Office raised the need for binding legal agreements between community producers and private-sector partners, which would set out the rights and responsibilities of each party. However, the Forestry Office would need to be consulted before any such agreements could be legally concluded. Additionally, there is a need for the active involvement of customary institutions in facilitating and overseeing agreements.

## **Repositioning Government**

### ***Distribution of Roles and Responsibilities among Government Levels***

Restructuring the Papuan forestry sector involves a repositioning of government. The redesignation of KPH implies a transfer of key management functions to communities and to the private sector which, within the national forest estate, are currently regarded only as licensees. Devolving management functions to communities and the private sector requires government to play a more strategic role in policy setting and regulation, as well as in facilitation, service provision, and monitoring. This makes it all the more important that the distribution of regulatory and administrative authority for forests between central and regional governments in general, and under special autonomy in particular, is clarified.

Community-level consultations by the Papua Forestry Office also highlighted the need for a clear and consistent allocation of roles for support and monitoring of community-based forest management between the provincial and district levels. Finally, the macro-micro distribution of functions between province, districts, and the communities themselves remains poorly defined, and is significantly underresourced regarding service provision and monitoring. District governments need to develop more effective service delivery systems with communities, focusing on regulatory and policy frameworks for integrating community land-use systems and designated forest boundaries and functions.

### ***More Effective Service Delivery Systems at the District Level***

In practice, responsibility for participatory mapping and support to community logging systems will fall to the district level. This will require substantial resources, including funding and personnel. This could be achieved through reassignment of excess capacity within the Provincial Forestry Office to district forestry offices. This is currently being considered by the provincial forestry head. It will also require the district to play a more proactive role in community institutional strengthening, bringing it to a point where it is able to plan, manage, and engage with the government and the private sector. This entails working across sectors at the district level, linking forestry extension with delivery of other basic services, including infrastructure development, health, and education.

### ***Focusing on Policy Setting, Regulation, and Monitoring at the Provincial Level***

The province has been proactive in creating a policy framework for restructuring the Papuan forestry sector. The priorities for the Papua Forestry Office are now:

- to secure an enabling legal framework for these policy objectives, through support to the Provincial Parliament in formulating provincial regulations under special autonomy to regulate customary rights and resource management. Another priority is to work with the BPKH to clarify the devolution of management authority within the framework of KPH.

- to establish suitable criteria for forest allocation, licensing, management, company-community partnerships, and workable mechanisms for monitoring practices in the field. This could include piloting the allocation and management of new KPH.
- to develop guidelines and adequate resources for implementation by the districts; including (where possible) new budget lines under the Special Autonomy Fund, as well as fiscal reform of the forest sector to enable investment of Rehabilitation Funds and other forest-based income streams for key activities, including participatory mapping of customary lands.

This, in turn, will require the active involvement of other provincial-level institutions, including the Provincial Parliament. In addition to legislative functions, this body is responsible for public oversight of provincial executive agencies, and for ensuring that forest-sector revenues are adequately reinvested in service delivery to communities living in and near forest areas.

### *The BPKH as a Standard Setter*

Devolution of regulatory and administrative authority for forest management to the provincial government of Papua has important implications for the future role of the BPKH in Jakarta. A new focus on its function as a standard setter for sustainable forest management would include providing technical and financial support to regional governments in the application of criteria and indicators for forest management, as well as in forest mapping, monitoring, and verification.

## **ENABLING LEGISLATION**

The Provincial Forestry Office and other Papuan stakeholders are now hoping to secure a legal mandate to pursue the proposed reforms. Law 21 (2001) on Special Autonomy mandates the development of PP for the protection of indigenous rights and the economic empowerment of customary communities. Work has also begun on the development of a draft regulation on sustainable forest management based on customary law communities. In line with Law 21 (2001), this will constitute a special regional

regulation, or “Perdasus,” requiring the approval of Papua’s highest legislative body, the MRP.

The proposed special regulation on sustainable forest management translates relevant provisions of Law 41 (1999) on Forests into the special autonomy context. It mandates the redesignation of the forest estate, based on participatory mapping of customary territories, including the constitution of KPH-HKMs. These will vest rights and responsibilities in customary authorities as long-term forest managers. This will include the preparation of management plans, as well as oversight of small-scale logging operations. Safeguards are proposed to prevent external capture of KPH-HKMs, as happened with the previous system of one-year IPKMAs.

The draft regulation on sustainable forest management also contains a number of important guarantees of the rights of customary communities:

- First, it requires disclosure (including prior notice) of public decisions affecting land and resource allocation.
- Second, since there is currently no effective forest sector umpire in Papua, the special regulation mandates an ombudsman for investigation of public complaints, an independent auditor of forest-sector operations, as well as third-party arbitration.
- Third, in empowering customary owners as forest managers, the draft regulation mandates the creation of a forest management association composed of customary authorities, through which to channel technical support and capacity building.
- Finally, in a bid to enhance economic opportunities for customary communities in value-added processing, the proposed special regulation envisages a cap on log exports, as well as on large-scale processing capacity.

The proposed special regulation can, however, only regulate aspects of forest management that relate to provisions of Law 21 (2001) on Special Autonomy, on the protection and economic empowerment of customary law communities. In all other aspects of forest-sector planning and management, the regulation gives way to Law 41 (1999) on Forests, Law 32 (2004) on decentralization, and related implementing measures. The draft special regulation on sustainable forest management went

out for public consultation in May 2006. At the time of writing (August 2006), the draft had received the backing of the governor of Papua and is also being examined by the minister of forests regarding its compatibility with Law 41 (1999) on Forests.

## CONCLUSIONS AND THE FUTURE

Papuan stakeholders have developed a radical reform agenda within the forestry sector in response to years of conflict. The Provincial Forestry Office has been a key agent of change in defining the policy agenda for sector reform and in developing enabling legalization. Community-level consultations, funded by the DFID Multistakeholder Forestry Programme, and with additional technical assistance from the IUCN Commission on Ecosystem Management (CEM), proved to be an important catalyst in shaping proposed reforms. This support of central government (in particular the designation of a joint ministerial-provincial task force) in large part reflects the ability of Papuan civil society, as well as reformists within the provincial administration, to table technically credible alternatives to existing laws and policies governing forests. It also reflects their ability to mobilize the political support of powerful, constituency-based organizations with the potential to affect outcomes on the ground (e.g. the DAP, the Woodworkers Union (SP), and the APHI). The commitment in the PRSP for consistent application of the Basic Agrarian Law across all sectors can reinforce these reforms.

Crucially, this coalition of actors is beginning to overturn existing assumptions that indigenous land governance must necessarily be swept aside to facilitate growth. Instead, they have successfully argued that the demarcation and registration of customary tenure and land use is essential to poverty reduction, sustainable forest management, and a more secure investment environment. The support of the major logging companies demonstrates that corporate social responsibility (of growing importance in Papua) must necessarily extend beyond site-based management to corporate support for broader structural reforms.

The challenge now is to maintain this momentum, and to complete and implement the proposed special regional regulation on sustainable forest management based on customary law communities. The political will to do so ultimately depends on

continued pressure from local communities themselves. This requires legal rights education at the grassroots level, to raise awareness of the provisions of the special regulation and the opportunities it presents to secure local peoples' rights. Ongoing efforts by Papuan civil society groups to enhance transparency in public expenditure management are essential in securing these commitments.

Finally, the success of the proposed special regulation on sustainable forest management requires the continued support and engagement of the central government. This needs intensive facilitation in two important respects.

First, following the withdrawal of IPKMAs by the BPKH, the powers of the province to license community logging remain contested. This is currently the subject of intensive negotiations as the ministry works to revise the principal implementing regulation under Law 44 (1999) on Forests. Resolution of this issue requires continued advocacy on the part of Papuan civil society representatives, as well as efforts to build trust and reassurance in the capacity of the provincial administration. It may also require judicial interpretation of existing laws and regulations on forests, decentralization, and special autonomy, and how these may be read together.

Second, while the proposed special regional regulation mandates the mapping of customary territories, it cannot confer a title for land. Land administration remains under the authority of the National Land Agency (BPN), and the land register does not currently accommodate customary claims. The BPKH's Land Tenure Working Group is currently supporting efforts to secure legal recognition of customary maps in Genyem (Jayapura), but while this may be an important step toward registration of customary title, it does not provide the same level of security. Reforming the registration system means working beyond the BPKH to engage the National Land Agency, the National Land Commission, and National Parliament.

The agenda is ambitious, and the importance of continued dialogue between the central government and stakeholders on the ground highlights the need for long-term commitment. But failure comes at the cost of a growing sense of social and economic exclusion among rural communities, worsening political violence, and the certain knowledge that Papua's forests will be managed badly and will disappear with the rapidity of other forests in Indonesia.

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APPENDIX

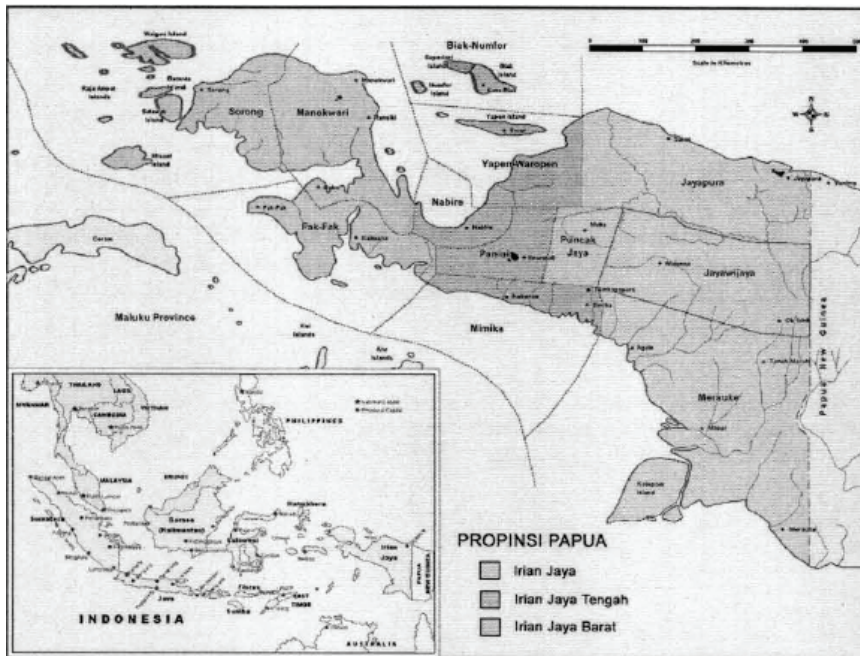
FIGURE 4A.1  
Indonesia



Source: Copyright MapQuest.com.

Note: The central government, including the Ministry of Forests and others, is located in the capital Jakarta, on Java. The main focus of this case study is Western Papua, at the extreme eastern end of the Indonesian archipelago.

FIGURE 4A.2  
West Papua



Source: Map taken from [www.papuaweb.org](http://www.papuaweb.org).

Note: The map shows Wamena in the highland Baliem Valley (Jayawijaya District), the coastal region of Jayapura at the extreme eastern end of the province, and Babo, Bintuni, near the neck of the Bird's Head western area, in Manokwari District.





## CHAPTER FIVE

# Summary of Case Study—Guinea

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### EXECUTIVE SUMMARY

Natural resources in general are major sources of wealth and power in West Africa.<sup>1</sup> Additionally, large percentages of people in such countries as Guinea continue to use trees and their products as important sources of fuel, medicine, food, and fodder. Forests can be important sources of products for domestic consumption and generation of income by the rural population. However, there are few data on how forests and their products contribute to improving the livelihoods of poor households.

This case study examines the importance of forestry and forest products in Guinea at two levels: first, in the country's Poverty Reduction Strategy Paper (PRSP) as well as its National Forest Program (NFP) and, second, in a number of rural villages in a preselected zone to determine the importance of forests to the livelihoods of local populations. The overall objectives of this and the several other case studies executed under the Program on Forests (PROFOR) are to demonstrate the importance of forests in improving the livelihoods of the rural poor and ultimately, through development of a PROFOR poverty toolkit, to facilitate appropriate

inclusion of forest-poverty linkages into PRSPs and poverty into NFPs.

Although the sample is small in this study, the results indicate that forests and forest products do provide a source of both income and nutrition, at different levels, for rural people and groups in the study zone, although the division of the flow of revenue or its use by the surveyed population is not clear. The study zone provides sufficient evidence that forests and forest products help sustain local livelihoods, but not enough (at least in this particular example) to "lift" people out of poverty. No specific "success stories" are identified (principally due to time and human resource constraints); however, examples exist in which forest products play a larger than normal role in alleviating poverty, even though they clearly do not serve as a driving force in this respect.

This study demonstrates that people's willingness and ability to involve themselves in forest management and production activities clearly is related to their need for forest products (whether for revenue or subsistence), as well as their access to, and the availability of, those resources. Other factors that determine the level of participation in forest management and collection of forest products include infrastructure, markets and market access, policies, and the ability to create sound and transparent enterprises.

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1. The original case study was prepared by Winrock International, including Chris Kopp and Boubacar Thiam, September 2005.

## INTRODUCTION

Interest is growing in the role that forests can play in alleviating poverty and reducing the vulnerability of the poor to household, economic, and environmental shocks. In particular, the importance of two policy instruments, PRSPs and NFPs, are considered to be effective means of promoting policies, programs, and projects that help poor families benefit more from forests. PRSPs have become the main mechanism for governments in least-developed countries and some middle-income countries for defining budget and policy priorities and discussing those priorities with the international community. NFPs play similar roles regarding forests.

To the extent that PRSPs fail to incorporate forest-related issues, these issues are unlikely to get the attention that they deserve in national efforts to reduce poverty and vulnerability. Several reviews of PRSPs and interim PRSPs to date have found that, although an increasing numbers of these papers refer to forests and forestry, these references tend to be rather superficial. Little analysis is undertaken on the role that forests currently play or could play in rural livelihoods, nor on the measures required to capture that potential. Efforts to monitor PRSP implementation have not reflected the full potential contribution of forests. No similar reviews have been done on the extent that NFPs have taken up issues related to poverty reduction; however, anecdotal evidence suggests that these aspects have also been weak in most NFP processes.

The overall objective of this case study for Guinea is to demonstrate the importance of forests to improving the livelihoods of the rural poor, and ultimately to facilitate appropriate inclusion of forest-poverty linkages into PRSPs and poverty into NFPs. Specifically, the principal contributions that forests and forest products make to the livelihoods (both subsistence needs and generation of income) of the local population in the survey zone (Sinçery-Oursa Classified Forest) are identified. In addition, the effects these benefits may have on conservation efforts and reducing rural poverty are considered, along with the constraints on local populations to increasing their dependence on and income from forests. This case study also will highlight the role that forests play in the PRSP for Guinea, and suggest areas for further improvement in integrating forests into the poverty agenda.

## BACKGROUND

Guinea, located in West Africa, is bounded on the north by Guinea-Bissau, Senegal, and Mali; on the east and southeast by Côte d'Ivoire; on the south by Liberia and Sierra Leone; and on the west by the Atlantic Ocean (figure 5.1). Covering an area of 245,857 square kilometers, the country's geography is generally flat along the coast and mountainous in the interior, with four geographic regions: a narrow coastal belt (Lower Guinea); the pastoral Fouta Djallon highlands (Middle Guinea); the northern savannah (Upper Guinea); and a southeastern rain forest region (Forest Guinea). The Niger, Gambia, and Senegal rivers are among the 22 West African rivers originating in Guinea, primarily in the Fouta Djallon highlands. Forest area (including savannas and woodlands) totals approximately 13,186,000 hectares, or roughly 53 percent of the total land area. A chain of eroded mountains running southeast and south from Senegal and Mali crosses the country toward Sierra Leone, Liberia, and Côte d'Ivoire. The northern part of this chain reaches an altitude of 1,500 meters in the Fouta Djallon Mountains in Guinea.

Guinea's principal rivers are the Bafing (the upper course of the Senegal) and the Gambia, both of which rise in the mountains of the Fouta Djallon and flow northeast. Many smaller rivers rise in the Fouta Djallon and descend to the coastal plain,

FIGURE 5.1  
Map of Guinea



Source: CIA Factbook.

where they divide into many branches. The Niger and its important tributary, the Milo River, originate in Upper Guinea.

According to the 2002 census, Guinea's population, including refugees (mainly from Liberia and Sierra Leone, and foreign residents (mostly Lebanese, French, and other Europeans), is 8,444,559. The population of Conakry is 2 million. The annual population growth rate is 3.5 percent. Guinea has four main ethnic groups, of which the Peuhl (Foula or Foulani), Malinké (or Mandingo), and several small groups (for example, Gerze, Toma) live in the forest region. Seven national languages are used extensively. Major written languages are French, Peuhl, and Arabic. See box 5.1 for more information on population characteristics in Guinea.

### Government, Political, and Economic Conditions

Guinea is a constitutional republic in which effective power is concentrated in a strong presidency. The president governs Guinea, assisted by his appointed council of civilian ministers. District-level leaders are elected, but the president appoints officials to all other levels of a highly centralized administration.

Richly endowed with minerals, Guinea possesses an estimated one-third of the world's proven reserves of bauxite, large reserves of high-grade iron ore, significant diamond and gold deposits, and

undetermined quantities of uranium. Guinea has considerable potential for investment and growth in the agricultural and fishing sectors, but Guinea's poorly developed infrastructure and rampant corruption continue to present obstacles to large-scale investment projects. Joint venture bauxite mining and alumina operations in northwest Guinea provide about 80 percent of Guinea's foreign exchange. The Guinean government adopted policies in the 1990s to return commercial activity to the private sector, promote investment, reduce the role of the state in the economy, and improve the administrative and judicial framework. However, corruption and favoritism, lack of long-term political stability, and lack of a transparent budgeting process continue to dampen foreign investor interest in major projects in Guinea.

In 2002, the IMF suspended Guinea's Poverty Reduction and Growth Facility because the government failed to meet key performance criteria. In reviews of this facility, the World Bank noted that Guinea met 100 percent of its goals on spending in targeted social priority sectors. However, this, together with spending on defense, contributed to a significant fiscal deficit. The loss of IMF funds and the pursuit of unsound macroeconomic policies have placed the nation's poor at greater risk. In 2003, the government spent more than 50 percent of its budget on military expenditures, while neglecting the country's infrastructure. Major roadways con-

#### BOX 5.1

### Population Characteristics of Guinea

<b>Religions:</b>	Muslim 85%, Christian 8%, and traditional beliefs 7%
<b>Languages:</b>	French (officially) and seven national languages
<b>Education:</b>	Eight years compulsory
<b>Enrollment:</b>	Primary school, 64.32% (male 78.71%, female 69.03%); secondary, 15%; and postsecondary, 3%
<b>Literacy:</b>	(Total population above age 15 who can read and write): 44.2% (male 58.74%, female 26.38%)
<b>Health:</b>	(Life expectancy for total population in 2002): 54 years
<b>Infant mortality rate:</b>	In 2002, 98/1,000
<b>Workforce:</b>	In 2002, 4.5 million, of which agriculture 76%, industry and commerce 18%, and services 6%

Source: Government of Guinea 2002.



necting the country's trade centers are in poor repair or nonexistent, slowing delivery of goods to local markets. Electricity and water shortages are frequent and sustained.

Inflation (the official rate) rose from 8.9 percent in 2002 to more than 15.4 percent in 2003. Climbing inflation, combined with the government's enforcement of price controls for certain commodities, have served to dampen interest in the private sector. Even stalwart foreign investors in the mining sector are hesitant about future investment.

Guinea ranks 157 of 175 countries in the world with respect to human development indicators, as listed in the United Nations Development Programme's 2003 Human Development Report. The agricultural and natural resource sectors, which currently employ 70 percent of the population and account for 40 percent of GDP, represent great potential for poverty reduction. Agriculture is the country's principal economic activity for both food and cash crops. The production system is characterized by subsistence agriculture and animal husbandry with very rudimentary agricultural practices. A large percentage of the population experiences food insecurity due to the limited means of production and poor crop yields, necessitating food imports. Additionally, of a cultivable land area of 7 million hectares, barely 16.7 percent is exploited. The sea and an abundance of rivers also afford Guinea a huge potential for a booming fishing industry. The fishing sector contributes considerably to job creation and supply of quality food (animal protein) for the population. The government's 2010 development strategy emphasizes reducing poverty through increased sustainable exploitation of these various subsectors.

### Forest Resources

Guinea is moderately forested, but much of the original forest has been cleared, and the current forest cover is comprised of a high proportion of secondary forest. The largest tracts of closed forest are moist evergreen forests in the southeast, characterized by species such as *Gunrea cedrata* and *Lovoa trichiliodes*. Remnant tracts of montane evergreen forests are found on the Fouta Djallon plateau, and semideciduous forests occur in riparian strips, especially along the banks of the Niger River. Mangroves and swamp forests occur near the coast, while savanna woodlands dominate Guinea's forest area. In the

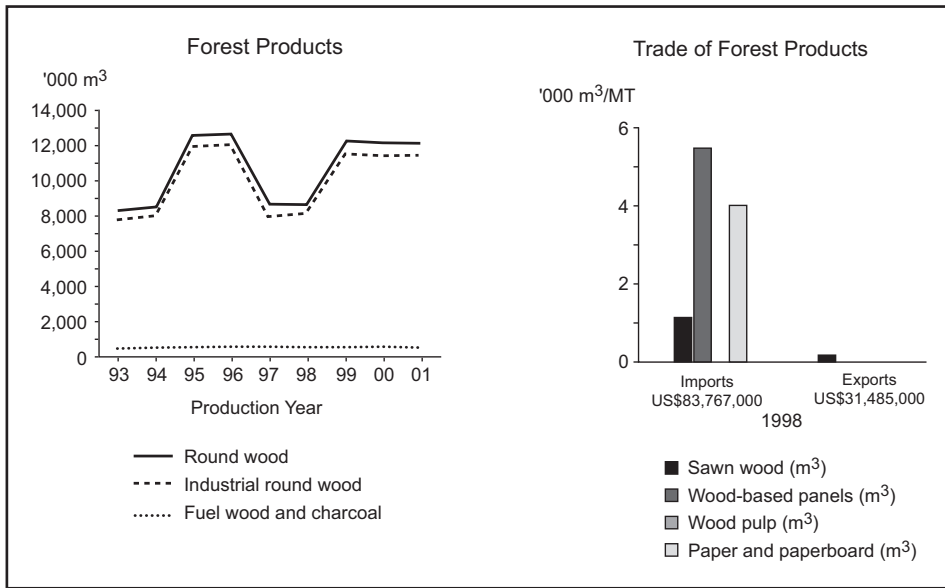
northeast, Sudanian savanna characterized by *Isoberlinia doka* is naturally predominant. In other areas of cleared forest, regenerated mosaic "parkland" is dominated by *Lophira lanceolata* and *Daniellia olivera*.

Guinea has 156 classified forests (forest reserves), covering approximately 1,186,611 hectares. It also has two national parks (Haut Niger with 54,000 hectares, and Niokolo-Badiar with 38,200 hectares) and two biosphere reserves (Reserves de la Biosphere Nimba and Massif du Ziama Biosphere Reserve). Most of Guinea's dense humid forests (situated at low and middle altitudes—that is, up to 1,500 meters in elevation—form parts of transboundary forests linked to Liberia and Côte d'Ivoire. The highest point in Guinea is Mount Nimba (1,752 meters), which is the site of the Nimba Biosphere Reserve, and where the three countries intersect. The forest-savanna zone represents the transition between savanna and forest proper. The closed forest is fragmented and disappearing as a result of bush fires and clearing. The deforestation rate is estimated at 30,000 hectares a year; the majority (26,000 hectares) occurs in the humid dense forest zone. Forest degradation is principally related to population pressure (compounded by the influx of refugees), clearing for agriculture, uncontrolled grazing, burning, and hunting. Illegal exploitation of timber and firewood is also a problem.

The National Directorate of Waters and Forests (Direction Nationale des Eaux et Forêts or DNEF) is legally responsible for managing all forests, national or otherwise, in Guinea. Although the French colonial regime classified most of these forests in the 1940s and 1950s, due to limited government resources they have received little active management. Many have become degraded due to years of wildlife poaching, uncontrolled animal grazing, and illegal encroachment. To stabilize and improve the condition of these forests, new management approaches are needed to ensure that they meet the national objectives of protecting watersheds and biological diversity, and providing needed forest resources. One of these approaches initiated in Guinea in 1992 is called "collaborative forest management" or "comanagement." The aim of comanagement is for the national government and local population to share the management responsibilities as well as benefits of the forest. These agreements resulted from five years of preparatory work, which included numerous studies of the forest, organiza-



**FIGURE 5.2**  
**Forest Products and Trade in Guinea**



Source: FAO 2003.

tion and training of local populations, preparation of a forest management plan, and a contract for implementing the plan. The U.S. Agency for International Development provided technical assistance, training, and other support needed to develop this pilot approach. Although originally protected to conserve forest resources for future exploitation, classified forests are now important reservoirs of biodiversity and environmental capital. Recent Winrock International initiatives in Guinea have promoted a collaborative management approach to managing classified forests. Seven classified forests totaling more than 100,000 hectares are now under comanagement schemes in Guinea.

### Forest Products and Trade

Guinea has significant hydropower, fish, and timber resources, but timber and other wood products constitute only about 1 percent of all exports. As such, the Guinean forestry sector does not serve as a major contributor to the country's export earnings. Timber and fuelwood, however, do play an extremely important role in Guinea's domestic market. The country produces sawn wood mainly for domestic use, as well as poles and posts for agricultural purposes. Moderate volumes of logs are exported by

Guinea, and modest quantities of wood and paper products are imported. Important non-wood forest products in Guinea include wild fruits, kola nuts, bush meat, and medicinal plants (especially chew sticks).

### Forest Policy and Legislative Framework

The establishment of the Second Republic (Guinea) in April 1984 led to a new awareness and recognition of the need for responsible natural resource management (NRM) (management of forest, wildlife, water, and soil resources).<sup>2</sup> By 1990, following the lead of other countries in the West African subregion, Guinea had developed a forestry policy reflecting the nation's attitude toward the future of its forestlands. Similar to efforts in other countries in the subregion, the DNEF attempted to transform itself from a "service of repression" to a service that works in collaboration with local populations. "Old school" military-trained forest guards are now rare, and many new forest agents have been trained in participatory methods.

2. Much of the information in this section is drawn from Fairhead and Leach (2003).

The new Forestry Code made provisions for devolution of forest control to Guinea's elected rural councils, in which a state forestry service representative supports each elected committee. In 1996, the ministry took a step further in permitting legal establishment of village woodlots and private forests. The national director of DNEF must sign a "dossier" of requests for establishing and managing these woodlots from the village group concerned. These groups are typically called *groupements forestiers* (or forestry groups). The dossier requires that those with specific customary tenure rights over parts of the forest are identified, have their forests mapped, and give their approval to transfer management rights to the concerned forestry group. The forest in question must be mapped and have a basic forest inventory and management plan, which shows a *zonation* to be agreed on in conjunction with the *chef de cantonnement forestière* (district forester). This typically would include priority zones for tree crops (such as coffee and oil palm), tree enrichment, water source protection, and timber exploitation. The *zonation* process also requires that the group create a management committee, which drives the process of formulating a village development plan that forest revenues can support. Before the plan is submitted to the national director for approval, prefectural representatives of many ministries must approve and sign it. Trees are the property of the group, and decisions to harvest them are made by the group management committee, although a formal request to the local forestry service is required. This will only be refused if it contravenes the previously approved forest management plan. Once a group has a permit, it can negotiate with a timber contractor to carry out the felling, and can use contractors who are not "approved" by the prefecture. Numerous donor-supported projects support creation of forestry groups, and to date the only groups created have been those that projects support. In particular, several projects within the huge Regional Niger River Basin Management Program, coordinated by the Organization of African Unity and funded by assorted donors, have promoted the approach within their areas of operation.

In carrying out its mandate with respect to promotion of sustainable NRM, and in line with the guiding principles of the nation's forestry policy, DNEF, operating under the aegis of the Ministry of Agriculture, is specifically charged with the following aims:

- Protecting and restoring soil fertility
- Conserving soil and water
- Controlling erosion and brush fires
- Protecting, managing, and restoring forests, parks, and reserves, and regulating their use
- Protecting wildlife and regulating hunting
- Promoting establishment and maintenance of greenbelt areas
- Conducting forestry experimentation programs
- Managing watersheds
- Combating the effects of drought and desertification
- Ensuring that the policing of forest areas to prevent brush fires and protect forest resources and wildlife

Guinea's forestry policy objectives are grounded in six underlying principles, namely:

- Ensuring the sustainability of its renewable natural resource heritage
- Protecting and managing areas set aside as permanent forestlands
- Employing "best practices" that yield record products and benefits for an indefinite period
- Bolstering and regulating all aspects of the harvesting, processing, and marketing of forest products
- Getting government, business, organizations, associations, and all local communities closely involved in forestry policy
- Ensuring the effective use of corresponding policy instruments.

In keeping with these policy guidelines, the government perceives forest management as an integral part of the incontrovertible need to utilize forest resources in furtherance of the national development process through sound resource management for the benefit of the public at large. In turn, this will provide essential goods, strengthen food security, supply business with capital goods, create jobs, protect the environment, ensure lasting biodiversity, and improve farming and living conditions.

### **Guinea's Forestry Action Plan**

The main objectives of Guinea's 1985 forestry action plan include the following:

- Safeguard and ensure the success of previous forestry-related activities.

- Strengthen the capabilities of the DNEF through restructuring, training, and manpower development efforts, and by improving the administration's technical skills and knowledge in this area.
- Clearly demonstrate the potential and interest of a well-coordinated, aggressive action program in the forestry sector in furtherance of the national development process.

The action plan places top priority on forest management, protecting and improving ecosystems in general and wildlife in particular, fire management, soil and water conservation, managed timber production, and non-wood product development. Other important activities identified include strengthening ties of cooperation between DNEF and other agencies and organizations and local skill-building efforts (drawing on community leaders and local traditions to involve local communities in NRM schemes.)

Guinea's forestry policy framework as outlined in the action plan includes the following:

- Effective inclusion of forest resources in land-use planning activities (protection of remnant closed forests, designation of large tracts of each of the country's four natural regions as forestland, fallow enrichment, and effective range management in rural areas)
- Implementation of measures designed to combat plant predators and land degradation (fire management, watershed protection, improved farming methods, and regulation of logging activities)
- Conservation of ecosystem resources and diversity (protection of plant and wildlife resources through regulatory measures, establishment and equipping of natural reserves and national parks, and so on)
- Ensuring the sustainability of the resource
- Protecting and managing areas set aside as permanent forestlands
- Employing "best practices"
- Improving and regulating all aspects of the harvesting, processing, and marketing of forest products
- Getting government, business, organizations, associations, and local communities closely involved in forestry policy
- Ensuring the effective use of corresponding policy instruments

## Guinea National Forest Fund

The resources of the Guinea National Forest Fund ("Fonds Forestier") are intended for development of the forest domain and to assist with implementation of the national forest policy. The first version of the forestry fund law, created in 1989 and decreed in 1993, states that the fund is to be a special account, endowed with accounting and budgetary autonomy. The fund consists of receipts from products that come from the exploitation of state forests, taxes and fees from application of the forest laws, fines and penalties, sale of confiscated items, net profits of public wood-processing enterprises, fees paid to the forest service for services rendered, and loans or donations from the state or international organizations.

The decree of 1993 is still in effect, pending issuance of a new decree under the 1999 law. The proposed changes include establishing a management committee for the fund, consisting of representatives from many ministries. This committee is supposed to approve internal rules and the fund's annual budget, and authorize entrance into contracts. Changes also include rules on how often the committee meets, powers of the officers, and voting. Issuing of rules governing the fund is the joint responsibility of the minister of forests and the minister of economy and finance. A special committee, with representatives of donors and the management committee, supervises the expenditure of funds from international sources.

## GUINEA'S PRSP

This PRSP (Government of Guinea 2002) was approved in January 2002. The main strengths of this PRSP are (i) its basis in Guinea's participatory and consultative processes, which have led to a genuinely country-owned strategy, (ii) its relatively thorough poverty diagnosis, despite the limited availability of recent data, and (iii) its comprehensiveness in that it focuses on accelerating growth, increasing access to basic services, improving governance, and strengthening institutional and human capacity as central priorities for poverty reduction. The three main focuses of the strategy are boosting economic growth, developing basic services and equitable access to such services, and improving governance and institutional and human capacity building.

In line with commitments undertaken in the interim PRSP in 2000, authorities executed a comprehensive plan for preparation of the full PRSP. To this end, the government established (i) an inter-ministerial committee chaired by the minister of economy and finance to oversee preparation of the PRSP, (ii) a permanent PRSP secretariat, and (iii) nine thematic groups. The nine thematic groups are (i) macroeconomic framework and growth-oriented sectors, (ii) private sector and employment, (iii) basic infrastructure, (iv) rural development and environment, (v) gender, population, and development, (vi) social sectors, (vii) governance, decentralization, and capacity building, (viii) communication and culture, and (ix) monitoring and evaluation (IDA and IMF 2002).

The implementation of the PRSP is to occur in three phases: Phase I (2001–03), Phase II (2004–07), and Phase III (2008–10). Phase I focused on measures for public enterprise reform; improving tax and budget policies, monetary policies, and reform of the financial system; subregional integration; improving basic services such as water, electricity, and transportation; and support for growth sectors: agriculture, mining, tourism, and craft industries. In an April 2004 report (Guinea 2004), medium-term overall goals were to increase incomes, reduce inflation, and improve health and education services. The ongoing civil conflict along Guinea's border with Liberia and Sierra Leone (2000–04) significantly affected the national budget, which resulted in an increased national budget deficit. Other factors such as increases in price of petroleum products and lower prices for bauxite and cotton also contributed to significant shortfalls in short-term PRSP objectives. In terms of infrastructure improvements, increases were realized in the energy sector, people's access to potable water, and improvements in transportation.

### **PRSP Development Process**

Regional grassroots consultations (group meetings and workshops) were held in March 2000 to obtain a better grasp of the concept of poverty. The participants in these consultations were chosen from the poorest and most vulnerable population groups, including women from rural areas and slums, dependent women, street children, unemployed graduates, the handicapped, people living on fixed incomes, and pensioners. Discussion topics includ-

ed how these population groups perceive poverty in their daily lives.

The concept of poverty encompasses vast life issues; some are quantitative in nature (income levels, for example), whereas others are essentially qualitative (access to basic services). Consultations revealed that these people perceive poverty in terms of lack of jobs and low income levels, limited access to basic social services (for example, education, health), poor quality of public services, exclusion of the handicapped, inadequate basic infrastructure, scant participation in decision making, and others. These perceptions of poverty have affected the approaches adopted for consideration and preparation of the PRSP.

Farmers in the subsistence food crop subsector appear to be the least well off. This group alone accounts for 68 percent of the poor. Farmers overall represent 61 percent of the population, but more than 80 percent of the poor. These results underscore the need to focus on development of the agricultural sector, and rural areas in general, in any undertaking intended to reduce poverty. According to the PRSP, the poor earn most of their income from agricultural work (almost 67 percent) and jobs in the informal sector. They devote nearly 62 percent of their household budget to food, and a marginal share to medical care and education of their children.

The overall objective of the strategy, as defined by the target population groups, is a significant and sustainable reduction in poverty in Guinea. The specific objectives underpinning this reduction of poverty stem from the leading concerns expressed during the grassroots consultation process. These include increasing incomes, improving health, increasing education, and generally improving the living conditions and prospects of the population, particularly the poorest people.

### **Inclusion of Forestry and Forestry Issues in the PRSP**

The inclusion of forestry and forestry issues in the PRSP falls under the theme of rural development and the environment. One of the key challenges for the PRSP's NRM and environmental strategy will be to make the best use of existing potential to improve living conditions, while ensuring the sustainability of the productive base. While successful economic development in Guinea must rely heavily on the

## PRSP NRM and Environment Strategy

*Overall Goal: Protect Guinea's Natural Potential*

### *Objectives*

- Protect water sources and reserves, catchment areas, soils, forests, and vegetation
- Promote sustainable participatory approaches to natural resource management

### *Activities/Strategies*

- Adopt laws and regulations, especially on environmental assessment, to establish benchmarks for environmental protection
- Establish monitoring systems to guide mining activities, protect coastal areas, and ensure sustainable use of forest resources
- Adopt and enforce a community-based management and protection plan for the Fouta Djallon region
- Develop natural resources
- Bolster cleanup operations
- Update and implement national environmental action plans
- Increase access to information regarding laws and regulations
- Increase access to information regarding the national environmental action plan
- Promote participation of local people in natural resource management
- Define benchmarks and develop tracking systems

*Source: Poverty Reduction Strategy Paper: Republic of Guinea, 2002.*

rural and mining sectors, more intensive activities in these sectors raise real questions about their impact on development potential, as well as on the environment. For example, farming methods and techniques, such as shifting cultivation, slash and burn, and hillside farming, already constitute a constant threat to the productive base.

The government's forestry policy must contend with many institutional and legal obstacles, including inadequate territorial, financial, and tax decentralization. A lack of implementing decrees for the Forestry Code means that the status of community and private forest holdings is still unclear under its provisions; there also is an unclear division of roles in managing and using forestry resources among general government entities exercising delegated authority, decentralized structures, and traditional institutions. Given these constraints, continued support and encouragement for these issues from the donor community is essential if progress is to be made in reforming forest sector policies.

*Ensuring the sustainability of the productive base.* Conservation of the productive base will be a constant concern in Guinea's development policy and will be present in all activities affecting natural

resources (see box 5.2). In light of the threats to Guinea's forestry resources, specific actions are planned to improve forest management, including promoting public participation in the creation, development, and management of community and private forests; promoting the emergence of private-sector players in the development of wood- and wood byproduct-processing plants; enhancing the reporting, inspection, and monitoring systems for the sector; and improving incentives through more lawful and efficient mobilization and use of revenues from forestry activities. With this in mind, the government's forestry policy is also intended to implement a financing mechanism that is adapted to the forestry production cycle; an efficient control and monitoring system for harvesting, processing, and marketing forestry resources and wild animals; and equitable distribution of forestry development actions and programs.

*Environmental protection.* The priority for environmental protection will be a nationwide program for inventorying and monitoring Guinea's natural environment, covering biodiversity and ecosystems, as well as Guinea's social and economic environment. Although no timetable is set, the government

will also launch a program to prevent and manage natural and manmade disasters. Environmental impact studies will be conducted for all major national projects, especially in the mining sector. Other important measures that public authorities will introduce include capacity building at the national environment directorate and setting up an environmental information and management system to establish benchmarks for monitoring the impact of new projects.

A review of the Joint Staff Advisory Note from August 2006 indicated a lack of explanation as to what has been achieved in forestry in the PRSP's second Annual Progress Report from January 2006.<sup>3</sup>

## INTRODUCTION TO THE CASE STUDY

### Research Area

The Sinćery-Oursa Classified Forest, located in central Guinea, and selected surrounding village communities was the area of focus for the case study (figure 5.3). The total surface area of the forest is 12,842 hectares.

Fifteen villages participated in the study, composed of either the Malinké or Peuhl ethnic groups, or a mixture of the two. The villages are for the most part located on the periphery of the forest and, depending on their location, their livelihoods more or less partially rely on the forest's resources. Some of the communities are actually located within the forest.

The Expanded Natural Resource Management Activity (ENRMA) began working in 2002 with DNEF and local populations inhabiting the periphery of the Sinćery-Oursa Classified Forest to develop a comanagement plan for the forest. The project and DNEF completed the management plan in 2003, which was later approved by U.S. Agency for International Development and the government of Guinea. The overall management goal of the plan is to promote sustainable economic development and alleviate poverty through responsible NRM, and to promote the regeneration of and protect the biodiversity within the classified forest. Three principal project activities currently occur within the forest: collection and transformation of the shea butter nut, limited agriculture activities, and creation of small

credit and savings institutions using monies collected from forest user groups.

### Social Organization

Like many villages throughout Guinea, village institutions in this area combine elements of modern and more traditional institutions.<sup>4</sup> Participating villages thus all have sector chiefs and district presidents who play an active role in administrative and social affairs. However, existence of these new administrative structures and officials has not diminished the importance of the "village chief" in Malinké villages. This is an inherited title held by the oldest male in the village or by the eldest male in the village's founding clan. The imam plays an especially important role in Peuhl villages. The *douti* in Malinké villages and the *jom leydi* in Peuhl villages also continue to play an active role in local social affairs. They are, for example, consulted on all matters involving access to land. Village elders or wise men also still play an important social role.

Ties among certain villages are closer than among others due to their geographic proximity and similar ethnic origin; however, most of the aforementioned villages and sectors are independent of surrounding villages and sectors. Peuhl villages, for example, are completely independent of Malinké villages, and have the same standing, despite the fact that they are the minority group in this region and tend to have settled in the area after their Malinké neighbors. The theft of livestock is becoming an increasingly serious problem due to the area's proximity to a large urban population center. As a result, herders are less and less inclined to send their animals off to graze in the Sinćery-Oursa Classified Forest.

A gender analysis of poverty (conducted during the PRSP process) demonstrated sizable disparities, to the disadvantage of women. Case study findings also indicate this trend in the study area. Women in agriculture have a workload ranging from 15 to 17 hours a day, and their work is made more onerous by a lack of tools, low degree of processing of food products, and distances to water points and sources of firewood. In addition, although they account for nearly 80 percent of the country's food crop production, women have only limited access to credit and land tenure.

3. Information added by editor.

4. This information is drawn from Winrock International/DNEF (2003).





ment, and use of forest resources. Assessments were made of levels of poverty and local people's perspectives on changes in livelihoods and impacts of activities on conservation of the forest. In general, a vision of those interviewed on the future status of the forest and the benefits of forest products was sought.

### Land Tenure Aspects

The majority of people interviewed for this case study said that they owned the land they are farming. Ownership is gained principally through clearing the land and farming it, but also through inheritance, borrowing, gifts, and purchase. These same interviewees also claimed that they own the trees that are found on their land and, therefore, can harvest them for their own personal use. For timber uses, however, even if the trees are on their farm, they need to pay a "harvest" tax (*permis de coupe*) to the local representative of the national forestry administration in order to cut the trees.

Local households have secure land tenure rights and farm their lands year after year, and are recognized and respected as the holders of these rights. Both women and men grow crops on fields outside the forest area. By marriage, women have access to part of the lands held by their husband's family. Both men and women produce crops for household consumption and, to a lesser extent, for market. In the majority of cases, men are in charge of marketing the crops; however, a good number of women also alluded to the importance of this activity as a source of income. The village *douti*, or land overseer, is consulted by villagers wishing to plant crops on a new parcel of land, for the settlement of land disputes, and by newcomers requesting permission to farm a parcel of village land. The *douti* has no control over lands already being farmed by local villagers, nor does he have the authority to redistribute village lands.

The study found no "forest dependents," that is, people who depend solely on the forest and its products as sources of sustenance and income, in the villages included in this case study. This is in comparison to "partially dependent" people who derive a greater portion of their income from agriculture, but might depend on the forest for certain products. Agriculture is clearly the major source of livelihoods and principal source of income.

Constraints to land and forestry codes are directly related to insufficient information and inadequate

dissemination of the codes to the rural population. Most of the respondents depend on local representatives of the forest service for this information or, where ENRMA was working, were informed via project personnel. Most respondents were aware to a degree of some of the basic regulations, such as avoiding cutting down certain species of trees when clearing land for farming (for example, *nééré* and shea nut), not cutting trees adjacent to streams or rivers, and avoiding burning agricultural fields (thereby lowering the opportunity of wild fires) in the dry season.

### Current Forest Use and Income Generation

#### Local Forest Use

The local population is engaged in a wide variety of agriculture- and forest-based activities, either in or around the classified forest. The main activities conducted inside the classified forest include farming, collecting honey, hunting, raising livestock, and harvesting bamboo, firewood, lumber, timber, lianas, fruits, shea nuts, carob beans, wild yams, straw, raffia fronds, and medicinal plants. Of these activities, respondents in 55 percent of the villages taking part in the research mentioned collecting honey, cutting bamboo, and hunting, whereas residents of 50 percent of the villages collected shea nuts, 32 percent harvested straw, and 27 percent harvested lianas. Respondents in 41 percent of the participating villages farmed a variety of different crops, and those in 32 percent of the villages raised livestock. Other activities were less common. According to the study data, the extraction of non-wood forest resources and farming clearly lead the list of activities conducted inside the forest. Harvesting of bamboo is unquestionably the most common activity based on the use of wood resources. Respondents in more than 70 percent of the villages alluded to the importance of this activity. Harvesting of bamboo is just as important for men from villages that are more distant from the classified forest, as for those forming the so-called "inner circle" around the classified forest, all of whom have with time stepped up their use of this forest resource.

Virtually all activities conducted inside the classified forest are also engaged in outside the forest area. Respondents mentioned at least one farming activity (i.e., involving an annual crop) in 91 percent of

the participating villages. The working of plantations and growing of vegetables are examples of other activities conducted in areas mainly outside the forest area. Harvesting of straw and collection of honey are activities respondents mentioned in 45 percent of the villages, and respondents mentioned collection of carob beans and a variety of other non-wood products, along with grazing, as important activities engaged in outside the forest area in 41 percent of the villages.

From a historical perspective, most local villagers felt that the use of many forest resources has increased dramatically with time, although this is not true in all cases, particularly hunting, collecting honey, harvesting of wild yams and carob beans, and raising livestock (the latter's importance has diminished in the past 50 years). On the other hand, the forest has become an increasingly important source of bamboo, firewood, timber, lumber, shea nuts, *Saba senegalensis*, dry grasses, and lianas. Farming of all types of crops has increased. Activities that all respondents most frequently mention as potential future income-producing activities are planting cashew, pineapple, avocado, cacao, banana, coffee, kola, coconut, mango, orange, lemon, and palm tree plantations, and growing calabash, ginger, cowpeas, potatoes, maize, and millet.

### **Principal Income-Generating Activities**

Survey results indicated that the principal income-generating activities in the study zone are agriculture and the sale of trees and other forest products. Other non-forest sources of income include herding, local commerce, arts and crafts (including handcrafts, blacksmithing, mortar making), and transportation.

*Agriculture.* Farming provides 40 to 75 percent of family income. Families and individuals with higher percentages of farming income have more land available for cultivation and plant crops with higher market value (that is, they may have more disposable income to purchase high-quality seed or have the means to store seed effectively). Harvested crops are used for family consumption and seed for the following year, and 15 to 30 percent are sold to cover basic necessities such as school fees, medicine, or farming expenses. The main agricultural crops in the study zone, as a percentage of total farming income, are peanuts (40 percent) and rice (30 percent), followed by corn, manioc, and other crops, at 10 percent each.

*Trees and Forest Products.* Villagers derive up to 25 to 30 percent of their income from collecting and selling forest products. Tables 5.1 and 5.2 summarize the survey findings. Additional information collected indicates potential income from other products found in the zone. Charcoal fabrication from local production methods can produce 10 bags of charcoal a month, which, at 3,000 GF per bag, generates 30,000 GF a month. Selling ten 25-kilogram bundles of firewood a month, at 1,000 GF per bundle, generates 10,000 GF a month. Mortar makers (*fabricants des mortiers*) can produce 10 mortars a month, which at 8,000 to 10,000 GF each, generates 80,000 to 100,000 GF a month. The income generated from forest product collection and sale is used in the same manner as income from agriculture.

In some villages, some employment opportunities exist in forestry such as forestry groups, shea butter, handcrafts, carpentry, and blacksmithing. Some villagers believe that fruit tree planting is an opportunity that should be encouraged. No formal forestry enterprises exist in the zone of the study. However, creation of informal community-based groups (for women, youth, and men) exist in many villages, most notably where donor-funded projects or local nongovernmental organizations encourage them. Forest products are generally sold in weekly markets, although no formal markets exist exclusively for forest products.

Outsiders have come to play an increasingly important role in the use of virtually all forest resources (except hunting). This is especially true regarding their share of firewood and timber resource use, harvesting of shea nuts, and collection of *Saba senegalensis*. Residents of one village maintain that outsiders have dramatically increased logging activities in the forest in the past 18 years. In almost every village surveyed, nonresidents do collect forest products such as *nééré*, shea nuts, bamboo, straw, timber, firewood, rope, and *Saba senegalensis*. These nonresidents are often from neighboring villages in the prefecture of Dabola and harvest these products for local consumption or sale.

Men and women tend to use natural resources differently, thus, it is not surprising to see men and women from the same village using different natural resources. For example, in Sincéry-Oursa, the main activities mentioned by males are collection of honey, harvesting of bamboo and lianas, hunting, livestock raising, and farming. Women, on the other hand, give top priority to collecting firewood and

TABLE 5.1

## Zone-Specific Forest Product Information: Collectors, Users, Uses, and Importance

Trees and forest products	Principal collectors	Principal users	Uses	Degree of importance
Timber	Men	Men	Roofing, furniture, and sale	Very important
Firewood	Men and women	Men and women	Firewood, charcoal, and sale	Very important
Wood for domestic use	Men	Men	Fencing and construction	Important
Shea nut	Women	Women	Family consumption, sale to purchase clothes, shoes, utensils, and drugs	Very important
<i>Parkia biglobosa</i> ( <i>nééré</i> ) seeds commonly a source of protein (West Africa)	Youth/men	Women	Family consumption, sale to purchase clothes, shoes, and utensils	Very Important
Straw ( <i>paille</i> )	Men	Men	Roofing	Important
Bamboo	Men	Men	Roofing and fencing	Very important
Rope ( <i>corde</i> )	Men and women	Men and women	Roofing and fencing	Important
Honey	Men	Men and women	Family consumption and sale	Very important
<i>Saba senegalensis madd</i> , a type of fruit commonly found in West Africa)	Youth	Youth, women, men	Family consumption and sale to purchase personal items	Very Important
Raffia	Men	Men	Construction of wooden beds and desks	Important
Pharmacy/medicines (includes leaves, bark, roots, and so on)	Men, women	Men, women	Medicines	Important

Source: Authors' compilation.

TABLE 5.2

## Income from Selected Forest Products

	Percentage	Quantity produced		Annual income (GF)	
		Minimum	Maximum	Minimum	Maximum
Shea butter	40–65	10 liters	50 liters	85,000	125
<i>Néré</i>	10–25	10 kg	20 kg	8,000	30,000
<i>Saba senegalensis</i>	10–25	7 bags	15 bags <sup>a</sup>	90,000	140

Source: Authors' compilation.

a. 50 kg each.

## Guinea: Obstacles to Private Sector Development

“This situation (*Lack of private sector development initiative*) means that the main obstacles to growth and a substantial reduction in poverty still have to be overcome. Part of the problem stems from the difficulties encountered in: (i) restoring a public service ethic conducive to private sector development, (ii) strengthening the administrative and legal environment, which is a prerequisite for a flourishing private sector, (iii)

improving basic infrastructures, (iv) enhancing the effectiveness of support bodies such as chambers of commerce, industry, and agriculture; employers’ associations; the Private Investment Promotion Board; and the financial system, and (v) ensuring access to information and closer consultation between the central government and the private sector.”

Source: Government of Guinea 2002.

gathering wild plant foods, particularly shea nuts. The use of these resources in income-producing activities is more numerous (28 percent) for men than those engaged in by women (15 percent), and clearly reflect the differences in their use of forest resources. Male respondents most frequently cut bamboo, collect honey, and farm various types of crops, in that order. Both men and women harvest fruit from the principal fruit trees found in the zone—mango and orange trees. About one-third of the fruit is consumed by families and two-thirds is sold. In one season, the average fruit tree owner can make up to 20,000 GF from the sale of these products.

Selected forest products are subject to taxation by DNEF; however, the tax “capture” rate is fairly low given the inability of the undermanned DNEF to cover the large expanse of rural area adequately. Forest products that are subject to taxes include charcoal, mortar, firewood for sale, and timber for sale. Forest products not subject to taxes include the following: *nééré*, straw, shea butter, *Saba senegalensis*, and bamboo.

### *Perceptions of Wealth and Poverty*

The survey’s findings indicated that respondents define levels of wealth and poverty according to different characteristics (table A5.1, see appendix). In one of the villages surveyed, the poor define poverty as the incapacity to meet needs as the wealthy people do. Respondents also mentioned that the poor are poor because God wants it. In the villages, the poor were considered to comprise 50 to 65 percent of the population. The poor feel they could change their status by sending their children to school to help

them out of poverty, gaining better health to be able to work, gaining access to adequate means of production such as improved seed and tools, and gaining access to farmland for rice production.

## CONCLUSIONS

- As might be expected, the economy is based on agriculture, which is the principal driving force for revenue flows back to the communities. Depending on access to inputs and agricultural land, this can amount to as much as 75 percent of revenue flows. Around 25 percent of total income derives from the collection and sale of forest products—a significant percentage of total household income.
- Except for donor-funded forestry and NRM projects, local people generally do not have the opportunity to participate in land-use or forest management planning exercises. Although a variety of factors contribute to this constraint, DNEF (as well as other government services) is generally extremely underfunded and understaffed, and cannot regularly visit and enlist the population in participatory forestry activities such as land-use planning. Aside from assignments to donor-supported projects with funding for supporting selected rural populations, DNEF field staff have little opportunity to collaborate with rural landholders on a regular basis.
- People’s willingness and ability to involve themselves in forest management and production activities is clearly directly related to their need for forest products, as well as the access and avail-

ability of these resources. Other factors that play determinant roles in the level of participation in forest management and forest products include: (i) infrastructure, markets and market access, policies, and the ability to create sound and transparent enterprises, (ii) factors that inhibit increased forest product harvest and marketing, (iii) lack of governmental services and low private sector involvement, (iv) no formal markets, lack of market information, and no intermediate agents, (v) poor infrastructure and transportation services, and (vi) the fact that people need to make money or obtain other clear benefits from natural forests or plantations to maintain them.

- Current practices, the legal framework, and safeguards for the extraction and sale of non-timber forest products (NTFPs) and timber must be understood to determine if changes are needed to ensure legally and socially defensible buying and selling relationships. Experience shows that it does not matter if good management practices are instituted and the right products are being removed in a sustainable manner; if a viable commercial system is not in place or lacks credibility and safeguards, people will lose the incentive to participate.
- In general, local populations in the study zone are poorly informed of their rights of access to land and resources (at least through formal governmental structures).
- The study revealed no developed formal markets, difficult market access, and no formal organizations in the study area. Much of the trade was very informal.
- Although the results of this study do not definitively conclude that forests and their products serve as a driving force to alleviating poverty in the study area, they do reveal that forest products provide an important source of income and nutrition to the majority of people interviewed. One question not resolved here: if they did not collect forest products, would they be worse off? The assumption that sale of selected forest products does provide significant societal benefits can probably be made in some instances. The divi-

sion of the flow of revenue or the use of this revenue (from the sale of the forest products) in the surveyed population was also not clear. Did it merely augment their income? Were they able to use it to pay for items such as clothes, school fees, house building—or things that are beyond the basic necessities of life? The study did demonstrate that, where forest products were available, individuals and informal groups did generate revenue or consumed the products themselves.

## RECOMMENDATIONS FOR PRSP PROCESS

While the importance of protecting the natural resource base is outlined in the PRSP of Guinea, it is not clear from recent reports what has actually been achieved in the forestry area (Guinea 2006).<sup>5</sup> Furthermore, despite the importance of forests to rural people, their potential as a means for economic development in rural areas is not emphasized in the PRSP. To get forests and forest products on the poverty agenda of West African countries such as Guinea, more specific planning is needed. For example:

- Improvements are needed in the capacity of the national forest service to collaborate with rural villagers to manage their natural resources in a sustainable and economically beneficial fashion. As part of the PRSP process, investment in capacity building and material support for the national forest service and local people is essential.
- Policy reform at the national level should facilitate and encourage not only NRM, but promote private sector development and facilitate and strengthen markets for those resources, and increase access to profitable markets by improving infrastructure and market networks and providing market incentives to local producers.
- An enabling environment should be created for development of user groups that are transparent and have the necessary organizational and technical skills to participate effectively in NRM and marketing of their products.

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5. Information added by editor.



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## APPENDIX

TABLE A5.1  
Wealth Ranking and Definition of Poverty

Categories	Characteristics	Percentage of the category within the population
Rich	<ul style="list-style-type: none"> <li>■ Has good land for farming (1–6 ha) and makes a good harvest (e.g., 30–40 bags per year of rice, 4–6 bags of corn, and/or 25–30 bags of peanuts)</li> <li>■ Has food during 12 months of the year to feed family</li> <li>■ Has 10–50 domestic animals (cows, sheep, and/or goats)</li> <li>■ Has big family (1–4 wives and many children) as labor</li> <li>■ Has means of transportation (motorcycle or bike)</li> <li>■ Is healthy</li> <li>■ Has a concrete house</li> <li>■ Is able to pay school fees for children</li> <li>■ Can afford to buy medicine for family</li> <li>■ Has many internal and external interpersonal relationships</li> </ul>	5–10
Middle rich	<ul style="list-style-type: none"> <li>■ Has at least 2 ha of land</li> <li>■ Has one wife</li> <li>■ Has food for most of the time in a year</li> <li>■ Has a few domestic animals</li> <li>■ Does not have a means of transportation</li> <li>■ Cannot cover all the school fees for children</li> <li>■ Cannot afford to buy drugs for family</li> <li>■ Does not have any savings</li> </ul>	20–35
Poor	<ul style="list-style-type: none"> <li>■ Has someone who is sick in family</li> <li>■ Does not have enough food on daily basis</li> <li>■ Barely meets needs</li> <li>■ Does not own land</li> <li>■ Is illiterate</li> <li>■ Does not have any interpersonal relationships</li> <li>■ Does not have a wife</li> <li>■ Lacks courage and initiatives</li> </ul>	50–65
Chronic poor	<ul style="list-style-type: none"> <li>■ Has someone in family who is mentally ill or blind</li> <li>■ Has no possessions</li> <li>■ Depends on other people to live</li> <li>■ Lacks motivation</li> <li>■ Is handicapped</li> <li>■ Is leprous</li> </ul>	10–40

Source: Authors' compilation.



## CHAPTER SIX

# Summary of Case Study—Lao PDR

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### EXECUTIVE SUMMARY

Properly planned and executed interventions in the management and marketing of non-timber forest products (NTFPs) by forest-dependent communities in the Lao People's Democratic Republic can simultaneously reduce poverty and assist in the conservation of forest biodiversity.<sup>1</sup> Evidence of significant and sustained improvements in rural livelihoods arising from such NTFP-related interventions has been seen in several pilot villages in Oudomxai province in northern Lao PDR. In these cases, the NTFP interventions that stimulated these changes were facilitated by an integrated conservation and development project that concentrated its field work in 12 pilot villages. Even more interesting and significant is the extent to which successes at pilot sites were replicated locally by others (scaling sideways), and the degree to which the project influenced the way rural development is pursued nationally, through improved policies and programs in the forest sector (scaling upwards).

Local replication and improved forest sector policies and programs are very important for a country like Lao PDR, where 80 percent of the population lives in more than 10,000 villages and has

rural livelihoods that are highly dependent on the use of tree and forest resources, especially NTFPs. The study investigated to what extent, how, and why the following interventions undertaken by the National Agriculture and Forestry Research Institute/The World Conservation Union (NAFRI/IUCN) NTFP project at Ban Nampheng were replicated elsewhere. These include:

- rice banks to address food insecurity that drives overexploitation of NTFP resources
- forest land allocation and planning for sustainable NTFP use and management
- NTFP marketing groups and a village development fund created by a local tax on sales
- NTFP processing and grading
- domestication of NTFP species with high market demand

Most of these NTFP-related interventions undertaken at the pilot villages are now found to some extent across the whole country, being spread by a large number of development assistance projects. The most effective means of spreading the ideas to other development projects has been the movement of staff who worked at pilot villages, who either move to other new projects or into influential positions in the government of Lao. The study also found that local replication was happening outside of government and nongovernment development projects for a variety of reasons.

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1. Original case study prepared by Andrew W. Ingles, Sounthone Kethpanh, Andy S. Inglis, and Khamphay Manivong, IUCN, June 2006.

A major finding of the scaling upwards study is that it is a project's perceived success at the local level, and to some extent the visibility of the sideways spread of some interventions, which leads to serious national recognition. The involvement of division and departmental directors in NAFRI/IUCN project activities facilitated the flow and exchange of project outcomes during and after the life of the project. This created a lasting impact on national policy as they were the key people involved in drafting subsequent sector policy and strategy papers.

Some key recommendations for follow-up action by various actors in Lao PDR are provided in the interest of enhancing the impact of past NTFP development experience. A number of suggestions are also provided that, while relevant to Lao PDR, are also of relevance to the scaling upwards and sideways of similar forest-based livelihood interventions outside of the country. The role of forests in Lao PDR's Poverty Reduction Strategy Paper (PRSP) is also considered, providing a backdrop for the recommendations.

## INTRODUCTION

The forests of Lao PDR are one of few potential sources of sustainable economic growth for the country. A relatively large amount of remaining forest resources and the high level of forest dependence by local communities, coupled with the extent of rural poverty in Lao PDR, present unique opportunities and challenges to combine forestry with poverty alleviation approaches to help meet national development goals. (Morris et al. 2004)

From 1995 to 2001, IUCN and the NAFRI of Lao PDR, with funding from the government of the Netherlands, implemented a project to promote the sustainable use of NTFPs. The project had the dual aims of improving rural livelihoods and conserving forest biodiversity. Pilot sites were selected and used by the project to learn about and demonstrate forest-based livelihood interventions that would help achieve these aims. It was envisaged that successes at the pilot sites could be replicated locally by others, and that the project's lessons would have a positive influence on the way development is pursued nationally, through improved policies and programs in the forest sector. *Any local replication of interven-*

*tions would represent a **scaling sideways** of the project's impacts; and, a positive influence on development policy within the forest sector would represent a **scaling upwards** of the project's work.*

While the project's lessons and its impacts at pilot sites have been assessed and documented previously, the extent to which the project's work has been scaled sideways and upwards has not been investigated until now. This report presents the findings of a rapid assessment of the nature and extent of such scaling sideways and upwards. The assessment was undertaken between December 2005 and April 2006, approximately 10 years after the project began work in pilot sites, and four years after the project ceased operations. The aim of the assessment was to identify factors that determine how lessons learned from development interventions involving forest-based livelihoods are adopted into national policy frameworks or locally replicated at sites in Lao PDR outside the project area. Additionally, information on the role of forests in the PRSP of Lao PDR is also included.<sup>2</sup>

The following sections provide some background information about the role of NTFPs in rural livelihoods, the NTFP project, and its impact at one of the pilot sites (that is, "ground zero" for measuring sideways scaling). This is followed by an outline of the study and presentation of its findings. Some recommendations relevant to enhancing the impacts of projects through scaling sideways and upwards mechanisms are offered in the final section.

## BACKGROUND

### The Relevance of NTFPs to Rural Livelihoods and Forest Conservation in Lao PDR

Despite the economic growth achieved over the last 15 years, Lao PDR remains one of the poorest countries in the world, having the fifth-lowest Human Development Index in Asia (Emerton 2005). It is also one of the least densely populated countries in the region, but the predominantly rural population is growing rapidly and having an increasing impact on its natural resource base. It has been estimated that although some 46 percent of the original forests

2. Information on the PRSP was inserted by editor.

of Lao PDR remained in the year 2000 (ICEM 2003), only about 2 percent of the original forest cover was relatively undisturbed and large enough to contain its original biodiversity (Lamb and Gilmour 2002).

Forest loss and degradation continues mainly through land conversions caused by infrastructure development and agricultural encroachment, unsustainable forms of shifting cultivation, overexploitation of forest products, overgrazing, and misuse of fire (World Bank et al. 2001). This presents a problem for both rural development and forest conservation.

About 5 million people, or 80 percent of the population in Lao PDR, live rural livelihoods, within which NTFPs<sup>3</sup> play a significant role in food security, income generation, and provision of numerous other nonfood and noncash inputs to households. After rice, wild forest foods dominate the daily diet. More than 450 edible species have been identified, and collectively they provide the bulk of animal protein, leafy green vegetables, and micronutrient intake of rural households (Clendon 2001; Foppes and Kethpanh 2000a, 2000b, 2004; WFP 2004). In remote upland areas, households commonly experience rice shortages for up to three months. NTFPs provide food security either through direct consumption or their barter or sale to obtain rice. The “safety net” function of NTFPs is even more important in bad times when crops fail or are destroyed.

The World Food Programme (WFP) of the United Nations first undertook a nationwide survey of forest-based food security in 2004 (WFP 2004). It found that all villages in the country had some dependency on forests for food, and about 41 percent were dependent on food obtained from forests within and around Lao PDR’s national system of protected areas. More significantly, 24 percent of all villages were found to be dependent on forest foods, but only have access to mostly degraded forests, and as a result suffer from food insecurity (WFP 2004). The WFP says these villages require a priority intervention in food aid as a result of declining forest resources.

The government of Lao PDR has set aside 12 percent of the country’s land area (30,000 square kilometers) as National Biodiversity Conservation Areas

3. The term NTFPs is used in its broadest sense to include all non-timber products collected from forested landscapes, including closed and open forests, individual trees, tree plantations, shrub lands, regrowth from shifting cultivation, wetlands, and other freshwater habitats.

(NBCAs) within a national system of protected areas. These protected areas are shown on the map presented in figure 6.1, and represent the cornerstone of forest conservation strategies in Lao PDR. There is a clear overlap of food security concerns and forest conservation interests in nearly half of all the villages.

In such villages, NTFP sales commonly generate about 50 percent of cash income to households (Foppes and Kethpanh 2000a, 2000b, 2004; Ingles et al. 1999; Morris et al. 2004). These sales are very important because they allow the purchase of goods and services in situations where there are few alternative income sources. In addition to food and cash, NTFPs also directly provide fuel wood, medicine, building materials, tools, handicrafts, fibers, resins, and dyes used in the subsistence-oriented livelihoods commonly found in Lao PDR. The total economic value of NTFPs consumed or sold by households is considerable.

In one study undertaken in the poorest district of the poorest province of Lao PDR, total NTFP use was estimated to be worth an average of US\$313 per household per year in a province where the average per-capita GDP is a mere US\$204 per annum. NTFPs were found to contribute one-third of the household economy; almost all energy, medicinal, and building needs; 80 percent of (non-rice) food consumption by weight; and 30 to 50 percent of all protein types (Emerton 2005).

Nationwide, it has been found that the dependency on forests for domestic consumption and income-generation purposes is highest for the poorest households, and of greatest importance to women because they dominate (non-hunting) collection and management of NTFPs (Foppes and Kethpanh 2000a, 2000b; Ingles et al. 1999; Broekhoven, 2002; Morris et al. 2004). At the national level, forest products, including timber and NTFPs, have played an important role in export and foreign exchange earnings. Broekhoven (2002) reported that between 1994 and 1998, NTFPs contributed between 13 percent and 49 percent—or an average of 28 percent or \$90.2 million—of total exports. Variation is mainly due to the volume of NTFPs exported in different years, which rose as high as 50 percent of total forest exports in 1995 and 1996.

In addition to the official records, there is a significant informal or illegal (and hence unregistered) export of NTFPs within the region that has yet to be

FIGURE 6.1  
Forest Food Security and Forested Protected Areas in Lao PDR



Source: WFP 2004.

quantified comprehensively. However, the value of the wildlife trade alone is substantial. An estimate of the value of wildlife traded along one road going into Vietnam in 2000 came to a total annual value of US\$11.8 million at Chinese wholesale prices

(Broekhoven 2002). It is believed that shipments of wildlife products may have increased in value in recent years, and that a large part of the internal trade in wildlife meat is not for subsistence, as is often assumed (Nooren and Claridge 2001).

**POVERTY AND FORESTS LINKAGES**



## LAO PDR'S PRSP: NATIONAL GROWTH AND POVERTY ERADICATION STRATEGY<sup>4</sup>

Lao PDR's National Growth and Poverty Eradication Strategy (NGPES) is the first full poverty reduction strategy prepared by the government. The strategy builds on a number of government documents, including the Interim PRSP (I-PRSP), approved by the government in March 2001, and followed by the National Poverty Eradication Program (NPEP), which was developed through a participatory process with full ownership of the government. The NPEP was reviewed and upgraded to become the NGPES, and was approved by the National Assembly in February 2004. It was transmitted to the World Bank and IMF in September 2004.

The process of preparing the NGPES was led by the government. The NGPES committee formed to oversee the process drew membership from key ministries and agencies and representatives from several mass organizations. The government implemented a Participation Action Plan supported by the UNDP and other donors during the NGPES process. In addition, there have been intensive consultations with donor partners, civil society, and the private sector. In addition to consultation with official mass organizations, such as the Lao Women's Union, discussions were held with the private sector, academics, and provincial representatives. As the next Five-Year Plan is being prepared, it is recognized that further efforts are needed to increase participation of all stakeholders in the NGPES process.

The three pillars of the strategy aim at: (i) fostering economic growth with equity; (ii) developing and modernizing Lao PDR's social and economic infrastructure; and (iii) enhancing human resource development. Prudent monetary and fiscal policies, combined with broad-based structural reforms to promote private sector-led development, are viewed as key to achieving the government's economic goals. The government also emphasizes the importance of rural infrastructure to achieving the goals of the NGPES. A large part of the country is rural, and the rural poor constitute the majority of the country's poor. The NGPES puts high priority on the need to tackle issues of equity, for example, between upland and lowland rural communities. The NGPES

also outlines the issues associated with reaching the long-term goal of establishing a nationwide land administration system and providing secure tenure to all eligible land holdings. The government's strategy for enhancing human development is comprehensive, and the NGPES contains a strong agenda for improving education.

The five areas of priority for the government are to: (i) sustain growth and ensure macro-fiscal sustainability; (ii) strengthen public financial management and governance; (iii) improve social outcomes and reduce vulnerability; (iv) strengthen natural resource and environmental management; and (v) build capacity for implementing and monitoring the NGPES.

### THE ROLE OF FORESTS IN THE PRSP

The government is committed to reversing deforestation and to achieving 60 percent forest coverage by 2020. To achieve that, the management of forests needs to be strengthened to deal with such issues as a lack of an integrated land and forest management system, insufficient law enforcement, weak institutional capacity, and the lack of funds and resources. The government strives to implement the following measures to alleviate poverty and to ensure more sustainable management of Lao forests:

- enhancing village-based natural resource management for poverty alleviation
- revising the system for harvest determination, from a focus on capacity of the wood industry to a focus on sustainable supply
- restructuring the wood industry in Lao PDR to bring processing capacity into closer accord with a sustainable raw material supply
- controlling unsustainable harvest and export of NTFPs by unregulated traders, and promoting sustainable participatory management and processing of NTFPs
- promoting tree planning; formulating mechanisms for certifying sustainable managed tree plantations
- preventing encroachment, illegal activities, and biodiversity degradation by effective law enforcement, capacity building, and the participation of villagers in conservation activities
- formulating a national land-use policy and introducing land-use planning at both the macro and field levels.

4. Information summarized by the editor from Lao PDR (2004) and World Bank (2004).

## THE PILOT SITE OF BAN NAMPHENG AND THE NTFP PROJECT

Ban Nampheng is a small village of some 50 households located in Oudortxai province in the mountainous north of the country. In 1996, it was selected as one of 12 pilot sites for the NAFRI/IUCN NTFP project because it represented a typical situation where poor, upland farmers have forest-based livelihoods, which are dominated by the cultivation of upland rice in shifting swidden fields, and by the exploitation of NTFPs from standing forests and regenerating swidden fields.

The aim of the project's work at Ban Nampheng was to demonstrate sustainable systems of NTFP use that would contribute simultaneously to forest conservation and human well-being (Ingles and Karki 2001). This aim was split into five objectives to provide greater clarity to the design of interventions at the pilot site, as follows:

1. Sustainable harvesting: To develop sustainable systems of NTFP harvesting that contribute directly to the conservation of forest biodiversity.
2. Community forestry: To promote community-based organizations that can manage and monitor the use of their forest resources **through** sustainable use of NTFPs.
3. Domestication: To reduce pressure on forests and improve the well-being of village communities through domestication of NTFPs outside forests.
4. Well-being: To reduce pressure on forests and to improve the ability and motivation of village communities to manage forests by improving the well-being of people and communities.
5. Marketing: To motivate forest users to manage forest resources sustainably by increasing income derived from forest products **through** improved marketing and processing of NTFPs.

As will be seen in the following sections, activities undertaken under objectives 1, 2, 4, and 5 were the most influential in creating positive changes in people's livelihoods.

The project promoted a participatory approach to the planning and implementation of interventions at Ban Nampheng, using Rapid Rural Appraisal and Participatory Rural Appraisal tools. In early 1996, the following situation in regard to NTFP use was thus diagnosed:

- NTFPs were being overexploited, and poor prices were being received from traders because local collectors:
  - had taken loans from traders<sup>5</sup> during rice-deficit periods, which were repaid later with agreed quantities of NTFPs
  - lacked secure access rights to the forests and had to compete with outsiders during peak collection periods
  - lacked adequate market information
  - were adding little value to products through grading and processing
  - were in open competition with other sellers; and
  - sold valuable NTFPs by the bundle, rather than by weight.
- Opportunities to invest in NTFP-based activities or other livelihood pursuits were limited by the absence of village infrastructure, credit services, and alternative income sources.
- Development opportunities for women were further restricted due to their heavy workloads.

In response, a number of project interventions were undertaken in Ban Nampheng to address these problems and contribute to the five objectives for pilot sites as described above. The main interventions are presented and explained in table 6.1.

In regard to forest conservation, both local users and government officials have consistently reported that the condition and productivity of forests allocated to Ban Nampheng have improved since 1996. Illegal cutting of timber is reported to have decreased because of increased food security and the enhanced returns from NTFP collection. While the value of NTFPs from the forests has risen, increasing the general pressure for harvesting, villagers believe that they have greater control over such pressure through the allocation of exclusive use rights to them, and the establishment of harvesting rules among the user group (Morris et al. 2004). In addition, grazing pressure on surrounding forests has been reduced because of new investments in animal husbandry that have changed livestock numbers. There are fewer cows and goats, and instead are more chickens, pigs, and buffalo.

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5. Although the loans provided by traders was seen as a negative "service," locking assets and cash-poor people into low-price agreements at vulnerable times of year, some villagers still commented on this service in a predominantly positive light.

TABLE 6.1  
Main NTFP Project Interventions in Ban Nampheng

Intervention & Purpose	Key Result
<p><b>Village rice bank:</b> A store of rice and an organization was established to allow the village to cope with their rice-deficit period better and reduce the pressure to collect NTFPs to pay off loans to traders</p>	<p>Replaced the need to overexploit NTFP resources and sell too cheaply to traders because of loans taken to buy rice</p>
<p><b>Forest land allocation and collaborative management:</b> Land-use planning and an agreement was made with the government for village management of specific forest areas and for spatial confinement of shifting cultivation</p>	<p>Provided secure forest access and use rights to a defined user group, allowing for (better) harvesting rules, off-take regulation, and investments in forest management</p>
<p><b>Marketing groups:</b> An organization was established that developed agreed rules for harvesting and selling bitter bamboo shoots (<i>Indosas sinensis</i>) and cardamom pods (<i>Amomum spp.</i>). The organization also created and managed a NTFP development fund generated through a locally applied tax of 10% on NTFP sales</p>	<p>Organized collusion in price setting, enhanced knowledge of market prices, grading and processing (see below), and selling by weight using scales resulted in significant increases in income to households and better returns for labor inputs.<sup>a</sup> A successful village development fund was created. The organization continued to facilitate further development of marketing strategies and facilities.</p>
<p><b>Grading and processing:</b> Capacity was built for adding value to cardamom pods (<i>Amomum spp.</i>) used in the production of Chinese medicine</p>	<p>Significant increase in income from cardamom sales occurred because of improvements in the quantity and quality of the product through drying and grading</p>
<p><b>Drinking water supplies:</b> A local drinking water supply scheme was established</p>	<p>Reduced time was spent by women and children in fetching water, allowing more time for participation in NTFP collection and in marketing and savings groups</p>
<p><b>Women's savings group:</b> An additional organization was created to encourage the effective use of additional cash circulating in the village</p>	<p>Provided credit for local initiatives and strengthened collaboration within the village</p>
<p><b>Domestication of important NTFP species:</b> Planting trials were undertaken for three NTFP species, paper mulberry (<i>Broussonetia papyrifera</i>), cardamom (<i>Amomum spp.</i>), and eaglewood (<i>Aquilaria spp.</i>)</p>	<p>A marginal increase in the resource base and some raised awareness about the concept of domestication generally occurred</p>

a. As an example, the local price for cardamom was raised from 500 kip per kilogram to 35,000 kip per kilogram in 1998, and although prices later dropped, prices of around 12,000 kip per kilogram were sustained over time (Morris et al. 2004) (US\$1 = about 10,000 kip).

However, information about the impact of NTFP-related interventions on forests remains largely anecdotal. Changes in forest composition and structure need to be quantified through formal surveys.

### The Positive Impacts on Livelihoods at Ban Nampheng

An assessment of the impacts of the NTFP project's interventions on livelihoods and poverty at Ban Nampheng was undertaken in 2002 and published by Morris et al. (2004). The main findings from this study are summarized here, alongside updated wealth and development indicators collected in early 2006.

Participatory poverty assessments were undertaken in 1996, 2002, and 2006. Such assessments use locally recognized indicators of wealth and poverty<sup>6</sup> and require village informants to rank each household accordingly. Fourteen households graduated one wealth class between 1996 and 2002. Over the next four years, another seven households graduated one wealth class, while previous gains were held by all but one household that slipped back a class. Overall, the proportion of households in the poorest wealth class fell from 33 percent in 1996 to 13 percent in 2006.

Table 6.2 presents changes in key development indicators for Ban Nampheng over the same period of time. Notable changes include the attainment of food security, the eradication of child mortality, the doubling of school enrollment rates (gender balanced), and the increases in livestock. The village has also benefited from new infrastructure, equipment, and services, which have been supported by the NTFP project, the NTFP development fund established by the marketing group, and indirectly through private loans made from that fund.

In 2006, it was found that the sale of NTFPs still dominates household income sources, providing approximately 60 percent of cash income to households, mainly from the sale of bitter bamboo shoots.

6. Locally recognized indicators for each wealth class are as follows: **Well-off:** permanent house, equipment and accessories (for example, truck, TV/VCD), enough money or rice for one year, some livestock, and enough labor. **Middle:** semi-permanent house (that is, thatched grass roof, stripped bamboo walls), insufficient money or rice for half year, few livestock, and enough labor. **Poor:** temporary house (i.e. bamboo or small trees for beams and pillars), insufficient rice for full year, no livestock, and insufficient labor (Morris et al. 2004).

The next most important source of cash income is animal husbandry (20 percent), followed by cash cropping of sesame seeds and com (15 percent). On average, each household is earning about US\$200 per year by selling bitter bamboo shoots. Recently, the village head has reported that Ban Nampheng has become locally famous for its development success, and he now holds applications from 30 households located elsewhere, requesting permission to move and settle in Ban Nampheng. This is significant given that there are only about 50 households residing in this village. Both the process for considering these applications and the extent to which new arrivals will be permitted is unknown at this stage.

In summary, it can be argued that the main reasons why poverty rates were reduced in Ban Nampheng were that food security was achieved, mainly through the NTFP project's rice bank, forest land allocation, and marketing group interventions, which increased the income from NTFP sales with which to buy rice. Available labor increased through improvements in health care and nutrition, and the returns on labor from NTFP collection and sale were increased significantly. In addition to its major role in helping to reduce poverty levels in the village, the NTFP project's interventions also provided a basis for further economic development through the establishment of an NTFP marketing group and NTFP development fund. These paid for improvements in formal and informal education, and provided credit in support of private equipment purchases and investments in agriculture, trading, transport, and animal husbandry. Also, the substantial and robust increases in NTFP-based incomes have allowed for private investments and livelihood diversification.

It is clear that the NTFP project's interventions have had a significant, positive, and long-lasting impact on Ban Nampheng village. The combination of the NTFP-based interventions, and the subsequent and related activities undertaken by the villagers themselves, have provided resources, capacity, and options for further development. In this way, NTFP development has provide households with an "escape ladder" out of poverty.

### Information Flows from Projects within the Ministry of Agriculture and Forestry (MAF)

Policy making in the forest sector is usually a long process, involving officials at many levels. Senior

**TABLE 6.2**  
Changes in Village Development Indicators, 1996–2006

Development indicators	1996	2002	2006
Food security	25–30 households lacked rice for 3–4 months, during which time they had to leave the village to hire out labor or cut timber illegally	Now rice is “not much worry” and no longer need to hire out labor or cut timber	Secure
Child mortality (under 5)	10	0	0
Illnesses	Malaria, diarrhea, and lung infection (for elderly)	Same illnesses, but now able to access medical services and purchase medicines	Same illnesses, but now able to access medical services and purchase medicines
Formal education	30 children	67 children	67 children
Agriculture & forestry	<ul style="list-style-type: none"> <li>■ 0 hectares of paddy rice</li> <li>■ 45 hectares of upland cultivation</li> <li>■ Forests not allocated</li> </ul>	<ul style="list-style-type: none"> <li>■ 5 hectares of paddy rice</li> <li>■ 30 hectares of upland cultivation</li> <li>■ 515 hectares of allocated forest</li> </ul>	<ul style="list-style-type: none"> <li>■ 10 hectares of paddy rice</li> <li>■ 30 hectares of upland cultivation</li> <li>■ 520 hectares of allocated forest</li> <li>■ 5 hectares of fruit orchards</li> <li>■ 4 fish ponds</li> </ul>
Animal husbandry	<ul style="list-style-type: none"> <li>■ 60 cattle</li> <li>■ 10 buffalo</li> <li>■ 13 goats</li> <li>■ 30 pigs</li> <li>■ 100 poultry</li> </ul>	<ul style="list-style-type: none"> <li>■ 28 cattle</li> <li>■ 12 buffalo</li> <li>■ 55 goats</li> <li>■ 40 pigs</li> <li>■ 200 poultry</li> </ul>	<ul style="list-style-type: none"> <li>■ 17 cattle</li> <li>■ 19 buffalo</li> <li>■ 12 goats</li> <li>■ 120 pigs</li> <li>■ +1,000 poultry</li> </ul>

staff, mainly at the director of division and department levels, are responsible for facilitating the process and drafting a policy document. For the NTFP subsector, the Forestry Research Centre (FRC) and project directors of all NTFP projects have played an important role in drafting NTFP-related policies at the national level. Often, they have been assisted by external advisers or consultants. FRC staff has had the advantage of receiving reports from projects regarding their progress and achievements, and other information received through regular meetings at the department level.

It is not clear how project outcomes reach to higher levels beyond line departments because it was not possible to engage with decision makers at those levels. However, through discussion with senior offi-

cial staff who were directly involved in the development of the Forestry Sector Strategy (Vision 2020) and the National Biodiversity Action Plan (NBSAP), the following information flows were identified:

- regular reporting in weekly meetings at the MAF
- visits of high-level staff to implementing agencies like the Forestry Department, NAFRI, FRC, and other field stations
- participation of staff in national-level meetings, e.g. donor coordination meetings and meetings specifically organized for strategy preparation processes
- project reviews and project preparation missions
- interactions with representatives of donors and international organizations

- exhibitions at the ministry in celebration of important days
- feedback and requests from the field during field visits in project areas. Recognition of the importance of project outcomes at provincial and district levels was important.

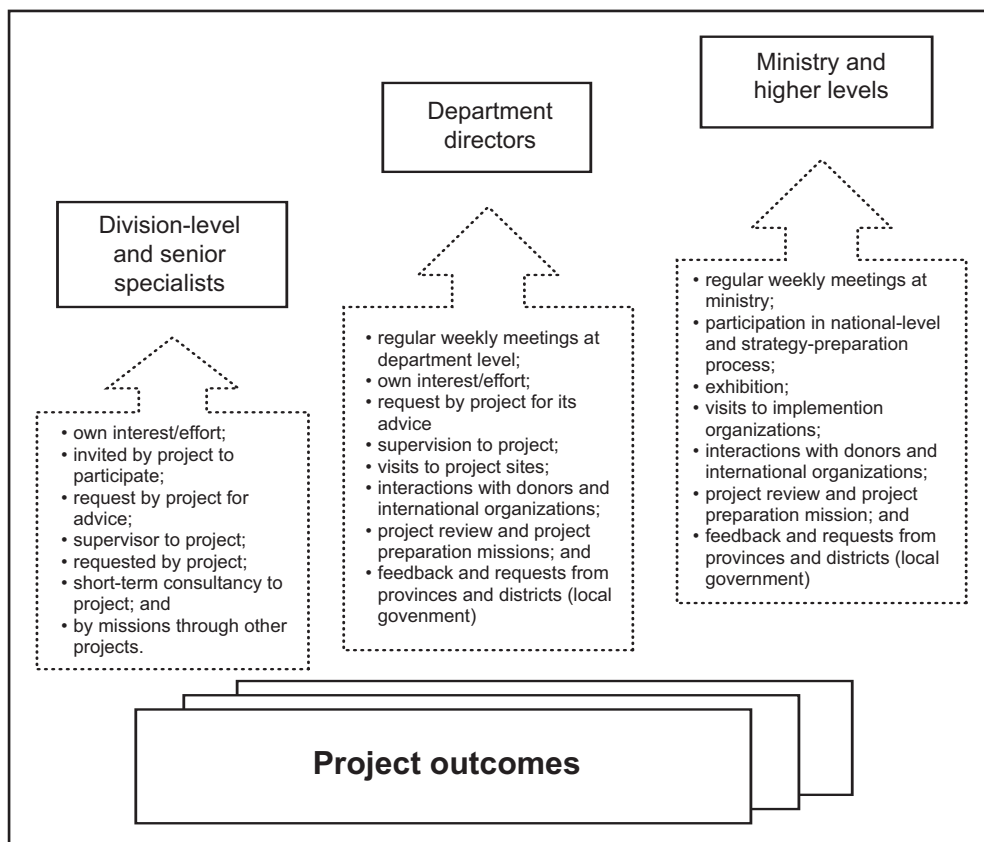
Figure 6.2 presents a generalized overview of how information generated by projects such as the NAFRI/IUCN NTFP project flows to key decision makers within the MAF. This ministry is responsible for establishing overall policy objectives and strategies within the forest sector, and approving specific programs and projects supported by overseas development assistance. Key informants from within the ministry were interviewed to determine the extent to which the NTFP project contributed convincing information to decision makers and influenced other programs and projects in the country.

## STUDY QUESTIONS AND METHODS

The study focused on finding out how the positive achievements of the NTFP project at Ban Nampheng have been expanded locally, and how the project's outputs have been used and scaled-up at the national level. A number of key questions were formulated to guide data collection, as follows:

1. What is the nature and extent of the replication of NTFP interventions undertaken by the project at the local level?
2. What were the factors that influenced local replication?
3. What did the NTFP project do to try to scale-up successful NTFP development policy and practice? To what extent are the project's products and services perceived to have contributed to NTFP policy and practice?

FIGURE 6.2  
Learning from Projects: Information Sources and Flows





- What could be done to enhance both the replication of local-level interventions and the scaling-up of successful NTFP development policy and practice?

Information regarding local replication was collected by a field team using common Rural Rapid Appraisal (RRA) tools. Following visits to Ban Nampheng, the local district town, and the provincial center of Oudomxai, the team selected 23 villages in which to investigate local replication of the NTFP interventions undertaken in Ban Nampheng. Twelve of the selected villages are located in Oudomxai province, and the remainder are located in the two neighboring provinces of Luang Namtha (three villages) and Luang Prabang (eight villages). The selection of these villages was subjective, based on the awareness of government officials about any NTFP-based developments having occurred in these villages in recent years.

The field team worked with government officials, project staff, NTFP traders, and people from each of the three wealth classes (well-off, medium, and poorest) in the 23 villages to determine how the spread of ideas and local replication were being facilitated by promoters or adopted by users. Information was generated using participatory research methods such as timelines and Venn diagrams. After the initial data on the sideways spread was collected and analyzed, a workshop was organized in Oudomxai on March 2, 2006, to share and check the data with a number of key informants, and to elicit recommendations relevant to question number 5 above.

A second team of researchers reviewed the literature, interviewed key informants, and circulated a questionnaire to gather information about scaling upwards and the nationwide spread of the project's work. After the initial data on upwards spread was collected and analyzed, a workshop was organized in Vientiane on February 23, 2006, to share and check the scaling upwards data with a number of key informants, and to elicit recommendations concerning question number 5 above.

Finally, a third workshop was conducted at the national level in Vientiane on March 9, 2006, to further add to the overall data set. Its analysis and recommendations are presented in the sections below.

## **FINDINGS ABOUT SCALING SIDEWAYS (THE HORIZONTAL INFLUENCE OF THE PROJECT)**

### **Replication of Pilot Village Interventions Elsewhere in Lao PDR: Extent and Mechanisms**

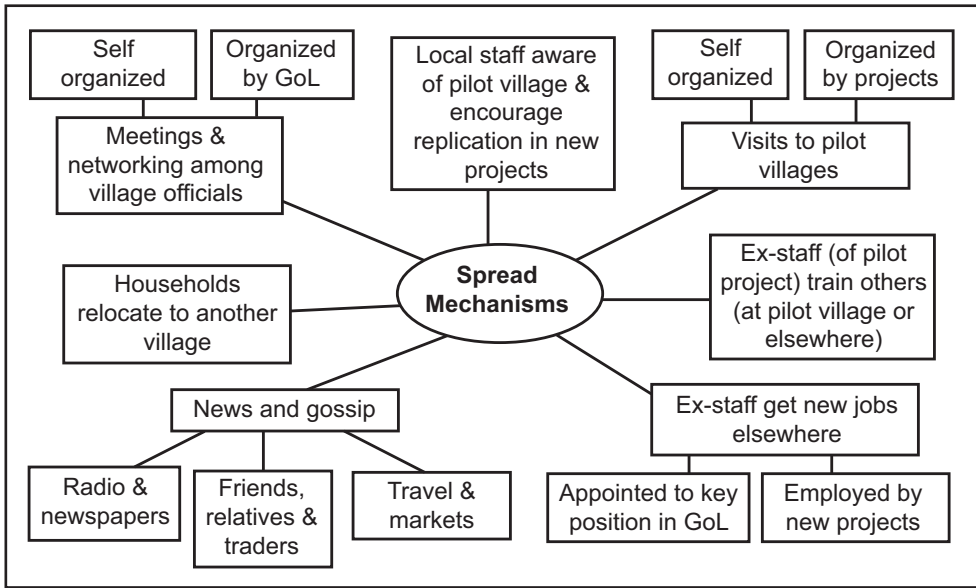
This study investigated how, to what extent, and why the interventions, undertaken by the NAFRI/IUCN NTFP project at Ban Nampheng were replicated elsewhere. While the detailed field study mainly focused on Oudomxai, and to a lesser extent Luang Prabang and Luangnamtha provinces, it was established at the national workshop undertaken for this study that most of these interventions are found to some extent across the whole country. This is a significant finding about the overall geographical spread of the NTFP-related developments across the country. In all cases, replication has been supported by development projects undertaken in partnership with the government of Lao PDR. However, as is explained later, this finding has a lot to do with the geographical consequence of upwards spread, rather than from extensive local replication directly from pilot sites alone.

Results from the survey of 23 villages in the north of Lao PDR, which are relatively close to the pilot villages of the NTFP project in Oudomxai province, show that a large number of spread mechanisms were reported and observed. These are clustered and presented graphically in figure 6.3.

### **What Spreading Mechanisms Worked Best, and Why?**

From the local villager perspective, it was felt that project-sponsored visits/study tours of villagers to the pilot village were the most effective means of spreading the ideas among users. This was also the view of villagers of Ban Nampheng. In particular, it emerged that the most significant motivation for local replication appears to come from seeing first hand the opportunities created by the social arrangements and the socioeconomic progress provided by the interventions (organizational development, personal enrichment and empowerment, improved health indicators, etc.), rather than from the NTFP developments alone or directly. For example, in Ban Nampheng, village development funds

**FIGURE 6.3**  
**Mechanisms Contributing to the Sideways Spread of the**  
**NAFRI/IUCN NTFP Project Interventions**



derived from the NTFP marketing group paid for an electricity system, a village meeting hall, and the salaries of teachers. These, when seen or heard about by others, generate the key motivation to replicate NTFP-based interventions.

The good and growing reputation of Ban Nampheng as a community, at the district and provincial levels, is a major factor, and is one that locals are aware and proud of. Prior to the NTFP project work in the village, it had a “bad” reputation, perceived by some government of Lao officials as being a difficult and problematic place to work with the community. The fact that Ban Nampheng received a government of Lao PDR award for improvements in social well-being for five continuous years sparked a lot of local interest and gossip. The relay of this news (via media, travels, markets, friends, and relatives) from the pilot village in turn created even more interest and awareness, leading to private fact-finding visits and discussions between village leaders within the district, and to pressure being put on officials and projects to copy Ban Nampheng.

From an analysis of all the observations made and comments received during the “sideways” research, the field teams are of the view that the

most important single element that attracted interest was probably the successful establishment and sustained existence of the marketing group. Interest also was supported by other factors, such as the forest land allocation focus on NTFP identification and planning, and the effect of stronger regulations on NTFP harvesting. Another important factor generating interest is the capacity of Ban Nampheng to use its village development fund in an effective and efficient way.

**Factors that Influence Local Replication**

This section reports on what the study found out about attitudes, opinions, and observations at the local level, the “receiving end” of the spread. It sheds light on the adopters’ or “users” perspectives about NTFP development in general, and about some specific interventions facilitated by the NAFRI/IUCN project in pilot sites.

Data from the 23 villages indicates that all wealth groups were more or less equally interested in NTFPs because of income-generation opportunities and the limited labor required to exploit them. The poorest groups appear relatively more interested in

the ease of trading in NTFPs and the establishment of rules associated with their collection. It is interesting to note that respondents in the well-off group expressed the perception that NTFP development contributed to forest conservation far more often than did the other two groups. A high level of concern by all wealth groups regarding unsustainable NTFP harvests, and the importance of maintaining the health of local forests, were also shown. Hopefully, this may indicate that as well as recognizing the harvesting-related benefits, people from all wealth groups are aware of the importance of the husbandry aspects and associated management regulations. Given the fact that both of these perceptions were commonly put forward, there is hope that NTFP use from natural forests can be sustainable. The poorest groups show relatively more concern for the availability of wild NTFP resources, labor (a key local indicator of poverty), and external technical support. This finding reinforces that idea that NTFP projects can successfully engage the poorest groups in activities that are of high interest and relevance to their needs and capacities. The data also suggests that there are equity issues requiring further investigation, as indicated in the concerns of the poorest group regarding the allocation of cardamom plots to households, and theft from NTFP plantations.

### **Forest Land Allocations for Sustainable NTFP Use and Management**

The idea to dedicate forests for NTFP collection through a forest land allocation (FLA) process came mostly from district government of Lao staff, and project staff. In other forest-dependent villages, especially in the Namoi district, where the Lao-Swedish Forestry Programme (LSFP) is working actively, it was reported by the District Agriculture and Forestry and Environment Offices (DAFEO) that the practice would be replicated in most of the LSFP pilot villages.

While the forest land allocation processes were generally seen as positive factors in bringing about sustainable NTFP use, concerns about the degree to which the allocated forests could be protected from external use were commonly expressed, especially in regard to the lack of physical demarcation of forest boundaries, and the (sometimes) significant distance from settlements to allocated forest areas.

### **Domestication of NTFP Species with High Market Demand**

The Provincial Agriculture and Forestry Office(r) (PAFO) Oudomxai reported that many districts have initiated NTFP domestication activities seen in Ban Nampheng. NTFP domestication was found in 16 of the 23 villages included in this study. Domestication was found to have been promoted mostly by projects rather than by villages, and the choice of NTFP species was dependent on local ecological conditions and market demands.

### **NTFP Marketing Improvements**

In the 23 villages involved in the study, four villages reported the establishment of an NTFP marketing group. The effectiveness and sustainability of these groups are uncertain. Unfortunately, it was apparent that marketing groups have not been encouraged or supported by all projects. While this intervention was one of the most successful in terms of helping to reduce poverty in the pilot village of the NAFRI/IUCN NTFP project, it is the intervention that has been replicated the least by other projects.

### **Rice Banks**

Of the 23 villages studied, only seven villages have, or have had, a rice bank. In all villages that have had a rice bank, they were spread and supported by projects with local government of Lao support. In Oudomxai province, German Agro in Action Accord (GAA) (one of the projects that hired former NAFRI/IUCN NTFP project staff), has played an important role with regard to replicating rice banks. The role of a rice bank is to indirectly reduce the need to overexploit NTFPs to deal with rice deficits. It was one intervention in a package that addressed the interconnected issues of forest use and access rights, food security, and organized NTFP marketing. The fact that there was no apparent relationship between the establishment of rice banks and the other NTFP interventions is evidence that an understanding of the links between the different interventions in the package has not spread. Rather, individual interventions spread independently and lose their linkages as part of an overall NTFP intervention strategy.

## **FINDINGS ABOUT SCALING UPWARDS (THE VERTICAL INFLUENCE OF THE PROJECT)**

### **Dissemination of Project Lessons within the Forest Sector**

As a pioneering project in the field of NTFP development in Lao PDR, the NAFRI/IUCN NTFP project went to great effort to learn, document, and present its lessons to a wider audience. A total of 23 different types of documents were published by the project for wider dissemination, such as technical reports, training manuals, workshops, posters, videos, and leaflets on NTFP species. Additionally, a number of services, such as hosting visitors, organizing networking events, and supervising student projects, were provided during its period of operation to enhance the dissemination of project knowledge and experience at the national level.

### **Perceptions about the Influence of the Project**

#### *Positive Influences*

All questionnaire respondents expressed a view that the NTFP project has significantly influenced NTFP development in Lao PDR. A number of positive contributions were mentioned by the respondents to the questionnaire and by participants at the consultation workshops organized for this study, and include:

1. Awareness about the importance of NTFPs was raised tremendously.
2. A scientifically credible knowledge base about NTFPs was created.
3. National capacity for NTFP management and development was built up.
4. Models for sustainable management of forest resources were developed.
5. NTFP developments were undertaken to improve livelihoods, and this influenced rural development programs.
6. Convincing arguments were made that helped to reorient government policies toward the sustainable use of NTFP resources, and donor interest and interactions with the government for expanding NTFP development to other areas was enhanced.

### *Negative Influence of the Project?*

Only one respondent provided an observation on the negative impact of the project, relating to the perception that the project has increased the profile of NTFPs, and thus the harvesting pressures on NTFP resources generally. Such pressure would threaten NTFP resources because the pace of adopting proper management systems is too slow to catch up with the increased interest and market demand for certain products to sell to large and resource-scarce neighboring countries.

### *Convincing Project Outcomes*

Respondents were also asked to identify what project outcomes were the most influential in regard to stimulating future action. Results show that community-based approaches to NTFP management were the most influential. The next most influential work of the project was the knowledge base it created, followed by the bamboo shoot marketing group. This is an interesting result when compared to the major finding from the sideways scaling study, which found that the technical aspects of the project's work were more likely to have been replicated locally. This may represent a disconnect between what central-level officials see as the main achievements of the projects, and what provincial- and district-level officials are able to achieve in the field, unless they have been able to hire an ex-project staff member.

## **DISCUSSION, RECOMMENDATIONS, AND SUGGESTIONS**

Some key recommendations for follow-up action by various actors in Lao PDR are provided below in the interest of enhancing the impact of past NTFP development experience. A number of suggestions are also provided that, while relevant to Lao PDR, are also of relevance to the scaling upwards and sideways of similar forest-based livelihood interventions outside of Lao PDR. These recommendations and suggestions are consistent with those made in the PRSP concerning the role of forestry in poverty alleviation.

It should be noted that a number of these suggestions were provided by survey respondents and participants in the three workshops organized in support of this study.

## Regarding Scaling Sideways

In general, the sideways spread of local NTFP-related development in Lao PDR, inspired by the NAFRI/IUCN NTFP project, has been impressive. Not only are the project's interventions being copied to some extent by other projects, but it is quite clear that every local professional (project, government, and NGO staff) is aware of where the ideas have come from and been demonstrated, and are happy to acknowledge the source.

However, it is a cause for concern that relevant government of Lao officials are not facilitating the replication of the NAFRI/IUCN project interventions in their day-to-day work (i.e., without external project support). This is unfortunate because it significantly limits local replication facilitated by the development promoters. Presumably, this situation is of interest and concern to current projects regarding what will happen after they finish. While there is a high level of awareness and support for replication among Lao government officials, proactive and even reactive and requested support is still limited on the ground, arising perhaps from inadequate direction and internal budgetary provisions, rather than from a lack of technical capacity.

Relevant recommendations and suggestions include:

**Recommendation R1:** The Department of Forestry (DOF) should initiate an internal review of the constraints for sideways scaling of NTFP interventions by the PAFO and the District Agriculture and Forestry Office (DAFO) in the absence of project budgets and other support. See also the related recommendations in the section dealing with upwards scaling.

**Suggestion S1.1:** Thought should be given to providing a dedicated and secure “internal” funding source to pay for sideways spread of activities for a period of time after a project is completed to enhance the chances of direct official support to these efforts when there is no other externally funded project assistance available.

It is also a cause for concern that the more technical aspects of NTFP production are being replicated to a greater extent (currently at least two times more often) than the social organization aspects of NTFP management, as discovered in the 23 villages included in this study. In fact, the replication of the

key social elements (e.g., marketing groups) was found to have been better performed by ad hoc, user-driven mechanisms, rather than by projects. The notable exception is the GAA project, which appears to be the only project which is making the effort to give due attention and support to NTFP marketing groups and the creation and management of village development funds. It is unfortunate that all the current projects are not adequately aware of the importance of social organization to underpin NTFP development. With regard to poverty reduction, the establishment and sustainable functioning of a rice bank, an NTFP marketing group, and strong regulatory mechanisms for forest management, are more important than the technical aspects of NTFP production. The value of the sideways spread is being undermined by the a la carte approach, where social development activities are dropped or reduced by some projects that are supposedly “copying Ban Nampheng.”

**Recommendation R2:** A communication effort is required by NAFRI to explain why NTFP development interventions at pilot villages should be seen as a package, and that variations to the package should be based on a deeper understanding of the relationships between, and the role of, each intervention within the package, and on rigorous local diagnosis and planning.

**Suggestion S2.1:** There should be large and clear “health warnings” on all project publications about unbundling the technical and social interventions required for successful and sustainable NTFP-based local development—i.e. the message to those planning to “copy” pilot village interventions should be that it is not an a la carte-type exercise, as the poverty reduction outcomes will be severely constrained.

A major positive factor in sideways spread is that project lessons are being replicated by former NAFRI/IUCN NTFP project staff who are now employed by other projects. They have been able to effectively diffuse the original project's achievements, reorient rural development approaches, and enrich the community-based natural resource management approaches within the organizations they have joined.

**Suggestion S2.2:** Given the positive performances of previous project staff in facilitating sideways spread through their employment in different projects, per-

haps some proactive redeployment process should be built into the human resource management plans of project partners in the future.

**Recommendation R3:** Research is required to determine if the poorest households are seeing fair results from NTFP development opportunities resulting from forest land allocations. This is required to ensure that the allocation process is benefiting local people from all wealth groups. The field research for this study produced data that suggests that perhaps it is not.

**Suggestion S3.1:** There are some potential longer-term advantages in electing to work in places deemed or perceived by outsiders such as government of Lao officials to be difficult or problematic places to work with the local community. Success in these places can go a long way toward removing perceptions that may constrain future spread activities.

**Suggestion S3.2:** Although it is often tempting in the short term to use project funds to directly assist or pay for infrastructure improvements in poor villages, if sustainable use of natural resources is the ultimate project goal, then the source of financial resources for these things should be directly linked to the wise use of these natural resources as an “engine for local wealth creation” (e.g., via a village development fund created through improved marketing and a local NTFP sales tax). The exception to this suggestion would be funding those improvements that reduce the workload of women, or help achieve food security, thus creating an enabling environment for improved and more equitable NTFP management.

In terms of enhancing the sideways replication of NTFP-related development, the factors for enhancing replication suggested by local people in the three different wealth classes are instructive. It would appear that providing more opportunities for NTFP domestication would encourage spread and act as an entry point for additional and necessary interventions such as marketing groups and village funds. It is interesting to note that local NTFP users appear to be more aware about the importance of NTFP marketing groups and associated village development funds than are most of the current projects.

This study showed that a significant amount of local replication is done by local people themselves. A number of suggestions follow from this finding:

**Suggestion S3.3:** When selecting pilot villages, there are advantages in having at least one village near a main road because it facilitates awareness among the traveling public and thus sideways spread. However, due diligence must be applied with regard to introducing a main road bias, so that there is an appropriate balance in the numbers of accessible and more remote pilot villages.

**Suggestion S3.4:** If a project is demonstrably successful in a pilot village, and the villagers concerned are happy with the idea, the project can rename itself after that place, rather than continuing with institutional names or acronyms that are obscure and less memorable to local people.

**Suggestion S3.5:** As soon as there are demonstrable successful results (not necessarily directly to do with wise use of NTFPs), village exchange visits should be promoted and supported by a project. Training should be provided to villagers who have been involved in the project’s activities to be guides. Training should also be provided to Lao government officials to organize and facilitate such village exchange visits.

**Recommendation R4:** The DOF should provide more opportunities for villagers in other districts to visit pilot villagers, as well as produce simple guidelines for NTFP development in Lao language, using a comic book format as a resource to accompany such visits.

NTFP traders can be a low-cost and efficient means of spreading the project sideways. If it can be shown to traders that their interests will be served by promoting some or even all aspects of a project, then this will be done enthusiastically and economically.

**Recommendation R5:** A pilot program to engage and motivate NTFP traders to learn more about NTFP-related development interventions and disseminate information that supports extension efforts should be developed.

**Suggestion S5.1:** Given the finding that households that relocated from the pilot village were very effective ad hoc agents of sideways spread, perhaps there would be some value in producing “starter packs” with detailed technical advice and guidelines in a local language to strategically encourage more spread of this nature.



**Suggestion S5.2:** Given the potential for the effective sharing and spreading of experience through formal and informal meetings of local leaders, some support (particularly training) could be given to ensure that these meetings are organized and run well.

A number of useful suggestions were made at the final workshop conducted at the national level in Vientiane on March 9, 2006. These related to building capacity of local village leaders; better planning and implementation for project entry and exit strategies; and enhancing the skills of “promoters” who are not working closely with a project but are stationed in areas adjacent to pilot villages. The suggestions are summarized below.

**Suggestion S5.3:** The capacity of local village leaders in the vicinity of a forest-based livelihoods project should be enhanced to promote sideways scaling by:

- Assessing the capacity of local village leaders to inform planning for a training program
- Providing a village leadership development program through exchange visits, mentoring, and awareness raising regarding relevant social organization, rights, and welfare topics
- Engaging local village leaders early in project implementation to increase awareness and interest in the pilot village and the potential for local replication
- Including local village leaders in groups undertaking NTFP market analyses
- Creating a village network for sharing NTFP market knowledge and lessons regarding social organizations and regulatory frameworks to support NTFP development

**Suggestion S5.4:** The relevant administrative units surrounding pilot villages should also be part of project activities that aim to create an enabling environment for sideways scaling. Such activities could include:

- Analyzing the capacity of administrative units in regard to promoting local replication of successful interventions
- Involving staff of these units in relevant training, exchange, networking, and awareness-raising programs
- Developing a project exit strategy that ensures these units can continue with local replication after the project is completed.

**Suggestion S5.5:** Agriculture and forestry extension staff require a basic set of facilitation, communication, and participatory process management skills in order to participate in sideways scaling of forest-based livelihoods interventions. They also need to be encouraged and given responsibility and, if possible, provided with incentives. Additional ideas are:

- Using a counterpart strategy to “clone” effective facilitators
- Creating a suitable training package for basic facilitation and (oral and visual) communication skills for NTFP development at the village level
- Developing tailor-made check lists and tools about how to analyze local organizations
- Establishing an efficient staff performance monitoring system and feedback mechanism

### Regarding Scaling Upwards

A major finding of this study is that it was the NTFP project’s success at the local level, and to some extent the sideways spread from pilot villages, which led to serious recognition and influence at the national level.

**Recommendation R1:** A new document in Lao language, summarizing the poverty reduction and biodiversity conservation benefits of NTFP developments, should be produced for National Assembly members.

**Suggestion S1.1:** Pilot villages and associated mechanisms for sideways spread are essential components of projects that seek to promote widespread adoption of forest-based livelihoods interventions at a national level.

Another major finding was that the personal interests of senior officials were a main determining factor for awareness about the project’s products and their use in scaling upwards. While personal interests will obviously vary among officials, it is worth bearing in mind when deciding on the style and content of materials aimed at engaging with and influencing higher-level officials.

**Recommendation R2:** The NAFRI Information Centre should consider reissuing a select number of NTFP project documents in Lao language to support wider dissemination of existing experience, especially those relating to the lessons and benefits of NTFP-based livelihood interventions.

Several people suggested that the project should have produced more audiovisual materials that describe the pilot village work and its impact. However, it is interesting that the questionnaire survey showed that in the long term, traditional and scientific papers had much more influence (and use) at the higher levels than expensive video and audio productions. Perhaps the audiovisual materials were less convincing or were of less personal interest to senior officials.

**Suggestion S2.1:** An understanding of the personal and career interests of senior officials should be gained prior to finalizing communications strategies for projects that aim to influence sectoral policies and programs.

About 40 percent of survey respondents commented that the dissemination efforts made by the NTFP project were limited in effectiveness because many useful documents remain available in English only. As a result, many good lessons, information, and knowledge were not as widely disseminated as they should have been. Furthermore, there is an inadequate awareness about project outcomes at the highest levels of government.

**Suggestion S2.2:** Papers that are seen to have scientific rigor and value are an important component of project communication strategies for upwards scaling.

The question of how to scale up successes (both sideways and upwards) is a legitimate and important question for applied research, and should be addressed by national research institutions.

**Suggestion S2.3:** Formal research in the forest and agricultural sectors should be supportive of the need to scale up successful forest-based livelihood interventions. Such research topics should be included in national research agendas, afforded high priority by national institutions, and provided with adequate support. Such topics would include how to strengthen linkages between national research, education, and extension agendas.

**Suggestion S2.4:** Government decision makers in the forest and agricultural sectors are members of a number of informal and formal networks that share opinions, news, and information. A greater understanding of the nature of such networks would be useful to inform project communication strategies

and to broaden membership of these networks to include other stakeholders (such as the private sector and traditional medical institutions).

**Suggestion S2.5:** In the longer term, enriching the formal training of professional and technical staff with lessons from successful projects will help with scaling upwards and sideways. Curriculum development for the agriculture and forest sectors is an ongoing requirement and should include incorporation of the sustainable livelihoods framework, NTFP research and planning tools, and other topics to enhance understanding of social and cultural issues surrounding NTFP development. Pilot villages can also provide real-life “learning grounds” for students and faculty. Awards and other incentive mechanisms can stimulate competition and excellence among professionals.

**Recommendation R3:** Finally, there are a number of NTFP development challenges remaining in Lao PDR that limit scaling upwards because they affect the enabling environment needed to fully capitalize on opportunities to enhance forest-based livelihoods. The challenges that need to be tackled in Lao PDR are as follows:

- Reforming the regulatory framework for sustainable trade of NTFPs so that sustainability issues are considered when setting quotas, and the permit system does not exclude the participation of local marketing groups. Significant improvement is needed with regard to developing a regulatory framework that is supportive of poverty reduction aims.
- More work is required to address many important areas, such as: processing, transboundary marketing studies, resource assessment, and silvicultural treatments for a much larger number of species. Only a limited number of NTFP species have so far been dealt with in pilot villages.
- Additional specific scientific research and comprehensive studies are required to support commercial development of the most important NTFP species and the conservation of those most under threat of local extinction.
- The further protection of intellectual property rights is also required against bio-piracy, especially for NTFPs having medicinal value.

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## CHAPTER SEVEN

# Summary of Case Study—Tanzania

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### EXECUTIVE SUMMARY

The contribution of forests to local livelihoods and the Tanzanian national economy as a whole is significant, but is largely unrecorded and consequently unrecognized.<sup>1</sup> The difficulty of examining forestry in the context of economic growth arises because no markets exist for ecosystem services. Many transactions related to forest products and services fall within the informal sector or are undertaken illegally and are, hence, not recorded. Official gross domestic product (GDP) figures, on which the analysis of economic growth is made, do not reflect the “true” economic importance of the forest sector to the national economy (World Bank 2005). This “undervaluation” matters because the contribution to GDP and its growth determines decisions made by the government of Tanzania, and also to some degree its development partners, regarding the allocation of financial resources.

At the local level, particularly in semiarid regions such as the Shinyanga region in northwestern Tanzania, which is the subject of the case study portion of this report, forests and forest resources play an important role in supplementing and diversifying farm incomes. Limited or uncertain tenure rights in much of Tanzania’s woodlands and forests in the past have resulted in extractive use for short-term gain.

Since the introduction of community-based forest management (CBFM) via the Forest Act in 2002 (Tanzania 2002), communities now have the rights to manage, protect, and use these areas for sustainable forest management and economic development. Evidence suggests that the dual goals of sustainable forest management and local economic development are being met; however where management costs to communities often exceed benefits, the long-term viability of these arrangements is increasingly being questioned (Blomley and Hartley 2006).

Tanzania’s first Poverty Reduction Strategy Paper (PRSP) (Tanzania 2000b) made little mention of the importance of the environment and natural resource base as the primary building blocks in any efforts to reduce poverty. The most recent poverty reduction strategy (PRS), locally known as MKUKUTA, more clearly recognized the contribution of natural resources to poverty reduction efforts and has mainstreamed environmental issues. The 1998 Forest Policy also breaks new ground by explicitly recognizing the contribution made by forests to poverty reduction and human welfare. However, while the importance of forests is recognized as an asset for rural livelihoods and subsistence, a clear opportunity exists to further improve the contribution of forests to rural livelihoods. Also, despite the progress at the policy level in mainstreaming forestry into broader poverty reduction strategies, much needs to be done at lower levels to cement this trend.

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1. The original case study was prepared by Winrock International, November 2006.

This report reviews progress made to date in mainstreaming forestry with poverty reduction processes at the national and local levels in Tanzania. The report in particular provides a detailed assessment of how forests can contribute to local livelihoods in the Shinyanga region in north-western Tanzania, where the HASHI<sup>2</sup> project has for the past two decades been promoting forest restoration through the use of traditional pastoralist practices. It assesses how the transfer of use and management rights to the very lowest levels of society can reverse forest decline, provide incentives for sustainable forest management, and contribute to local economic development. The report concludes with recommendations on how these positive steps can be reinforced at different levels of government.

## BACKGROUND AND OVERVIEW OF TANZANIA

### Poverty Status and Distribution

Tanzania is one of the poorest countries in the world. The gross national income (GNI) per capita<sup>3</sup> is estimated at US\$340, placing Tanzania as 188 of 208 countries (World Bank 2006a). According to the *Household Budget Survey 2000/01* (Tanzania 2002), almost half (48 percent) of Tanzania's population of 36 million people is unable to meet basic food and nonfood needs. However, recent figures show the annual growth rate of the economy at 7 percent (World Bank 2006a). The high poverty levels are attributed to income inequality and a relatively low rate of economic growth in rural areas (Tanzania 2006). Women's income levels are half those for men; approximately 60 percent of women in Tanzania are estimated to live in poverty (USAID 2004). The rural poor, who make up 87 percent of the poor, survive largely through subsistence agriculture, with heavy dependence on one crop (such as maize or cassava). The young, the old, and large households are more likely to be poor (Tanzania 2002a).

2. From the Swahili "Hifadhi Ardhi Shinyanga."

3. The World Bank's official estimates of the size of economies are based on gross national income converted to current U.S. dollars using the Atlas method. Gross national income takes into account all production in the domestic economy (GDP) plus the net flows of factor income (such as rents, profits, and labor income) from abroad. The Atlas method smoothes exchange rate fluctuations by using a three-year, moving average, price-adjusted conversion factor.

Tanzania's economy depends heavily on agriculture. As the lead economic sector, agriculture accounts for 45 percent of GDP and, in the past three years, for about 60 percent of export earnings. It also provides livelihoods for 82 percent of the population (Tanzania 2005a). The sale of agricultural products has been the main source of cash income for 62 percent of Tanzanian households, and agriculture provides approximately 50 percent of total household income. In the majority of Tanzania's rural areas, around 60 to 80 percent of adults report agriculture as their main activity. Despite the importance of agriculture, particularly in rural areas, some 40 percent of rural household income is derived from sources outside household on-farm production (Tanzania 2002a). On- and off-farm earnings depend on a strong agriculture sector as well as other rural sectors, including forestry, wildlife, fisheries, and tourism (Tanzania 2005a).

A quarter of Tanzanian adults have no formal education, and 29 percent can neither read nor write. In rural areas, 30 percent of the population has no education. A significant rise has taken place in the proportion of households headed by a woman, and women are about twice as likely as men to have no education. Rural women are particularly disadvantaged; 41 percent are unable to read or write. Poverty levels are strongly related to the education of the head of household (Tanzania 2002a). Life expectancy is 44 years and falling (UNDP 2003), largely due to HIV/AIDS, leaving an orphan population estimated at more than 1.1 million (with 50,000–60,000 new orphans each year). HIV/AIDS has had and will continue to have a detrimental effect on Tanzania's health, economy, and environment. Famine resulting from floods or droughts is not uncommon. Since the mid-1990s, adverse weather conditions have undermined food security. Social well-being, however, is good in Tanzania, a country with a long history of participatory planning and implementation of public programs. Aside from some instability in the late 1960s and early 1970s, Tanzania has enjoyed peace, stability, and unity since independence.

### Forest Cover and Status

Tanzania has a large land area (94.5 million hectares), with a tropical climate and 10 ecological zones with different physiographic zones and complex topography. About 38 percent of Tanzania's



total land area is covered by forests and woodlands that provide for wildlife habitat, unique natural ecosystems and biological diversity, and water catchments. These forests are, however, faced with deforestation at a rate of between 130,000 and 500,000 hectares per year, which results from heavy pressure from agricultural expansion, livestock grazing, wild fires, overexploitation, and unsustainable utilization of wood resources and other human activities, mainly in the general lands (Tanzania 2001). Two of the eight biodiversity hotspots in Africa are in Tanzania. Forest biodiversity comprises biological diversity at the ecosystem, species, and genetic levels. Woodlands consist of just more than 96 percent of Tanzania's total forests. The majority of these woodlands are categorized as *miombo*.

Forests in Tanzania can be divided into two broad categories: reserved forests and nonreserved forests. About 37 percent (12.5 million hectares) and 57 percent (19 million hectares) of forests are reserved and nonreserved, respectively (Tanzania 2002). Reserved forests include central and local government forest reserves, government-owned industrial plantations, and village land forest reserves (VLFs) at the community level that have been gazetted by the central government. Unreserved forests are on "general" or "village" lands where forests and woodlands are not formally classified as reserves (Tanzania 2001).

### **Institutional Framework for Forest Management**

The Forestry and Beekeeping Division (FBD) of the Ministry of Natural Resources and Tourism (MNRT) is the government agency responsible for forest management issues on mainland Tanzania. Its primary role is to support implementation of the Forest Policy (1998) and Forest Act (2002). It has a mandate to manage and supervise national forest reserves (NFRs); collect revenue on forest operations and harvesting; issue licenses and permits and, thereby, regulate harvesting of forest products nationally; promote forest development; provide training in forestry; and undertake forest research (through the Tanzania Forest Research Institute).

Since the adoption of the Local Government Act (1982), forest officers have been decentralized and are now entirely answerable to locally elected councils through the district executive directors. The

matter is complicated, however, by the presence in many districts of forest reserves administered by the central government with regional, national, or even global interests due to their intrinsic biodiversity or water catchment values. This system of two ministries (the other being a ministry/unit under the prime minister's office—a regional administration and local government ministry) intersecting at the district and community levels is complex, and in some cases leads to local conflicts regarding overlapping mandates and responsibilities. Figure A7.1 provides an overview of forest management at national and district levels (see appendix).

Since 2000, the government of Tanzania has actively pursued a program to create executive agencies, which are essentially semiautonomous government agencies with the potential to generate and retain revenue. The forest sector has a huge potential for collecting forest revenues from licenses and permits, but the majority of these revenues go uncollected due to corruption. Particularly at revenue collection waypoints on public highways, the low salaries and poor supervision of government staff result in diversion of significant revenues for private gain. It was proposed in 2002 that many of the functions currently held by the FBD be transformed into an executive agency called the Tanzania Forest Service, which would supervise and administer NFRs and collection of forest revenues nationally. Progress on establishing the Tanzania Forest Service has been limited, and at the time of preparation of the case study a date for a formal launch had not been set and chief executive for the new agency had not been recruited.

In 2001, the National Forest Programme (NFP) was launched as an instrument for implementing the National Forest Policy and related legislation, using the principles of sustainable forest management (Tanzania 2001). The NFP is a strategic plan that is intended to integrate and harmonize the respective contributions of governmental, non-governmental, private sector, and local community stakeholders in execution of national forest policy and law. The FBD has established an NFP Coordination Unit, which coordinates different stakeholders and projects around the NFP objectives. Recent negotiations regarding introduction of a sector-wide approach (SWAP) in the forest sector has resulted in the signing of a SWAP letter of intent between bilateral and multilateral development partners and the government of Tanzania.

## Current Issues Facing Forest Management

Despite the significant contribution of forests to local livelihoods and the national economy, forest destruction, poor management, and environmental degradation continue and, with it, negative impacts on marginal communities that depend on forests and forest products (Mariki 2001). Tanzania is experiencing serious environmental degradation—pressure on natural resources has progressively escalated, and ecological degradation is evident, especially in arid and semiarid areas (Tanzania 2001). Underlying causes of deforestation are many and complex, but include some of the following key drivers.

Land clearance for small-scale subsistence farming is one of the major causes of forest cover loss, largely due to increasing populations and low-intensity agricultural practices, such as shifting cultivation. Dependence by resource-poor households on cash income from the sale of forest products, such as charcoal, honey, wild fruits, and firewood appears to be another major driver of deforestation. Commercial production of firewood and charcoal as an alternative source of income to meet urban energy demands contributes significantly to deforestation. The demand for firewood for curing tobacco is also high. With few exceptions, most of the fuel wood used in the country is collected free from indigenous *miombo* woodlands or farmlands. The recent influx of refugees from Burundi, the Democratic Republic of Congo, and Rwanda into the country has had severe environmental consequences, such as rapid depletion of forests and wildlife, destruction of water resources, and damage to croplands.

Fires in plantations and montane catchment areas have become a serious problem in Tanzanian forestry. In addition to causing losses to timber and biodiversity, the catchment values are seriously reduced, resulting in hydrological imbalance, which is reflected in reduced water in rivers and streams during the dry seasons and floods during the rainy seasons.

### Legal, Policy, and Regulatory Frameworks for Forest Management

The legal basis for land tenure in Tanzania is derived from two basic laws, which have been passed in the past decade. The Land Act of 1999 and the Village

Land Act (1999) state that all land in Tanzania is public land, which the president holds in trust for all citizens. The president delegates the power to designate, adjudicate, and modify land tenure status to the commissioner for lands. District councils and village councils play an important role in managing land at the local level. The two legal instruments have the overall objective of formalizing and legalizing what is traditional and customary land tenure. Tanzania recognizes three different categories of land.

Reserved land is land set aside by the central government for such purposes as nature conservation under wildlife or forestry laws, and includes forest reserves, wildlife reserves, and national parks. Village land includes all land inside the boundaries of registered villages, in which the village councils and village assemblies are given power to manage land matters. The village councils are required to divide village land into three additional categories: communal land, which is shared by a large number of individuals within the village, such as grazing areas, pastures, forests, or other areas with natural resources; occupied land, which is used for housing, cultivation, and businesses that are managed by individuals in single families; and future land, which is set aside for future use by individuals of the community at large. General lands are lands that are neither reserved land nor village land and, therefore, are managed by the commissioner of lands, on behalf of the central government.

The Forest Act (2002) recognizes six different kinds of forest tenure categories. National forest reserves are gazetted forests owned and managed by the central government through the FBD in the MNRT for conservation and productive purposes. Local authority forest reserves (LAFRs) are gazetted forests managed at the level of district councils under local governments as production and protection forests. Village land forest reserves are a new category of forests, which became legalized with passage of the 2002 Forest Act. VLFRs, as the name suggests, occur on village land and, as such, are managed by the village council on behalf of village residents. They are managed for both production and protection purposes, depending on their location, size, and composition. Community forest reserves (CFRs) are found on village land and are similar in all respects to VLFRs, apart from the fact that their management is delegated by the village council to a group of persons within the community (such as a women's group or a group of charcoal

producers). Private forests (PFs) are those forests owned by individuals or companies that have acquired land title deeds from the government. They may occur on general or village land. General lands, formerly known as public forest lands, are nongazetted or nonreserved lands and are managed by the commissioner of lands on behalf of the president. These areas constitute the bulk of forests, a total of 20.5 million hectares, or 57 percent of all forest land in Tanzania. They are “open access” areas, characterized by insecure land tenure, shifting cultivation, and widespread unregulated harvesting for fuel wood, poles, and timber.

The Forest Policy and the Forest Act both provide a strong foundation and legal basis for community involvement in forest management. Loosely described as participatory forest management, two primary approaches have emerged since passage of the policy and legislation: joint forest management (JFM) and CBFM (Blomley and Ramadhani 2006). Joint forest management is a collaborative management approach, which divides forest management responsibility and returns between government (either central or local) and forest-adjacent communities. It takes place on land reserved for forest management, such as NFRs (for catchment, mangrove, or production purposes) and LAFRs. It is formalized through the signing of a joint management agreement between village representatives and government (either the district council or MNRT). Community-based forest management takes place in forests on “village land.” Under CBFM, villagers take full ownership and management responsibility for an area of forest within their jurisdiction that has been declared by village and district governments as a village forest reserve. Following this legal transfer of rights and responsibilities from central to village governments, villagers (a) gain the right to harvest timber and forest products, collect and retain forest royalties, and undertake patrols (including arresting and fining offenders), (b) are exempted from local government taxes (known as *cess*) on forest products and regulations regarding “reserved tree” species, and (c) are not obliged to remit any part of their royalties to either central or local governments. The underlying policy goal for CBFM is to bring large areas of unprotected woodlands and forests progressively under village management and protection through establishment of VLRFs.

A recent national survey on the progress of participatory forest management established that 3.7

million hectares of forest were under some form of participatory forest management, representing almost 11 percent of total forest area and involving 1,800 villages and 57 districts (Tanzania 2006).

### **The Contribution of Forests to Livelihoods and the National Economy**

Forests are important assets in Tanzania, offering numerous goods and services in the national economy, to society at large, and to local livelihoods. The official forest sector contribution to the economy is between 2 and 3 percent of total GDP (Salmi and Monela 2000), but evidence shows that the cash and noncash contributions made by forests and natural resources to household income and livelihoods are not accurately captured by official statistics. Forests and woodlands are recognized as an important resource base for Tanzania’s social and economic development, and for provision of many basic benefits and opportunities to rural and urban communities (Mariki 2001). Values of forest goods and services, however, are often underestimated, wrongly attributed to other sectors, or entirely omitted. These include nonmarketed timber, non-timber forest products, forest products harvested illegally (possibly up to 80 percent of all forest harvesting), tourism and recreational services, and ecosystem services such as positive influences of forests on agricultural production, water quantity and quality, energy sources, carbon storage, and biodiversity protection. Studies taking the nonindustrial or informal forest sector into account present higher values. For example, a World Bank study conducted by Sharma (1992) values the contribution of the forest industry, nonindustrial forestry, and logging in 1989 to be 139 percent of GDP. The estimated amount of uncounted fuel wood alone is more than 30 million cubic meters a year (Tanzania 2000).

Forest products contribute significantly to national export earnings. Net exports in forest products fluctuated greatly from the mid- to late 1990s and ranged from US\$2.5–\$14.1 million. The main products are timber, carvings, tree seeds, and bee products. In the system of national accounts, forestry is aggregated with revenue from commercial hunting and then summarized under “agriculture GDP” with fisheries, livestock, and crops. The GDP also undervalues the contribution of forestry to the national economy. Tanzania is in the initial

stages of developing a system of forest accounts, with support from the Centre for Environmental Economics and Policy in Africa, at the University of Pretoria. The project, called the Natural Resource Accounting Program for Eastern and Southern Africa 2003–06, is developing a local partnership with the University of Dar es Salaam, Tanzania's National Bureau of Statistics, and various key Tanzanian ministries (including natural resources and tourism) to gather data on the contribution of the various natural resource sectors to the economy as a whole.

The linkages between forest resources in rural areas and poverty reduction have been heavily studied in Tanzania, as elsewhere in Sub-Saharan Africa. Monela and others (2000) estimate that honey, charcoal, fuel wood, and wild fruits contribute 58 percent of the cash incomes of farmers in six villages surveyed in a semiarid region of the country. Honey alone accounted for one-third of all cash income in these villages. According to the surveyed farmers, agriculture has become less profitable, thus inducing them to find other means for earning a living, for example, collecting and selling forest produce. Infrastructure improvements have made it easier for them to bring their forest products to market for sale. Forest resources clearly provide an important "safety net" for resource-poor households, particularly at times when other income sources are unavailable (for example, when rains fail and harvests are poor).

The degree to which forests contribute to livelihoods is significantly determined by local tenure arrangements, the degree to which management responsibility has been devolved, and how secure any user rights are. Where communities have full control of forest resources and where full management responsibility has been devolved on a secure basis (as in CBFM), evidence from a number of studies suggests that impacts are realized both regarding restoration or maintenance of forest conditions, as well as improved livelihoods. However, where JFM is practiced, particularly in high biodiversity montane forests where local options for forest use are limited, impacts on local livelihoods are generally low (Blomley and Ramadhani 2006). A further constraint to households securing optimal benefits from woodlands and forests is the fragmentation of laws and policies regarding natural resource management.

## Forestry, Natural Resources, and Environment within Broader Poverty Reduction Processes

One key macroeconomic policy is the PRS, which is prepared for all heavily indebted poor countries to be eligible for World Bank funding and lending. The PRS is linked to debt relief programs under the enhanced Heavily Indebted Poor Countries Initiative. The PRS focuses on improving income and human development by tackling the constraints perpetuating poverty, which include poor governance, illiteracy, poor health, poor infrastructure, and food insecurity.

Tanzania developed its first PRS in 2000 and updated it three times before releasing the new PRSP, *National Strategy for Growth and Reduction of Poverty* or MKUKUTA<sup>4</sup> (Tanzania 2005a) in April 2005. The Kiswahili acronym MKUKUTA is a significant sign of emphasis and national ownership. MKUKUTA is the second national organizing framework for placing poverty reduction high on the country's development agenda. The document is outcome focused and is deliberately intended to mainstream cross-cutting issues, including the environment, into the 2005 PRSP. This was a response to recognition by the government of Tanzania, national stakeholders, and development partners that the environment and other important cross-cutting issues were not well addressed in the first PRSP (Tanzania 2000b), and that attention was essential to achieving sustainable poverty reduction and growth. An important feature of the development of the review leading to the 2005 PRSP has been national ownership and the implementation of extensive consultation with a wide range of stakeholders on the content and focus of the strategy, with the intention of making it a national strategy (Howlett 2005).

The government's program on poverty and the environment, and the focus on cross-cutting issues, has led to significant integration of environmental and natural resource issues into the 2005 PRSP. As it states, constraints to rural growth include low productivity of land, the erosion of the natural resource base, and environmental degradation. The present use of natural resources is unsustainable, such as wanton tree felling for charcoal production, poor farming practices that cause soil erosion, and unus-

4. The Kiswahili name for the new strategy is *Mkakati wa Kukuza Uchumi na Kuondoa Umaskini Tanzania* (MKUKUTA).

tainable fishing methods. This leads to poverty by eroding sources of livelihoods and destroying the environment. The 2005 PRSP clearly recognizes the role that natural resources can play in reducing poverty. It lists environmental issues as major factors in negatively impacting livelihoods, specifically weather extremes (for example, flooding and drought), and stresses from the gradual degradation of forests, soils, fisheries, and pastures. The document addresses the poverty-environment relationship, and asserts that poverty increases as the environment and natural resources are depleted in quantity and diversity.

Tanzania's Ministry of Planning, Growth, and Empowerment's Poverty Eradication Division, in collaboration with the National Environment Management Council, are charged with coordinating national environmental conservation efforts in Tanzania. They are also responsible for coordination of efforts to implement the MKUKUTA, including mainstreaming the environment and achieving the Millennium Development Goals. Tanzania's 2005 PRSP, *National Strategy for Growth and Reduction of Poverty* (2005a), emphasizes that the challenge is to implement policy and enforce mechanisms for sustainable natural resource exploitation. The plan goes on to explain that there has not been adequate encouragement of community participation in identifying, planning, and implementing steps to protect natural resources and the environment, or effective enforcement of existing regulations and bylaws. Tasks for reducing poverty in rural areas include increased contributions from wildlife, forestry, and fisheries to incomes of rural communities (Howlett 2005).

Operational targets for a sustainable environment and reduced vulnerability from environmental risk listed in the 2005 PRSP include vulnerability and environmental conservation, specifically, reduction in vulnerability to environmental disasters; conservation of soil, forest, and aquatic ecosystems that people depend on for production and reproduction; and reduction in land degradation and loss of biodiversity. Fourteen percent of the 99 targets in the 2005 PRSP are related to the environment and natural resources (Howlett 2005). Those that link directly to forests and forest management are presented in table A7.1 (see appendix).

Following development of the 2005 PRSP, the vice president's office embarked on a major initiative to develop indicators that linked poverty and

the environment and could be mainstreamed within the overall poverty monitoring strategy. Although this process is still ongoing, some of the finalized poverty-environment indicators that have an explicit link to forests and natural resources are presented below (Tanzania 2005b):

- proportion of households whose main income is derived from the harvesting, processing, and marketing of natural resource products
- percent of households in rural and urban areas using alternative sources of energy to fuel wood (including charcoal) as their main source for cooking
- total area reserved by central and local government for the purpose of conservation or sustainable natural resource management
- total area managed by mandated local institutions for the purposes of community-based natural resource management
- total value of revenue received from concessions and licenses for mining, forestry, fishing, and wildlife as percentage of their estimated value.

Tanzania is clearly making significant progress in mainstreaming the environment into poverty reduction strategies; however, to create targeted poverty reduction policies, the contribution of forests and natural resources to livelihoods and poverty reduction must be fully realized, which requires the information to be captured and measured. The first indicator listed above does not have the ability to capture forests and natural resource contribution to livelihoods accurately. The indicator, worded as "proportion of households whose main income is derived from the harvesting, processing, and marketing of natural resources products," loses the non-cash contribution that forests and natural resources have to livelihoods, and also does not capture the multitude of households that do not derive their main income from forests and natural resources. Given that poor households must put together a particularly diverse portfolio of livelihood options, this is a significant loss of information on the important role that forests and natural resources play in livelihood strategies. A more effective indicator is percentage of household livelihood contribution derived from the harvesting, processing, and marketing of natural resource products. However, it is acknowledged that this creates an issue of defining



“livelihood contribution,” which should really capture both cash and noncash consumption. Given the way the Household Budget Survey is structured, this may require two questions, one for cash and another for noncash (consumption/household use). If it is not currently feasible to capture livelihood contribution, the indicator can be adjusted to “percentage of household income derived from the harvesting, processing, and marketing of natural resource products.” Given that the Household Budget Survey is done at the household level, it is more useful also to capture to what extent households rely on forests and natural resources for their income. Moreover, the original indicator’s information can still be derived from either of the recommended indicators listed above.

The convergence of development planning frameworks with environmental issues has also been apparent in the forest sector. The 1998 National Forest Policy breaks new ground by explicitly recognizing the contribution made by forests to poverty reduction and human welfare. The overall goal of the National Forest Policy is to “enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations.”

This is mirrored in the goal of the NFP, which is stated as follows: “to reduce poverty and increase economic growth by managing forests sustainably without compromising environmental and cultural values” (Tanzania 2001). The NFP is built around sustainable development and sustainable forest management and emphasizes a number of development-oriented strategies, such as participatory forest management, small-scale forest enterprises, increased employment in forest industries, agroforestry and tree planting, and a more equitable sharing of forest management costs and benefits.

The degree to which the implementation of forest policy has delivered on increased development benefits at the local level is hard to assess accurately. This is in large part caused by poor monitoring and evaluation of impacts, which until now have been “...based on unreliable information, because of poor collection, analysis, and dissemination of information on forest resources” (Tanzania 2004). However, new MNRT data collection systems and management information systems are currently under development. Priority areas for forest sector monitoring include local government and commu-

nity forests, NFRs and general land forests, FBD plantations and forest industry, and beekeeping (Tanzania 2006).

Once improved monitoring systems are developed and institutionalized within the forest sector, it is anticipated that more accurate assessments can be made regarding the overall progress toward NFP indicators, as well as more accurate poverty-related reporting to the vice president’s office and the MKUKUTA Monitoring Secretariat. This, together with the recommended change in the national-level MKUKUTA poverty-environment indicator and other measures presented in this report, will go some way toward providing data on how forests and other natural resources are contributing to sustaining rural livelihoods and supporting poverty reduction.

## CASE STUDY, SHINYANGA REGION

The case study portion of this report draws on the more detailed study by Monela and others (2005), jointly undertaken by the FBD of the MNRT and the Eastern African Regional Office of the World Conservation Union (IUCN), as well as other works undertaken in the region.

The case study provides a detailed assessment of how forests contribute to local livelihoods in Tanzania’s Shinyanga region where, in the past two decades, the HASHI project has been promoting forest restoration through use of traditional pastoralist practices. The case study assesses how the transfer of use and management rights to the very lowest levels of society can reverse forest decline, provide incentives for sustainable forest management, and contribute to local economic development.

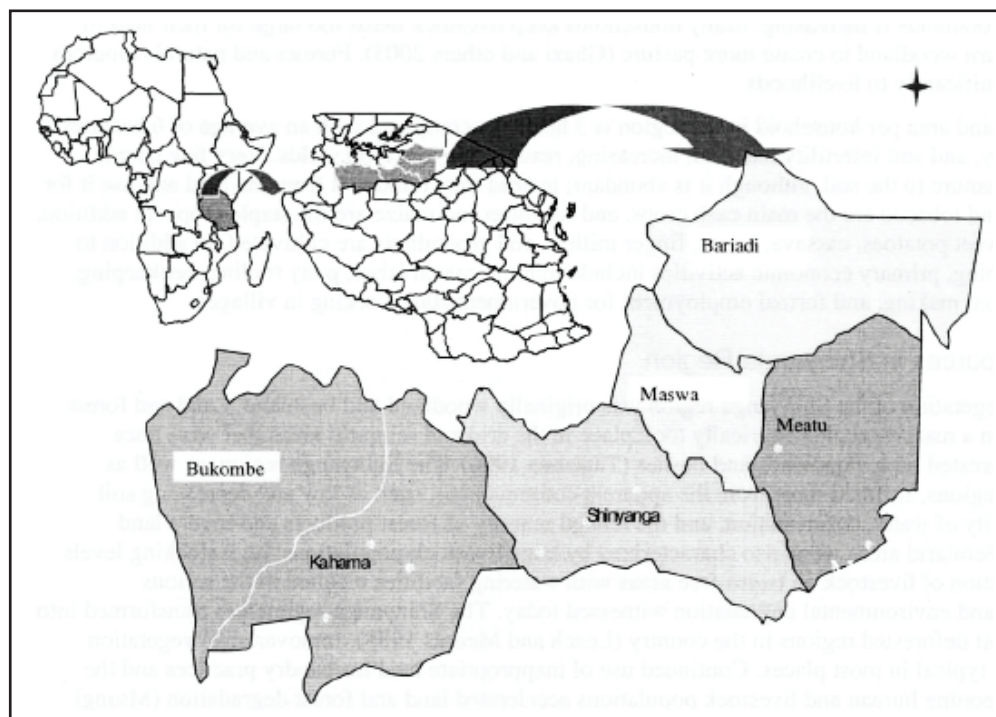
### Background on the Shinyanga Region

The Shinyanga region is situated in northwestern Tanzania (figure 7.1) and has an area of 5,076,400 hectares, of which 3,114,000 hectares is arable, 1,207,900 hectares grazable, and 754,400 hectares held in forest reserves (HASHI 2002). The Shinyanga region has about 2.2 million people, with an average annual growth rate of 2.8 percent and a population density of 42 people per square kilometer. Combined with an expansive agropastoral land-use system and subsistence and cash cropping, this high population density has exacerbated the impacts of the already-serious problem of clearing of land



FIGURE 7.1

Map of Africa and Tanzania, Showing the Districts of the Shinyanga Region



Source: Adapted from HASHI records 2002.

for cultivation and tsetse fly eradication. The area is predominantly semiarid, with an average annual rainfall of about 600–800 millimeters. Rainfall is erratic and poorly distributed, with high variability among seasons. Its low hills and plains are characterized by long dry summers, and natural vegetation has historically consisted of extensive *miombo* and acacia woodlands.

Shinyanga is one of the poorest and driest regions in Tanzania. The *Household Budget Survey 2000/01* (Tanzania 2002a) describes Shinyanga as one of four regions consistently poorer than average<sup>5</sup> and disadvantaged in most respects. The Shinyanga region has the lowest literacy levels in the country; 69 percent of children work, with a correspondingly low level of primary education net enrollment ratio (46 percent, which is the second lowest in the country). Forty-two percent of the population subsists below the basic needs poverty line, and 22 percent of the population in the region is below the food poverty line.

5. The other three regions are Lindi, Singida, and Mara.

Livelihood strategies in the region are strongly linked with the natural resource base endowment. The historical impact of livelihoods on the natural resource base in the region, especially before HASHI was launched in 1986, has generally been negative. More than 90 percent of the region's population lives in rural areas and practices agropastoralism, including subsistence agriculture for food and cash crops and livestock keeping (Monela and others 2005). Cattle are highly valued as a liquid asset, and grazing pressure on woodlands is increasing. Many households keep livestock herds too large for their land to sustain and burn woodland to create more pasture (Ghazi and others 2005). Forests and natural resources contribute significantly to livelihoods.

The average land area per household in the region is 3 hectares, compared with an average of 6 hectares for the country, and soil infertility has been increasing, resulting in low crop yields. Very few people apply cattle manure to the soil, although it is abundant; instead they remove it from the land and use it for fuel. Cotton and tobacco are the main cash crops, and sorghum and maize are the staple crops.

In addition, paddy rice, sweet potatoes, cassava, beans, finger millets, and groundnuts are cultivated. In addition to livestock keeping, primary economic activities include mining, casual labor, petty trading, beekeeping, timber, charcoal making, and formal employment for government staff working in villages.

### Forest Resources in Shinyanga Region

The natural vegetation of the Shinyanga region was originally woodland and bushland. Land and forest degradation on a massive scale historically took place in the arid and semiarid areas that were once extensively forested with woodlands and bushes (Tanzania 1996). The Shinyanga region, as well as surrounding regions, suffered most from the apparent consequences, such as low and decreasing soil fertility, scarcity of water, deforestation, and the related scarcity of forest products and severe land degradation. Semiarid areas were also characterized by huge livestock populations; high stocking levels and concentration of livestock on tsetse-free areas with watering facilities resulted in the serious overstocking and environmental degradation witnessed today. The Shinyanga region was transformed into one of the most deforested regions in the country (Leach and Mearns 1988). Impoverished vegetation cover became typical in most places. Continued use of inappropriate land husbandry practices and the effect of burgeoning human and livestock populations accelerated land and forest degradation (Msangi 1995).

Since the 1920s, as forests in Shinyanga were cleared, overused and degraded land and soil caused a sharp decline in the natural goods on which the Sukuma people have depended for centuries. Women began spending more time collecting formerly plentiful fuel wood, grasses to feed livestock became scarcer, as did traditionally harvested wild fruit and medicinal plants. By the 1970s, Shinyanga was experiencing severe ecological degradation and its population was feeling negative consequences in the form of decreasing incomes and lost livelihood (Monela and others 2005). Tanzania's government, the World Bank, and other agencies made some early attempts to reverse the ecological degradation, without success. Furthermore, during the 1970s, the socialist government of President Julius Nyerere adopted laws to increase communal ownership of rural lands. These laws promoted the process of "villagization," through which people were encouraged

to live in discrete villages where services could be better provided, and created a system in which the communal lands were not properly managed, leading to overuse and degradation. These initiatives largely failed to reverse the loss of indigenous woodland and prevent the resulting negative impacts on communities. In the case of earlier projects with a top-down, bureaucratic approach, villagers had little involvement or stake in the success of these efforts. Moreover, "villagization" also had negative impacts on indigenous natural resource management systems, such as *ngitili* (restored woodlands). Many *ngitili* were destroyed during the period, as villagization undermined traditional institutions and practices (Monela and others 2005).

### HASHI Program

Responding to the problems described above, in 1986 Tanzania's government dramatically shifted tactics and launched the people-centered, community-based Shinyanga Soil Conservation Programme (or HASHI from the Swahili "Hifadhi Ardhi Shinyanga").<sup>6</sup> The impetus came from President Nyerere himself, who after touring the region declared Shinyanga the "desert of Tanzania." By 1987, HASHI was operational, and by 1989 it had attracted additional long-term support from the Norwegian Development Assistance Agency. Such a long-term investment and partnership commitment between the governments of Tanzania and Norway has been a critical component of the success of this forest restoration, as it has enabled the taking of a long-term, empowering approach.

### Revival of Ngitili

The HASHI project was intended to improve rural livelihoods by reviving *ngitili* (Barrow and Mlenge 2004). *Ngitili* were traditionally used to provide forage for livestock—especially oxen—at the end of the dry season when villagers plow their land. Vegetation and trees are nurtured on fallow lands during the wet season so that fodder supplies are available for livestock during dry seasons. Two types of *ngitili* exist: enclosures owned by individuals or families, and communal enclosures owned and managed in common. Both were originally devel-

6. This section is based to a greater extent on Ghazi and others 2005.

oped by the Sukuma people, responding to acute animal feed shortages caused by droughts, loss of grazing land to crops, and declining land productivity (Barrow and Mlenge 2003). The HASHI project's approach to *ngitili* revival was to work with local people, first to identify areas requiring urgent land restoration, and second, to restore these areas according to customary practice. Field officers, employed by the FBD in the MNRT, worked closely with both district government staff and village government authorities—the lowest accountable bodies in Tanzania's governance system based on the Local Government Act of 1999 and Village Land Act of 1999.

In many villages, HASHI field officers used residual natural seed and root stock to restore *ngitili* enclosures. Some of the restored *ngitili* dated back to the days before villagization, and others were newly created by farmers and villages. In addition to restoring *ngitili*, villagers were encouraged to plant trees around homesteads (particularly fruit and shade trees), field boundaries, and farm perimeters. This restoration and tree planting helped improve soil fertility and provide fuel wood, with the side benefit of helping farmers to stake out and formalize their land rights within villages. Together with the World Agroforestry Centre, the staff of HASHI carried out much research to assess the potential for agroforestry and find out more about *ngitili* (Barrow and others 1988).

Armed with this powerful combination of traditional and scientific knowledge, villages across Shinyanga gradually revitalized the institution of *ngitili* and broadened its use from simple soil and fodder conservation to production of a wide range of woodland goods and services. Products such as timber, fodder, fuel wood, medicinal herbs, wild fruits, honey, and edible insects enhanced livelihoods and provided a vital safety net during dry seasons and droughts (Barrow and Mlenge 2003). In this process, agroforestry has helped broaden the opportunities for *ngitili* use in livelihoods and risk management.

### **Traditional and Local Institutions**

The successful results of the HASHI project are attributed to its support of the dual existence of traditional and local institutions in the restoration process. Promoting *ngitili* as the vehicle for land restoration increased local people's ownership of natural resources and their capacity and willingness

for sustainable management. Likewise, allowing traditional Sukuma institutions and village governments to oversee restoration efforts helped to ensure their region-wide success.

Although elected village governments officially manage communal *ngitili* and decide disputes regarding individually owned *ngitili*, in practice, traditional institutions have played an equally important role in most villages (Kaale and others 2003; Monela and others 2005). For example, although each village government sets its own rules on *ngitili* restoration and management, most use traditional community guards known as *sungusungu* and community assemblies known as *dagashida* for enforcement. The *dagashida* is led by a council of elders, which decides what sanctions to impose on individuals who are caught breaking *ngitili* management rules, for example, by grazing livestock on land set aside for regeneration (Monela and others 2005; Mlenge 1993).

HASHI field officers have worked to build the capacity and effectiveness of both official and traditional governance institutions. Elected village governments, for example, are increasingly using their powers to approve bylaws that legally enshrine the conservation of local *ngitili*. Such bylaws, once ratified at the district level, are recognized as legitimate by the national government (Barrow and Mlenge 2003).

### **Contribution of Forests to Poverty Reduction**

As a result of the HASHI project, by 2004—or 18 years into the project—at least 350,000 hectares of *ngitili* had been restored or created in 833 villages, encompassing a population of 2.8 million (Barrow and Mlenge 2004). Roughly half of the *ngitili* are owned by groups and half by individuals. Communal enclosures average 164 hectares in size, whereas individual plots average 2.3 hectares (Kaale and others 2003; Barrow and Mlenge 2004).

Although the impressive speed of *ngitili*-based reforestation has been apparent for several years, its impact on people's livelihoods and income has only recently been quantified. A major study by a 10-person task force, launched by the Tanzanian government and IUCN in 2004, combined detailed field research from 240 households in 12 villages with market surveys and other data analysis to quantify the HASHI project's benefits (Monela and others 2005).

### **Direct Economic Benefits to Rural Livelihood from *Ngitili***

Results of field research show that the HASHI project has made a number of significant direct household and village economic contributions in the Shinyanga region through *ngitili*. Specifically, the estimated value of benefits from *ngitili* in Shinyanga is US\$14 per person per month. This value is significantly higher than rural Tanzania's average per person monthly spending of US\$8.50 (Monela and others 2005). The value of the contribution of benefits from individual *ngitili* is higher than from communal *ngitili*, because households show a higher propensity for consumption of goods and services from their own individual *ngitili*, compared with communal *ngitili*. The degrees of economic contribution of *ngitili* also differs across districts, as districts with better tree stocks due to a better climate having a higher value of economic benefit. The values for one district are also high due to the higher level of *ngitili* awareness established through political campaigns.

In assessing the economic impacts of the HASHI project on household economies in the Shinyanga region, the economic contribution of goods and services from *ngitili* in households in HASHI areas of concentration was compared with households outside HASHI areas of concentration. In 71 percent, or five of seven districts, of the Shinyanga region, higher values were realized from HASHI areas of concentration than from areas outside HASHI concentration.

Given the significant contribution of products from *ngitili*, the extent to which each forest product contributes to the rural economy is of interest. According to the field study in the Bukombe District, 16 natural products were commonly harvested from *ngitili* in the Shinyanga region. Of the 16 products, timber and non-timber forest products, such as fuel woods, water, and medicinal plants, were of greatest economic value to households. Other valuable outputs included fodder, thatch grass for roofing, and wild foods, such as bush meat, fruit, vegetables, and honey (Monela and others 2005). This indicates that households could benefit more by concentrating on production of goods and services from *ngitili* that yield high direct values to household and village economies to maximize benefits.

### **Indirect Economic Benefits from *Ngitili***

The value of benefits from *ngitili* manifest a multiplier effect generated through improved livelihoods, security for social services, and improved sustainable land-use management resulting in improved environmental services, such as better soil and water quality. The indirect benefits accrued from *ngitili* to rural livelihoods in Shinyanga include improved health, education, and gender equality. Overall, the percentages of households whose economic well-being at the family level has increased and improved from benefits from *ngitili* are as high as 64 percent. In fact, the restored *ngitili* contribute to household and community well-being by providing funds to pay fees for primary and higher levels of education; reducing the length of time for women to collect fuel wood and water; diversifying diets and serving as a food source in times of hardship; improving access to clean water; improving health through the use of herbal remedies and wild foods and fruits; providing forage for livestock, resulting in higher dairy production; and contributing to biodiversity conservation. The new abundance of fruits, vegetables, and edible insects has improved local health, while easy access to thatch grass has improved housing. Income from timber and non-timber products has been used for construction of classrooms, health care centers, and village offices. The higher water table and dry season springs have improved water availability. On the negative side, wildlife has caused some damage to crops and livestock.

*Ngitili* restoration has considerably reduced labor required for collecting various forest products in all districts of the Shinyanga region. Significant gains have been made in reduced time and effort required to collect fuel wood, thatch grass, poles, fodder, and water. These are typically women's jobs; hence, the reduced time and workload are a great relief for women. Collection time for various *ngitili* products in the Shinyanga region was reduced by two to six hours a day for collecting fuel wood, one to five hours for collecting poles, three to six hours for collecting fodder, and one to six hours for collecting thatch materials. "I now only spend 20 minutes collecting fuel wood. In the past, I spent two to four hours," reported one Sukuma woman, who harvests branches from the family *ngitili* (Barrow and Mlenge 2004).

## **Contributions to Biodiversity and the Environment**

Nature has also benefited from the HASHI project, with a big increase in tree, shrub, grass, and herb varieties, as well as bird and mammal species (Monela and others 2005). Not only are the restored woodlands important economic assets, they are also fostering richer habitats and the recovery of a variety of species. The task force found 152 species of trees, shrubs, and climbers in restored *ngitili*, where recently scrubby wasteland had stood. Small- and medium-sized mammals such as hyenas, wild pigs, deer, hare, and rabbits are also returning, and the task force recorded 145 bird species that had become locally rare or extinct (Monela and others 2005). Besides providing habitat for animals, *ngitili* have provided breeding grounds for some seasonal bird species. Individual *ngitili* are well defined and of better quality, in terms of volume of wood and tree species diversity, compared with communal *ngitili*. Communal *ngitili* provide a larger habitat and are typically less intensively managed; however, the returning wildlife has also created problems. Some villages have suffered considerable crop damage. Growing hyena populations, as one example, are taking a toll on livestock. Nonetheless, the costs of wildlife damage, which average US\$63 per family per year, are greatly outweighed by the economic gains from *ngitili* in most villages (Monela and others 2005: 58–61, 67).

### **HASHI Challenges**

The HASHI project has resulted in numerous successful outcomes, drawing attention far beyond Shinyanga's borders, and the practice has already spread to neighboring regions and, indeed, has become a participatory forest management example for many parts of Tanzania.<sup>7</sup> Yet, a field study has pointed out several challenges the HASHI project is confronting. First, decisions on where to situate *ngitili* and what rules should govern them have not always been democratic. Although many communities established communal enclosures through the village assembly—in which every registered adult can vote—others are chosen arbitrarily by village

7. Unless otherwise noted, this section is based on Ghazi and others 2005.

governments without public consultation (Monela and others 2005). Second, benefits from *ngitili* restoration are distributed unequally on the basis of gender and wealth status in a community. A third challenge comes from recent demographic and land-use trends that present challenges to continued expansion of *ngitili*. These include scarcity of land and insecurity of tenure, rapidly growing human and livestock populations, damage to livestock and crops caused by growing wildlife populations, and unregulated sales of individually owned *ngitili* (Monela and others 2005).

### **HASHI Findings**

Traditional knowledge and practices are an effective foundation for local action. Traditional institutions can act as effective vehicles for reducing poverty through environmental regeneration. In Shinyanga, these institutions meshed successfully with the more modern institutions of the popularly elected village councils. Both are necessary for the continued success of *ngitili* restoration. To be successful, both sorts of institutions need to recognize the comparative advantages of the other; too often the role and importance of traditional institutions have tended to be downplayed.

Another finding is that local knowledge helps decentralization succeed. Devolving responsibility for land management to local communities and institutions is often more effective than imposing centralized, top-down solutions. Local or indigenous knowledge of natural resources and traditional institutions and practices can be an invaluable resource, lending crucial site-specific information for management, and improving community buy-in and compliance with management rules. Successful forest restoration requires two key elements: the recognition and use of traditional knowledge, coupled with devolution of rights and responsibilities to forest management. Only when the HASHI project embraced a more participatory and empowering strategy did *ngitili* restoration begin to spread quickly. However, this also required active policy support for such devolved management, which came about at a time that Shinyanga had revised forest and tenure laws and policies.

Regenerating local ecosystems can also deliver significant improvements in livelihood security to rural families who depend on natural resources.



*Ngitili* benefits—both subsistence products and cash income—have increased family assets and nutrition, as well as generated income for public benefits, such as classrooms and health clinics. In this way, *ngitili* restoration has contributed directly to achievement of the Millennium Development Goals, improving household incomes, education, and health, while restoring biodiversity and ecosystem integrity. Although this restoration process has been more concerned with livelihood improvement and security, very significant biodiversity and environmental benefits have been generated.

Inequitable power relations between men and women and rich and poor, however, can slant the benefits of *ngitili* restoration away from those who most need them. Without active intervention, the greater productivity that *ngitili* restoration brings will benefit those with more land and assets, such as livestock, simply perpetuating existing inequities and wasting some of the potential of *ngitili* for poverty reduction. Landless people are also clearly not able to benefit much from *ngitili*. Although women have gained a lot from forest restoration, it is less clear to what extent they are actively involved in *ngitili* management and decision making on use, particularly with respect to family-level *ngitili*.

Insecurity of tenure can also restrain the willingness of both communities and individuals to undertake *ngitili* restoration and sustainably manage these enclosures. Clearly acknowledging the secure tenure in national law, the secure tenure of both private and communal *ngitili* will help ensure continued HASHI success. It is encouraging that this is gradually happening, both through the Forest Act (and its provisions for village forest reserves and recording of forests at the local level) and through the Land Act (which devolves land ownership and administration to the village level).

## CONCLUSION AND RECOMMENDATIONS

Important steps have been made during the past decade to integrate poverty reduction objectives within forest policy and practice, as well as mainstreaming the contribution of forestry and natural resources within broader poverty reduction policies. At the local level, projects such as HASHI in Shinyanga have been highly successful in using the new opportunities presented under the Forest Act to empower local stakeholders in forest restoration and

sustainable management in a region that is highly vulnerable to environmental degradation. Traditional and indigenous practices for reserving dry season grazing areas (*ngitili*) have been revived by placing them within a modern legal context. As a result, a significant area of land has been reforested and placed under the ownership of individuals, groups, and communities, and significant economic and livelihood benefits have been realized.

The recommendations presented in this section are separated into two parts: those for national-level policy makers on how poverty and forestry programs, policies, and implementation frameworks can be further merged, and those for local-level policy implementers who are working at the community level on forest restoration and management.

### National-Level Recommendations

- MKUKUTA’s “Cluster 1: Growth and Reduction of Income Poverty” (table 1) is concerned with growth and the reduction of income poverty. Under this cluster, “Goal 4” aims to reduce the income poverty of men and women in rural areas, with the target of “increased contributions from wildlife, forestry, and fisheries to rural incomes.” Monitoring of this goal will come through a system using censuses, surveys, and routine data collection. The PMO will link with the Local Government Monitoring Database to ensure provision of disaggregated data to facilitate monitoring at all levels. Forestry was not initially included in this system, because in the first phase, only priority sectors (such as health and education) were included. The Prime Minister’s Office-Regional Administration and Local Government (PMO-RALG) is now reviewing the system with a view to adding new sectors, and has expressed a willingness to include forestry indicators. The FBD has a clear opportunity to engage with PMO-RALG to include some of the NFP indicators within the Local Government Monitoring Database. If successful, local-level forestry indicators will be collected through another ministry for all districts in mainland Tanzania.
- Forest and natural resource contributions to poverty reduction are not currently captured very well by the Household Budget Survey or Agriculture Survey. The FBD recently proposed modified indicators to rectify this; however, not



all the proposals were accepted, particularly regarding the indicator that measures the contribution of natural resources to household incomes. It is important for forestry representatives to remain engaged in the processes for key poverty monitoring (such as the Routine Data Working Group convened by the vice president's office) to ensure that the contribution of forests and natural resources to household livelihoods and poverty reduction are viewed as appropriate data to be considered and captured.

- Tanzania is in the initial stages of developing a system of “Forest Accounts,” with support from the Centre for Environmental Economics and Policy in Africa’s Natural Resource Accounting Program for Eastern and Southern Africa (2003–06). The resources and political support for this program are limited at present, and researchers at Dar es Salaam University are at present largely leading the process. The initiative needs to be further supported and given a higher profile within the vice president’s office, as well as the Ministry of Finance, to ensure that results are supported and disseminated.
- MKUKUTA cluster priorities and targets are linked sectorally through the Medium-Term Expenditure Framework and budgeting processes, which are tied to financial resource allocation. The FBD must now become more proactive in “arguing its case” for how forest policies and programs contribute to poverty reduction. Documentation and dissemination from field experiences of projects, such as HASHI, are an important step forward, but much needs to be done if increased financial allocations are to be made by the Ministry of Finance. The Program on Forests (PROFOR) toolkit for forestry and poverty can also make important contributions in this regard.
- Despite the sound legal framework for devolving forest management rights, responsibilities, and returns to local stakeholders, a major stumbling block for further scaling up remains—detailed guidelines or regulations for the sharing of costs and benefits are not available. This means that JFM agreements are often stalled or, where approved, tend to be highly conservative regarding devolving forest user rights to local communities. A recent survey conducted by the FBD found that, although more than 700 villages were involved in either establishing or implementing

JFM, only 149 had signed agreements (Tanzania 2006b). An urgent need exists, therefore, to develop clear, transparent and user-friendly legal guidelines that can be issued to both communities and forest managers regarding the sharing of costs and benefits. This could include setting “minimum quotas or shares” received by communities when forest royalties are shared, as well as a transparent mechanism for receiving and sharing forest royalties in areas covered by JFM agreements. In protective forests, the challenge is greater, as harvesting itself is restricted and local benefit streams are minimal. More creative thinking is clearly required, such as comanaged boundary plantations, retention of forest fines, and other sources of revenues by communities, supported by long-term initiatives, such as payments for environmental services, related to water, power, carbon, and biodiversity. Without these reforms, JFM will be unable to deliver on poverty reduction objectives and comanagement arrangements will be jeopardized.

- In addition, due to the “sectoralization” of the natural resource sector, different laws, procedures, and local institutional arrangements exist for community-level management of wildlife and forest resources. In June 2006, four wildlife management areas were formally gazetted by the wildlife division for the first time in Tanzania, allowing communities to be wildlife managers and benefit directly from revenues from tourist hunting of wildlife. These areas (often greater than 100,000 hectares) support large volumes of valuable *miombo* timber and, as such, have the potential to provide local revenue streams from forest harvesting; however, for communities to capture these benefits, they must embark on a separate process for establishment of VLFRs, which are governed by different village-level institutions. To date, no case exists in which wildlife management areas are overlain by VLFRs, and the legal consequences for this are unclear. However, perhaps the greatest risk is institutional conflicts caused by overlapping and competing mandates of different community-level organizations. The need exists to resolve these conflicts through development of legislation or regulations that harmonize these two programs, allowing for more integrated management of natural resources at the local level.

## Local-Level Recommendations

The Tanzanian government needs to take several additional steps to improve the economic benefits from *ngitili* and thus their livelihood impact (Monela and others 2005).<sup>8</sup> These include:

- Supporting better *ngitili* management. The state can provide technical help and targeted research specifically intended to raise *ngitili* productivity. For example, it could help improve fodder productivity by introducing more nutritive and productive tree, shrub, and grass species. It could also research the best methods and timing of cutting and pruning *ngitili* trees to maximize production.
- Monitoring *ngitili* trends and facilitating lesson sharing. The state is in a unique position to offer certain kinds of support that require a national, rather than local, perspective. For example, using satellite imagery, the state could track nationwide changes in land use and biodiversity related to *ngitili* restoration to help HASHI officials understand the macro-scale impact of their activities and better target their aid. The state could also mount a national effort to document *ngitili*-related benefits and innovations, helping communities to share their successes and learn from others through public education campaigns and knowledge networks.
- Expanding markets for *ngitili* products. Increasing the income stream from *ngitili* would help sustain Shinyanga's land-use renaissance by making *ngitili* even more essential to local livelihoods. One of the most effective ways to do this is to expand the markets for *ngitili* products. The state could help by supporting small-scale processing plants to diversify and add value to *ngitili* products (by making timber into furniture, for example); by removing burdensome regulations and other barriers to *ngitili* expansion and establishment of local enterprises based on *ngitili* products; and by helping households access local and regional markets for their *ngitili* products by providing relevant and timely market information.
- Formalizing *ngitili*, using provisions of the Land Act and Forest Act. Unclear and ambiguous

tenure status of *ngitili* in Tanzanian law limits establishment of new *ngitili*. Clear tenure rights in national laws are needed to provide secure tenure for both private and communal *ngitili*.

The success of long-term forest and woodland restoration will ultimately depend on the extent and willingness of the farmers and agropastoralists of the Shinyanga region and beyond to manage trees and woodlands as part of their farming systems. For this to be successful as a long-term strategy, these forests and woodlands must continue to be seen as socially, economically, and environmentally valuable to these people. This case study has demonstrated the present-day importance of the *ngitili* to the land users of Shinyanga region. To reinforce this, more economic opportunities for tree and forest products will need to be sought through improved local-level processing, value adding, and marketing. This will help assure that *ngitili* remain a key component of land management and livelihood strategies of the people of Shinyanga.

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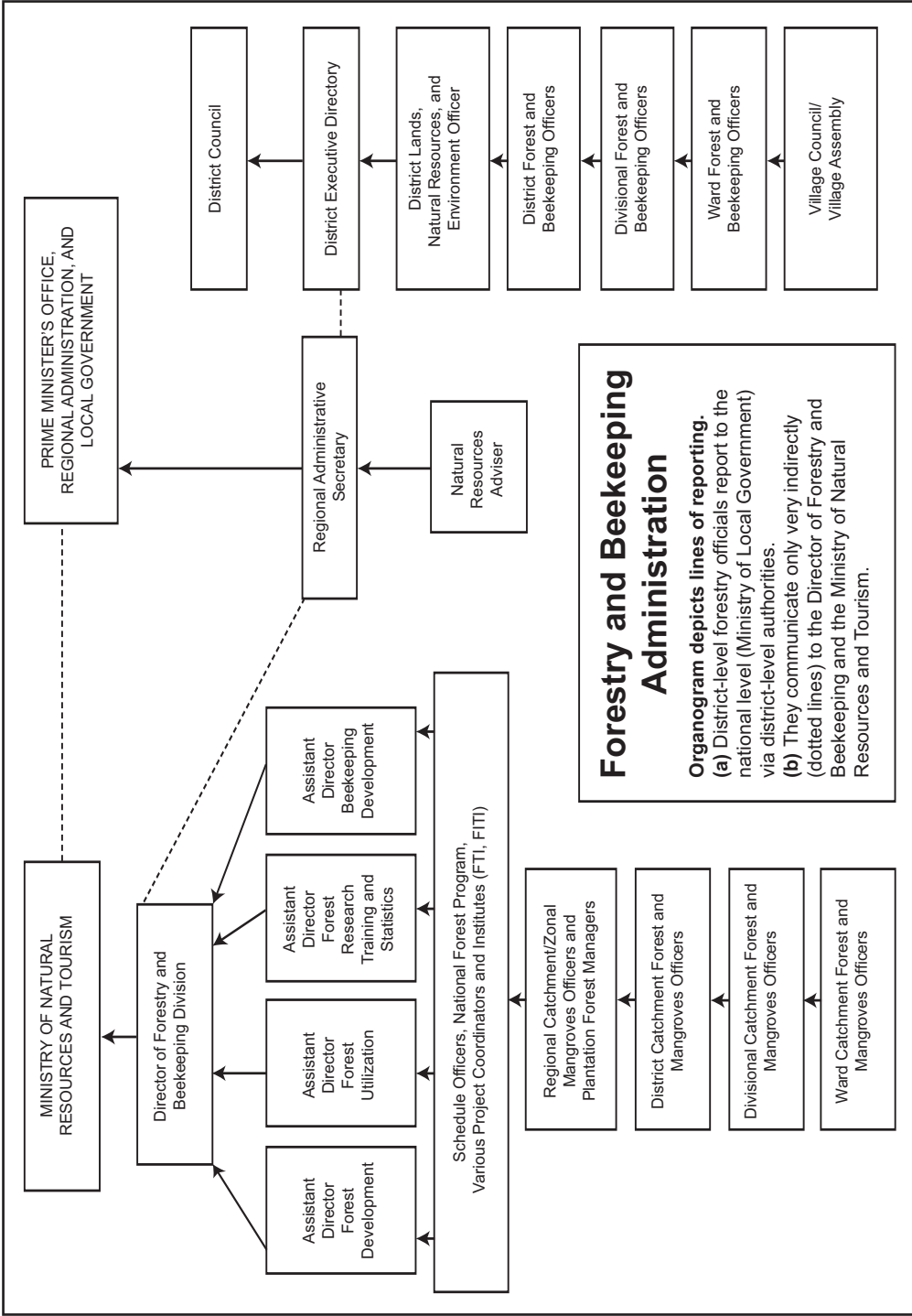
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**FIGURE A7.1**  
Institutional Arrangements for Forest Management



Source: Authors' research.



TABLE A7.1

Summary of Forestry-Related Goals and Strategies in the National Strategy for Growth and Reduction of Poverty

<b>Cluster 1: GROWTH AND REDUCTION OF INCOME POVERTY</b>	
<b>Goal 2:</b> Promoting sustainable and broad-based growth	<i>Strategy:</i> Protect property rights, reduce environmental damage, and improve production and productivity in energy, industry, agriculture, fisheries, forestry, tourism, communications, transport, and so on
	<i>Strategy:</i> Improve land management, including tree planting, establishment of village land forest reserves (community-based forest management) on village land, and maintaining integrity of protected area network
<b>Goal 4:</b> Reducing income poverty of both men and women in rural areas	<i>Strategy:</i> Ensure sustainable management of water catchment areas and maintenance of forest cover in critical highland catchment areas
	<i>Strategy:</i> Develop programs for increasing local control and earnings in wildlife management areas and establish locally managed natural resource funds, tapping into local traditional knowledge
	<i>Strategy:</i> Scale up participatory forest management in all districts as a mechanism for increasing the income of rural communities from natural resource management
	<i>Strategy:</i> Harmonize natural resource sector policies and strategies and remove any conflicts in laws and regulations improve land conservation measures and community-based and environmentally sound natural resource management
<b>Goal 5:</b> Reducing income poverty of both men and women in urban areas	<i>Strategy:</i> Ensure sustainable natural resource use to ensure energy supplies are maintained (forests, water catchments, and charcoal industry)
<b>CLUSTER 2: IMPROVEMENT OF QUALITY OF LIFE AND SOCIAL WELL-BEING</b>	
<b>Goal 1:</b> Increased access to clean, affordable, and safe water, sanitation, decent shelter, and a safe and sustainable environment, thereby reduced vulnerability from environmental risk	<i>Strategy:</i> Sustainable management of catchment forest areas
	<i>Strategy:</i> Improve land management and adoption of water conservation, technologies, implementation of national plans under multilateral environment agreements to halt desertification and land degradation, and restore degraded lands
<b>CLUSTER 3: GOVERNANCE AND ACCOUNTABILITY</b>	
<b>Goal 1:</b> Structures and systems of governance as well as the rule of law are democratic, participatory, representative, accountable, and inclusive.	<i>Strategy:</i> Enforce and harmonize policies and laws relevant to land and natural resource utilization and management all village and urban lands are surveyed and certificates are issued
	<i>Strategy:</i> Develop effective mechanisms to ensure equitable access and use of environment and natural resources, especially for poor and vulnerable groups

Source: Tanzania 2005a.



The majority of the world's poor are concentrated in rural areas and depend on natural resources—forests in particular—for their livelihoods.

By adopting the Millennium Development Goals (MDGs), countries have given themselves a target of halving global poverty by 2015. Given the importance of forests for the rural poor, it is increasingly argued that these can be a resource for poverty reduction.

National economic planners and policy makers have lacked information on the extent to which forest resources contribute to rural economies, while national forest plans ignore poverty altogether.

The case studies and the synthesis presented in this report were compiled to highlight the economic value of forests for poverty reduction and enhancing livelihoods, to better incorporate forests into national poverty reduction strategies. They present the findings of a rapid methodology to appraise

forest-livelihood linkages in rural areas and explore how sustainably managed forests can help to enhance rural livelihoods. They also describe links to national-level indicators of welfare that are used to measure a country's progress towards the MDGs.

These case studies were used to develop the Poverty-Forests Linkages Toolkit, designed to provide national government and other interested parties with easily comprehensible quantitative data on the value of forestry to poor rural households. The first part of the toolkit discusses and guides the networking and research that is needed at national level to understand the contribution of forest products to rural livelihoods, and in due course enrich national poverty reduction instruments. The second part gives guidance on carrying out fieldwork at village-level to assess the contribution of forest products to rural livelihoods. For more information on the Poverty-Forests Linkages Toolkit, visit [http://www.profor.info/livelihoods\\_activities.html](http://www.profor.info/livelihoods_activities.html).



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