OVERVIEW AND NATIONAL LEVEL ENGAGEMENT
THE TWO PARTS OF THE PROFOR POVERTY-FORESTS LINKAGES TOOLKIT

The toolkit provides a framework, fieldwork methods and analytic tools to understand and communicate the contribution of forests to the incomes of rural households. It is presented in two parts.

PART 1
THE NATIONAL LEVEL

Purpose: Part 1 discusses and guides the networking and research that is needed at national level to understand and communicate the contribution of forest products to rural livelihoods.

Users: Part 1 is intended for the researchers, government officials, staff of national or international NGOs, or consultants who are involved in taking responsibility for the use of the Poverty-Forests Linkages Toolkit at national and local levels. Part 1 also provides the necessary foundation for building relationships and buy-in from decision makers in the audiences described above.

Content: Part 1 provides information on the overall use of the toolkit, an overview of Poverty Reduction Strategies and national forest programs, advice on how to link with key policy makers and officials, and guidance on how to make sure the toolkit fits appropriately into both the country’s general poverty reduction process and into the forest sector’s commitments and interests. It also suggests means of communicating the findings of Part 2 effectively at district and national levels.

PART 2
THE FIELD MANUAL

Purpose: Part 2 gives detailed guidance on carrying out fieldwork at village-level to assess the contribution of forest products to rural livelihoods.

Users: Part 2 is aimed at the groups gathering data in the field - NGOs, CSOs and local-level officials. It is adapted to local capacity and assumes that members of this audience will need initial training in the use of the toolkit in the field, but that they would be able to manage the process alone on a subsequent occasion.

Content: Part 2 gives suggestions for site selection, pre-field planning and organization of the field visits. It goes on to describe the field tools, with instructions for their use, providing all the charts needed together with examples illustrating the data they generate. There are full explanations of the purpose of each tool, the materials needed for each, and problems to look out for. The language and explanations have been made as simple and clear as possible.

Part 2 is designed so that it can be used as a free-standing manual for use in the field.
Preface iii

Section 1: An overview of the Poverty-Forests Linkages Toolkit

Introduction 1
Poverty reduction and the potential contribution of forests 1
What is the problem to which the toolkit is the solution? 3
Who are the target audiences for results generated by the toolkit? 4
Other audiences 4
Who are the users of the toolkit? 4
How the Poverty-Forests Linkages Toolkit can be used 6
What the Poverty-Forests Linkages Toolkit can be used to deliver 6

Section 2: National Level Engagement and Analysis

Introduction 9
The Poverty Reduction Strategy Process 9
The forest sector and national forest programs 10
Preliminary national level tasks for toolkit users 12
Understanding the interfaces between levels of authority 16
Building interest in the toolkit 18
How to make sure the toolkit fits appropriately into both the country’s general poverty reduction process and into the forest sector’s commitments and interests 19
Checklist of information to collect at the national level prior to fieldwork 20

Section 3: Preparing and presenting data for different audiences

Reporting to the District and Provincial Levels 23
Reporting to the National Level 26

Annex 1: Status of PRSPs (as of August 2008), with nfp status and World Bank Country Income Classification 37

Annex 2: Further reading on forests and poverty 40

Annex 3: Spreadsheet Template used to Provide National Overview, and Worked Example from Uganda 41

Acronyms inside back cover
Over the past few years there has been a growing interest in the role that forests play in supporting the poor, in reducing their vulnerability to economic and environmental shocks, and in reducing poverty itself. International workshops in Italy, Scotland, Finland and Germany have focused on the contribution of forests to livelihoods and the policies needed to strengthen that contribution. More recently, in late 2006, FAO, ITTO and other partners held a major conference on the subject in Vietnam. However, this debate has remained largely among forestry professionals, and the case for the contribution that forests make toward poverty reduction is yet to be convincingly made to policy makers concerned with poverty in key Ministries such as Ministries of Finance, Planning or Local Government, or in the supra-ministerial bodies where Poverty Reduction Strategy (PRS) processes are often located. The role of forests in poverty reduction has not so far been reflected in any significant way in national level strategy.

At the same time, Forestry Ministries, though they are now beginning to feel challenged to demonstrate the ways in which forests contribute to poverty reduction, are for the most part moving only slowly to collect new kinds of data to meet this challenge. Their previous experience of data collection has not prepared them for this.

In May 2004, IUCN, ODI, CIFOR, PROFOR and Winrock International formed a working group partnership to consolidate and build upon the growing knowledge base from field work and research efforts on the different ways in which forests benefit the poor. The objective of the partnership was four-fold: first, to devise a rapid methodology for appraising forest-livelihood linkages from field exercises; second, to undertake more extended research through a series of case studies in six countries; and third, and most importantly, the objective was to devise ways by which locally gathered data could enrich national level and in due course national level processes such as PRSPs (Poverty Reduction Strategy Processes) and nfps (national forest programs).

Finally, the availability of this data would better equip countries for international country reporting on forests, and for participation in the international dialogue on forests.

This toolkit is the key product from the partnership. It has been tested in Indonesia, Tanzania, Cameroon, Ghana, Madagascar and Uganda, with the help of external agencies.

It is also worth noting that as the toolkit methodology is directed at strengthening the ‘voice of the poor’ in national policy debates it has relevance to other policy processes beyond poverty reduction. One example would be the emerging attention being given to the role of forests in national climate change policy. The need to inform and enrich policy development with the experiences of the rural poor is as much needed to secure knowledge base from field work and research efforts on the different ways in which forests benefit the poor. The objective of the partnership was four-fold: first, to devise a rapid methodology for appraising forest-livelihood linkages from field exercises; second, to undertake more extended research through a series of case studies in six countries; and third, and most importantly, the objective was to devise ways by which locally gathered data could enrich national level and in due course national level processes such as PRSPs (Poverty Reduction Strategy Processes) and nfps (national forest programs).

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sustainable policy positions around climate change as it is for wealth generation and poverty reduction. The focus in this document on Poverty Reduction Strategy Papers could therefore be replaced by other statements of national policy.

In the development of methodology for the appraisal of forest-livelihood linkages in the six extended country case studies, we would like to recognize the contributions of the following people: from Winrock International in Guinea—Chris Kopp and Boubacar Thiam; Nepal—Erin Hughes and Shyam Upadhyaya, Tanzania—Devona Bell; from CIFOR in India—Deep Pandey and Brian Belcher; from ODI in Indonesia—Gill Shepherd, Adrian Wells, and Martin Kayoi; from IUCN in Lao PDR—Andrew W. Ingles, Souonthone Kethpanh, Andy, S. Inglis, and Khamphay Manivong; and R. J. Fisher and Ed Barrow.

Special thanks go to Gill Shepherd (ODI/IUCN) for first developing the Toolkit as a way of gathering data on the overall links between poverty reduction, livelihoods and forests. She led its initial testing in Papua, Indonesia for DFID with Adrian Wells and the Provincial Forestry Department (in highland, lowland and mangrove sites) in 2004, the findings being used by the Provincial Chief to make policy arguments at national level. Following redrafting, she re-tested both parts in Tanzania for PROFOR with Devona Bell (Winrock) in 2006. She again revised both parts of the Toolkit after the completion of the test, and this version was circulated for extensive in-house review within the World Bank. A final revision incorporating comments and suggestions from reviewers was completed in late 2006. The text was then ready for external reviewers.

We thank Carolyn Peach Brown for her critical review of the draft chapters, and our dedicated colleagues at the World Bank, Jill Blockhus, Laura Ivers, Grant Milne, and Moeko Saito, for their support, inspiration and contribution.

After the case studies were completed, a multi-country team evaluated and developed the toolkit further in four countries: Cameroon, Ghana, Madagascar and Uganda between February 2007 and July 2008. This development phase of the toolkit was managed by Sonja Vermeulen of IIED, Des Mahony and Sarah French of the Centre for International Development and Training (CIDT) and Neil Bird of ODI. The team leaders in the four countries, who led the testing and evaluation activities, were: Cornelius Kazoora of the Sustainable Development Centre, Uganda, Rakotomamonjy Rasamoelina of FONIALA, Madagascar, Elijah Danso of Environnement and Development in Ghana, and Camille Jepang from the IUCN regional office in Cameroon.
INTRODUCTION

There are two main reasons why the role of forests in poverty reduction has not so far been reflected in any significant way in either national level Poverty Reduction Strategy (PRS) processes or in national forest programs (nfps).

First, most countries have little data available to illustrate how forests contribute to the livelihoods of poor households. Second, the data that does exist rarely gets presented in ways that are meaningful to those designing PRSPs and nfps. On the poverty side, there is a tendency to underestimate the contribution of forests, and off-farm natural resources in general, to livelihoods. On the forestry side, reporting is typically in terms of the physical resource (trees planted, forest cover improved, timber sold) rather than livelihoods, with the sole exception of recording the number of people formally employed in the forest sector. Such reporting sheds no light on the contributions made by forests to the lives of the poor.

POVERTY REDUCTION AND THE POTENTIAL CONTRIBUTION OF FORESTS

Ways of conceiving and measuring poverty have evolved over time, as the chart below shows, from the use of a purely dollar-based approach to attempts to capture the voices of the poor themselves in their experience of poverty.

Poverty has often been defined as having insufficient material (income, food), or other resources (health, education) to maintain an adequate standard of living. More recently it has been broadened to recognize the

<table>
<thead>
<tr>
<th>THE EVOLUTION OF THE POVERTY CONCEPT</th>
<th>Can the contribution of forests be identified this way?</th>
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<tbody>
<tr>
<td>From clear-cut objective measures</td>
<td></td>
</tr>
<tr>
<td>1945-1960s Monetary income/consumption National income stats + household income surveys</td>
<td>Yes</td>
</tr>
<tr>
<td>1970s-1980s Basic needs and poverty alleviation. Nutrition, food security, health, education</td>
<td>Yes</td>
</tr>
<tr>
<td>1990s Non-monetary income/consumption More effort to ensure that goods not entering the marketplace are also taken account of in assessing poverty.</td>
<td>Yes</td>
</tr>
<tr>
<td>1990s-2000 Empowerment, security, control of resources. Poverty reduction may come in part through better governance, and devolution. Resource control gives greater security, reduces vulnerability.</td>
<td>Yes if resources are allocated in a pro-poor way.</td>
</tr>
<tr>
<td>2001 Poverty is seen (by Amartya Sen) as ‘capability deprivation’. Poverty reduction is, in part, access to more freedom of choice.</td>
<td>Unclear what this means for forests.</td>
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</tbody>
</table>

Parts of this table are drawn from data in Arild Angelsen and Sven Wunder 2003, ‘Exploring the Forest-Poverty Link: key concepts, issues and research implications’. CIFOR Occasional Paper no 40.
importance to the poor of assets (natural, physical, financial, human, and social) with which to generate or sustain an adequate livelihood, and of the empowering arrangements that allow them, if they are in place, to convert those assets to livelihood improvements.

Research in recent years has shown that the poor are more vulnerable, more exposed to risk, and have to make a living from more diverse resources than the less poor. It has shown that the poor may not have the power or confidence to express the need for change—or a platform for the purpose. Research to illuminate the situations of the moderately poor (the just-poor) and of the very poor (the chronic poor who inherit and bequeath poverty) has been important. And so has work that illuminates the poverty differences dictated by age, gender, ethnicity, class or caste and other culturally specific variables.

Applying this improved understanding of poverty to the role that forests can play has been pioneered in studies by several of the institutions in the PROFOR Working Group. These studies all suggest that despite the common (but by no means universal) trend in many countries for natural forest cover to decline over time, supplies from forests continue to be very important to rural people. They are valued for a wide range of current consumption needs and for small regular sources of cash. These values increase in times of difficulty such as when rains fail, or when productive members of the household fall ill or die. They are also important in helping to even out seasonal fluctuations in food availability, or for portions of the year when some household members are absent as seasonal migrants. They are especially important in remote areas, further from markets and roads, where income-generation and laboring opportunities are more limited.

Although wealthier rural households within a community may be greater users of forest products by volume, poorer households often depend on the forest for a larger proportion of their overall livelihoods. They supplement returns from their more limited land, wealth in animals, and pool of labor with forest income, and while the amount of income obtained from forest products may be small, as a proportion of overall annual cash and non-cash income, it is often significant. Forest product-gathering activities can be particularly important to women because many activities can be combined with household tasks, require no capital start-up costs, and generate cash which women can allocate to ends not prioritized by their husbands.

Finally, and least well understood, is the role that forests play in reducing long-term poverty and in helping people to escape from poverty. Some researchers have investigated this topic in a rather narrow way, and if they cannot find forest products which directly and in short order lift their gatherers out of poverty, assume that forests have little role to play in real poverty reduction. In many cases, timber sales constitute the only item taken into consideration. We suggest that forests help to move the chronically poor to the occasionally poor, and the poor to the less poor, but over more than one generation. We have seen how women use forest NTFPs to generate cash for school fees and school uniforms for their primary school children; and how fathers sell timber, or cattle (fed on forest browse) to send those children on to secondary school. The forest also has a role in helping part-families survive tough times at home while key household members build a bridgehead as labor migrants to urban opportunity, or to more money to invest in the farm. These examples show how strategies for escaping poverty are often constructed at a household, rather than an individual level.

A recent meta-analysis of fifty-four primary studies of rural livelihoods in and near forests broadly suggests, while it was not a statistically representative sample, that

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2 Recommendations for further reading on forests and poverty can be found in Annex 2.

Poverty - forests linkages toolkit overview

Forest income represents approximately 20% of total annual cash and non-cash income of households in such places. It further suggests that about half of this forest income appears as cash, and that forest incomes have a strong equalizing effect.

The role of forests in poverty reduction requires some definition of what is counted as a forest-based contribution to livelihoods. Following CIFOR’s PEN (Poverty Environment Network) guidelines, we define forest products as anything collected from a forest, or from trees. These include timber and non-timber forest products, whether tree, plant or animal-based.

Some stakeholders still live in heavily forested landscapes, while many others live in predominantly agricultural or rangeland landscapes with fewer trees. Since such trees nevertheless remain important, we have accepted a wide definition of ‘forest’ for the purpose of this exercise.

Finally, we have limited our consideration to stakeholders directly reliant on forest contributions to their incomes of one sort or another—people who live near to forests, and for the most part gather the forest products they need, rather than buying them.

This poses the question of how many such people are there in the developing world? Estimates vary widely, but there are certainly many hundreds of millions of them. Various people have tried to make informed estimates. O J Lynch and K Talbott (1995) suggest 500-600 million in the Asia and Pacific region. David Kaimowitz (2003) estimated ‘hundreds of millions’ just in Africa. Neil Byron and Michael Arnold (1997) cite a range of possible figures, up to a billion, a figure that does not look too high in the light of the other two.6

WHAT IS THE PROBLEM TO WHICH THE TOOLKIT IS THE SOLUTION?

The adoption of the Millennium Development Goals, including the International Development Target of halving global poverty by the year 2015, has impacted on national development strategies and the funding priorities of multilateral and bilateral agencies. Poverty reduction as the primary objective of development has required that all sectors, including forestry, are able to articulate their contribution to poverty reduction.

Poverty Reduction Strategies Papers (PRSPs) have become the main mechanism for governments in many least developed countries to define their budget and policy priorities, and to gain access to concessional IDA (International Development Association) loans to help meet these priorities.

In the initial PRSPs and interim-PRSPs, although simple mention of forests was made in 30 out of 36 assessed by the World Bank researcher Jan Bojö, there was almost no analysis of the contribution of forests to rural livelihoods, nor of the measures required to capture or expand their potential. Very few, if any, links were made between PRSPs and country NFPs (national forest programs). While full PRSPs were on the whole better than earlier versions in mentioning the importance of forests, methods for capturing this information remained unelaborated.

4 See http://www.cifor.cgiar.org/pen/_ref/pubs/index.htm
5 There are also off-site, more indirect, forest stakeholders such as urban consumers of forest products, urban-based timber producers, forest product middle-men and downstream beneficiaries of forest services such as water, but this particular toolkit does not address them.
7 PRSPs are explained fully in Section 2.
If PRSPs fail to incorporate data from the forest sector, national efforts to reduce poverty and vulnerability will undercount the critical role that forest resources currently play—and the potentially greater role they could play—in the livelihoods of the poor. Similarly, forest ministries and national forest programs are not collecting forest data in such a way that sheds light on the contribution forests make to poverty reduction. As we suggest, a limitation has been a lack of information on the contribution of forests to poverty reduction, or rather no good mechanism for moving from interesting research findings to data inclusion, which can lead to action. The primary objective of the toolkit, then, is to facilitate this inclusion.

The toolkit offers simple methods for capturing data concerning the role of forests and trees in poverty reduction, including both indications of the direct cash contributions to poverty reduction that the forest may make, but also the wide range of non-cash income that poor people derive from the forest.

WHO ARE THE TARGET AUDIENCES FOR RESULTS GENERATED BY THE TOOLKIT?

The toolkit is intended to generate information primarily for audiences to be found at two national government levels:

Bodies concerned directly with poverty reduction

- The Central Coordinating Unit (and its Steering Committee) responsible for developing the country’s Poverty Reduction Strategy, and for developing and harmonizing the sectoral indicators by which the strategy will be monitored. This body may sometimes be found in a Ministry of Finance or Planning, but is often in an overarching location such as in the Office of the President or Vice-President.

- Data collection bodies responsible for contributing to the PRS, such as the National Institute of Statistics and perhaps others.

- Inter-agency committees and working groups whose members work together to develop poverty cooperation or to define indicators. Donors are likely to be represented here and possibly NGOs or other civil society representatives.

The Ministry responsible for gathering forest data and referring it on:

- To the PRS Coordinating unit (against clear-cut sectoral poverty indicators agreed with the Coordinating unit).

- To the national forest program if there is one.\(^9\)

These are the primary audiences for which the toolkit was conceived. How these bodies are engaged, encouraged to consider the role of forests in poverty reduction more actively, and how they might move to incorporate such a consideration into the monitoring being developed and applied, is discussed in the next section.

OTHER AUDIENCES

There are also other potential audiences who are both user and audience. While the toolkit was originally conceived simply as a means of making key national level institutions more aware of the key role that forests play for the poor, it is already clear that its field component has a wider set of potential users, including local NGOs and CBOs, national-level NGOs and international agencies—such as IUCN and FAO, which have already used the toolkit.

WHO ARE THE USERS OF THE TOOLKIT?

The toolkit was originally conceived as a means for enabling its users to gather data with which to make a
case to the toolkit’s audience for the importance of forests to poverty reduction. The toolkit shows users how to gather and analyze this information on the ground, as well as how to use findings to present data on forests and the poor to key decision makers and planners. Collaboration between the two clusters of users and audiences is needed to maximize the impact and benefits for stakeholders with different goals at different levels (local and national).

The first group of users

If new data from the field is to be delivered successfully to appropriate national level audiences (those responsible for updating/revising PRSPs, monitoring attainment of the MDGs, or planning nfps) in useful formats, skilful national-level toolkit ‘users’ are required. They should be individuals or institutions familiar with national level poverty processes and with natural resource ministries and they should also have, or build, a link with the lead organizers of the field activities.

In the national capital, toolkit users have two tasks:

Planning the analysis (recommended to be undertaken before the collection of field data) by:

- Becoming familiar with the country’s evolution in their PRSP process, the kinds of poverty data currently being collected, the interest expressed in incorporating forest data into poverty reduction strategies, and where new data on the contributions of forests to the livelihoods of the poor might fit into data gathering systems. (These might include household rural or living standard surveys, sectoral annual data collection from the local to the national level, for example.)
- Making contact with the main government institution hosting the PRS process, as well as with relevant natural resources ministries, key donors, and other important players (civil society groups, NGOs, etc.).
- Working with the national level audiences identified before any toolkit field data is collected, in order to gain their interest and involvement in the purposes for which the field process is being undertaken.
- Keeping these bodies informed about progress while field exercises are going on.

Preparing and presenting data for different audiences after it has been collected, by:

- Taking responsibility for turning field analyses into materials useful to particular national-level audiences, and presenting the results. This information is best presented in a user-friendly form (such as diagrams and charts) which represent what is occurring at the local level, and which highlight essential livelihood information and critical factors such as access/tenure, markets, and policy challenges.
- Deciding whether, given the status of the country’s data collection systems, the priority is to prepare data to: (i) use insights gained from the toolkit analysis to modify existing sectoral monitoring processes, which in turn feed into PRS monitoring systems; (ii) use the data in a fairly freestanding way to make a more general case for a re-examination of the importance of forests in livelihoods, or (iii) both.

Where national level change is the goal, this group of users will have overall control of both local and national level processes, and will take final responsibility for delivering the product.

The second group of users

The field component of the toolkit is designed to be simple enough to be used easily and relatively quickly by NGOs or CSOs, in collaboration with local forestry personnel and local government staff. The field component enables them to collect information with which to understand forest dependence locally.

It is assumed that these users are not specialists and that some of them at least will never have had any training in participatory assessment tools or surveys. For them, the field tools have been developed to provide a clearly described step-by-step approach. It is recommended that
hands-on training in the use of the tools be provided. These users would then to be able to undertake follow-up tool applications independently, in order to generate further information in the future.

HOW THE POVERTY-FORESTS LINKAGES TOOLKIT CAN BE USED

The impetus for using the toolkit may come from one of two directions:

- From the national level: An appreciation of the need for better data on the role of forests and off-farm natural resources (including forests and trees) in livelihoods and poverty reduction may begin at the national level. As the PRSP begins to encompass a broader range of sectors, the ministry responsible for forests, researchers, national or international NGOs involved in poverty reduction processes, or donors in the forest or poverty sectors may identify this need.

- From the local level: In some cases, the desire to see the role of forests making more of an impact in national level poverty strategies may begin at the local level as the result of research or project activity.

In either case, analysis and data collection will be needed both nationally and locally. It is only at the national level that effort can be invested in having forests and poverty data taken into account. But it is only through local enquiry that a picture can be built up of the key ways in which forests have an impact on the lives of the poor—positively through livelihood support, and negatively if use of them is formally illegal.

The results generated can be used at both district/field level and at higher levels to underline the contribution of forests to the livelihoods of the poor. They are also sometimes used to highlight ways in which the presence of particular pieces of forest legislation impact negatively on the poor and need revisiting.

Finally, current data collection systems in most countries suggest that making an effort to incorporate forests and poverty considerations into PRSPs is possibly a less challenging prospect than working to include poverty considerations in national forest programs. However, the data generated by the toolkit is a good place to start in considering how national forestry programs need to evolve.

WHAT THE POVERTY-FORESTS LINKAGES TOOLKIT CAN BE USED TO DELIVER

The Poverty-Forests Linkages Toolkit is also intended as a first step in a process which could lead to better data collection by a Forestry Department, so that the real contribution of forests to the nation and its citizens can be better understood.

Like PPAs (Participatory Poverty Assessments), the toolkit delivers local-level “snapshot data” on forest reliance and the livelihood and poverty reduction contribution of forests. This is the first qualitative step in a process intended to make the case of the importance of forests and so lead to the gathering of more quantitative data on the role of forests in the incomes of the poor in the future.

To that extent the toolkit’s role is to deliver the following:

- The making of a documented case for the contribution of forests to the cash and non-cash incomes of the poor;
- An assessment of what local people see as the key problems and solutions for forest management;
- Strengthened agency and institutional capacity to identify opportunities and constraints;
- An indication of issues that need to be resolved if poverty reduction is to be effectively addressed by forestry officials;
- And finally, suggestions on how the contributions of forests to poverty reduction could be better captured in a country’s own ongoing data gathering systems.
The forest sector has for some time been looking for ways to make a better case for its capacity to support the poor. It is hoped that this toolkit will be used to raise the profile of the role of forests for current consumption, help in hard times, and poverty reduction in the lives of poor people.

It is also hoped that the toolkit may point the way to a more active role for forestry organizations in the future, as contributors of poverty data to national PRS processes, to national forest programs (where they exist) and to compilers of international forest data such as FAO’s Forest Resource Assessments.

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<tr>
<th>WHAT THE TOOLKIT CAN DO IS:</th>
<th>WHAT THE TOOLKIT CANNOT DO IS:</th>
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<tbody>
<tr>
<td>• Rapidly assess current dependence on forests</td>
<td>• Deliver data of the kind collected through slower, more detailed and expensive quantitative survey methods (however the snapshot approach of the toolkit may suggest where more detailed research would be of value)</td>
</tr>
<tr>
<td>• Provide a vehicle for poor people to comment upon forest laws, policies and programs and their impacts upon local people’s livelihoods</td>
<td>• Systematically monitor progress towards poverty reduction over time</td>
</tr>
<tr>
<td>• Identify policy problems and opportunities</td>
<td>• Change political hearts and minds where there is absolutely no interest in a focus on the poor in and near forests and the contribution of forests to their livelihoods</td>
</tr>
<tr>
<td>• Deliver value where there is a willingness to listen to results from key stakeholders, and where there is an ability to implement policy change</td>
<td>• Provide suggestions of actual indicators that could be included in regular data collection by government agencies</td>
</tr>
<tr>
<td>• Deliver data on topics impossible to get at quickly through orthodox quantitative methods (but which could subsequently be followed up through quantitative survey methods)</td>
<td>• Indicate the potential of forestry to reduce poverty (the toolkit measures current forestry dependence only)</td>
</tr>
<tr>
<td>• Complement quantitative data</td>
<td>• Assess the role of forests in providing environmental services at the local and national levels (the toolkit considers forest products only, not services)</td>
</tr>
<tr>
<td>• Indicate the key forest products and forest-dependent livelihood activities that might merit inclusion in government data collection processes</td>
<td>• Provide a systematic analysis of how current forest policies help or hinder poor people, or contribute to achievement of poverty reduction strategies or the MDGs</td>
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INTRODUCTION

The purpose of national level engagement and analysis is to set up a meaningful interaction with the key policy makers who will be the audience for the toolkit results, and to find out whether and how policies for poverty reduction link with forestry policy. This analysis involves understanding whether and how the contribution of forests to poverty reduction is already being mainstreamed into current national level policies, programs and laws, and whether and how poverty issues are taken into account in forest sector processes.

The section begins with a brief explanation of the two relevant policy areas: the Poverty Reduction Strategy Process and the national forest program. It then goes on to provide guidance on how to interview key policy makers and officials at national level, how to develop a better understanding of links between forestry policies and poverty reduction policies, how to build interest in the toolkit and how to make sure the toolkit fits appropriately into both the country’s general poverty reduction process and into the forest sector’s commitments and interests. The section concludes with a checklist of the information and data that toolkit users should aim, as far as possible, to collect at the national level before fieldwork begins.

THE POVERTY REDUCTION STRATEGY PROCESS

Poverty Reduction Strategy Processes are now a requirement for poor countries if they wish to receive concessional assistance from the World Bank (through the International Development Association, IDA) and the IMF. The World Bank’s Country Assistance Strategies (CAS) for poor countries are now based on their PRSPs, and lending arrangements in the form of Poverty Reduction Support Credits (PRSCs), are harmonized with the timing of the government’s PRS-oriented budget cycle.

About seventy poor countries are engaged in PRSP processes, and the PRS has become the standard planning framework for these countries. The process involves a comprehensive and participatory diagnosis of poverty, the prioritization of actions to be taken, and the development of targets, indicators and systems for monitoring and evaluating progress towards them.

A PRSP should ideally be country-driven (with good participation by civil society and the private sector); results-oriented (focusing on pro-poor outcomes); comprehensive (in its recognition of the multi-dimensional nature of poverty); partnership-oriented (bringing bilateral, multilateral and non-governmental partners together in joint planning) and with a long-term perspective on poverty reduction.

The Poverty Reduction Strategy subsection of the World Bank Poverty website shows how much countries vary in the progress they have made. Some have drafted both their I-PRSP (interim PRSP) and their first full PRSP, and have completed two or three years’ subsequent institutional development, monitoring and testing, while others have stalled at an earlier stage or have only just begun the process. Other countries have already created and undertaken a second generation PRSP document (PRSP II) based on lessons learned in the first generation.10

10 Based on material in the PRSP section of the World Bank website http://www.worldbank.org/poverty. See Annex 1 for a table showing country-by-country progress in PRSP evolution.
Full PRSPs have varied in quality, content and the degree of participation involved in their preparation, in line with the capacities and political culture of the countries concerned. PRSPs are revised every three to five years, and it is already evident that second generation Strategies are improving on the first generation in various ways. The first generation contributed to a stronger focus on poverty inside government, much greater engagement of civil society in poverty policy, and better alignment among donors at the country level. But many early PRS activities took place at only the highest echelons of government, often in a specially created niche. The new focus on poverty reduction was weakly conveyed to sectoral ministries, and rarely reached local government at all. There was an emphasis on social sectors (health, education) at the expense of productive sectors. Too many donors continued to provide resources outside the national budget process.\(^\text{11}\)

Second generation PRSPs are attempting to deal with these weaknesses by developing more comprehensive economy-wide plans. Use of the PRSPs leads to better and more pro-poor expenditure tracking, to a more logical allocation of resources in government annual budget cycles, and eventually to longer term Medium Term Expenditure Frameworks (MTEFs). Most countries are only part of the way towards this, and in some, other reforms must precede the introduction of MTEFs. In this vein, all ministries need to be aware that their programs need to be explicitly linked to poverty reduction in the near future.\(^\text{12}\)

Monitoring systems are based in part on general data gathered by national statistics institutions, and in part on sectoral poverty monitoring. In some countries there is strong sectoral monitoring, and the challenge is to unify data flowing from different sectors. In others, sectoral monitoring is weak or non-existent, and PRS systems have to help it into existence. Where countries have decentralized, there are additional difficulties since it has been rare so far for regional or local government representatives to be built into the PRS monitoring structure, and communication between line agencies and the local level can be weak.\(^\text{13}\)

### THE FOREST SECTOR AND NATIONAL FOREST PROGRAMS

National forest programs (nfps) were one of the outcomes of the inter-governmental forest dialogue that ran from the UNCED conference in Rio in 1992 through the IPF-IFF (International Panel on Forests—International Forum on Forests) processes of the 1990s to the formation of the UNFF (United Nations Forum on Forests) in October 2000. National forest programs are grounded in earlier attempts to bring donors together to support the forest sector and link it to conservation and sustainable development (like the TFAP, the Tropical Forestry Action Plan, or the Asian Development Bank-supported Master Forestry Plans of the late 1980s and early 1990s). Attempts have been made more recently to implement national forest programs in-country through Sector-Wide Approaches in which donors collaborate and align their support to the forest sector.

The national forest program facility at FAO in Rome came into existence in 2002, and currently has 57 developing country partnership agreements (and four sub-regional organizational partnerships). Of these, 18 are with countries with no PRSP, 33 exist in countries

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11 Based on ‘Second Generation Poverty Reduction Strategies’, PRSP Monitoring and Synthesis Project Synthesis Note, ODI, September 2004 (www.prspsynthesis.org)


13 ‘This summary is based on experience analysed in ‘Beyond the Numbers: understanding the institutions for monitoring poverty reduction strategies’, Tara Bedi et al, 2006, World Bank, Washington.'
with PRSPs and the rest are in countries with no PRSP (mainly because they are middle or upper middle income countries). But there is a broader involvement with nfps than these figures would suggest. As long ago as 1998, a survey of countries conducted by FAO indicated that 85 non-OECD countries (out of a total of 162) had national forest programs, broadly defined, of some kind or another.

The nfp is country-driven, and should address underlying causes of deforestation, as well as forest degradation and illegality. In addressing these issues, especially in poorer countries, nfps redefine the roles of diverse stakeholders in pursuit of the goals of more sustainable forest management and a more equitable sharing of forest resources.

National forest programs explicitly state that they should be linked to the broader processes of sustainable development, decentralization and poverty reduction. But the processes which led to the establishment of the nfp facility at FAO, and the documents which suggested how the IPF (International Panel on Forests) proposals could be incorporated into national forest programs, predate the development of PRSPs and the MDGs, and are actually strikingly lacking in any real mention of forests and poverty reduction. The nfp facility’s raison d’être grew...
out of sectoral strengthening, rather than the making of an inter-sectoral case.

At one level, given the need for sectoral poverty monitoring data for the PRSP, this does not pose a problem. However, while some sectors (education or health, for instance) can relatively easily supply appropriate indicators for poverty monitoring to the PRSP monitoring framework, in the case of forestry, much more adaptation of data (or additional data) is needed. The forest data traditionally collected relates almost entirely to the resource itself—to total natural forest area, numbers of trees planted and timber production. It is impossible to demonstrate the contribution of forests and forest products to the annual incomes of poor people with this kind of data. Further, the PRS policy framework challenges the forest sector to start reporting in new or additional ways. Thus traditional forest sector reporting will have to change or be supplemented in due course, and attempts to do so have already begun in a few countries. There is international demand for new forms of reporting as well. The five-year FAO Forest Resource Assessment process, built up from country-level reporting, has proposed the inclusion of indicators showing forests’ contribution to livelihoods in the data gathered by Forest Departments and agencies for the next Forest Resource Assessment (FRA) in 2010. While certain kinds of problems will remain (for instance, there is likely to be under-reporting of forest use and dependence in many countries because such use may be formally illegal), nfps do now need to address poverty issues.

To address this issue, FAO recently conducted a study to determine the extent to which national forest programs are linked to poverty reduction strategies in Africa. Carried out between 2005 and 2007, the study sought to increase understanding of the role that nfps can play in enhancing the contributions of forestry to poverty alleviation and highlight the critical importance of collaboration across sectors to achieve this goal. The study revealed that countries are experiencing problems in establishing closer linkages between the two processes although some are implementing innovative approaches to enhance collaboration. Without exception however, weak capacity was found to be a serious constraint which all participating countries face, albeit to varying degrees. It also identified factors that foster or hinder collaboration and propose ways to raise the profile of forestry in terms of its contributions to poverty alleviation. The study was conducted in ten countries in Africa: detailed reports of findings and conclusions for each country are posted at www.fao.org/forestry/site/livelihoods/en/ under the heading ‘workshops’.

From the point of view of the PRSP, there are two choices: to modify the way in which forest data is collected and processed annually within the forest sector, or to seek ways of inserting forest-relevant topics and questions into more general surveys. The first option—modifying data collection—is more sustainable in the long-term. The FAO FRA process and the demands of new kinds of forest data for the PRSP are two key drivers towards modification of forest data collection.

**PRELIMINARY NATIONAL LEVEL TASKS FOR TOOLKIT USERS**

**Introduction**

The preliminary tasks for the toolkit users are to become familiar (it is assumed in this manual that they are not) with the current progress of the PRSP in the country and with the current capacities and activities of the forestry

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department. This must be done through interviews and through acquiring and reading relevant documents.

Furthermore, interviews must serve two purposes. On the one hand, facts and processes must be mastered. On the other, interviews and meetings have firstly to serve to build interest in the proposition that the contribution of forests to poverty reduction has been under-estimated, and that the purpose of the toolkit is to make this clear and to provoke action. A constituency has to be built for toolkit-related activities, in short.

In the following sections, the people to be interviewed and the subject matter for interviews are set out first for the poverty and PRSP institutions and then for the forestry institutions. Subsequently, section 2.6 provides a discussion of consensus building steps needed for the toolkit to take place.

Becoming familiar with the country’s PRS process
The first thing for national level toolkit users to master is the status of the country’s PRS process. This can be gleaned in a preliminary way from the poverty reduction strategies section of the World Bank poverty website (www.worldbank.org/poverty). As Annex 1 shows, countries vary considerably in the degree to which they have advanced their strategy and begun to use it for monitoring poverty reduction.

Tookit users need to find out:
- In which Ministry (often the Ministry of Finance or Planning, or a supra-ministerial location such as the Office of the President) the PRS central coordinating unit/secretariat is located.
- Who the key staff are in the central coordinating unit, and the composition of the unit’s Steering Committee.
- What inter-agency committees and working groups are in place, working together to develop poverty cooperation or define indicators. NGOs, donors and civil society may also be represented on these committees.
- What ideas are the Working Groups focused around? Often countries develop organizing themes, pillars or clusters.\(^1\)
- Which data collection bodies are responsible for compiling primary data, collating data from line ministries, and developing data collection systems and information technology? The lead institution will probably be the Government Bureau of Statistics, but university departments or applied research institutions may also have roles.

Conducting key informant interviews relevant to the PRS
Each country will have a slightly differing range of key poverty and PRSP stakeholders to interview. To some extent it does not matter where interviews begin, so long as they are cross-checked through interviews with other interviewees until toolkit users feel they have an up-to-date understanding of key issues (see below) and copies of all the key relevant documents.

Whom to interview?
Interviewees will be drawn from:
- The secretariat of the Ministry which is home to the PRSP process;
- Possibly, one or more working group chairs;
- The National Bureau of Statistics/Central Statistics Agency and/or any agencies working on information technology development;
- World Bank officials working with the PRS process;
- Bilateral and multilateral donors working on aspects of poverty and the PRSP;

\(^1\) Some countries choose a sectoral focus (Zambia); some, aspects of poverty: Growth and Reduction of Poverty; Improvement of Quality of Life and Social Well-Being, Governance and Accountability (Tanzania); Expanding Employment Opportunities, Empowering Communities, Building the Capacity of Poor People, Social Protection (Indonesia).
Relevant university or independent research institutions linked with some aspect of the PRS process;
- INGOs with strong poverty and development interests such as OXFAM; and
- Local NGOs who may have helped to organize PPAs or other aspects of civil society consultation.

The purpose of interviews conducted is:
(i) To obtain an up-to-date picture of the point the PRS process has reached in its evolution, and of the next steps being taken. Is the PRSP still in a design phase or has it reached implementation? Is implementation already taking place, and if so how far along is it? Joint Staff Assessments and PRSP Annual Progress Reports will be helpful for understanding these points, and for assessing possible entry points for the toolkit.

(ii) To obtain copies of relevant PRSP documents not yet available on the World Bank’s website and also of key previous documents such as PPAs or other civil society consultation documents, which might have been produced in the course of generating the I-PRSP or the PRSP itself.

(iii) To understand the PRS monitoring system already in place and plans for its evolution.

(iv) To become familiar with the main data sources used to obtain regular insights into rural livelihoods and incomes, and the frequency with which each type of data is collected (annually, periodically, every 5 or 10 years, etc). These will include censuses, and might include Household Budget Surveys (as in Tanzania) or annual food basket and poverty line calculations (as in Indonesia). Key one-off or occasional surveys should also be identified (such as Indonesia’s 2002 National Socio-Economic Survey or its Family Planning Agency survey on household poverty levels by village). Rural agricultural surveys are also important. In the case of Liberia (returning to stability after 15 years of civil war), no poverty data is available and the closest proxy in late 2006 was the World Food Program “Comprehensive food, security and nutrition study.”

(v) From Bureau of Statistics documents or staff, to obtain the latest national level per capita income figure, and any provincial or district level per capita income figures that exist, especially for the areas where the toolkit is to be applied.

(vi) To identify new data collection systems currently being devised, perhaps using new forms of information technology. For instance, in Tanzania districts are being linked to the national level by computer, and are being provided with unified PRS reporting formats.

Understanding the forest sector
In the case of the forest sector, toolkit users have a simpler task. Once they know whether Forestry is located in a free-standing Ministry or whether it is a Department within another Ministry such as Agriculture, or the Environment, it is possible to move directly to interviews and document collection. Again it is important to triangulate information by checking the results of interviews against one another.

It should be expected that forestry data in the past will have been weak on livelihoods and forests. However, a
review of available materials will yield some sense of how much interest the forest sector has shown to date on the relationship between poor people and forests. For instance, the availability of materials on Community Forest Management, Joint Forest Management, Participatory Forest Management and/or on-farm tree-planting programs gives an indication of the extent to which the country has experience or prior interest in people and forests issues. Government studies, INGOs’, bilateral and multilateral agencies’ experience, relevant publications by local research institutions, and private sector documentation are all important sources among which studies on poverty, livelihoods and forest use should especially be noted.\footnote{Many donors are prolific in generating reports on these topics, some of which are highlighted in Annex 2 with suggested readings on forests and poverty.} Important documents to locate also include relevant national decrees, laws and policies concerning forest access and use by local people; data on forest products (timber and non-timber), trade and processing, and a sense of all other currently collected data, including forest inventories.

**Conducting key informant interviews relevant to the forest sector**

**Whom to interview?**

Although each country will have a slightly differing range of key forest stakeholders who should be interviewed, a generic list would need to include most of the following:

- The Ministry and/or Department responsible for Forests and within that, particularly those responsible for Planning and Policy, Forest Information Management,
Community Forestry, Production, Conservation, as appropriate;

- The main forest sector donors and any sectoral development donor working groups (especially in countries where forestry is the subject of a SWAP);
- National NGOs with forest sector or biodiversity conservation interests;
- International NGOs with similar interests, such as IUCN, WWF, CARE, TNC, WCS;
- International or national NGOs or CSOs with an interest in the rights of forest peoples;
- Private sector interests such as associations of foresters, or concessionaires; and
- Academia (e.g. forestry school at the national university)

The purpose of interviews conducted with Ministry or Department of Forests employees and other forest stakeholders is:

i) To discover if and how the Ministry/Department of Forests currently feeds data into the PRS process. If the entity is a Ministry, the individual or unit that liaises with the PRS secretariat may do so directly. If it is a department within a larger ministry, the data pathway will be more indirect.

ii) To understand what data flows into the Forestry Ministry or Department from the local level, how this data is collected, how often it is collected, and in what format it is collated and presented for national level use. Since many Forestry Departments in poor countries are very short of resources, it is often the case that local-level data collection has mainly taken place through the vehicle of donor-funded projects. Data may have been collected in a variety of formats and may be very hard to compare from area to area or over time.

iii) To discover what documentation exists on community forest management, and on any other projects concerned with forests and local people; what data gathering has taken place (in projects or otherwise) on local people’s forest dependence; and to which areas of the country it relates.

iv) To check whether the country is developing components of a national forestry program (see Annex 1 for some of the countries which are); what results the nfp has to show; whether any attempt to link the nfp with the PRS has been made; and if so how and with what kinds of data.

v) To understand how data to be forwarded for FAO Forest Resource Assessments are compiled, and to find out whether either methods or data might be of use to the toolkit users.

UNDERSTANDING THE INTERFACES BETWEEN LEVELS OF AUTHORITY

In many countries involved in the PRS process, decentralization has taken place in recent years, and the old links between center, province and local level have weakened or become more complicated at the very time when clearer and stronger information pathways are needed. At the same time, as Tara Bedi et al (2006) note, in some countries the PRS process has as yet scarcely been communicated to the local level or to the local officials who are involved in it.

Before the toolkit’s potential role can be assessed, it is vital that line management and information pathways connecting the local and national level for annual data gathering and for the PRS process be well understood, and potential information breakpoints located. Information may pass sectorally, or be collated at local government level and forwarded to a national ministry (such as that for Local Government). The national level and the local level may have different views about their respective responsibilities, or reporting lines may be pretty clear, if complex, as in the example from Tanzania. New technology may be being brought in to help this link to be made more effectively.
EXAMPLE OF ORGANOGRAM FROM TANZANIA: FOREST & BEEKEEPING ADMINISTRATION (DEPICTING REPORTING LINES)

(i) District level Forestry officials report to the National level (to the Ministry of Local Government) via District level authorities.
(ii) They communicate only very indirectly (dotted lines) to the Director of Forestry and Beekeeping and the Ministry of Natural Resources and Tourism.
It may not be possible to find an organogram illustrating different levels and reporting relationships between those levels. Thus, it may be necessary to generate one through interviews at the national and then at the local levels, looking for discrepancies. By conducting interviews with PRS officials, forestry officials and other ministries with special responsibilities, it becomes possible to understand the lines of authority and routes for monitoring information.

**BUILDING INTEREST IN THE TOOLKIT**

Sections 2.4 and 2.5 have suggested at some length the lines of enquiry needed for toolkit users to understand the context in which the toolkit might or might not be applicable, but they have not addressed the fact that poverty and forestry stakeholders need to be convinced that it is worth putting some effort into choosing a pathway which will build more consideration of forests into the PRS.

**Involving the forest sector**

Probably the strongest starting point is within the Forestry Ministry or Department, where there ought to be an interest in making the poverty case on behalf of forests, particularly as government budget cycles begin to develop more directly out of PRSP priorities. The ideal way to begin, along with preliminary discussions and fact-finding, might be with a seminar in which the toolkit users explain the toolkit’s purpose and the kinds of data it can produce. If there is a strong body of donors for the forest sector, there should also be presentations to them about what the toolkit is for and what it can do.

The toolkit relies on quick ‘snapshot’ methods, generating and collating data from small-scale, forest-focused PPAs, selected from a number of sites around the country. These indicate the level and nature of reliance on forests, and the forest-related impediments to and opportunities for poverty reduction identified by local people. The toolkit helps to make a case for greater consideration of the poverty reduction role that forests can play.

At the same time it is important to explain that if the toolkit successfully makes the case for more precise information about the contribution of forests to local people’s cash and non-cash incomes, two further steps have to be taken.

(i) First, the Ministry responsible for forests must make representations to the PRS secretariat and working groups, asking for questions to be inserted into existing data gathering instruments such as household surveys and agricultural surveys, in order to capture the contribution of forests to household incomes.

(ii) Second, the forest sector must itself decide how it will gather poverty and forests data in the future, as part of its annual local-level data gathering. Once it starts to collect such data itself, then its own sectoral monitoring can be taken into account in the overall indicators framework of the PRSP. The toolkit may also be able to help generate ideas about how the nfp (national forest program) can develop a more proactive stance to poverty reduction, and work more closely with the PRSP.

The toolkit data can help with the formulation of both of these types of questions.

If there is a forest sector advisory group in country, the toolkit should be presented there, and regular updates and report-backs made as the process unfolds in the field, and when data gathering is complete. If there is not, an advisory group for the toolkit process should be established in the forest ministry/department, containing both key staff, including those responsible for forestry data collection, and donor representatives.

**Involving PRS officials**

From the poverty side, the first reaction of PRS officials to suggestions that the forest sector has a contribution to
make to poverty reduction may be the standard one: that there are plenty of excluded sectors looking for a place at the PRS table, not all of which can be accommodated. The response to this is that, if the analysis conducted by Vedeld et al (2004) is correct, rural incomes are under-counted by 20-25%. Not only is the poverty reduction capacity of forests being ignored, there is a likelihood of poverty increase if forest resources are abruptly made inaccessible to local people.

The best way to liaise with the PRS secretariat as the toolkit process unrolls is probably to report regularly to one or more of the PRS working groups, if these are active. But the matter should be discussed with the PRS secretariat and their advice taken on the appropriate contact point and modality.

**HOW TO MAKE SURE THE TOOLKIT FITS APPROPRIATELY INTO BOTH THE COUNTRY’S GENERAL POVERTY REDUCTION PROCESS AND INTO THE FOREST SECTOR’S COMMITMENTS AND INTERESTS**

The amount of time which might be needed to arrive at a full understanding of a country’s PRS process and the level of engagement or potential engagement of the forest sector with it, and with its own national forest program will vary. It will probably take 10-14 person days.

At the end of that time it will be clearer what kind of toolkit process might usefully take place next. Annex 1 shows that countries have varied considerably in the rate at which they have advanced with their PRSP. Some countries have an active or full first or second stage In design phase, Entry points possible through:
- Participatory Poverty Assessments
- Household surveys
- Design of overall PRSP indicators

In implementation phase, Entry points possible through:
- Sectoral PRSP indicators
- Joint Staff Assessments
- Annual Progress reports
- Formulation phase of second generation PRSP
- National policy and budget processes

**TABLE 2: A FLOWCHART TO ESTABLISH FOCUS AND ENTRY POINTS FOR THE TOOLKIT**

- **YES** interested as part of its commitment to the PRS process
- **YES** interested as part of its commitment to its own national forest programme
- **NO**
- **STALL**
PRSP, often with a country-specific name for the process (e.g. in Madagascar it is called the Madagascar Action Plan rather than PRSP-2). There are also cases evident from the Annex where the forest sector is actively pursuing the development of a national forest program, perhaps through partnership with the nfp facility in FAO, but the country’s PRS process has apparently stalled.

By the end of the national level analysis period, it should be possible to see where the country in question fits into this diagram—as a combination of the status and evolution of the PRSP and the commitment to a poverty remit of the forestry department.

The broad possible scenarios can then be seen to be as follows:
(i) The national forestry department is interested in poverty issues and eager for help in making a case to those responsible for the PRS (in whatever its current phase) for the role of forests in poverty reduction.
(ii) The national forestry department is interested in poverty issues and eager for help to incorporate poverty issues into its nfp (and into its reporting to the FAO FRA). However, the PRSP is inactive or not relevant to the Forestry Department.
(iii) The national forestry department is not at this point interested in poverty issues. However, those responsible for the PRS are interested in learning more about the contribution of forests and forest products to the livelihoods of the poor.
(iv) The national forestry department has little interest in poverty reduction and bodies responsible for poverty reduction at the national level are not interested in forests. However, there is pressure from below—from civil society or from sub-national bodies.

In the case of the first three instances, the toolkit field exercise is the same—what is different is what is done with the findings afterwards. In the last case, another process—designed uniquely in the context of a particular country—will be necessary. The rest of the toolkit will assume that one of the first three cases is in play.

National level analysis makes it clear whether the toolkit exercise can proceed with the support and encouragement of the Forestry Ministry or Department, of those responsible for the evolution of the PRS, or of both.

‘Champions’ of the process and the data are certainly needed; they will see the point of the exercise; take an interest in choices about where and how to collect the data; and be prepared to help the toolkit team once the data is in, to find pathways for the results to have political leverage.23 If no such champions can be found, the toolkit exercise may well have to be abandoned. There is no point in generating data that will fall into an institutional vacuum.

**CHECKLIST OF INFORMATION TO COLLECT AT THE NATIONAL LEVEL PRIOR TO FIELDWORK**

This interviews and interactions with policy makers and officials at the national level will generate considerable information and knowledge, as well as build the links that will be needed to feed back toolkit results to the appropriate agencies and individuals. Given the complexity of the information and knowledge involved, this section provides a checklist in tabulated form of the fundamentals that are useful to know before embarking on the field studies. This checklist is by no means comprehensive—much of the knowledge that is needed will be highly country-specific, or emergent knowledge rather than basic facts (e.g. reaching an understanding of whether the results of the toolkit are likely to have traction among national policy audiences and, if so, with which agencies).

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23 It is taken as read that there will also probably be a donor for the toolkit process, but that donor alone is not adequate as a champion of the process.
<table>
<thead>
<tr>
<th>Information</th>
<th>Immediate purpose within the toolkit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Key government agencies</strong></td>
<td>Understanding the key policy frameworks, how they fit together, and promising entry points for delivery of results from the toolkit</td>
</tr>
<tr>
<td>a. Forestry policies</td>
<td></td>
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<tr>
<td>b. Policies related to forest-livelihood interactions (if different)</td>
<td></td>
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<tr>
<td>c. PRS or other poverty reduction and rural development policies</td>
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<tr>
<td>d. National census</td>
<td></td>
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<tr>
<td>e. Other statistics (e.g. forest status and economics, rural livelihoods)</td>
<td></td>
</tr>
<tr>
<td><strong>2. Indicators</strong></td>
<td>Framing the results of the toolkit to inform existing indicators and data collection</td>
</tr>
<tr>
<td>a. Current PRS indicators that relate to forest dependence (if any)</td>
<td></td>
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<tr>
<td>b. Current forestry department indicators or regular data collection on forest-livelihood interactions, including both forest dependence (e.g. NTFPs collected) and forest regulations (e.g. number and activity of village-based forest committees)</td>
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<tr>
<td>c. Current census data and other regular data that relate to forest dependence</td>
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</tr>
<tr>
<td><strong>3. Poverty maps</strong></td>
<td>Selecting field sites situated within the poorest parts of the country</td>
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<tr>
<td>Including both geographic distribution of poverty and depth of poverty</td>
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<tr>
<td><strong>4. Forest cover maps</strong></td>
<td>Selecting field sites that represent the key forest types in the country</td>
</tr>
<tr>
<td>Mapping of national vegetation and land use</td>
<td></td>
</tr>
<tr>
<td><strong>5. Official definitions</strong></td>
<td>Aligning definitions used at the site level (e.g. villagers’ definitions of who is poor or what constitutes a forest product) with definitions used in national policy dialogue and official policy statements</td>
</tr>
<tr>
<td>a. National poverty line and poverty definitions</td>
<td></td>
</tr>
<tr>
<td>b. “Forest”, “woodland” and any related terms</td>
<td></td>
</tr>
<tr>
<td>c. Forest products</td>
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SECCTION THREE
PREPARING AND PRESENTING DATA FOR DIFFERENT AUDIENCES

REPORTING TO THE DISTRICT AND PROVINCIAL LEVELS

Once data gathering is complete, it will need to be analyzed and prepared for presentation, both to the district, and to higher levels beyond the district, in different formats.

As PRS processes have matured in the countries where they are evolving satisfactorily, they have generated a broadening of government ownership, and there have been moves to work more intensively first with line ministries and then with local government.24

Decentralization has also given district level officials new planning and reporting responsibilities in many countries, and local and national budgetary cycles may be more systematically linked than before. In some cases (as in Indonesia) decentralization has disrupted the flow of data from the local level to the national level.

This means that the toolkit may be presented at the local level as a means of thinking about how to generate better data for the PRSP, or it may be seen as a tool in its own right for better understanding forest issues in the district, and for planning purposes. In either case, the local level is likely to be the first place where toolkit data will be presented. Thus, higher-level analyses and presentations will follow on from the initial district level analysis.

Maintaining district involvement in the toolkit process
Section 1 of the Field Manual shows how to involve the district beforehand in the Toolkit process, through site selection, discussion, and ideally the involvement in the field of one or two district-level officials. This must be followed up quickly, once the village exercises and the subsequent analysis of results are complete, by a presentation of findings to the district. Otherwise momentum will be lost.

The preliminary presentation of findings
Summary data in chart form (large, cleaned-up versions of the village charts) are presented to the district, based on the main tools used. Where facilities for PowerPoint presentations are unavailable, charts should be adequately large, and of a good enough quality (on A1-size card) to pin up in the district office during discussions, and to leave up afterwards (if officials so choose).

The analysis from the toolkit will result in information on:
- Changes happening in areas likely to impact negatively on natural resources and the way in which the poor can access forests (Tool 3).
- Level of dependency of community members, particularly the poor, on forest products, by gender and by wealth rank (Tool 4).
- Estimates of the proportion of total income that comes from forest products, by gender and by wealth rank (Tool 4).
- Estimates of what this means in cash terms to poorer and wealthier households (Tool 4 + non-toolkit data)
- The forest products that are of greatest importance for household consumption and income (Tool 4—ranked importance of forest products).
- Problems over access and tenure rights, and over the ways in which local regulations are applied.

impact of policy and implementation on access and income, particularly on the poor (Tools 5 and 6).

- In the case of Tool 5, the villagers’ own analysis will need to have been supplemented by facilitators, so that the issues which can only be solved by intervention at district or national level are the ones highlighted to district level officials. (The household and intra-village issues are of minor interest at this level).

- Constraints on increasing income from forests (Tool 3 and Tool 5).

**Identifying and discussing issues of special relevance to district authorities**

District level officials are likely to show most interest in the Livelihood Analysis (Tool 4), Timeline and Trends (Tool 3), and Forest Problem and Solution Matrix (Tool 5). They will also appreciate the light shed on the financial contribution of forests to livelihoods by Tool 8.

A further area of interest to district officials may be the opportunity to be alerted to problems that may be developing. These will be most visible in the results of Tool 3 and Tool 5, although some problems may become apparent through the lens of several of the tools.

For instance, in the case of Tanzania, the toolkit team arrived in the country when a ban on the making of charcoal had just been announced, in response to a new survey which revealed the deforestation rate in the country. It became very evident during the course of the toolkit exercise (see results of Tools 4 and 5) that charcoal was an absolutely vital source of cash in the area where the team worked, and that it would be almost impossible to ban its production. Equally, urban consumers were prepared to go to almost any lengths to buy bags of charcoal. District (and national) authorities asked the toolkit team about the response of villagers to the announcement of the ban, and how likely they were to be able to obey it.

As soon as possible after preliminary findings are analyzed, the data generated by the tools can be written up (using the charts and analyses from them for the most part). This serves to form a more holistic picture of the area where the tools were applied, with a short case study write-up to compare and contrast with other cases from other parts of the country.

A brief fully written-up and illustrated case study should be left with district level officials, or sent to them as soon as possible after the field exercise, so that it can become the basis for other future action.

**Discussing with district officials how toolkit results can be used to influence higher level processes**

After the presentation of the results from the village, in chart form, and the discussion of key local issues that arise from them, the next step is to decide how this data can be most useful to the district. Equally important is to determine how it can be used for district representation to higher levels.

Toolkit data will usually have been gathered with various possible national level scenarios in mind. From the point of view of district officials, toolkit results may be seen to have a bearing:

- on the PRS reporting they are responsible for
- on Forestry Department reporting
- or on both.

Such current reporting formats as exist for the PRS and the forest sectoral pathways need to be re-examined with district officials, in the light of the data collected.

During the toolkit testing process, one suggestion was that the views of district officials on the incorporation of forest contributions to incomes into data gathering systems be written up with the assistance of the toolkit team, for submission to:

(i) the national level body responsible for collecting poverty data and/or
(ii) the Ministry of Forests as it begins to consider how to report on the contribution of forests to poverty reduction.

The report would include the district officials’ views about how such data might best be incorporated into regular data gathering systems as they experience them.

In future, if it is accepted that forest product values will be recorded as part of household surveys, enumerators will need some training in ways of estimating shadow prices where forest products are not usually sold (and have no obvious price).

- Products such as fuelwood, honey, charcoal, timber, medicines, and poles are easy to find prices for in local markets.
- For gathered fruits, wild vegetables, mushrooms and fodder, marketed equivalents would provide a proxy price.

It would be useful if district level forestry officials regularly updated lists of the prices of such local forest products, for the use of enumerators.

REPORTING TO THE NATIONAL LEVEL

Introduction
The Poverty-Forests Linkages Toolkit process begins and ends at the national level. The links established in the ministry which manages and monitors the progress of the PRS process, and the ministry which is responsible for forests are the two key points to return to with written-up case studies.

The Department or Ministry of Forests
The place to start is the ministry responsible for forests. When all the data is in from all areas—or sooner, with partial results, if officials are keen for early feedback—there should be a presentation of the following key elements.

If time is available, and officials are sufficiently interested, data from all the Tools should be presented in a PowerPoint presentation and discussed (with only the higher level issues—which cannot be solved at household or village level—drawn to their attention from Tool 5). If the meeting time is short, analyses from only Tools 4, 5 and 8 will make some key points.

Meanwhile the toolkit team will be in the process of preparing a short (6–8 page) case study from each village where toolkit exercises were carried out.

The report on how questions might be incorporated, from the district point of view, will also be presented to the ministry, together with the team’s own suggestions drawn from the interviews undertaken before going to the field. The next steps depend on the ministry, and on how engaged the ministry was with the toolkit process before it began. Hopefully the ministry concerned with forests will be eager to use data from the toolkit to make a case for the importance of forests to the poor, when all the district reports are in.

The ministry responsible for forests may also wish to make the case for the contributions of forests to the MDGs. Toolkit results can also be used to flesh out these arguments. A version of this chart showing how to fill it in from toolkit data can be found at the end of the section on Tool 4 and in the village example. Such a chart from each of the areas where toolkit exercises are conducted will be appended to the case studies prepared.

Other ministries
Depending on how the original contacts were made at the national level before setting off to conduct field exercises and on the feedback asked for at the time, it may be necessary to report back to other Ministries directly, as well as indirectly via the Ministry of Forests. Opportunities should be sought in the first instance with the PRS Secretariat and with the PRS working group/s with which contact was established before going to the field.

The case study key results and the suggestions made by the district level for data inclusion should be presented.
Similarly, waiting until results from a variety of districts are ready makes the most sense. If a national level poverty monitoring system is established, or in the process of being established, discussion of appropriate questions or indicators to include may be invited.

In all of these cases, short presentations can be based on results from Tool 4 (see section 3.2.5 for possible themes) and Tool 7 that are of relevance to the national level. Issues such as tenure (or lack of access rights to forests) and poverty are relevant here and the MDG chart may also be useful. The results from the tools should provoke informal discussion of ways in which new data might best be captured in existing data gathering systems. The views of the district, recorded in the report written with them, will also be delivered.

Final formal requests for change must come from the Ministry of Forestry, not from the toolkit team, but much ground can be prepared by the latter, if appropriate. Presentations should also be made to others who expressed an interest before field exercises began. These would certainly include the World Bank, the other main donors interested in poverty and forests and the PRS Working Groups.

Identifying opportunities for getting poverty-forests linkages into data collection systems
As the result of a toolkit exercise, a variety of opportunities for having the contribution of forests and off-farm natural resources to livelihoods included in current data gathering may present themselves.

In the case of Tanzania, the opportunities that arose were:

**Opportunity 1:** MKUKUTA’s Cluster 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 be via the Poverty Monitoring System (PMS), through censuses/surveys and routine data collection systems. The PMS will link with the Local Government Monitoring Database (LGMD—currently under development) to ensure the provision of disaggregated data to facilitate monitoring at all levels.

Potential action: Forestry was not originally included in this system due to a lack of understanding of forests’ contribution to poverty reduction. The designers of the database are now revisiting this assumption.

**Opportunity 2:** MKUKUTA cluster priorities and targets are linked sectorally through the Medium Term Expenditure Framework (MTEF) and budgeting processes, that are tied to financial resource allocation.

Potential action: The Forestry and Beekeeping Division has to make a case for its contribution to poverty reduction and suggest indicators it could use to do so. The findings from the toolkit are being used to address this need.

**Opportunity 3:** Forest and natural resources contributions to poverty reduction are not currently captured by the Household Budget Survey (HBS).

Potential action: However, additional forestry questions are now being debated. Staff in the Ministry of Planning and Empowerment (the new implementing agency for the PRSP) were convinced by data from the toolkit test that forestry needs to be included in the HBS questionnaire.

In the case of Madagascar, the opportunities that arose were:

**Opportunity 1:** The main policy vehicle for poverty reduction and rural development in Madagascar is the Madagascar Action Plan (MAP), which is a second phase PRSP. MAP’s eight overall commitments include Commitment 4: Rural Development and a Green Revolution and Commitment 7: Cherish the Environment. All sectoral policies come under the umbrella of MAP and aim to achieve the activities and indicators set out in the MAP
master plan. Commitment 7 of MAP sets a target for 2012 for the expansion of land, water and marine protected areas from the current 1.7 million ha up to 6 million ha. To achieve this target, a new program called Le Système des Aires Protégées de Madagascar (SAPM) is under development.

Potential action: SAPM could include indicators not only on land area, but also on poverty reduction and equity, for example the percentage of tourist revenues that go to local communities.

Opportunity 2: Other forest-related indicators in MAP’s commitment 7 are reforestation, use of alternative energies, reduction in burnt areas, sustainable use plans, forest control units and tracking systems. Commitment 4 of MAP does not mention forestry explicitly, but does acknowledge non-agricultural enterprises as a component of diversified rural livelihoods. A key target for Commitment 4 is to raise rural households incomes from US$123 per household per year in 2005 to US$370 in 2012. The toolkit demonstrated that rural households in Madagascar gain about a third of their income from forests—but this portion of income is not included in current data collection.

Potential action: The Observatoire Economique (the agency in charge of collecting economic statistics for MAP) could include forest income within household economy data—which would not only be more accurate, but go some way towards helping the government meet ambitious targets for raising rural incomes.

Opportunity 3: The Information service of the Ministry of Environment, Water and Forests and Tourism (MEEFT) collects regular, high-quality data relevant to forest livelihoods (e.g. resource abundance and management activities at commune-level), but these are not well communicated beyond the forest sector.

Potential action: The data already collected by the Information Service of MEEFT could be exploited to monitor the performance of forestry in achieving MAP. The Information Service of MEEFT could work in partnership with the Observatoire Economique to work out how best to analyze and present this data to provide an effective evaluation of progress.

Forest dependency by the rural poor—using Tool 4 to provide a national perspective

Tool 4 provides a quantitative insight into forest product use at the village-level. However, to have impact at the national level, this type of exploratory analysis needs to be supplemented by further comparative study across all the sample villages in order to present a broader picture of forest product use within the national economy. It should be emphasized that this analysis cannot be given with any statistical confidence. However, the results will still likely be of value in policy circles, as they will highlight probable levels of dependence and usage of forest products where often no other figures exist. This approach may justify more rigorous data collection subsequently to understand more fully the key issues that have been identified.

This type of analysis should only be undertaken by computer, using standard spreadsheet software. A simple, integrated spreadsheet was developed to answer the following five questions, which emerged from an analysis of the four country studies where the toolkit was tested in 2008. The spreadsheet template is shown at the end of this section and can be downloaded from the PROFOR website.

1. How important are forest products to rural peoples’ livelihoods? This is a key figure with which to engage national planners. If the contribution of forest products to rural peoples’ livelihoods is very low there would be little justification for promoting its attention in national policy circles. A case has to be made that the consideration of forest issues is a strategic priority for those involved in developing national poverty reduction strategies.
From the country studies, it emerges that approximately one third of all rural household livelihoods are derived from forest product use. The data from Cameroon showed higher levels of use. Under such circumstances the absence of detailed considerations of forest use within the national poverty reduction strategy would leave a large hole in such a strategy.

2. How integrated with the cash economy are rural people? This second question provides some insight into the potential for cash-based growth strategies to deliver poverty reduction in the short-term. The balance between the subsistence and cash economy across all sites can be estimated from participants’ scoring of tool 4. Across the country case studies where the toolkit was tested, it can be seen that up to one half of rural peoples’ livelihoods is cash-based; the remainder never enters the cash economy. Clearly different poverty reduction strategies may be appropriate in countries such as Madagascar’s largely subsistence-based economy compared to that of the more monetized economies of Ghana and Uganda.

Different conditions were found to exist across the four country studies undertaken in 2008. In Uganda and Ghana forest products are of greater importance for subsistence use. Therefore a case could be made in terms of the importance of their role in reducing the vulnerability of rural communities to external shocks. In contrast, in Cameroon the sale of forest products appears to be an important commercial activity for many rural people. The situation suggested for Madagascar is that forest products are not a major source of livelihood for the agrarian communities that were sampled. Under such circumstances making the case for poverty-forests linkages at the national level will clearly require a more nuanced approach.

3. Are forest products more important for subsistence or cash generation? In addition to reviewing the combined contribution of forest products, it is also worthwhile to look at the separate statistics for the average contribution made by forest products to subsistence use and their average contribution to cash income.

Different conditions were found to exist across the four country studies undertaken in 2008. In Uganda and Ghana forest products are of greater importance for subsistence use. Therefore a case could be made in terms of the importance of their role in reducing the vulnerability of rural communities to external shocks. In contrast, in Cameroon the sale of forest products appears to be an important commercial activity for many rural people. The situation suggested for Madagascar is that forest products are not a major source of livelihood for the agrarian communities that were sampled. Under such circumstances making the case for poverty-forests linkages at the national level will clearly require a more nuanced approach.

<table>
<thead>
<tr>
<th>Country</th>
<th>Forest product contribution to household livelihoods (%)</th>
<th>Poorer households (%)</th>
<th>Wealthier households (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>30</td>
<td>31</td>
<td>29</td>
</tr>
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<td>Ghana</td>
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<td>Cameroon</td>
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<td>Madagascar</td>
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<table>
<thead>
<tr>
<th>Country</th>
<th>Subsistence use (%)</th>
<th>Cash generation (%)</th>
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</thead>
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<td>48</td>
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<td>Cameroon</td>
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<th>Country</th>
<th>Forest product contribution to subsistence use (%)</th>
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<th>Wealthier households (%)</th>
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</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Forest product contribution to cash generation (%)</th>
<th>Poorer households (%)</th>
<th>Wealthier households (%)</th>
</tr>
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<td>Cameroon</td>
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</tr>
<tr>
<td>Madagascar</td>
<td>16</td>
<td>15</td>
<td>16</td>
</tr>
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POVERTY-FORESTS LINKAGES TOOLKIT

5. **Forest product contribution to cash income.** The above tables provide some ‘headline’ figures around which various policy messages can be constructed that will be of interest at the national level. However, the analysis of tool 4 can go one step further and provide a graphical summary across sites and by wealth and gender. Gender, in particular, is recognized as an important determinant of wealth status and so current use of forest products by gender may provide some clues for further interesting lines of enquiry.

The four charts that follow are automatically produced on completion of the standard project spreadsheet to show how the cash component of respondents’ combined income from forest products varies across respondent groups and sample sites (similar charts are also produced for the non-cash component).

These graphs can highlight interesting patterns of forest product use that can be developed into policy messages for consideration at the national level. For example:

(a) in Ghana
- As a contribution to cash income, forest products are more important for women than for men. This holds as incomes (i.e. wealth status) rise. Forest products represent a significant source of cash for poor women. Income earned from the sale of forest products represented 20-30% of poor women’s total livelihood in two of the sample villages.
- For cash income, the northern savannah forests (surrounding the villages of Siisi and Dagare) appear to provide a greater contribution to rural livelihoods than the southern high canopy forests. This is closely related to the presence of a forest product (the shea nut tree—*Vitellaria paradoxa*) that can be readily commercialised by individuals (mostly women).

(b) in Uganda
- In the south-west villages (Ncundura and Muhindura) poor men from the Abatwa culture make considerable commercial use of forest products due to their intimate knowledge of the forest. This is despite many of them having been evicted from statutorily protected forest areas. Without access to land, government is faced with a major challenge to secure for them alternative sources of livelihood. Land disputes—and continuing forest loss—can be expected to continue until there is a resolution of their situation.

(c) in Cameroon
- The relative high levels of cash generation from forest products in Mapanja village are related to the presence of a high value forest product: the bark of *Prunus africana*.

Preparation of a national briefing paper
Once all the analysis is complete, it is necessary to draw some conclusions and present these in a briefing paper that will hold the attention of those involved in policy development. The target audience of this paper will be those decision-makers at national level, within the civil service (most importantly in the agencies responsible for poverty reduction strategies, forestry
FOREST PRODUCT CONTRIBUTION TO CASH INCOME
UGANDA

- Nyantonzi (Masindi)
- Kasenene (Masindi)
- Ncundura (SW)
- Muhindura (SW)

FOREST PRODUCT CONTRIBUTION TO CASH INCOME
CAMEROON

- Massea (South East)
- Malea Ancien (South East)
- Mapanja (Mt. Cameroon)
- Woteva/Lysoka (Mt. Cameroon)

FOREST PRODUCT CONTRIBUTION TO CASH INCOME
GHANA

- Siisi (Upper East)
- Degare (Upper East)
- Assin Akropong (Central)
- Mampong (Central)
- Onyadze (Central)

FOREST PRODUCT CONTRIBUTION TO CASH INCOME
MADAGASCAR

- Ambina-nindrano
- Ampasipotsy
- Ambodimanga
- Ambodibonara

Legend:
- Black: Wealthy Men
- Green: Wealthy Women
- Gray: Poor Men
- Light Gray: Poor Women
and collection of statistics) and in parliament. Secondary audiences are decision-makers at the international level (e.g. World Bank) and sub-national level (e.g. District Officers).

The purpose of the briefing paper is to provide national-level policy makers with the key messages and recommendations that arise from the toolkit. The policy brief will achieve this purpose by linking the field results with national-level policy priorities and processes. The briefing paper that was used in Uganda is provided as a sample in this toolkit, just following this Overview.

It is important to identify a champion for this policy paper, someone who has sufficient standing so as to influence the national policy process. This person should be consulted at the beginning of drafting the paper and the findings discussed to identify the key policy messages and the evidence on which these messages are based. Where the exercise is sponsored by the World Bank, the WB person in-country should also be brought on board early on for similar reasons.

Overall, it is suggested that the policy brief:

- Be concise (a maximum 8 pages, but aim for less)
- Be laid out attractively, using colour and professional layout if possible
- Include maps, photos and diagrams as far as space allows
- Provide clear evidence for assertions made
- Concentrate on 4-6 key policy messages rather than attempt a comprehensive report of all the results of the toolkit
Use text boxes for all non-critical information, so that readers can move through the document quickly on their first reading.

Suggested table of contents:
1. Recommendations for policy (conclusions)
2. Introduction: rationale and approach
3. Poverty & forestry context: status and policy
4. Key findings of the toolkit
5. Further information

Content within each of these sections:
4. Recommendations for policy

This section should be written last, but should appear first, at the front of the policy brief. It needs to contain a limited number of clear, hard-hitting messages, presented as bullet points. This section should be used to relate the toolkit findings to policies, institutions and indicators. Relevant points will be country specific, however important areas to include might be:

- Governance: do the findings suggest that decisions on forestry should be taken in different ways, e.g. new kinds of inter-sectoral links or a different balance between national-level and local-level authority?
- Information and coordination: do the findings suggest a need for coordinating the viewpoints of various agencies (e.g. different definitions and comprehension of forest products or forest functions, how small-scale forestry is included in GDP calculations or other economic data)?
- Indicators: do the findings suggest any new indicators for the PRS, census, MDGs, district-level data collection etc? Or, alternatively, different interpretations of current statistics?
- Budget allocations: do the findings suggest that national budget allocations to forestry as a whole, or sub-allocations within forestry should be adjusted, and how? (This is an ambitious area in which to comment, but it may be relevant to make a strong point on this in certain countries, e.g. in Madagascar where there is little or no financial and institutional allocation to livelihoods issues in forestry, only conservation).

2. Introduction: rationale and approach

This requires one punchy paragraph on why the policy brief matters and what gap it is trying to fill. You could use a general approach (e.g. forestry has a low profile within national policies and strategies for poverty reduction. But forestry is very important in people's livelihoods—it is just that this contribution is difficult to recognise and quantify…etc) or a nationally specific approach (e.g. Cameroon is in the process of designing and implementing a new PRSP. Forestry has an important role in rural people's livelihoods, but this is not well documented or quantified…etc). Any additional material considered critical to the story can go here—but it should be kept brief.

3. Poverty & forestry context: status and policy

(a) Status and links: What is the poverty status of the country? This should include the basic statistics on numbers of people in poverty, depth of poverty, distribution geographically or in different segments of society and include a poverty map. What is the status of forest cover in the country? This requires a basic description of forest cover types and another map. Other forestry statistics or issues may also be included, such as contribution to GDP, allocation from the annual government budget, or the relative role of large-scale and small-scale enterprises. This must be very brief, identifying the strategic and contentious issues only, e.g. is illegal use a major issue? Are there conflicts in rural areas over access rights? Finally, are there any clear correlations and links between incidence of forestry and distribution of vegetation types? (Answer is likely to be “no” in most countries).

(b) Policy and indicators: What are the main policy vehicles for poverty reduction and rural development? (PRSP-equivalent & others; MDGs, if relevant) Is forestry part of these strategies? Explain. What indicators
are used to measure trends in poverty? Are any of the indicators related to forest livelihoods? Next, what are the main forest policy priorities and processes, and are livelihoods and poverty reduction included or excluded? Explain. What indicators are used to measure trends in forests and forestry? These are important. Try to find the ‘forest’ indicators in the PRSP monitoring system and highlight in a text box. Comment on their power to capture the critical issues that have already been raised. Are any of the indicators related to forest livelihoods? It may be useful to include a diagram of the key policy processes and institutions and the links between national and sub-national levels.

4. Key findings of the toolkit
The key relevant findings for policy makers should then be highlighted. It is difficult to give precise guidance here because what policy makers will need to hear will differ from country to country. Some tips are:

- Make points that policy makers are unlikely to know already, or are in dispute (e.g. they probably don’t need to be told “People use firewood for cooking and graze their cattle in the forest”).
- Use the “rule of seven” (7 = the number of points people can comfortably absorb and hold at one time) to guide the number of findings that are presented.
- Include points in two areas: (a) how people use forests (from tools 2-5) and (b) people’s perceptions of forest problems and solutions, sticking to the solutions that national-level policy makers are able to address (from tools 6-7). However, there is no need to report on every tool used.
- Draw attention to any important differences among different types of people (by gender and wealth class) and different localities (overall forest type, and contrasts between nearby villages)
- Go back and check! (a) Check results across all sites and all groups (poor men, poor women, rich women, rich men) before drawing out a finding to go into the policy brief—if there are differences, comment on them, and (b) check results against policy issues—how does the finding inform policy and is the same language being used as that of policy makers?

Depending on the nature of debate in country, there may or may not be the need to include some discussion to demonstrate the applicability of the site-level results to the national level. Only include this material if you think the policy brief will be rejected by policy makers because it is “not representative” or “irrelevant,” e.g.

- To what extent the sites are representative of the country as a whole (or representative of the areas where people have forest-dependent livelihoods)
- Comparison of the definitions used by local people and by the project compared to definitions in national policy statements (such as “poor” or “forest product”)

5. Further information
Provide a clear set of contacts for further information (name, email and phone number), acknowledge support received and note the link to the PROFOR website, so that anyone can download the entire toolkit (currently http://www.profor.info/content/livelihood_draft_toolkit.html)

Dissemination
When the briefing paper is complete, its writers and its sponsor should make every effort to disseminate it, to present it widely and to engender discussion of the need for a higher profile for forests in the context of poverty. A series of launch events should be planned, with presentations in both government and non-governmental venues.25

The World Bank can help to further raise the profile of forests in the PRSP, by ensuring that its Joint Staff Assessments flag up the toolkit process and its results to the

25 Make sure that each district that contributed to the exercise gets several copies.
Boards of the IMF and the World Bank, and even more importantly in the feedback provided to countries to help them to improve their strategies. The Bank can also help by encouraging the PRS secretariat and Board in-country to make reference to toolkit findings in Annual Progress Reports.

Finally, multi-country comparisons of toolkit findings in several countries will be of great value.

The Policy Brief that was prepared in the context of piloting this Toolkit in Uganda and used to input into national processes is included in this toolkit as just one example.

### BACK-UP DOCUMENTS (TO BE KEPT BY THE RESEARCHER IN CASE ANY POLICY MAKERS FOLLOW UP AND REQUEST MORE INFORMATION)

<table>
<thead>
<tr>
<th>Annex</th>
<th>Content</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty mapping</td>
<td>National poverty maps and rationale for site selection</td>
<td>Poverty maps; site location maps; criteria for selection</td>
</tr>
<tr>
<td>Policy mapping</td>
<td>1. Policy content, processes and spaces (PRSP and forest policy)</td>
<td>1. Clear concise description and/or diagrams of key PRSP &amp; forest policy</td>
</tr>
<tr>
<td></td>
<td>2. Policy actors</td>
<td>2. List + organogram (see example on p24 of Toolkit Part 1)</td>
</tr>
<tr>
<td></td>
<td>3. Policy knowledge</td>
<td>3. Annotated list of existing research and policy documents (see example for Tanzania)</td>
</tr>
<tr>
<td></td>
<td>4. Suggested indicators for different aspects of PRSP and forest policy</td>
<td>4. See table on p7 of country team ToR</td>
</tr>
<tr>
<td>Village write-ups</td>
<td>Results of the toolkit exercises summarised for communication to policy makers</td>
<td>Base on Annex 2 of Part 1 of the Toolkit</td>
</tr>
<tr>
<td>Raw data from villages</td>
<td>Copies of original data sheets from toolkit exercises</td>
<td>As per toolkit</td>
</tr>
<tr>
<td>Toolkit evaluation reports</td>
<td>1. User evaluations</td>
<td>Use evaluation sheets supplied by international team</td>
</tr>
<tr>
<td></td>
<td>2. Audience /Participatory evaluations (village, district, national)</td>
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Poverty - Forests Linkages Toolkit
## COUNTRIES INVOLVED IN PRSPS (AS OF AUGUST 2008) TOGETHER WITH NFPS AND WORLD BANK COUNTRY INCOME CLASSIFICATION

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Country classification</th>
<th>PRSP experience</th>
<th>Partnership with NFP facility</th>
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COUNTRIES INVOLVED IN PRSPS (AS OF AUGUST 2008) TOGETHER WITH NFPS AND WORLD BANK COUNTRY INCOME CLASSIFICATION

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
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<th>PRSP experience</th>
<th>Partnership with NFP facility</th>
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<td>Kyrgyzstan</td>
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<td>Moldova</td>
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<td>lower middle income</td>
<td>PRSP II (2008)</td>
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<td>Serbia and Mont.</td>
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<td>PRSP (2004)</td>
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<tr>
<td>Tajikistan</td>
<td>ECA</td>
<td>low income</td>
<td>PRSP (2002)</td>
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</table>

ACRONYMS

I-PRSP: Interim PRSP
PRSP (Year): First PRSP (date)
PRSP II (Year): Second generation PRSP (date)
PRSP III (Year): Third generation PRSP (date)
AFR: Sub-Saharan Africa Region
EAP: East Asia and Pacific Region
ECA: Europe and Central Asia
LAC: Latin America and Caribbean
MENA: Middle East and North Africa Region
SA: South Asia Region

Source: http://go.worldbank.org/3H3F9VITD0

DEVELOPING COUNTRIES WHICH ARE NOT ENGAGED IN THE PRSP PROCESS BUT WHICH ARE ACTIVE PARTNERS OF THE NFP FACILITY:

- **Upper Middle Income**: Equatorial Guinea, South Africa, Chile, Palau
- **Lower Middle Income**: Morocco, Namibia, Tunisia, China, Thailand, Philippines, Vanuatu, Colombia, Cuba, Ecuador, Guatemala, Jamaica, Paraguay
- **Low Income**: Sudan
- **Recent partners in NFP Facility**: Angola, Belize, Dominican Republic, El Salvador

WORLD BANK COUNTRY INCOME CLASSIFICATION

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<th>Income Level</th>
<th>Income Range</th>
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<td>Low income</td>
<td>$875 or less</td>
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<td>Lower middle income</td>
<td>$876-3,465</td>
</tr>
<tr>
<td>Upper middle income</td>
<td>$3,466-10,725</td>
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</table>


Oksanen, T., Pajari, B. and Tuomasjukka, T. (eds). 2003. **Forests in Poverty Reduction Strategies: capturing the potential.** EFI Proceedings 47. European Forest Institute, Joensuu, Finland. Note: This publication comprises several chapters by different authors on the theme of forestry and poverty reduction.


## ANNEX THREE

### SPREADSHEET TEMPLATE USED TO PROVIDE NATIONAL OVERVIEW, AND WORKED EXAMPLE FROM UGANDA

#### WORKED EXAMPLE FROM UGANDA

<table>
<thead>
<tr>
<th>Poor women</th>
<th>Poor men</th>
<th>Wealthy women</th>
<th>Wealthy men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nyantonzi (Masindi)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash income</td>
<td>40</td>
<td>Cash income</td>
<td>35</td>
</tr>
<tr>
<td>Farm - crops</td>
<td>36</td>
<td>Farm - crops</td>
<td>28</td>
</tr>
<tr>
<td>Farm - animals</td>
<td>9</td>
<td>Farm - animals</td>
<td>11</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>Other</td>
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<tr>
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<td>Farm - crops</td>
<td>18</td>
</tr>
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<td>Farm - animals</td>
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<td>Farm - animals</td>
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<td>Other</td>
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</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
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</table>

| Kasenene (Masindi) | | | |
| Cash income | 32 | Cash income | 27 | Cash income | 43 | Cash income | 29 |
| Farm - crops | 34 | Farm - crops | 20 | Farm - crops | 0 | Farm - crops | 17 |
| Farm - animals | 4 | Farm - animals | 5 | Farm - animals | 1 | Farm - animals | 4 |
| Other | 4 | Other | 2 | Other | 2 | Other | 2 |
| Non-cash income | 36 | Non-cash income | 47 | Non-cash income | 51 | Non-cash income | 77 |
| Farm - crops | 40 | Farm - crops | 40 | Farm - crops | 38 | Farm - crops | 506 |
| Farm - animals | 18 | Farm - animals | 19 | Farm - animals | 13 | Farm - animals | 104 |
| Forest | 18 | Forest | 21 | Forest | 22 | Forest | 35 |
| Other | 22 | Other | 35 | Other | 24 | Other | 14 |
| Total | 100 | 100 | 100 | 100 |

| Ncundura (SW) | | | |
| Cash income | 36 | Cash income | 35 | Cash income | 30 | Cash income | 37 |
| Farm - crops | 34 | Farm - crops | 28 | Farm - crops | 42 | Farm - crops | 48 |
| Farm - animals | 9 | Farm - animals | 11 | Farm - animals | 8 | Farm - animals | 11 |
| Other | 23 | Other | 13 | Other | 17 | Other | 13 |
| Non-cash income | 33 | Non-cash income | 64 | Non-cash income | 76 | Non-cash income | 63 |
| Farm - crops | 16 | Farm - crops | 20 | Farm - crops | 46 | Farm - crops | 41 |
| Farm - animals | 17 | Farm - animals | 16 | Farm - animals | 32 | Farm - animals | 22 |
| Forest | 16 | Forest | 44 | Forest | 24 | Forest | 22 |
| Other | 25 | Other | 43 | Other | 23 | Other | 23 |
| Total | 100 | 100 | 100 | 100 |

| Muhindura (SW) | | | |
| Cash income | 57 | Cash income | 52 | Cash income | 52 | Cash income | 76 |
| Farm - crops | 56 | Farm - crops | 42 | Farm - crops | 42 | Farm - crops | 48 |
| Farm - animals | 4 | Farm - animals | 1 | Farm - animals | 1 | Farm - animals | 1 |
| Forest | 4 | Forest | 3 | Forest | 9 | Forest | 10 |
| Other | 28 | Other | 18 | Other | 18 | Other | 18 |
| Non-cash income | 34 | Non-cash income | 66 | Non-cash income | 76 | Non-cash income | 63 |
| Farm - crops | 17 | Farm - crops | 24 | Farm - crops | 24 | Farm - crops | 16 |
| Farm - animals | 17 | Farm - animals | 16 | Farm - animals | 16 | Farm - animals | 16 |
| Forest | 16 | Forest | 19 | Forest | 22 | Forest | 22 |
| Other | 4 | Other | 26 | Other | 20 | Other | 20 |
| Total | 100 | 100 | 100 | 100 |

---

**Percentage contribution to cash income**

<table>
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<th>Poor men</th>
<th>Wealthy women</th>
<th>Wealthy men</th>
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<tbody>
<tr>
<td>Nyantonzi (Masindi)</td>
<td></td>
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<td>48%</td>
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<td>Farm - animals</td>
<td>48%</td>
</tr>
<tr>
<td>Forest</td>
<td>48%</td>
<td>Forest</td>
<td>48%</td>
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<tr>
<td>Other</td>
<td>48%</td>
<td>Other</td>
<td>48%</td>
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</table>

| Kasenene (Masindi) | | | |
| Farm - crops | 48% | Farm - crops | 48% | Farm - crops | 48% | Farm - crops | 48% |
| Farm - animals | 48% | Farm - animals | 48% | Farm - animals | 48% | Farm - animals | 48% |
| Forest | 48% | Forest | 48% | Forest | 48% | Forest | 48% |
| Other | 48% | Other | 48% | Other | 48% | Other | 48% |

| Ncundura (SW) | | | |
| Farm - crops | 48% | Farm - crops | 48% | Farm - crops | 48% | Farm - crops | 48% |
| Farm - animals | 48% | Farm - animals | 48% | Farm - animals | 48% | Farm - animals | 48% |
| Forest | 48% | Forest | 48% | Forest | 48% | Forest | 48% |
| Other | 48% | Other | 48% | Other | 48% | Other | 48% |

<p>| Muhindura (SW) | | | |
| Farm - crops | 48% | Farm - crops | 48% | Farm - crops | 48% | Farm - crops | 48% |
| Farm - animals | 48% | Farm - animals | 48% | Farm - animals | 48% | Farm - animals | 48% |
| Forest | 48% | Forest | 48% | Forest | 48% | Forest | 48% |
| Other | 48% | Other | 48% | Other | 48% | Other | 48% |</p>
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<th>E</th>
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<th>G</th>
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<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
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### SPREADSHEET TEMPLATE

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<td><strong>C:</strong> Wealthy women</td>
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<td><strong>G:</strong> Percentage contribution to cash income</td>
<td><strong>H:</strong> Wealthy</td>
<td><strong>I:</strong> Combined</td>
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THE TWO PARTS OF THE PROFOR POVERTY-FORESTS LINKAGES TOOLKIT

The toolkit provides a framework, fieldwork methods and analytic tools to understand and communicate the contribution of forests to the incomes of rural households. It is presented in two parts.

PART 1
THE NATIONAL LEVEL

Purpose: Part 1 discusses and guides the networking and research that is needed at national level to understand and communicate the contribution of forest products to rural livelihoods.

Users: Part 1 is intended for the researchers, government officials, staff of national or international NGOs, or consultants who are involved in taking responsibility for the use of the Poverty-Forests Linkages Toolkit at national and local levels. Part 1 also provides the necessary foundation for building relationships and buy-in from decision makers in the audiences described above.

Content: Part 1 provides information on the overall use of the toolkit, an overview of Poverty Reduction Strategies and national forest programs, advice on how to link with key policy makers and officials, and guidance on how to make sure the toolkit fits appropriately into both the country’s general poverty reduction process and into the forest sector’s commitments and interests. It also suggests means of communicating the findings of Part 2 effectively at district and national levels.

PART 2
THE FIELD MANUAL

Purpose: Part 2 gives detailed guidance on carrying out fieldwork at village-level to assess the contribution of forest products to rural livelihoods.

Users: Part 2 is aimed at the groups gathering data in the field - NGOs, CSOs and local-level officials. It is adapted to local capacity and assumes that members of this audience will need initial training in the use of the toolkit in the field, but that they would be able to manage the process alone on a subsequent occasion.

Content: Part 2 gives suggestions for site selection, pre-field planning and organization of the field visits. It goes on to describe the field tools, with instructions for their use, providing all the charts needed together with examples illustrating the data they generate. There are full explanations of the purpose of each tool, the materials needed for each, and problems to look out for. The language and explanations have been made as simple and clear as possible.

Part 2 is designed so that it can be used as a free-standing manual for use in the field.
Acronyms ii

1 Pre-field planning
   Introduction 1
   Selecting field locations 1
   How many sites to select? 3
   Making initial contact with district level officials 3

2 The field visits
   Timeline for the field visits 5
   Organizing and training facilitators 6
   Working with district officials 7
   Working with village leaders 8
   Working with the group of 40 participants 9
   Rationale for field methodology 10

3 The field tools 11

4 Presenting the results at local level 13

Annex 1: The Poverty-Forests Toolkit - Showing What Forests Mean to the Poor 15

Annex 2: Example of a training program for toolkit facilitators: Ghana 17
ACRONYMS

APR Annual Progress Report produced by governments in each year of PRS implementation

BAT British American Tobacco

BUCODO Budongo Forests Community Development Organization (Uganda)

CAS Country Assistance Strategies (World Bank)

CFM Community forest management

CFR Central Forestry Reserves (Uganda)

CIFOR Center for International Forestry Research

CSO Civil society organization

ECOTRUST The Environment Conservation Trust (Uganda)

FAO Food and Agriculture Organization of the United Nations

FD Forest Department

FRA Forest Resource Assessment (conducted every five years by FAO)

HBS Household Budget Survey

IDA International Development Association

IFF International Forum on Forests

IIED International Institute for Environment and Development

IMF International Monetary Fund

INGO International Non-Governmental Organization

IPF International Panel on Forests

I-PRSP Interim PRSP

ITTO International Timber Trade Organization

IUCN International Union for Conservation of Nature

JSA Joint Staff Assessments—documents produced by World Bank staff for reporting on the status of a country’s current PRSP

LGMD Local Government Monitoring Database

MDGs Millennium Development Goals

MKUKUTA MKUKUTA (Mkakati wa Kukuza Uchumi na Kuondoa Umaskini Taifa) National Strategy for Growth and Reduction of Poverty of Tanzania

MTEF Medium Term Expenditure Framework

NAADS National Agricultural Advisory Services (Uganda)

NFA National Forestry Authority

nfp national forest program (nfp Facility located at FAO)

NGO Non-Governmental Organization

NTFP non-timber forest product

ODI Overseas Development Institute

PEN Poverty Environment Network (CIFOR)

PMS Poverty Monitoring System for PRS

PPA Participatory Poverty Assessment

PRA Participatory Rural Appraisal

PROFOR World Bank Program on Forests

PRS Poverty Reduction Strategy

PRSC Poverty Reduction Support Credits

PRSP Poverty Reduction Strategy Paper (or Process)

RECOFTC Regional Community Forestry Training Center for Asia and the Pacific

TFT Tropical Forest Trust

UNCED UN Conference on Environment and Development

UNFF United Nations Forum on Forests

WWF World Wide Fund for Nature
INTRODUCTION

This field manual will usually come into play once the national-level analysis explained in Section 2 of Part 1 is complete. Alternatively, a local organization may wish to use Part 2 of the toolkit for an independent analysis. Either way, this field manual is designed as a self-contained manual to guide all of the steps of the field exercise. Readers intending to apply the toolkit in the field should read the whole manual before beginning.

It cannot be stressed too strongly that data generated by these tools cannot directly be turned into questions for the government’s existing data gathering process, but are used rather to highlight the need for additional questions in government data gathering, and to help frame the topics which they would need to cover. The purpose of the exercise is rather the building of a national picture made up of small-scale forest-focused PRAs from a variety of locations. Section 3 of Part 1 of this toolkit indicates how such a national picture can be compiled.

SELECTING FIELD LOCATIONS

The toolkit is intended as a first step in a process which could lead to better data collection by a Forestry Department, so that the real contribution of forests to the nation and its citizens can be better understood. It delivers local-level “snapshot data” on forest reliance and the livelihood and poverty reduction contribution of forests. This is the first qualitative step in a process intended to make the case of the importance of forests and so lead to the gathering of more quantitative data on the role of forests in the incomes of the poor in the future.

Field sites should be selected to provide policy makers with the best possible “snapshot” of poverty and forestry situations in their country. The recommended approach is to use purposive sampling to capture the range of conditions within the country. Purposive sampling (subjective selection of sites according to a set of selection criteria) means that the results of the toolkit will not show the whole of the national situation in the way that a fully randomized sample would. Instead, the toolkit will highlight particular issues that more formalized statistical exercises may need to include in future. If the research team does have sufficient resources available, then it is certainly possible to use a fully randomized sample of study sites, which will give a statistically robust assessment of average forest dependence across the country.
and of variation around this average, but this may not be possible in many countries where the toolkit is being used for the first time.

The recommended means to generate the selection criteria for the study sites is through discussion with both the ministry responsible for forests and with the Poverty Reduction Strategy (PRS) secretariat. They can provide information such as poverty and vegetation maps to guide site selection, as well as guidance on any criteria they regard as important for developing and implementing policy.

Criteria for site selection are likely to be: prevalence (and/or depth) of poverty, type of forest or ecosystem, and type of forest tenure. Other criteria may be added on the advice of the ministry responsible for forests and with the Poverty Reduction Strategy (PRS) secretariat. For example, the research team in Uganda was requested to sample within each of the four administrative divisions of the country in order to maximize credibility among national policy audiences.

The basic set of criteria—poverty, forest type, tenure—means that, if the data (census maps, vegetation maps, tenure/administration maps) are available, the study sites will be selected to include:

(i) sites in the poorest areas of the country
(ii) sites across a range of forest types
(iii) sites that differ in forest tenure

Criterion (i) speaks for itself. The poorest areas of the country are likely to be located far from the capital, with infrastructure and road networks below the national average in quality and availability. Many countries have up-to-date census data and poverty maps which can be used for choosing sites in the poorest parts of the country. The main challenge will be deciding on the best scale to use for site selection, and this should be discussed carefully with government staff responsible for national statistics. For example, some of the less poor districts of the country may include pockets of deep poverty and, if these are forest-dependent areas, it may be useful to sample them.

Criterion (ii) might be used to make a selection of two or more of the following: dense lowland forest, upland forest, coastal forest, dry forest, savanna, and degraded forest or peri-urban areas. Which types of forest are most relevant to rural livelihoods will depend on the country. In many countries, the contrast between moist and dry forest is the most important—while a greater range and volume of forest products may be collected in moist forest areas, people in dry forest areas may be just as dependent on forest resources in terms of the overall contribution to their income. Many countries have a system of forest classification, with readily available maps, that can be used for sampling.

Criterion (iii) is important because tenurial arrangements are critical for the contribution of forests to the livelihoods of the poor. In many countries there may be only one type of forest tenure applicable to all poor rural people. In large parts of Asia and Africa, land and forest resources are owned by the state, with local people
allowed access as determined by a mix of state regulations and traditional communal rights. Where there is no diversity in tenurial arrangements in a country, it may be possible to select a site near a protected area, a site where community or joint forest management is being practiced, or a site where forests are leased to concessionaires. It is suggested that, if resources allow, pairs of villages are interviewed in each location selected, one in a more accessible and one in a less accessible location, further from markets and main roads.

Again, it is important to emphasize that this purposive site selection will deliver toolkit results that are indicative rather than a full statistical picture of the country as a whole. When presenting the results, it may be helpful to present the toolkit findings alongside the findings of a formal national statistical survey (government census or household survey) to provide a context for the results and highlight site-specific findings.

**HOW MANY SITES TO SELECT?**

The aim of the toolkit exercise is the collection of information from different forest contexts, and their collation into an overview of the role that forests play in the cash and non-cash incomes of the poor in the country as a whole. The series of snapshots generated is intended to create an interest in capturing forest and poverty data more effectively in due course, and to serve as a basis for more detailed research.

How many sites are needed for such an enterprise? Three sites might be quite adequate for a relatively homogeneous country such as Gabon. Ten could suffice in Tanzania, with careful selection. However, in the case of an enormous country such as Indonesia, several for each of Java, Sumatra, Kalimantan, Sulawesi, and Indonesian Papua would be required, without even considering other areas of Eastern Indonesia. In this case, selection of only certain regions (or islands) would probably be the best way forward.

Including a pair of villages at each study site allows for more efficient use of field research resources, and allows for interesting comparisons at the local level, such as between villages that are more and less isolated from roads and services, or nearer to and further from a protected forest.

**MAKING INITIAL CONTACT WITH DISTRICT LEVEL OFFICIALS**

A preliminary task is to contact district officials by telephone, email or through official channels to introduce relevant officials to the toolkit and the reasons for undertaking field exercises in the district. Relevant officials will certainly include, at a minimum, those concerned with natural resources and planning, together with courtesy calls on more senior officials. It may be necessary to explain the country’s Poverty Reduction Strategy, and it will almost certainly be necessary to explain why the contribution of forests to cash and non-cash incomes is often overlooked and needs further investigation.

A very short, simple document (no more than two pages) should be prepared for distribution to local officials, which explains PRSPs, forests and their contribution to rural incomes, the proposed toolkit exercises and their purpose. Annex 1 provides an example of such a document.
TIMELINE FOR THE FIELD VISITS

The field team needs to make time for the following activities at each field site:

- Meeting and working with district officials
- Meeting and working with village leaders and villagers
- Organizing and training facilitators (if the decision has been made to use a different team of facilitators at each site)
- Implementing the field tools that require working with a small group of village leaders and villagers (Tools 1 and 2)
- Selecting and making contact with the 40 participants who will be involved in the remaining field tools

<table>
<thead>
<tr>
<th>Visit</th>
<th>Estimated</th>
<th>Activity</th>
<th>Who is involved</th>
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<tbody>
<tr>
<td>Reconnaissance visit</td>
<td>variable</td>
<td>Meeting with and working with district officials (repeated meetings throughout the visit)</td>
<td>Field team, district officials, village leaders</td>
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<td></td>
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<td>Meeting with and working with village leaders and villagers (repeated meetings and organization of practical logistics)</td>
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<td></td>
<td>3 days</td>
<td>Organizing and training facilitators</td>
<td>Field team + local facilitators</td>
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<td>½ day</td>
<td>Preparing charts and materials</td>
<td>Field team</td>
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<td>1 day</td>
<td>Tool 1</td>
<td>Field team + village leaders</td>
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<td>½ day</td>
<td>Tool 2</td>
<td>Field team + small group of villagers</td>
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<td>1 day</td>
<td>Making contact with 40 participants</td>
<td>Field team</td>
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<td>Return visit</td>
<td>½ day</td>
<td>Tool 3</td>
<td>Field team + group of 40 villagers</td>
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<td>1-1½ days</td>
<td>Tool 4</td>
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<td>Tool 5</td>
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<td>1 day</td>
<td>Analyses and preparation of presentation</td>
<td>Field team</td>
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<td></td>
<td>1 day</td>
<td>Presentation of results at village level and district level</td>
<td>Field team + invitations to all villagers and to district officials¹</td>
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</tbody>
</table>

¹ If culturally and politically appropriate, it is a good idea to present the results at one meeting to which both the village and district officials are invited. If this is sensitive for any reason, then the results can be presented separately to the district officials.
Implementing the field tools that involve the 40 participants (Tools 3, 4 and 5)

Doing analyses and preparing presentations for the village and district level

Presenting the results at the village and district level

These activities could be combined into a single trip to the site, but it may make more sense to divide the activities between a reconnaissance visit (covering all preparatory activities and Tools 1 and 2) and a return visit (covering Tools 3-5 and the presentations of the toolkit results at village and district levels). The decision on the number of visits and the length of each visit will obviously depend on a number of factors including the season (rainy or dry), important events (e.g. national or local elections), and competing demands on time for villagers, district officials and the field team (e.g. harvest and planting seasons, the financial year). The table below gives a rough guide to the amount of time needed for the various field activities and a suggested split into a reconnaissance and return visit.

ORGANIZING AND TRAINING FACILITATORS

Field exercises demand a facilitator for each group, and at least one supervisory team facilitator, who moves among groups to make sure that the tools are being applied properly, particularly if group facilitators are new to the task. This means that five facilitators are required for one village exercise. These five facilitators will need to make the following time commitments to carry out the field work in one village: to train for one to three days, to facilitate the tools with villagers for three to five days, to put extra time aside if necessary for analysis and preparation of outputs and to attend the village-level and/or district-level plenary at which the tools are presented. In addition, on completion of the field work time must be set aside so that the village report can be written up. It is best to do this immediately after the field work, whilst the lessons learned are well remembered.

Selection of facilitators requires care. Only people with some experience in PRA methods can administer the toolkit properly. Overall, PRA experience and “people skills” are more important qualities for field team selection than numerical and analytic skills. Some local knowledge within the group of facilitators is also important, with knowledge of the local language and local politics being more important than knowledge of the local ecology and livelihoods. Sometimes it might make sense to choose facilitators that villages will feel more relaxed with because of their gender, age or ethnicity (e.g. groups of poor rural women often feel more comfortable being facilitated by an older man rather than by a younger man or woman).

If a number of sites around the country are to be covered in the field work, there are two options for choosing facilitators. The first option is a single team that goes to all of the sites. The advantages are that only one training session is needed, and that choosing skilled facilitators will produce consistent results, while the disadvantages are that a considerable time commitment is required from each facilitator, and there may be problems with local knowledge and local language. The second option is different teams for each site, with an opposite set of advantages and disadvantages.

The best approach to selecting and training the team depends on the country circumstances. In the testing of the toolkit, the Uganda team used the same facilitators at all sites, taking advantage of their consistently strong skills. The Cameroon team, on the other hand, used two different sets of field facilitators to deal with language differences in different parts of the country. The Madagascar team used a group of ten facilitators, with two groups of five working in two nearby villages at the same time, and meeting up in the evenings to discuss progress; the two villages came together for a shared plenary presentation at the end of the week.

The facilitators and government official who are going to observe or take part in the exercise, and the superviso-
ry facilitator(s) should spend one to three days in training before the field exercise, depending on their level of experience with PRA techniques. Training should include the following components:

- Understanding the purpose of the overall toolkit and of each tool
- Going through the steps of the tool, discussing any issues of content or of facilitation that might arise for each
- Drawing the charts and understanding how they are to be filled in
- Clarifying any issues of language, such as the most appropriate translations of terminology in the toolkit into the local language
- Deciding on shared definitions of forest products among all facilitators (including deciding whether and how these should fit with any definitions in national policy; e.g. can fish be a forest product?)
- Directly practicing each of the tools, through run-throughs and role-plays, including practice in using the charts and doing the calculations
- Agreeing practical logistics, such as the materials needed for each day, the timing of breaks and lunch, and so on.

An example of a country level training exercise is described in Annex 2.

WORKING WITH DISTRICT OFFICIALS

The first contact at the district level will be with the district officials with whom initial contact has already been made (see Section 1.4). The district level is likely to be a key level of decision-making and hence an important proponent in the implementation of the toolkit and the uptake of its results. The field team should aim to collaborate closely with district officials and help them get the best possible information from the toolkit implementation in their area to inform their policy decisions and their communications with national levels of government. District officials can help in turn with introductions, advice on field sites, and local information such as maps, surveys and policy documents.

In terms of information gathering, the first task is to ask for any background data available at the district level such as maps, copies of previous forest or poverty-related surveys, project documentation and regular data recording exercises (e.g. logs of forest law infringements). Local population and per capita income figures should be sought, along with any other data available on the distribution and nature of poverty in the district.

The second task is to arrive at an understanding of the role of district level government with regards to the national level. This will depend in part on whether or not decentralization has taken place. In many countries, the district/provincial level is now critical in implementing policies and taking responsibility for the management of resources. This makes the district/provincial level personnel’s task more complex, as they need to understand local people’s needs and priorities, to interpret national policies to them, and to develop working plans and activities that take account of both.

For this analysis, it is necessary to understand:

- which decisions can be taken locally and which must be referred upward;
- what data is collected and used locally, and what is collected to be sent to the national level;
- the data currently collected, particularly on the forest/natural resources/agricultural sectors and on poverty and/or household incomes;
- the annual budgeting and planning timetable which dictates when data is collected, when it is collated, and when it is forwarded to the national level; and
- to which ministry or other body at the national level the data is sent.
The next steps are to:
- obtain copies of the forms which are used for sector data collection;
- interview one or two of the data gatherers who complete forms at sub-district level;
- interview at least one of the data collators at the district level, who compile the reports that are sent to the national level;
- develop an understanding of the local use (if any) of the data for planning or monitoring purposes; and
- if a computer program is used for this purpose, find out what the program is and how it is being used.

The third task is to understand the relationship the district government has to the inhabitants. Are there further government levels (sub-district, ward, and village) that have a more direct understanding of local conditions than do district level officials? What is the protocol for making contact with them? How and how often do they report to the district level?

With these preliminary enquiries out of the way, the fourth task is to discuss with district officials and others an appropriate location for the application of the toolkit.

Through consultation, it should be possible to pick areas:
- with some forest cover,
- not too near to district headquarters,
- with infrastructure and road networks probably below average in quality and availability for the area, and
- with a high incidence of poverty.

If there is an intermediary institution such as an NGO or project to facilitate access to villages in particular areas, this factor might be important in making a final selection.

It will be necessary to make contact with the local officials below the district level who have responsibility for the immediate area where the toolkit exercise will be conducted. If possible, a forestry official or some other official from this bottom level should participate in the toolkit exercise.

**WORKING WITH VILLAGE LEADERS**

When district level enquiries and pre-planning and training are complete, the team is ready to make a preliminary visit to the village selected, to meet village officials, and to explain the process which will be followed. An intermediary will be needed to introduce the toolkit team to the village authorities: a district level official, or a leader of an NGO or a project known to village leaders.

The team needs to explain to village leaders the purpose of the toolkit, the tools to be used, and what will be asked of different sets of villagers: the leaders, the village as a whole, and the 40 participants selected for Tools 3-5. A timetable can then be arranged to fit with village commitments and activities (there will probably be a reluctance to take part in toolkit activities on market days, or on days normally allocated to church or mosque, for instance). The 40 participants will need to be able to spare about three days for Tools 3-5, either in a single block or broken up to fit into their schedules.

Explanations need to be made about the national level PRS process: what it is for, and how it is intended that the activities undertaken in the village will be made use

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2 Several of the reviewers of this toolkit have warned of the bias which may creep in as a result of too close an association with local officials. It is our view, however, that the toolkit is at all points a training and capacity building exercise, not a research exercise. In that light, it is important to work through the criteria for village selection with local officials, and help them to understand the logic of the choices finally made – choices which hopefully they have contributed to.

3 If intermediaries (NGOs, researchers) helping with the application of the toolkit as facilitators advise that villagers will feel unable to speak up about local problems in front of even very junior officials, the answer is to invite such officials on the first day of the exercise only. Thus, it is best to not invite officials to the days when tools generate a discussion of problems and solutions. Where possible, though, it is better if bottom-rung forest officers, in particular, can be present to learn and to gain insight into the complexities of local problems.
of at the national level. It should be clearly pointed out that the toolkit exercise will not lead to direct benefits for the village. Nor is it the preliminary stage of a project. Since it will not lead to direct benefits, it is essential to compensate villagers for their time. One way of doing so is to provide participants with food during the exercise. Providing, for example, “luxury” foods from town (rice, cold drinks) and paying for the slaughter of animals for roasting, usually works well. Field teams may consider compensating the 40 participants directly for their time or transport costs—the ethics and practicalities of this will be very much site-dependent. All these issues need to be planned with the village leaders.

**WORKING WITH THE GROUP OF 40 PARTICIPANTS**

Start the work with the 40 participants at a short plenary, on the first day, before breaking into groups. Use this meeting to make introductions, to explain the purpose of the exercise, to give an estimate of how long the exercises will take each day, and to agree practical details regarding where each group will sit, and arrangements for meals and refreshments. Give plenty of time for participants to air any questions and concerns. Bigger issues, such as whether and how participants’ costs will be compensated, the total number of days the participants will need to attend and the spread of these commitments to best fit with their other activities should have already been negotiated in advance during the reconnaissance visit.

Each day, several of the tools will be completed. It is courteous to have a short plenary each morning, to present key findings from the day before, before beginning on the new tools of the day. The final plenary has a similar purpose. A filled-in copy of all the tools sheets and charts should be given to the village, so that villagers can, if they wish, display them in the village headquarters. Villagers may start off rather shy, needing help and prompting to give their responses. This may be particularly true of women’s groups, and it is often best to put the most experienced, and possibly the older facilitators with women’s groups.

How concepts are explained in the local language is a major determinant of the outcomes and success of the toolkit—so it is worth dedicating time during training to choosing good translations for key concepts. The Cameroon team took time during training to translate key vocabulary and concepts in the local language Pidgin. The Madagascar team undertook a similar exercise, into Malagasy (attentive to the local dialect of Malagasy at the two sites) and prepared all of the charts in Malagasy. In Ghana, all discussions took place in the local language (Twi), with reporting in English. This proved acceptable to villagers who although they were bilingual felt more comfortable speaking in their own language.

If there will be a language problem (this may be a problem when women do not speak an intermediary language) it is important to make sure that facilitators
selected speak the local language and are given necessary training to address this. There may well be a literacy problem in some groups. In this case, facilitators need to keep reading out the contents of lists made, and to keep repeating instructions, so that group participants remain fully in control of what is required of them. It is important not to rush the tools.

RATIONALITY FOR THE FIELD METHODOLOGY

Summarizing the World Bank Participation Sourcebook, participatory rural appraisal (PRA) is a label given to a growing family of participatory approaches and methods that emphasize local knowledge and enable local people to make their own appraisal, analysis, and plans. PRA uses group animation and exercises to facilitate information sharing, analysis, and action among stakeholders. Although originally developed for use in rural areas, PRA has been employed successfully in a variety of settings. The purpose of PRA is to enable development practitioners, government officials, and local people to work together to plan context-appropriate programs.4

The method described in the toolkit attempts to combine the rich data often associated with informal focus group5 discussion, with some of the two-way, transparent and visual qualities of PRA. At the same time it refines the quality of the data usually gathered under both these methods.

- Careful grouping (usually by wealth level and gender, but see below) creates small focus groups with 10 participants in each, plus a facilitator.
- Facilitation of true focus group discussion is a skilled activity, and many individuals find it difficult. This is in part why PRA-type methods have become so popular over the years—they are straightforward for the interviewer as well as the interviewee. For that reason, the work proposed here has been simplified in various ways.
- Facilitators find the exercises easy to conduct because:
  - Information is captured on pre-prepared charts;
  - Although they are instructed to prompt if information is not forthcoming, facilitators do not have to sort long informal conversations into key topics. The charts—and the ranking exercises that group members use them for—do the work for them; and
  - All group participants can make their opinion count, without the facilitators having to bring them in informally.
- Participants find the exercises more enjoyable than household questionnaires or focus group discussions because:
  - Even though the activity takes place as a group, everyone gets a series of chances to relay their personal views, through voting.
  - Voting keeps participants more engaged than discussion alone, and creates a feeling of progress as a series of definite steps are completed.
  - Voting gives them a chance to see what their peers think, without waiting for verbal consensus.
  - The method is faster—and much more democratic—than the reaching of consensus within the focus group.

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4 For further details, please refer to the following website: http://www.worldbank.org/wbi/sourcebook/sba104.htm

5 Focus group discussions involve group interviews or discussions in which participants are selected because of shared interests or characteristics (e.g. poor women, wealthy farmers, NTFP collectors).
To recap, the fundamental objectives for using these tools are:

- to understand the contribution of forests and trees to rural cash and non-cash incomes in this area.
- to identify key constraints to and opportunities for increasing local benefits under current forestry policies and practices.
- to gather information for the national level that will enable the ministry responsible for forests to see how to address poverty more effectively, to contribute to the achievement of the Millennium Development Goals and to participate in the PRS process.

There are eight field tools in total. Some of these are participatory tools, to be undertaken with a small group of village-level informants or within the group of 40 participants, while others are tools for analysis and communication, to be undertaken by the facilitators on their own during the evenings or after the field visit. The table below summarises these characteristics.

For each of the tools, the text gives the main aim, the steps for undertaking that tool, the key questions that need to be asked, the equipment needed, and one or more worked examples.

<table>
<thead>
<tr>
<th>Tool number</th>
<th>Tool name</th>
<th>Participatory or analytical/communication?</th>
<th>Who is involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wealth ranking</td>
<td>Participatory</td>
<td>Village leaders + facilitators</td>
</tr>
<tr>
<td>2</td>
<td>Landscape analysis</td>
<td>Participatory</td>
<td>Small group of village informants + facilitators</td>
</tr>
<tr>
<td>3</td>
<td>Timeline and trends</td>
<td>Participatory</td>
<td>40 villagers + facilitators</td>
</tr>
<tr>
<td>4 Step 1</td>
<td>Livelihood analysis</td>
<td>Participatory</td>
<td>40 villagers + facilitators</td>
</tr>
<tr>
<td>4 Step 2</td>
<td></td>
<td>Participatory</td>
<td>40 villagers + facilitators</td>
</tr>
<tr>
<td>4 Step 3</td>
<td></td>
<td>Participatory</td>
<td>40 villagers + facilitators</td>
</tr>
<tr>
<td>4 Step 4</td>
<td></td>
<td>Analytical</td>
<td>Facilitators alone</td>
</tr>
<tr>
<td>5</td>
<td>Problem and solution matrix</td>
<td>Participatory</td>
<td>40 villagers + facilitators</td>
</tr>
<tr>
<td>6</td>
<td>Ranking forest products</td>
<td>Analytical</td>
<td>Facilitators alone</td>
</tr>
<tr>
<td>7</td>
<td>MDG chart</td>
<td>Analytical</td>
<td>Facilitators alone</td>
</tr>
<tr>
<td>8</td>
<td>Monetary values</td>
<td>Analytical</td>
<td>Facilitators alone</td>
</tr>
</tbody>
</table>
The final activity at the site level is to present the results to the whole village and to district officials. Ideally, this can be done in one joint session, inviting the whole village along with district officials to a presentation of results in the village. If possible, the presentation can be made into a special event, providing a meal and thanks for the village. This should take about half a day, but with considerable preparation and follow-up involved.

The field team should present the results of the toolkit clearly and simply—noting that not all of the Tools need to be presented (see below) and using visual techniques as far as possible. The team should allow plenty of time for comments and discussion among the villagers. Short responses from district officials will likely be part of the presentation too—but the field team should be careful to make sure that the session is about the toolkit and the villagers’ viewpoints rather than being co-opted by district officials into a series of political speeches or lectures.

To conclude, thank villagers for their time and explain again how the information is going to be used at higher levels. Make sure, too, when clean copies of the charts are redrawn, that the village has a set to keep for their own use. Also, make sure that both the village and the district officials are sent copies of site-level and/or district-level reports.

**TOOL RESULTS WHICH NEED TO BE PRESENTED IN THE VILLAGE-LEVEL OR DISTRICT-LEVEL PLENARY**

**TOOL 3 (TIMELINE AND TRENDS)** Major trends are well worth highlighting. In the Indonesian Papua example given, the women’s analysis of mounting agricultural problems arising from the absence of teenage sons at school, a major resulting labor shortage and the need for paid laborers, came as news to the men, to our surprise. Women were working harder and harder to try to deal with difficulties, but men had seemingly not put together the component parts of the problem before.

**TOOL 4 (LIVELIHOODS, STEPS 1, 2 AND 3)** Findings can be presented as large pie charts, demonstrating the extent of forest dependence.

**TOOL 5 (FOREST PROBLEM AND SOLUTION MATRIX)** identifies and sorts out problems and solutions into an agenda for action for villagers, as well as providing insight to the toolkit team. It is thus well worth presenting to the village at this stage.

**TOOL RESULTS WHICH DO NOT NEED TO BE PRESENTED IN THE PLENARY**

**TOOLS 1 (RANKING) AND 2 (LANDSCAPE SITUATION ANALYSIS)** are irrelevant to this plenary, of course. The data was collected for the use of the toolkit team, not the villagers.

**TOOL 7 (MDG CHART)** is for presentation elsewhere.

**TOOL 6 (RANKING TREE AND FOREST PRODUCTS)** While this tool highlights forest products important for analysis, it contains no surprises for villagers and need not be presented.
A short document for translation and distribution to government officials and others, when explaining the purpose of the toolkit

Forests’ contribution to rural households is widely recognized, but not well understood. There is little knowledge about how rural households depend on forest and tree resources to meet their daily needs, and even less about the potential of this resource to reduce poverty. Forest products, especially non-timber forest products, are often overlooked in the data collection activities of forestry and agricultural agencies so that their importance to households is under-estimated.

The toolkit is designed to address the problem by providing a framework for gathering and analyzing data that can offer a clearer understanding of the role of forest and tree products in poverty reduction. It addresses social, institutional and environmental concerns in the context of local and national planning processes; and is able to identify the most forest-dependent and the impact on them of forest policies and programs.

Directed primarily towards non-specialists with relatively little experience in data collection or poverty/forest linkages, the toolkit’s approach streamlines information gathering, identifies priority areas and helps define minimum information requirements. The results are made accessible through the use of indicators that are easily understood by local people and decision makers alike. The toolkit is designed to be used by the staff of forestry agencies, local government and/or NGOs, together with community members, to gather and analyze information.

POVERTY-FORESTS TOOLKIT FRAMEWORK—A STEP-BY-STEP PROCESS

The Poverty-Forests Toolkit framework uses a series of tools that have been adapted to achieve specific results. The initial phase is diagnostic, consisting of data gathering to identify forest/household use linkages and priorities for decision makers. The second phase presents the findings for discussion, planning and future monitoring at the district level. The third phase involves identifying ways of incorporating the results in national level poverty reduction strategy processes. The box below provides an indication of activities during each phase.

THE POVERTY-FORESTS TOOLKIT FRAMEWORK

PHASE 1: NATIONAL LEVEL ANALYSIS
Identify (i) data available related to the dependence of poor people on forests, and impediments to their advancement out of poverty, in the contexts of the PRSP, nfp and other frameworks; (ii) data currently collected; (iii) criteria for field site selection.

PHASE 2: LOCAL SITUATION ASSESSMENT
Identify (i) the users of forest resources; (ii) their level of dependency on forests/ tree products; (iii) existing resources and products; (iv) key constraints in the existing system (access, policy, market system). Prepare the results.

PHASE 3: PRESENTING INFORMATION (PRIORITIES) AT HIGHER LEVELS
(i) Discuss and reframe data at district level with the assistance of local officials, to fit with district-to-national reporting requirements; (ii) at national level streamline data further to fit with formats needed for the PRS process, the nfp process, and others as relevant.
INTRODUCTION

The training of the national research team took place over a two day period, 9th-10th July 2007. It was carried out in a classroom venue in Kumasi, Ashanti Region, where all the participants met and worked through the toolkit documentation.

KUMASI CLASSROOM TRAINING

Two days were spent familiarizing the research group with the documentation of the toolkit. This proved to be time well spent, as it meant all the participants were familiar with all the tools before going into the field. There were 14 participants in total. In addition to the four members of the country team, three participants came from the national forest service, three from national NGOs, and three from the Akropong community where the training exercise was to be carried out, together with one academic (a member of the national university where natural resource courses are taught). This provided a good mix of relevant skills and experiences. Of this total, five were funded by IUCN and eight would form the national research team for the project.

Monday, 9th July am
Introduction and overview of research project
Poverty Mapping
Introduction to the toolkit manual

Monday, 9th July pm
Description of all tools 1-3
Description of tool 6

Points raised:
It is important to have clarity on the objectives of the toolkit. As stated in the toolkit, there are three main objectives:

- To understand the contribution of forests and trees to rural cash and non-cash incomes in the area studied.
- To identify key constraints to and opportunities for increasing local benefits under current forestry policies and practices.
- To gather information for the national level that will enable the ministry responsible for forests to see how to address poverty more effectively, to contribute to the achievement of the Millennium Development Goals, and to participate in the PRSP process.

Wealth ranking tool (to be carried out with village authority): there is ambiguity in defining a household in Ghana. This needs to correspond with the family unit, based on those ‘who eat from the same pot’.

Local landscape situation analysis (carried out with selected villagers): it was suggested that it might be useful to prepare a sketch map prior to going on the walk, based on villagers’ descriptions. The value of different groups, e.g. a man’s group and a women’s group, was noted.

Timelines and trends (carried out with all groups together): when to begin in time and what themes to follow needs to be locally determined—facilitators should be wary of imposing their own views. In completing the timeline the effects of the themes on the poverty-forestry relationship should be explored.
User rights and duties (not clear with whom to carry this out): the difficulty of scoring was discussed and it was agreed that there is a need to emphasize that what is being scored are how rights are exercised in practice and not what is meant to happen.

Tuesday, 10th July am
Review of day 1
Description of Tool 4

Points raised:
- Definition issues: there is need for clarity on what is or is not a ‘forest product’.
- Boundary cleaning, and other forest-based activities, should be categorized under ‘other sources of cash’; but recognized as income derived from the forest.
- The selection of areas where the research is undertaken will influence how to deal with legality issues. There is a need to rely on local community leaders to help address this difficult issue. Care is required in how the research is presented to local communities to minimise the impact of illegal activities on the research analysis.
- There was concern over how to carry out the categorization of individual forest products (e.g. medicinal plants and individually named plants).

- The importance of putting a financial figure on the final statistic was raised.

Tuesday, 10th July pm
Group work to complete Tool 4: three groups of four people each worked through the application of tool 4. Description of evaluation approach.

Points raised:
Should national resources be devoted to the development of this toolkit? An interesting discussion took place on whether the toolkit is valuable in terms of bringing out the contribution of forestry to rural livelihoods. It was suggested that the toolkit might be applied in other sectors and individual tools may be used in other circumstances, e.g. wealth ranking might be used to identify the differing income backgrounds of school children. However, there was some scepticism raised on the ‘added value’ of the toolkit over other PRA tools. Much information has been collected already, but the information is not given priority at the policy level. One challenge in the development of the toolkit project was to make these linkages more effective than in previous research attempts.
TOOL 1

WEALTH RANKING

CONDUCTED WITH THE VILLAGE LEADERSHIP

AIM: TO SELECT PARTICIPANTS WHO ARE REPRESENTATIVE OF THE LOCAL POPULATION FOR THE TOOLKIT EXERCISES

In order to understand how poor households use and are dependent on forest resources, it is important that they can be readily identified for interviews. But since the activities of average and wealthy households also have an impact on both the access of the poor to forest resources and on the use of forest resources by the community, it is important to be able to identify not only the poor, but other households as well.

“Wealth ranking”1 is firstly a tool to discuss the attributes of “rich”, “average”, “poor” and “very poor” people in the selected area, and then to rank all the households in the area against these criteria, into the categories selected. Since wealth ranking takes several hours, and only involves a small subset of villagers (usually village leaders, and sub-village heads who know the households they are responsible for, and their wealth levels, pretty well) this is essentially a pre-tool that needs to be undertaken a day or two before the main exercise. This gives time for leaders to locate the household representatives who will be selected, to make sure they are able to come on the chosen day, or to find a same category substitute.

However, wealth is a contentious issue and—especially as this is the first tool—a lot of care and sensitivity is needed to get it right. Experience during the development of the toolkit included the Cameroon team’s use of the terms “long fingers” and “short fingers” as acceptable local synonyms for “wealthy” and “poor”. The Ghana team avoided the terms “rich” and “poor” by talking about “house owners”, “coffee farmers”, “seasonal crop farmers” and “landless/jobless”. The Madagascar team used the terms “rich” and “poor” only with a small group of elders for Tool 1 but in the sessions and plenary report-back labeled the groups A, B, C, D (although people could obviously see the differences among the groups for themselves, these labels avoided embarrassment). The Uganda team succeeded in the wealth ranking by explaining first that the purpose of the ranking was to avoid the usual bias towards wealthy men.

STEP 1

LOCAL DEFINITIONS OF “EXTREME POVERTY”, “POVERTY”, “AVERAGE” AND “WEALTHY”.

The team begins by identifying what criteria are commonly used in the area to classify a household as being in one of these categories. The objective is to identify three or four key indicators or criteria for each on which there is agreement among informants that adequately define the broad economic categories. Key informants include community leaders as well as households.

Materials needed: Flip charts, blank walls or a display area to pin or stick them up where they can be seen, marker pens.

Criteria may include the number of months a year that a household can normally grow its own food, the numbers of animals it owns, the amount of land it holds, the

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1 In Indonesian Papua, where mention of the wealth or poverty of individuals was deemed to be unacceptable, discussion with the intermediary NGO led to the choice of “old” and “young” as the proxies for male “wealth” and “poverty”. Women constituted a third, undifferentiated group in this location. While reviewers have suggested other location-specific criteria which might be considered as well (ethnicity, caste, etc.), it is our view that the guiding principle should be the capacity to make a contribution to the PRLS processes. For that, some attempt to identify the rich, poor and very poor, by whatever appropriate local means, is essential.
materials out of which the house is built, and the valu-
ables it is known to own (such as a plough, a bicycle, a
cart, a tractor or other vehicle). Being old and alone and
living on the charity of non-relatives may be a sign of
extreme poverty.

In Tanzania, animal ownership and numbers owned,
together with the amount of land held, were the key
criteria. Costly housing materials and consumer durables
were not regarded as very important.

**STEP 2**

**WHICH HOUSEHOLDS?**

After the criteria are agreed upon, a sample frame is
needed to generate a complete list of all households. This
information may come from the village register, or it
may be accessible by simply obtaining a listing from each
sub-village head of the households in his/her quarter of
the village. A technique that enables a quick ranking is
to put the names of each household onto a card or piece
of paper. The village committee then uses the criteria
already generated to sort the cards into tins, boxes or
baskets which represent the four categories selected.

*Materials needed:* Small index cards and marker pens;
four big tins, boxes or baskets for sorting into.

The first sorting provides a snapshot of the village when
cards are counted and the number of households in each
category is identified. The “poor” and “very poor” cat-
egories will probably encompass the bulk of the village.

**STEP 3**

**SELECTING HOUSEHOLDS TO INTERVIEW.**

The team then selects 40 households to request to pro-
vide a male or female adult household member to partic-
ipate in Tools 3, 4 and 5. Given the short time of the field
assessment, only a relatively small number of households
can be sampled, and by selecting relatively homogeneous
groups to go through the subsequent tools together may
be the least time-consuming way to work.

The team needs to select:

- a wealthy/average male group drawing five names
  from each category - 10 in all
- a wealthy/average female\(^2\) group drawing five names
  from each category - 10 in all
- a poor/very poor male group drawing five names
  from each category - 10 in all
- a poor/very poor female group drawing five names
  from each category - 10 in all

The aim should be to select the 10 households ran-
domly from each category, to avoid biases that come in
if the choice is made deliberately. However, there will
be some limitations to random sampling, such as avail-
ability of household members for the period of time
needed to undertake the tools. The 40 participants
will need to be able to spare about three days for Tools
3–5, either in a single block or broken up to fit into
their schedules.

\(^2\) The females selected for the two female groups do not need necessarily to be from female-headed households (though some will be). This is a rough and
ready exercise and there is no one correct way to conduct the toolkit exercises.
## Example of Wealth Indicators from Nyantonzi Parish, Masindi District, Uganda

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Land Ownership</th>
<th>Land Size</th>
<th>Livestock</th>
<th>Ownership of Other Assets</th>
<th>Quality of Housing</th>
<th>Source of Income</th>
<th>Education</th>
<th>Source of Livelihood (non-cash)</th>
<th>Social Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor Household</td>
<td>Individuals may have no land. They may have land but do not work. (lazy)</td>
<td>0.25 acre</td>
<td>They have no livestock. Those who may have sell off immediately.</td>
<td>No assets.</td>
<td>Small grass huts with walls made of grass and no doors. No latrines too.</td>
<td>Income is obtained from casual labour and stealing.</td>
<td>Have never been to school.</td>
<td>They work for food, beg or steal.</td>
<td>They have small families, unstable and tend to migrate to avoid being held accountable for bad practices e.g. stealing</td>
</tr>
<tr>
<td>Poor Household</td>
<td>May have land i.e. inherited.</td>
<td>At least 2 acres</td>
<td>May have land, and own about 1-5 goats, chicken and a pig.</td>
<td>May have a bicycle, small radio and a disco watch.</td>
<td>The houses are usually of mud and grass thatch, well maintained with a kitchen and latrine.</td>
<td>Income comes from sale of agricultural products, casual labor, renting out land and sale of livestock and crafts.</td>
<td>May have studied up to primary level.</td>
<td>Grow own food crops.</td>
<td>Usually have big families and store cereals.</td>
</tr>
<tr>
<td>Average Wealthy House</td>
<td>Own land (inherited), buy land and may grab land.</td>
<td>8-15 acres of land.</td>
<td>May have between 10-15 chickens, 7-10 goats, 3 pigs and 2 ducks with dogs to protect them.</td>
<td>May own a good looking bicycle, family motorcycle, grinding mill, radio cassette and a mobile phone.</td>
<td>Houses usually of mud walls but roofed with iron sheets have a grass-thatched kitchen and latrine.</td>
<td>Income comes from sale of puppies and livestock, sale of agricultural products (from own farm or bought), sugarcane selling (out growers) and milling.</td>
<td>May have gone through secondary level education although could be rich without education.</td>
<td>Have got many opportunities</td>
<td>Boastful, “Ebin-tu biruho”</td>
</tr>
<tr>
<td>Wealthy Household</td>
<td>Own land by lease, buying or grabbing.</td>
<td>15 acres and more.</td>
<td>May have about 30 local chicken 15-20 goats, 5 pigs, 5 ducks, 2 turkeys, 2 dogs, 8 sheep and between 20-25 cattle.</td>
<td>May own grinding mill, television, radio cassette and a phone.</td>
<td>Brick walled and iron roofed houses, kitchens and latrines.</td>
<td>Rent out their buildings, sell sugarcane (out growers), and sell livestock. They also get income from milling.</td>
<td>May have gone through post secondary education.</td>
<td>Have many opportunities</td>
<td>Boastful, “Ebin-tu biruho muno, nkutere nkugure”</td>
</tr>
</tbody>
</table>
SAMPLE
POLICY BRIEF
POVERTY-FORESTS LINKAGES IN UGANDA
SEE OVERVIEW AND NATIONAL LEVEL ENGAGEMENT, SECTION 3 (P. 35)
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgement</td>
<td>1</td>
</tr>
<tr>
<td>Executive summary</td>
<td>2</td>
</tr>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>The Poverty-Forests Toolkit Approach</td>
<td>5</td>
</tr>
<tr>
<td>Socio-Economic and Political Settings of the Study Sites</td>
<td>6</td>
</tr>
<tr>
<td>Forest products’ contributions to Rural Livelihoods</td>
<td>11</td>
</tr>
<tr>
<td>Contribution of forest products to Millennium Development Goals</td>
<td>13</td>
</tr>
<tr>
<td>Communities’ understanding of user rights, duties, benefits and potential solutions to existing problems</td>
<td>14</td>
</tr>
<tr>
<td>Conclusion and Recommendations</td>
<td>16</td>
</tr>
<tr>
<td>Annex 1: Mapping of priority sources of livelihood by gender, wealth category and location</td>
<td>18</td>
</tr>
<tr>
<td>Acronyms</td>
<td>20</td>
</tr>
<tr>
<td>References</td>
<td>21</td>
</tr>
</tbody>
</table>
Sustainable Development Centre would like to acknowledge the research team which carried out this study, including Mr. Robert Esimu (Range Manager, Budongo Forest), Mr. Patrick Musiime (Range Manager, Echuya Forest), Ms. Fiona Driciru (Community Partnership Specialist), Mr. Deziderius Irumba (Sector Manager, Budongo Forest) all of the National Forestry Authority (NFA); the District Forest Officers (DFO), Mr. Simon Biryetega (DFO, Masindi District), Mr. John Mary Karugaba (DFO, Kabale District), Mr. Henry Mutabazi (DFO, Kisoro District). Equally, the participation of Dr. Wilson Kasolo (Principal, Nyabyeya Forestry College), Ms. Zenab Musiimire (Capacity Development Officer, Nature Uganda), Mr. Emmanuel Wankya (MSc. Student, Faculty of Forestry and Nature Conservation, Makerere University) and Mr. Levand Turyomurugyendo of Forestry and Farm Income Enhancement Project is highly acknowledged.

We would also want to recognize the following people from institutions visited who contributed to the study through guidance on methodology, provision of information and describing the policy formulation processes in the country. They are: Steven Kaukha, National Forestry Authority (NFA); John Bosco Kavuma, National Planning Authority (NPA); Margaret Kakande, Ministry of Finance Planning and Economic Development (MFPED); Josephine Nakamya, Uganda Bureau of Statistics (UBOS); Dr. Mukadasi Buyinza, Faculty of Forestry and Nature Conservation, Makerere University; Alex Muhwezi, International Union for Conservation (IUCN); Ronald Kaggwa, National Environment Management Authority (NEMA). Others are Tom Mugisa, Plan for Modernisation of Agriculture (PMA); Onesmus Mugyenyi, Advocacy Coalition for Development and Environment (ACODE); and Christine Nantongo, Environmental Alert.

We thank the forest communities of Budongo Forest in Masindi district and Echuya Forest in Kabale and Kisoro districts who participated in the study.

Special thanks go to Des Mahony a Lecturer at the Centre for International Development (CIDT), Wolverhampton, UK who worked as an International Consultant for this project and Neil Bird a Research Fellow at the Overseas Development Institute, London who worked on the international synthesis of the findings. In a very special way, our thanks go to Honourable Dr. W. Kisamba Mugerwa, the Chairman of the Board for National Planning Authority for his critical review of the draft paper.

Finally, we would like to thank PROFOR a multi-donor trust fund programme housed in the World Bank for sponsoring the study.
This policy brief paper was prepared following the testing of the Poverty-Forests Linkages Toolkit at four sites in Masiindi, Kabale and Kisoro Districts of Uganda. In addition to gathering information on the linkage between forests and poverty, the toolkit produced evidence to inform national planning processes, including the formulation of the 5-year National Development Plan. Eight key findings, all of which have national policy relevance, can be highlighted.

1. First, a key finding was that rural communities do not use the $1 standard available for daily expenditure to gauge poverty. Instead they use a package of indicators thereby demonstrating the complex and multidimensional nature of rural poverty. By implication, poverty eradication requires a holistic and integrated approach to rural development, including its assessment. Access, by rural communities, to natural resource assets, including forests, is central to any poverty reduction strategy for Uganda.

2. The subsistence economy was found to be 52%, slightly higher than the cash economy at 48% for all sites in this study. But compared to agricultural crops, which command a 1:1 ratio between the subsistence and cash economy, the forest products ratio of 3:1 implies that they are mainly used for subsistence. This phenomenon makes them almost invisible in the Poverty Reduction Strategy of the country, one of whose key objectives has been “to increase the ability of the poor to raise their incomes”.

3. Although the monetary (cash) contribution to households from forest products was only 8% for the four sites, some groups and some sites registered a much higher contribution. This was true among the very poor/poor men and women of Ncundura at 19% and 15% respectively, and among the very poor/poor men in Muhindura at 20%. On the contrary, the dependency on forest products by the average wealthy, both men and women for cash is lower, at 6%. Forest products therefore constitute an important direct source of income for the very poorest. As households become better off, their dependence on forest products starts to decline.

4. In Kisoro and Kabale, the former forest indigenous Abatwa have not been fully resettled. Unless government takes a bold position to settle them, their continued dependence on forests for their livelihood could in the long-run be very counter productive to sustainable forest management.

5. Forest linkages to the growth of other sectors such as crop production, livestock rearing, construction, trade and health were considerable although there is no national system to capture such linkages. This underestimates the contribution of forests/forest products to national development. Their contribution to the attainment of Millennium Development Goals (MDGs) would be higher if communities had access to appropriate and affordable technologies for value addition such as honey and timber processing.
The improvement in rural physical infrastructure (e.g. roads, electricity) and provision of social services (e.g. education and health services) would also contribute to rural transformation.

6. In Masindi, large areas of private natural forest were found to be under pressure from commercial agriculture. Government needs to identify a package of incentives including carbon finance so that households with private natural forests can conserve them instead of converting them to agriculture.

7. Between 1971-1986, communities witnessed over exploitation of forest products due to (i) the trans-border illegal trade known as “Magyendo” and (ii) institutional breakdown of the then Forestry Department (now National Forestry Authority) and local authorities. The main policy message is that poor governance and break-down of the rule of law has negative repercussion for rural livelihoods.

8. A key finding from the listing of duties among communities is the desire for sustainability. This represents a considerable opportunity for the promotion of co-management arrangements in forestry between government authorities and the communities. Using the Poverty-Forests Toolkit, communities can generate information to guide their participation in sustainable forest management. The formulation of the 5-year National Development Plan should take cognizant of the findings in this paper, more so given that it has a developmental objective “to develop and optimally exploit the natural resource base and ensure environmental and economic sustainability”.
INTRODUCTION

Uganda’s Progress Report (2007) on the Millennium Development Goals (MDGs) has asserted that forests and woodlands are critical to the protection of the Ugandan landscape and are vital to people’s livelihoods. A wide range of products and ecological services are provided on which the poor depend for employment and economic growth. Nationally, forests and woodlands are estimated to cover 20% of the country’s area. Of this, 70% is on private farmland with the balance being in Central and local forest reserves, national parks and wildlife reserves. However, the conversion of land for agriculture, together with policy failures and a lack of alternative energy sources has led to over-harvesting of trees and forest loss, especially on private farmland.

No doubt that deforestation results in increased poverty through higher fuel wood (firewood and charcoal) costs, both in terms of money and time spent in collection. According to the Poverty Eradication Action Plan (PEAP) 2004/5, the distance traveled, particularly by women and children, to collect firewood has increased dramatically between 1992 and 2002 from 0.06km to 0.73km. This impacts negatively on household productivity since the time spent on collecting firewood could have been used for other economic activities.

There is considerable rationale for the government to place the natural resource base as a central issue for development in general. First, there is the need to curb the degradation described above, but second, is to recognize the contribution that forests and woodlands can make to the livelihoods and transformation of households and the economy in general. The competing interests to conserve forests on one hand and to convert them to alterna-
tive uses like sugar cane production, industrialization and settlement on the other raises the urgency to make informed trade-off choices.

Presently, little evidence has been generated to demonstrate how forest products used in combination with other livelihood assets sustain rural livelihoods. Unless this is systematically done over time as a good practice of planning and forest governance, forests will continue to be out-competed in resource allocation from government and its supporters.

Against this background, a partnership of institutions\(^1\) has supported Uganda alongside Cameroon, Ghana and Madagascar to test a field-based research methodology to:

(i) gather evidence on the linkage between forests and poverty, and
(ii) use that evidence to inform and influence national and sectoral level planning processes.

The methodology is fully described in a separate PROFOR Poverty-Forests Linkages Toolkit, available on: [http://www.profor.info/profor/node/103](http://www.profor.info/profor/node/103). Although the Toolkit was being tested, it nonetheless generated important findings worthy of sharing among policy makers. The testing was done in 2007/8 in two sites in Masindi district and one site in each of Kabale and Kisoro Districts of Uganda. Overall, the paper presents the contribution of forests products to rural livelihoods in the context of their wider rural economy in which communities find themselves.

This Chapter has provided the introduction to the study. Chapter 2 gives the toolkit approach and chapter 3 gives the social, economic and political setting of the four sites for the study. Chapter 4 summarizes the contribution of forests to livelihoods, while Chapter 5 analyses their contribution to the Millennium Development Goals (MDGs).

Chapter 6 reviews the communities’ perceived rights, responsibilities and benefits as well as the problems and solutions in the use of forest products. Finally, chapter 7 provides conclusion and major policy recommendations.

**THE POVERTY-FORESTST TOOLKIT APPROACH**

This report is based on the Poverty-Forests Toolkit which has several methodologies for snap-shot information gathering. They are (i) wealth ranking, (ii) local landscape and situational analysis, (iii) timeline and trend analysis, (iv) livelihood analysis, (v) assessment of user rights, duties and benefits and (vi) forest problem and solution matrix. Table 1 summarizes the main features of each tool. The use of these tools helps to generate evidence on subsistence and cash use not only for forest products but also crops, livestock and other sources of livelihood. They also generate information about communities’ perceived rights, responsibilities and benefits as well as problems and solutions for forestry management. Collectively, the tools communicate the **Voices of the Poor** concerning...
forestry use for rural livelihoods. The toolkit was used in four sites, two of which were in Masindi (Nyantonzi and Kasenene parishes), one in Kisoro (Muhindura parish) and the last one in Kabale (Ncundura parish). See Figure 2. Figure 1 is an illustration in the application of one of the tools, the livelihood analysis tool. By their nature, these methodologies generate qualitative data. Accordingly, the evidence they generated has been complemented with quantitative data from other surveys and studies.

SOCIO-ECONOMIC AND POLITICAL SETTINGS OF THE STUDY SITES

NATIONAL ESTIMATES OF WEALTH

It is imperative for one to briefly understand the context in which communities’ wealth ranking should be construed. Uganda’s political and administrative management is operated through a local government system constituted by districts and sub-counties in rural areas and municipalities, town councils, divisions and wards in urban settings. The Districts and Sub-counties have powers for planning under a decentralized system. The main economic activities common to all the study sites are agriculture and livestock rearing. In addition, Masindi has small-scale industries e.g. milling, furniture making and pit-sawing. All sites are hard-to-reach areas for the roads leading to them are poor (murram roads) which become impassable in the rainy season.

Population density in Kabale and Kisoro are very high by national standards, explaining why the forest area per capita (ha) is also lower than national average (Table 2). All sites have a Human Development Index (HDI) below the national one, and wood fuel energy dependency above the national one, both of which indicate the relative poverty of these communities. Of the three districts, Kisoro is the poorest by its human poverty index ranking.

THE COMMUNITIES’ RANKING OF WEALTH

Using the wealth ranking tool, the study team facilitated the communities in the four study sites to rank households by 4 categories of ‘very poor’, ‘poor’, ‘average wealthy’ and ‘wealthy’. The common indicators proposed by the study team for comparability were land ownership, land size, livestock ownership, ownership of other assets,
and quality of housing and sources of income. However, communities generated additional indicators, notably education and non-cash sources of livelihood (Nyantonzi), social behaviour and clothing (Kasenene), education and capacity to employ (Muhindura) and education and health (Ncundura) thereby bringing out the multi-dimensional aspect of poverty. In Muhindura-Kisoro district community members observed during landscape situation analysis: “Families which reap big from agricultural produce but fail to send children to school cannot be considered wealthy”.

Although there is some variation among sites (Figure 3), the general picture across all sites is that 28% of the households were very poor, 47% were poor, 21% average wealthy and only 4% are wealthy. If one combines the first two categories, 75% of the households are very poor/poor. These findings are consistent with other studies. For example, it is stated that although progress has been registered in reducing the percentage of population below the poverty line from 56% in 1992 to 31% in 2006, the disproportionate contribution of rural areas where 88% of the population lives to national poverty remains high, at 93% [UNDP, 2007 pg 12]. Many households also remain vulnerable to poverty [Okidi & McKay, 2003].

The key lessons from the use of the wealth ranking tool were that (i) the variables by which households rank wealth vary by location although the main indicators remain consistent, (ii) households value a package rather than one variable for their socio-economic transformation and (iii) while it is fairly straightforward to count the number of people living on the equivalent of US$1 per day, it is more demanding to determine the true nature and extent of poverty using the wealth ranking tool.

The main policy message is that the complex and multi-dimensional nature of rural poverty in Uganda requires a holistic and integrated approach to rural development, including its assessment.

ACCESS TO FOREST PRODUCTS

Masindi District – high forest cover

Masindi households generally have larger parcels of land and more trees compared to those in Kabale and Kisoro. A few individuals in Masindi retain natural forests on their land, although some of them are converting them to commercial agriculture (Figure 4). Government should explore the possibility of integrating such households into carbon market to give them incentives to conserve

| TABLE 2  DEMOGRAPHIC AND WELFARE INDICATORS FOR MASINDI, KABALE AND KISORO DISTRICTS |
|--------------------------------|----------------|----------------|----------------|
| Indicator                     | National Average | Masindi *1     | Kabale *2      | Kisoro *3      |
| 1. Population Density (persons/ sq Km) | 123             | 54.4           | 281.1          | 324            |
| 2. Human Development Index     | 0.581           | 0.524          | 0.567          | 0.495          |
| 3. Human Poverty Index         | 27.69           | 29.4           | 24.0           | 40.2           |
| 4. Economic activity indicators % working population in subsistence farms | 30.7            | 25.8           | 23.9           | 15             |
| 5. Energy consumption (%) Cooking (wood fuel) | 96              | 97.3           | 97.3           | 97.3           |
| 6. Forest area per capita (Ha) | 0.053           | 0.19           | 0.009          | 0.018          |

*1- Nyantonzi and Kasenene parishes  *2- Ncundura parish  *3- Muhindura parish
their natural private forests. A large section of Budongo forest area has gradually changed over the past 60 years from tropical high forests to a mixed type forest due to selective logging and widespread silviculture, which favoured the growth of valuable timber species such as mahogany (Muhereza, 2003). There is a slow attrition of forest patches that form part of the larger Budongo forest ecosystem.

*Government needs to identify a package of incentives including carbon finance so that households with big chunks of private natural forests in Masindi and elsewhere utilize them sustainably and wisely for the common good instead of converting them to agriculture.*

The private forest patches are under continuous pressure from other land uses, e.g. large sugar cane plantations.
associated with the Kinyara Sugar Works, tobacco, food crop cultivation and land for human settlement.

Migrants from the Democratic Republic of Congo (DRC) are encroaching on the southern fringes of the forest. Most migrants are seasonal farmers who clear land near the forest for producing tobacco and return to DRC after selling their tobacco (Muhereza, 2003)

**Kabale and Kisoro Districts – low forest cover**

In Kabale and Kisoro, the low forest cover on farmland is visible. The communities of Ncundura (Kabale) and Muhindura (Kisoro) therefore rely on harvesting forest products from Echuya Forest Reserve. The reserve was gazetted in 1939 and was mainly bamboo forest with very few hardwood trees at that time. However, the current ecological situation shows that hardwood trees have been colonizing the bamboo forest, with the area of pure hardwood stands having increased from 16% to 51%. The exclusion of fire, herbivores and human activities after reservation of the forest has gradually led to the conversion of the grassland bamboo ecosystem into a hardwood forest ecosystem.

Previously the use of forest resources was policed by the NFA but this proved impossible to supervise due to population pressure. That pressure is reflected in the fact that households cultivate to the margin of the reserve. Now the community right to access and obligation to protect the forest is delivered under a series of community forest management agreements.

**TIMELINE AND TREND ANALYSIS**

The use of timeline tool gave quite interesting revelations. Across all the sites, the break-down of the rule of law (1971-1985) was responsible for encroachment, illegal harvesting of forest products and breakdown of the capacity of institutions (Forest Department and Local governments). In Kisoro and Kabale, the illegal trade, then locally known as ‘Magyendo’ led to timber harvesting and charcoal production for export to Rwanda. In the same areas, the size of land holding reduced tremendously due to population growth, thereby creating fragmentation. As a coping mechanism, some households rent land from those who have more. Livestock grazing is constrained in this part of the country. The promotion of trade liberalization and privatization led to the collapse of local institutions and cooperatives for collective marketing.

It would have been difficult for many households to meet their food security and commercial needs in agriculture had it not been that Non-Governmental Organisations (NGOs) and research institutions like Africare, CARE, Africa 2000 Network, ICRAF introduced high yielding varieties of Irish potatoes, beans and temperate fruits. They also introduced soil and water conservation techniques, agro-forestry and collaborative forests management. The uncertainty being expressed because of weather variability in recent years is a problem for which communities have not sought sustainable coping mechanisms. Communities attribute prolonged and unpredictable drought and erratic rainy seasons to deforestation. In Masindi on the other hand, the demand for sugar cane from out growers by Kinyara Sugar Works Ltd and tobacco by British American Tobacco Ltd have led to conversion of forests to agriculture.

In its World Development Report for 2008 entitled “Agriculture for Development”, the World Bank has stated that agriculture contributes to development as an economic activity, as a livelihood, and as a provider of environmental services, making it unique instrument for development (World Bank 2007). It continues to state that, managing the connections among agriculture, natural resource conservation and environment must be
an integral part of using agriculture for development. Accordingly, donors and governments should re-discover the importance of forests and trees for poverty eradication and especially on private farmland.

In all sites, there was appreciation by communities that government is investing in Universal Primary Education (UPE) and Universal Secondary Education (USE). There is also increasing access to the mobile telephone. Unfortunately, all sites do not have access to electricity, a factor holding them back in small and medium processing enterprises. The roads are also still very poor, although the study team left at a time when the construction of Kisoro road was commencing. Women’s participation in decision making, including use of household assets has improved particularly after coming into power of the current government in 1986.

*The key message is that improvement in rural physical infrastructure (e.g. roads, electricity) and provision of social services (e.g. education and health services) would greatly contribute to rural transformation.*

Since the 1970s, communities have witnessed changes which point to the increasing scarcity of forest products. Abundance is decreasing due to high population growth rates, immigration and liberalized trade. The speculative and illegal trade in the 1970s and early 1980s in Kisoro and Kabale districts, known as “Magendo”, made the export of both firewood and charcoal to Rwanda lucrative but at the expense of forest management. Fuel wood is now scarce and expensive. Households are coping with this scarcity by planting tree species on their private landholdings. Many NGOs (e.g. Nature Uganda, ECOTRUST, Africa 2000 Network and BUCODO) as well as the NFA are educating communities on the sustainable use of forests.

Another observed feature is that land parcel sizes have fallen across all sites, with purchase and renting prices and land conflicts on the increase. Sustainable agricultural practices like “Hinga-Raza” type of fallowing and terracing of the 1960s have declined due to poor enforcement and weakened extension service. The recently introduced soil and water conservation technologies like “fanya jiu/ fanya chini”, agro-forestry and zero grazing have not yet yielded benefits on a scale to offset the losses incurred over the long term.

Communities mentioned recent developments which if harnessed would add value to the rural economies, including the use of forest products. Women are equally entitled as men to access forest products on a regulated basis from CFR under the introduced community resource management programme of the NFA. The National Agricultural Advisory Services (NAADS), which is a publicly funded but privately run extension service and NGOs are training farmers and providing new technologies. Women’s voices in decision making are starting to be heard. The poor women in Kisoro commented: “Men these days consult us before selling land”. With the introduction of Universal Primary Education and Universal Secondary Education, it is hoped that many households will have the capacity either to adopt better practices for agriculture and forestry husbandry or to leave land in preference for paid employment. The adoption of high yielding Zero grazing cattle and ruminants by women is a great opportunity because ownership of livestock generally has been found to account for families coming out of poverty four times faster than those purely dependent on food crops [MFPED 2005]. The expansion of the mobile phone also provides an opportunity to access information on markets by farmers.

However, government is still challenged to improve the enabling environment for rural economic transformation. The poor road infrastructure frustrates trade and marketing especially in the rainy season. The lack of electricity and other low-cost alternative energy sources continue to lead to the over-use of forests for household energy. Introduction of rice growing in Masindi is likely to lead to the reclamation of wetlands unless proper guidance is
provided. The improvement in the health service should equally be used to help households cope with HIV/AIDS and its impact on agriculture and forestry.

FOREST PRODUCTS’ CONTRIBUTIONS TO RURAL LIVELIHOODS

This study has brought to light the fact that forests and forest products constitute a very large asset base for livelihood strategies, accounting for 30% of households’ livelihoods on average over the four study sites. The subsistence use of forest products is 22% compared to 8% for cash income. They are rivaled only by agricultural crops, which contribute close to 50% (Figure 5). These figures are reasonably consistent with another study (Bush et al., 2006), which found that across all forest types and income groups, households derive 20% of their overall income from forests, with 76% of the value of goods harvested from forests consumed in the home. Amongst income groups, high income households appropriated a greater overall value of forest goods. Recently, the Moving out of Poverty study showed that 52% of the households reported improved welfare, due mainly to the accumulation of assets in land and livestock [World Bank 2007]. Communities in Masindi confirmed this observation by stating that the average wealthy people are identified by such terms as “Ebintu binoho”, literally meaning that they have property.

The National Household Survey 2005/2006 highlighted that 78% of the households depend on firewood for cooking and 18% on charcoal. Overall, 96% of the households depend on wood fuel for cooking purposes which is a challenge to achieving the MDG targets and promotion of environmental sustainability. Even though
government removed Value Added Tax (VAT) on Liquid Petroleum Gas (LPG) in 2006 to allow the poor to make substitution, it has been found that many barriers still exist to allow the poor access LPG. They are low incomes, fear of fire risk and lack of extension service on energy. (Kazoora C. et al, 2008).

The main policy message is that access to natural resource assets, including forests, is central to any poverty reduction strategy for Uganda.

There are other findings about forest product use specific to location, gender and wealth category. For example, across all wealth categories men derive a higher proportion (19%) than women (11%) from forest products. On the other hand, the average women’s dependence on agricultural crops (55%) was higher than that of men (44%), except in Ncundura where average wealthy men’s dependence on crops was exceptionally high, at 63%. This is attributed to the easy access to and prevailing market for the crop products especially Irish potatoes and cabbages that double as food and cash crops.

Ncundura’s dependence on forest products is 37%, which is much higher than the 30% average for all sites (Figure 6). The dependence among the average wealthy men was also very high in Nyantonzi at 47% and Kasene at 43% because of their low participation in crop production and relatively more abundant forest resources compared to South Western Uganda.

The subsistence economy was found to be 52%, slightly higher than the cash economy at 48% for all sites. But compared to crops, which command a 1:1 ratio between the subsistence and cash economy in the above structure, the forest products ratio is 3:1; which, implies that they are mainly used for subsistence.

The low contribution of forests products to cash income makes the forest contribution almost invisible in the Poverty Reduction Strategy of the country whose one of the key objectives has been “to increase the ability of the poor to raise their incomes”.

Although the monetary contribution to households from forest products was only 8% for the four sites, some sites registered a much higher contribution. This was true among the very poor/poor men and women of Ncundura at 19% and 15% respectively, and among the very poor/poor men in Muhindura at 20%. Forest products therefore constitute an important direct income source for the very poorest. As households become better off, that dependence starts to decline. It was found for example, that for the average wealthy (both men and women), their dependence on forest products for cash income was 6%. Construction materials like building poles, ropes, thatch, timber and charcoal are more commonly used by men than women reflecting men’s role in construction. Firewood and water command equal demand between men and women. (See Annex 1).

The very poor/poor men in Muhindura (Kisoro) heavily rely on gathering honey, wild meat and medicinal herbs for their subsistence and cash income (38%). This dependence is higher than 30% for all sites for both subsistence and cash use of forest products. Further inquiry revealed that these men were “Abatwa”, an originally forest dwelling community. Most of them have no land, having been displaced from the adjacent forests of Echuya, the then Bwindi Impenetrable Forest Reserve and Mgahinga Forest Reserve in 1991 when government elevated some forest reserves to national parks. Government failure to resolve the rights of formerly dependent forest communities has also been reported in the press, particularly with regard to the Benet of Mt.Elgon National Park.

Unless government takes a bold position to settle the former forest indigenous Abatwa, their continued dependence on forests for all their livelihood could in the long run be very counter productive to sustainable forest management.
In Ncundura (Kabale) and Muhindura (Kisoro), the bamboo stems and other tree stems are important inputs into agriculture, serving as stakes for climbing beans. Compared to other beans, they are favoured for their taste, high market value and ease of cooking. Forest products therefore support agriculture in an intimate way.

Households also sell forest products to be able to meet a wide range of their expenditures. The sales from crafts meet the small everyday purchases of sugar, salt, paraffin and occasionally medium-size expenses like clothes, school uniforms. It is mainly very poor/poor women involved in these transactions. Bamboo sales cut across wealth categories for meeting small and medium expenses in Ncundura and Muhindura, where bamboo is harvested from the nearby Echuya Central Forest Reserve on a regulated basis.

On the other hand, sales from timber meet the medium to large expenses e.g. school fees, dowry and emergencies e.g. major illness. This was particularly true for average wealthy men in Nyantonzi and Kasenene where timber is legally and illegally harvested from both on-farm private forests and Budongo Forest Reserve. Forest products are widely used for many household investments. Poles and bamboos are used to construct bee-hives, homesteads and for fencing livestock.

In the dry season, some families collect fodder from forests. Timber supports small and medium enterprises in furniture making. Income derived from the sale of forest products is also used for purchase of agricultural inputs. Forest products are equally used to support community investments like construction of schools, churches, mosques, health clinics, markets and market stores. In the remote areas like Muhindura, Kisoro, they are used to make village ambulances traditionally known as “Engonzi”.

Forest products offer many linkages to the growth of other sectors like crop production, livestock rearing, construction, trade and health. Due to the failure to capture such linkages, their contribution to national development is grossly under estimated at present. Authorities are called to recognize the importance of forestry resources by increasing investment in these areas.

Nonetheless, at the local level, communities appreciate all of the above values, explaining why they continue to invest in forests both at the household and community level. In the former, the common investments are tree planting and agro-forestry. In the latter, communities participate in formulating bye-laws to regulate access to forests, enforcement, boundary maintenance, enrichment planting and fire control during dry seasons. They also manage communally established woodlots (e.g. Eucalyptus woodlot in Gisasa, Muhindura), and regulate access to natural communal forest (e.g. Tengele in Nyantonzi).

CONTRIBUTION OF FOREST PRODUCTS TO MILLENNIUM DEVELOPMENT GOALS

Forest products contribute, both directly and indirectly, to the attainment of the Millennium Development Goals (MDGs). Overall, across the studied communities, they contributed 8% in monetary terms to households’ income, and 22% in subsistence form. Forest products are supporting local trade. It has also been studied that Uganda has 2,000-3,000 forest-based associations which span a number of different areas: forest production (timber and non-timber forest products), primary and secondary processing, enterprise support and environmental services such as ecotourism and carbon sequestration projects (Kazoola C. et al., 2006). It would have been extremely difficult for the former forest dwellers, the Abatwa, to meet their food security needs had they not been gathering honey, wild meat, root-tubers and fruits.
from Echuya Forest Reserve in Kisoro and Kabale Districts. They are lacking technologies to add value to these products. These examples illustrate the forest contribution to MDG1 that is the eradication of extreme poverty and hunger. In Nyantonzi, the poor men’s category put it: “A family that grows food crops and stores them in granary to last the dry season is not considered poor”. The rugged and hilly land terrain in Kisoro and Kabale districts has always frustrated health service delivery. As a response, communities traditionally organize themselves in self-help ambulance groups known as “Engonzi” to carry the sick to the nearest health centre. The stretcher they use is made of forest products, thus contributing to MDGs, 4, 5 and 6, with respect to reducing child mortality, improving maternal health and combating HIV/AIDS, malaria and other diseases respectively.

Owing to the growing scarcity of forest products in some places due to population pressure, households and communities are investing in tree planting as well as regulating access to forest reserves. In so doing, they are directly contributing to environmental sustainability or MDG7. For a district like Kisoro where access to water is only 43.9% and below the national average rate of 67%, the forest’s regulation of water, on which communities greatly depend, equally contributes to MDG7. Use of water harvesting technologies is not widespread. Indirectly, the cash from the sale of forest products supports primary education (MDG2), and pays for medical expenses associated with child mortality, maternal health, combating HIV/AIDS, malaria and other diseases (MDGs 4, 5, and 6) (See Table 3).

The communities’ understanding of user rights, duties, benefits and potential solutions to existing problems

The number of forest-product users was found to be many, 16 of them. The study team established from them what they considered their rights, duties and benefits related to forest product use. For each category, communities were asked to give a rating on a scale of 1 to 5, with 1 being the lowest and 5 the highest.

With respect to user rights, a major finding is that the list of products to which communities consider themselves entitled is long. This is important so as to map out strategies to reconcile the divergent and sometimes conflicting interests of resource users. The potential conflicts and management challenges that may emerge are also real. To note, communities listed alternative strategies including free access (e.g. for firewood, herbs, water, community based tourism) while for others appreciated the need for regulated access with a permit (e.g. for pit sawing, charcoal burning, collecting of crafts materials and building materials).

A key revelation from the listing of duties is the desire for sustainability. This was expressed in many ways, including cutting only dry (dead) trees for timber, selective harvesting of crafts materials, avoidance of use of fires within forests and the use of selective traps for hunting wildlife. The fact that resource users did not attach high scores is a reflection of their failed duties (e.g. abiding by the law on not hunting wild animals). Nonetheless, it is a good indicator that communities would be willing to trade duties for benefits, a key ingredient for sustainable use resource agreements.
1. Eradicate extreme poverty and hunger

- **Target 1:** Halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day.
  - Communities derive part of their incomes from forest products.
- **Target 2:** Halve, between 1990 and 2015, the proportion of people who suffer from hunger.
  - It would have been difficult for marginal communities like Batwa to meet their food security needs had they not been gathering honey, wild meat, root tubers, vegetables and fruits for both subsistence and cash income.

2. Achieve universal primary education

- **Target 3:** Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.
  - Timber, poles, thatch, sand and clay are used to build community schools.
  - Income from sale of forest products is used to contribute to education.

3. Promote gender equality and empower women

- **Target 4:** Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015.
  - Income from sale of forest products supports education of girl child.

4. Reduce child mortality

- **Target 5:** Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.
  - Timber, poles, thatch, sand and clay are used to construct health clinics.
  - Village ambulances (called Engonzi) particularly in Muhindura-Kisoro are made of forest products.
  - Many herbs are collected to treat sickness.
  - Cash income derived from sale of forest products is used to meet health-related expenses.

5. Improve maternal health

- **Target 6:** Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio.
  - As above.

6. Combat HIV/AIDS, malaria and other diseases

- **Target 7:** Have halted by 2015 and begun to reverse the spread of HIV/AIDS.
  - As above.
- **Target 8:** Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.
  - As above.

7. Ensure environmental sustainability

- **Target 9:** Integrate the principles of sustainable development into country policies and programs, and reverse the loss of environmental resources.
  - Both households and communities at large are investing in tree planting, regulating access to forest reserves, participating in bye-law formulation and enforcement in order ensure regular flows of benefits from forest.
  - The harvesting of fodder particularly in drought periods acts as a safety net against climatic vulnerability.
- **Target 10:** Halve, by 2015, the proportion of people without sustainable access to safe drinking water.
  - Many clean water sources are found in forests.
- **Target 11:** Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers.
  - Some materials harvested from forests support construction in rural towns.

8. Develop a global partnership for development

- **Target 12:** Develop further an open, rule-based, predictable, non-discriminatory trading and financial system.
  - No evidence established.

### Table 3: Evidence on How Forest Products Contribute to Attainment of Millennium Development Goals

<table>
<thead>
<tr>
<th>Goal</th>
<th>Target</th>
<th>Contribution to the MDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Eradicate extreme poverty and hunger</td>
<td><strong>Target 1:</strong> Halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day.</td>
<td>Communities derive part of their incomes from forest products.</td>
</tr>
<tr>
<td></td>
<td><strong>Target 2:</strong> Halve, between 1990 and 2015, the proportion of people who suffer from hunger.</td>
<td>It would have been difficult for marginal communities like Batwa to meet their food security needs had they not been gathering honey, wild meat, root tubers, vegetables and fruits for both subsistence and cash income.</td>
</tr>
<tr>
<td>2. Achieve universal primary education</td>
<td><strong>Target 3:</strong> Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.</td>
<td>Timber, poles, thatch, sand and clay are used to build community schools. Income from sale of forest products is used to contribute to education.</td>
</tr>
<tr>
<td>3. Promote gender equality and empower women</td>
<td><strong>Target 4:</strong> Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015.</td>
<td>Income from sale of forest products supports education of girl child.</td>
</tr>
<tr>
<td>4. Reduce child mortality</td>
<td><strong>Target 5:</strong> Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.</td>
<td>Timber, poles, thatch, sand and clay are used to construct health clinics. Village ambulances (called Engonzi) particularly in Muhindura-Kisoro are made of forest products. Many herbs are collected to treat sickness. Cash income derived from sale of forest products is used to meet health-related expenses.</td>
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<td>5. Improve maternal health</td>
<td><strong>Target 6:</strong> Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio.</td>
<td>As above.</td>
</tr>
<tr>
<td>6. Combat HIV/AIDS, malaria and other diseases</td>
<td><strong>Target 7:</strong> Have halted by 2015 and begun to reverse the spread of HIV/AIDS.</td>
<td>As above.</td>
</tr>
<tr>
<td></td>
<td><strong>Target 8:</strong> Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.</td>
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<td>7. Ensure environmental sustainability</td>
<td><strong>Target 9:</strong> Integrate the principles of sustainable development into country policies and programs, and reverse the loss of environmental resources.</td>
<td>Both households and communities at large are investing in tree planting, regulating access to forest reserves, participating in bye-law formulation and enforcement in order ensure regular flows of benefits from forest. The harvesting of fodder particularly in drought periods acts as a safety net against climatic vulnerability.</td>
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<td></td>
<td><strong>Target 10:</strong> Halve, by 2015, the proportion of people without sustainable access to safe drinking water.</td>
<td>Many clean water sources are found in forests.</td>
</tr>
<tr>
<td></td>
<td><strong>Target 11:</strong> Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers.</td>
<td>Some materials harvested from forests support construction in rural towns.</td>
</tr>
<tr>
<td>8. Develop a global partnership for development</td>
<td><strong>Target 12:</strong> Develop further an open, rule-based, predictable, non-discriminatory trading and financial system.</td>
<td>No evidence established.</td>
</tr>
</tbody>
</table>
The generally high scores attached to benefits is an indicator of the appreciation of the values that communities derive from forest products. For example, across all the four sites, benefits from the collection of firewood, herbs, water, building materials, timber, seeds, all scored high values.

A key revelation from the listing of duties is the desire for sustainability. This represents a considerable opportunity for the promotion of co-management between government authorities and the communities concerned.

Communities identified several forest-based problems, their solutions and agencies to take the lead in addressing them. They cut across all wealth and gender groups and therefore represent an important community consensus. They have been grouped under five categories namely: (i) policy and legal problems, (ii) forest management and sustainability problems, (iii) market and trade related problems, (iv) conflict problems and (v) socio-economic and political problems.

It emerged that communities consider the existing forest legislation and regulations as too bureaucratic. They would prefer legislation that is accessible to all and more affordable charge system for forest products.

Unclear forest reserve boundaries, corruption of government officials and local leaders, low government support to forest activities and overexploitation undermine long term sustainability of the benefit flows from forest products to communities. Leaders should be held accountable for their misdeeds. Concern was also raised that conflict between the NFA and communities was rife, mainly because communities incur losses from raids by wild animals for which there are no direct compensation mechanisms to the affected people. The National Forestry and Tree Planting Act, 2004 is silent about this problem.

Communities feel their benefits from use of forests would be enhanced if for example, their entitlements in form of shared revenue would be timely and regular. Fiscal reforms that offer incentives to tree planting and introduction of value-addition and technologies encouraging resource users to form marketing associations were advanced as some of the solutions.

The “non-diplomatic” approach used by NFA staff was condemned by Communities as much as denying them affirmative action to allow them access to the more valued resources like timber. Even though some of the transactions like pit sawing require high capacity and expensive equipment, there could be a lee-way for communities to benefit through private sector community partnerships.

A key policy message is that communities strongly believe they have a stake in the management of forest resources, and to the extent possible, they should always be consulted. Using the Poverty-Forestry Toolkit, communities can generate information to guide their participation in sustainable forest management.

CONCLUSION AND RECOMMENDATIONS

The dependence on forest products by the rural poor, especially for subsistence is enormous. Unfortunately, because of the informal nature of many of the above transactions, they are not captured in the traditional national data gathering systems like the National Household Budget Survey. This is where tools like the Poverty-Forests Linkages Toolkit can complement the existing data gathering methods. Its value as a tool would greatly be enhanced if it is repeated after some years to capture the temporal change. Nonetheless, the findings from the snapshot use of the tool has pointed to the conclusion that the Voices of the Poor need to be heard in the planning processes. The 5-year National Development Plan offers a fertile entry point to incorporate the find-
ings from this study more so given that one of the developmental objectives of the plan is: *to develop and optimally exploit the natural resource base and ensure environmental and economic sustainability*” [MFPED 2007]

Based on the findings from this study, the following key recommendations are made:

(i) National Forestry Authority (NFA) and District Forestry Service should adopt the Poverty-Forests Linkage Toolkit for data gathering as an integral activity of forest management planning.

(ii) The Secretariat for the Plan for Modernization of Agriculture (PMA) should promote the planting of multi-purpose trees on private farmland through the National Agricultural Advisory Services.

(iii) The National Forestry Authority (NFA) should make accessible the regulations for harvesting the forest products from Central Forest Reserves to communities using multiple communication channels.

(iv) The Faculty of Forestry and Nature Conservation and Nyabyeya Forest College should popularize the Poverty-Forests Toolkit among its students for purposes of carrying out Rural Rapid Appraisal in planning for more in-depth research.

(v) Government should take bold steps to address the long standing problems of former forest dwelling communities, especially the Abatwa by empowering them with education, health services and income generating activities.

(vi) The donors should support the building of capacity of Non-Governmental Organisations to empower the poor voice their concerns for sustainable management of forests and adoption of multi-purpose tree species on private land to enhance ecosystem services.

(vii) Uganda Bureau of Statistics (UBOS) should include information gathering on the use of natural resources including forests when it designs Community Information Service (CIS) at sub-counties.
## ANNEX 1: MAPPING OF PRIORITY SOURCES OF LIVELIHOOD BY GENDER, WEALTH CATEGORY AND LOCATION

### KASENENE PARISH (MASINDI)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Wealth category</th>
<th>Mode</th>
<th>1st ranking</th>
<th>2nd ranking</th>
<th>3rd ranking</th>
<th>4th ranking</th>
<th>5th ranking</th>
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<tbody>
<tr>
<td>Men</td>
<td>Very poor/poor</td>
<td>Cash</td>
<td>Onions</td>
<td>Pigs</td>
<td>Poles</td>
<td>Rice</td>
<td>Firewood</td>
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<tr>
<td></td>
<td>Non-Cash</td>
<td>Cassava</td>
<td>Building poles</td>
<td>Water</td>
<td>Goats</td>
<td>Chicken</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cash</td>
<td>Tobacco</td>
<td>Millet</td>
<td>Groundnuts</td>
<td>Timber</td>
<td>Goats</td>
</tr>
<tr>
<td></td>
<td>Average wealthy</td>
<td>Non-Cash</td>
<td>Firewood</td>
<td>Water</td>
<td>Cassava</td>
<td>Fiber (ropes)</td>
<td>Millet</td>
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<tr>
<td></td>
<td>Very poor/poor</td>
<td>Cash</td>
<td>Millet</td>
<td>Groundnuts</td>
<td>Maize</td>
<td>Cassava</td>
<td>Craft materials</td>
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<tr>
<td></td>
<td>Non-Cash</td>
<td>Maize</td>
<td>Water</td>
<td>Firewood</td>
<td>Craft materials</td>
<td>Forest vegetables</td>
<td></td>
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<tr>
<td></td>
<td>Average wealthy</td>
<td>Cash</td>
<td>Bananas/ Matooke</td>
<td>Sweet potatoes</td>
<td>Tobacco</td>
<td>Cassava</td>
<td>Chicken</td>
</tr>
<tr>
<td></td>
<td>Non-Cash</td>
<td>Water</td>
<td>Firewood</td>
<td>Beans</td>
<td>Maize</td>
<td>Cassava</td>
<td>Bananas/ Matooke</td>
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### NYANTONZI PARISH (MASINDI)

<table>
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<tr>
<th>Gender</th>
<th>Wealth category</th>
<th>Mode</th>
<th>1st ranking</th>
<th>2nd ranking</th>
<th>3rd ranking</th>
<th>4th ranking</th>
<th>5th ranking</th>
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</thead>
<tbody>
<tr>
<td>Men</td>
<td>Very poor/poor</td>
<td>Cash</td>
<td>Millet</td>
<td>Pigs</td>
<td>Beans/Peas</td>
<td>Maize</td>
<td>Vegetables e.g cabbages</td>
</tr>
<tr>
<td></td>
<td>Non-Cash</td>
<td>Maize</td>
<td>Millet</td>
<td>Cassava</td>
<td>Firewood</td>
<td>Poles</td>
<td>Beans/Peas</td>
</tr>
<tr>
<td></td>
<td>Average wealthy</td>
<td>Cash</td>
<td>Fruits e.g avocado, pawpaw</td>
<td>Pigs</td>
<td>Timber</td>
<td>Beans/Peas</td>
<td>Rice</td>
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<td>Poles</td>
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<td>Cash</td>
<td>Cassava</td>
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<td>Beans/peas</td>
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<td>Rice Sweet potatoes</td>
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<td>Maize</td>
<td>Simgsim Soy beans</td>
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<td>Average wealthy</td>
<td>Cash</td>
<td>Beans/Peas</td>
<td>Maize</td>
<td>Fruits</td>
<td>Workshops and seminars</td>
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<td>Firewood</td>
<td>Beans/Peas</td>
<td>Cassava</td>
<td>Sweet potatoes</td>
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Gender: Men, Women  
Wealth category: Very poor/poor, Average wealthy  
Mode: Cash, Non-Cash  
1st ranking, 2nd ranking, 3rd ranking, 4th ranking, 5th ranking: Various items such as Onions, Pigs, Poles, Rice, Firewood, Goats, Chicken, Maize, Beans, Tobacco, Cassava, etc.
<table>
<thead>
<tr>
<th>Gender</th>
<th>Wealth category</th>
<th>Mode</th>
<th>1st ranking</th>
<th>2nd ranking</th>
<th>3rd ranking</th>
<th>4th ranking</th>
<th>5th ranking</th>
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<td>Very poor/poor</td>
<td>Cash</td>
<td>Irish potatoes</td>
<td>Maize</td>
<td>Bamboo</td>
<td>Construction Material</td>
<td>Thatch material e.g Grass</td>
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<td></td>
<td>Non- Cash</td>
<td>Firewood</td>
<td>Water</td>
<td>Construction Material</td>
<td>Goats Chicken</td>
<td>Thatch material e.g Grass</td>
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<td>Average wealthy</td>
<td>Cash</td>
<td>Irish potatoes</td>
<td>Casual labour</td>
<td>Honey Cattle</td>
<td>Charcoal</td>
<td>Sheep</td>
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<td>Firewood</td>
<td>Irish potatoes</td>
<td>Sweet potatoes</td>
<td>Beans</td>
<td>Sorghum</td>
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<tr>
<td>Women</td>
<td>Very poor/poor</td>
<td>Cash</td>
<td>Irish potatoes</td>
<td>Casual labour</td>
<td>Bamboo</td>
<td>Petty trade</td>
<td>Ropes (fibre)</td>
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<td>Firewood</td>
<td>Bamboo</td>
<td>Beans</td>
<td>Sweet potatoes</td>
<td>Maize</td>
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<td></td>
<td>Average wealthy</td>
<td>Cash</td>
<td>Casual labour</td>
<td>Honey</td>
<td>Chicken</td>
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<td>Firewood</td>
<td>Irish potatoes</td>
<td>Sweet potatoes</td>
<td>Beans</td>
<td>Sorghum</td>
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<td>Cash</td>
<td>Casual labour</td>
<td>Irish potatoes</td>
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<td>Fire wood</td>
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<td>Tomatoes</td>
<td>Wheat</td>
<td>Ducks</td>
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<td></td>
<td></td>
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<td>Irish potatoes</td>
<td>Beans</td>
<td>Water</td>
<td>Firewood Construction materials</td>
<td>Stakes (for beans)</td>
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### ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
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<tbody>
<tr>
<td>BUCODO</td>
<td>Budongo Forests Community Development Organisation</td>
</tr>
<tr>
<td>CFR</td>
<td>Central Forestry Reserves</td>
</tr>
<tr>
<td>CIDT</td>
<td>Centre for International Development and Training</td>
</tr>
<tr>
<td>CIS</td>
<td>Community Information Service</td>
</tr>
<tr>
<td>DFO</td>
<td>District Forestry Officer</td>
</tr>
<tr>
<td>DRC</td>
<td>Democratic Republic of Congo</td>
</tr>
<tr>
<td>ECOTRUST</td>
<td>The Environment Conservation Trust</td>
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<tr>
<td>HDI</td>
<td>Human Development Index</td>
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<tr>
<td>HIV/AIDS</td>
<td>Humane Immune Deficiency Virus /Acquired Immune Deficiency Syndrome</td>
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<tr>
<td>ICRAF</td>
<td>The International Centre for Research on Agroforestry</td>
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<td>IIED</td>
<td>International Institute for Environment and Development</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<td>Ministry of Finance, Planning and Economic Development</td>
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<td>Overseas Development Institute</td>
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<td>Poverty Eradication Action Plan</td>
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<td>World Bank Program on Forests</td>
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<td>UBOS</td>
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<td>Universal Primary Education</td>
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<tr>
<td>USE</td>
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REFERENCES


3. Frank, Emmanuel Muhereza, [2003]. Decentralizing Natural Resources to consolidate the central state.


FURTHER INFORMATION

This policy brief was prepared in June 2008 by Cornelius Kazoora, Zainab S. Birungi and Lucy Dranzoa of the Sustainable Development Center in Uganda. It is based on research funded by the Bank-Netherlands Partnership Programme and the Program on Forests (PROFOR).

The toolkit document can be downloaded in English from the PROFOR website: http://www.profor.info/profor/node/103

PROFOR Program on Forests, c/o World Bank, 1818 H Street, NW; Washington, DC 20433, USA; proforinfo@worldbank.org; Tel: +1-202-458 4822
TOOL 2

LANDSCAPE ANALYSIS

AIM: TO UNDERSTAND THE WAY IN WHICH LOCAL RESOURCES ARE USED BY MEMBERS OF THE VILLAGE

This tool is primarily for learning by the field team rather than for shared learning among village participants. It is important for the field team to observe the kinds of resources that exist in the area, in the company of people who live there and who understand how the landscape is being used. A map may be available to work with. If not, a sketch map or a series of landscape sketches can be made as the visits proceed.

Materials needed: Notebooks and pens. Large flipchart sheet to record information upon return to the village from the landscape exercise.

A traditional transect cuts through an area in a straight line and provides an idea of the diverse resources and land use in an area. However, it is more useful to visit the different kinds of resources which local people draw upon, and which they suggest. In that way, a landscape analysis of forest and agricultural land use can be made. A straight line transect is not always able to capture all this.

Similarly, if time is available, it is more useful to do two landscape analyses, one with a men’s group and one with a women’s group, since their reasons for drawing on natural resources are different.

Team member(s) accompanied by local informants walk the area and ask questions relevant to it. These walks also provide good opportunities for village members to discuss problems of forest use, resource use norms and conflicts, etc.

Tool 2 is an informal tool to get a sense of the way in which local people use the landscape, and the rules they apply to it (or that others apply to it). It is invariably an

KEY QUESTIONS
to ask while doing a landscape analysis or transect

FOREST AND TREES OFF-FARM
- Who owns this forest/land?
- Who knows where the boundaries (if any) are?
- What institutions allocate land and look after land?
- Who makes most of the main decisions about this forest/land?
- Are there ever conflicts over the use of forest products in these areas? (Ask about both conflicts between local groups and conflicts with those from outside).
- Who is allowed to use the forest (tree and non-wood forest products) and for what purposes? Are the rules the same for all local forests?
- For trees off-farm: who is allowed to use the trees and for what purposes? Are the rules the same for all tree species? Do they vary depending on where the tree is located?
- Do people plant trees? Protect trees? If yes, which type of trees? Who plants the trees (Men? Women? Particular groups in the community?)
- Do people manage/ protect the forest? (fire management; limit or restrict access; local institutions/groups tasked to protect)
- How does forest/tree use vary at different times of year?

AGRICULTURE
- How is it decided who cultivates where?
- How long are plots farmed (years) and then how long are they fallow?
- When plots are resting, are they still seen as the property of particular households, or do they revert to general group ownership?
- Are areas of permanent cultivation expanding/declining?
exercise during which various problems get mentioned as well, which can be picked up on in later tools, especially the last, if they do not recur spontaneously.

It is useful to make an informal sketch (or sketches) of the landscape visited, annotated with key pieces of information which were offered. The final sketch might look something like the examples below.

**A WORKED EXAMPLE OF TOOL 2: LOCAL LANDSCAPE SITUATION ANALYSIS—AMBODIBONARA VILLAGE, SOFIA DISTRICT, MADAGASCAR**

![Sketch of Ambodibonara Village, Madagascar](image)

**A WORKED EXAMPLE OF TOOL 2: LOCAL LANDSCAPE SITUATION ANALYSIS—SHINYANGA DISTRICT, TANZANIA**

![Sketch of Shinyanga District, Tanzania](image)
AIM: TO RECORD A SHORT HISTORY OF THE COMMUNITY AGAINST WHICH TO PROJECT A PICTURE OF CHANGES IN FOREST RESOURCES, IN AGRICULTURE, IN LOCAL LIVELIHOOD STRATEGIES AND IN SOURCES OF INCOME

The history of a community, especially change in the land use system, provides important background information. The purpose of this tool is to develop a timeline of key events which can then serve as a background against which to discuss trends and the current situation. This is a good tool for wide community participation. It can be conducted with the group of 40 participants selected for Tools 3-5. The field team should decide whether to conduct the tool with the group as a whole, or, if they are concerned that this will limit participation from less confident members of the community (e.g. poorer people or younger people), in separate groups of 10. The team should work to make certain that there is good participation from the various participants during the discussion.

Materials needed: Large pieces of flip chart paper, color markers, and sticky tape.

STEP 1
Tape two or three pieces of paper together to make a long wide rectangle. Draw a long straight horizontal line across the top of the page. At the far right-hand side, write NOW.

STEP 2
Ask the community about events in local history which mark off key periods of time starting say, 30-40 years ago or less. As each period is identified, ask what the key events were which happened in each time period.

STEP 3
When the village decides the timeline is complete, discuss a series of trends1 across the timeline. This information may already have been mentioned, but the trends discussion usually produces a more coherent picture.

- How have forest resources (both area and quality/diversity) changed over the timeline period?
- What was happening in agriculture in each of these periods?
- What have been the changes in local livelihood strategies?
- What changes have taken place in the area in terms of the arrival of roads, schools etc., and their impact on natural resources?
- How have people’s sources of income changed over the period of the timeline?
- Any key changes in the lives of men? Women? Children?

Write in the answers for each period of the timeline, adding paper to the timeline underneath the original sheets if needed. Make sure to include changes in key areas of natural resources and governance (e.g. forestry, agriculture, land tenure, institutions) but allow the villagers to include any other categories they believe to be important (e.g. one set of villagers in Madagascar wished to include gender relations as a key area of change over time).

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1 It is important to discuss trends in roads, agriculture, schooling, etc. because these have a bearing on our main object, forest trends.
## WORKED EXAMPLE FROM TANZANIA

In this example, from Shinyanga in Tanzania, participants established their timeline with reference to a series of political eras and events and more recently simply decades. They chose four themes to run across the timeline: cattle, forests, land ownership, and the political institutions which deal with land.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>Bush areas which used to harbour tsetse fly gradually cleared from the 1920s onwards. Cattle then multiplied. Heavy deforestation resulted.</td>
<td>Great growth in cattle and human numbers.</td>
<td>Growth in cattle and human numbers</td>
<td>Growth in cattle and human numbers</td>
<td>Too many cattle—and nowhere to feed them.</td>
</tr>
<tr>
<td>Forests</td>
<td>Original vegetation, woodland/bushland. Ngitilis set aside by Sukuma people as dry season grazing reserves, when forest cleared for agriculture. Trees were incidental - just shade protecting the grass.</td>
<td>Ujamaa and Villagization destroyed many indigenous natural resource systems. Many ngitilis destroyed when people were moved into villages and the forest they had protected was left unattended.</td>
<td>HASHI project launched in 1986. HASHI wanted to revive the ngitilis. Some still there but very depleted; some newly created by HASHI. People cautious at first - watched and judged activities.</td>
<td>But by the 1990s people had seen that creating more ngitilis was a very good idea. They began to be created rapidly. This time they were not just used for fodder, but for a wider range of tree products.</td>
<td>Communal ngitilis are not always in the right place. More demand for ngitili products than can be supplied, especially for the poor. Complaints that there is not enough land for any more ngitilis.</td>
</tr>
<tr>
<td>Land ownership</td>
<td>Land ownership originally followed Sukuma custom. There were private fields, private grazing reserves and communal forest areas.</td>
<td>The Ujamaa and villagization of Nyerere created state ownership of rural lands, not private ownership. It caused degradation because actually all lands were open to anybody.</td>
<td>HASHI wanted to help people own their resources again.</td>
<td>People rushed to create their own private ngitilis, as well as communal village ngitilis. They sometimes bought land to do it.</td>
<td>About half of ngiti-lis are small private ones and half larger communal ones. Most owned by men—women may use them. There is a growing land shortage and some people are now landless, having sold land to others.</td>
</tr>
<tr>
<td>Institutions</td>
<td>A council of elders ruled the village and imposed punishments on those breaking land use rules.</td>
<td>Traditional institutions which used to manage ngitilis were destroyed</td>
<td></td>
<td>In 1999 the Village Government became the lowest government level.</td>
<td>Village Government has the right to control ngitili allocation and use.</td>
</tr>
</tbody>
</table>

2 HASHI – Soil Conservation, Shinyanga (Hifadhi Ardh, Shanyanga). The program was supported by the Norwegian Government for many years.
WORKED EXAMPLE FROM UGANDA

In this second example, from the Nyantonzi parish of Masindi district in Uganda, changes in forestry and agriculture are described for three recent periods, distinguished by the changing political regime.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOREST</strong></td>
<td>People gained confidence in the new Government, leading to a new constitution in 1995</td>
<td>The first national presidential elections were made in 1996</td>
<td>The 2nd and 3rd presidential elections were made in 2001 and 2005 respectively</td>
</tr>
<tr>
<td>Ownership</td>
<td>Taungya in communal forests.</td>
<td>Rich people outside Masindi started pitsawing.</td>
<td>A few people have started planting trees. Residents joined outsiders to cut timber illegally from Budongo Forest Reserve</td>
</tr>
<tr>
<td>Abundance</td>
<td>Forest canopies were closed.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Management</td>
<td>Forest Department (FD) was not caring for the forests</td>
<td>-</td>
<td>Sensitisation of the people on forest importance by NFA.</td>
</tr>
<tr>
<td>Utilization</td>
<td>No interest in forest encroachment, land was abundant.</td>
<td>Less abundant land, people cultivating on their own farms.</td>
<td>Undertaking of shifting cultivation in privately owned forest lands</td>
</tr>
<tr>
<td><strong>AGRICULTURE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land ownership</td>
<td>Community heads allocated land for cultivation to households.</td>
<td>Some people started buying land.</td>
<td>Land acquisition is expensive and there are land conflicts too.</td>
</tr>
<tr>
<td>Size of land holdings</td>
<td>Very big chunks of land</td>
<td>-</td>
<td>Land holdings are about 5-10 acres to a household</td>
</tr>
<tr>
<td>Types of crops</td>
<td>Many grew tobacco for sale and millet for home consumption.</td>
<td>Maize, cassava, and sorghum were grown for food, tobacco for sale.</td>
<td>Rice cultivation is very recent because of the market.</td>
</tr>
<tr>
<td>Productivity</td>
<td>Productivity was very high</td>
<td>Tobacco production reduced as its price fell.</td>
<td></td>
</tr>
<tr>
<td>Agricultural practices</td>
<td>Agricultural practices were poor</td>
<td>-</td>
<td>NAADS and BUCODO training has brought in better practices.</td>
</tr>
<tr>
<td><strong>LIVESTOCK</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership by women and men</td>
<td>Owned pigs and goats in small quantities</td>
<td>Owned pigs and goats in small quantities</td>
<td>Men sometimes sell without the consent of their wives knowledge</td>
</tr>
<tr>
<td>Types of animals</td>
<td>Hunted wild pigs and baboons for food (these eat their crops), goats were also reared.</td>
<td>Owned pigs and goats in small quantities</td>
<td>Own pigs and goats in bigger numbers</td>
</tr>
<tr>
<td>Fodder/pasture</td>
<td>Fodder was very abundant.</td>
<td>Abundant.</td>
<td>Fodder is still abundant.</td>
</tr>
<tr>
<td><strong>MARKET, TRADE AND PRICES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest products</td>
<td>—</td>
<td>Not many people were involved in timber trade.</td>
<td>Many people harvest timber but NFA and the CFMs regulate them</td>
</tr>
<tr>
<td>Agricultural products</td>
<td>People were organised in co-operative unions to sell tobacco (e.g. Bunyoro Growers Union)</td>
<td>Mangoes were eaten free because of their abundance; tobacco prices fell and it was abandoned by some people because of over production.</td>
<td>There is no market for mangoes, tobacco prices are picking up and rice prices are increasing (Ushs 750-1100@ kg).</td>
</tr>
<tr>
<td>Livestock products</td>
<td>—</td>
<td>—</td>
<td>Some livestock sold more than in the past</td>
</tr>
<tr>
<td><strong>EXTENSION &amp; TRAINING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>Illegal pitsawyers bribed forest officials.</td>
<td>NFA and ECO TRUST teach people about tree planting but no tree seeds/ seedlings have been given to the community members yet.</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>BAT only sensitized the farmers on tobacco growing related issues.</td>
<td>Mastermind (BAT’s competitor) provided extension services for tobacco production.</td>
<td>BAT and Mastermind still carry out some extension services</td>
</tr>
<tr>
<td>Livestock</td>
<td></td>
<td></td>
<td>Exotic chicken and goats were introduced</td>
</tr>
</tbody>
</table>
TOOL 4
LIVELIHOOD ANALYSIS
IN GROUPS SELECTED BY GENDER AND WEALTH CATEGORY

AIM: TO DISCOVER THE EXTENT OF CASH AND SUBSISTENCE RELIANCE ON FOREST RESOURCES AND THE PROPORTION OF THE TOTAL ANNUAL LIVELIHOOD (FROM ALL SOURCES) THAT COMES FROM FOREST RESOURCES.

The wealth ranking exercise (or its equivalent) will have generated groups of households of similar status. These groups will take part in exercises in which they are consulted first about the main sources of their annual cash and non-cash incomes and then about a range of other forest issues. All the exercises are conducted with the same groups.

Explain that, by a household’s annual income we mean all the resources that a household needs to get through the year successfully. People in rural areas produce much of what they need themselves, but they do need cash for some purposes.

A NOTE ABOUT PREPARATIONS FOR TOOLS 4 and 5

Tools 4 and 5 are based on a series of charts the outlines of which have to be drawn ahead of time, if being done manually. Otherwise the tables and charts will be produced electronically by spreadsheet (a standard template is available from the PROFOR website).

Tool 4 uses five charts while Tool 5 uses two. Seven large flip-chart sheets are thus needed for each sub-group to be worked with. A minimum of four subgroups is needed (see Tool 1) for which 28 flip-chart sheets would be needed before going to the field. The task is made much easier if three or four facilitators help and if there are one meter long rulers available (or A1 cardboard sheets to act as rulers – such as the backs of flip-chart pads). The task still takes about half a day but it is a good way of making facilitators thoroughly familiar with the charts before they are used in the village. Those training the facilitators should be present to help throughout, to reduce errors.

Another task for facilitators is to count out 20 beans or stones into each of 40 or so small plastic bags—enough for 10 per group if it has been decided that there will be 10 participants in a group. Allowing a few spares, that means 800–900 beans or stones.

It is important to choose an object of a standard size and that will not confuse participants by breaking in half during the exercise. (It should not be too edible—avoid peanuts.) Choose beans or stones that do not roll about or blow away. Dry, hard maize kernels, haricot beans, coffee beans or gravel work well.

The counting is quick with a few helpers. It is important that there are exactly 20 beans in each bag.

Materials needed: 28 (7 x number of groups—it might be more than this) pre-drawn flip-chart sheets; other blank flip-chart sheets; plenty of marker pens in black (for drawing charts) and in other colors (for filling them in). Ideally, 4 meter-long rulers.

Counters for participants. Each participant in a group needs a plastic bag with 20 stones or beans in it—say 20 x 10 = 200 x 4 = 800 in all.

Calculators, compasses and protractors will be needed to prepare pie charts on flip-charts for Tool 4. Calculators are needed for percentages on other tools. Where possible, the use of laptop computers, with all the sheets set up within a spreadsheet program, is highly recommended. This saves considerable time and is a more secure method of data collection.
So a household's annual income means:

- All the items grown on farm or gathered from forests (including timber) or other off-farm natural resources, and sold.
- All the items, grown on farm or gathered from forests (including timber) or other off-farm natural resources, and consumed or used at home without being sold.
- Money received in wages or through trading.
- Money sent by other family members living and working outside the community (remittances).

**STEP 1**

**AN OVERVIEW OF THE MAIN CASH COMPONENTS OF THE HOUSEHOLD'S ANNUAL LIVELIHOOD**

*a blank table layout for this step is provided on page 9*

**First**

- Write the heading ‘Forest products’ at the top of the left hand column, and have group participants list all those they can think of that are regularly sold—the number will vary, which is why the chart cannot be completely pre-drawn.
- Then write the heading ‘Farm produce—crops’
- Then write the heading ‘Farm produce—livestock’ and do the same.
- Finally write the heading ‘Other sources of cash’.


**Second**

- Give each individual in the group 20 beans/stones in a plastic bag.
- Get group members, one by one, to assign ALL their 20 beans/stones across the categories on the chart, putting more beans/stones where cash income sources are more important.
- Make sure to say that it is fine to leave empty squares if no cash income comes from that source.
- Do not let individuals put beans on generic lines such as ‘forest products’, ‘farm produce’ but only on specific sources of income—‘gum’, ‘charcoal’, ‘maize’, etc. (see filled chart below).
- As each individual completes his/her column, and is satisfied with it (they often want to adjust a little), write the numbers in the squares, and return the beans/stones to the individual. Check that for each individual allocated 20 stones the numbers written add up to 20. Begin again with the next person.

**Third**

- At the end of Step 1, count totals laterally, and put them in the column on the right.
- Check that each vertical column totals 20 and that (if there are 10 people in the group) the next column to the right totals 200.

**Later that evening**

Work out the percentages and write them in. (This is unnecessary if the data have been recorded directly onto a computer).

**STEP 2**

**AN OVERVIEW OF THE MAIN NON-CASH COMPONENTS OF THE HOUSEHOLD'S ANNUAL LIVELIHOOD**

*(following the same procedure in Tool 4 Step 1)*

*a blank table layout for this step is provided on page 10*

**First**

- Write the heading ‘Forest products’ at the top of the left hand column, and have group participants list all those they can think of that are regularly used. Go through all the items in step 1 (since many items are of course used in the household as well as sold) and add to them as necessary—the number will vary which is why the chart cannot be completely pre-drawn.
- Then write the heading ‘Farm produce—crops’
- Then write the heading ‘Farm produce—livestock’ and do the same. Go through the list on chart 1 and add to it if necessary.
### AN EXAMPLE OF TOOL 4 – STEP 1
**CASH COMPONENTS OF HOUSEHOLD’S ANNUAL LIVELIHOOD**

**BUSONGO VILLAGE, SHINYANGA, TANZANIA — GROUP 1 POOR WOMEN**

<table>
<thead>
<tr>
<th>Group Participants</th>
<th>Totals</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest products</td>
<td>27</td>
<td>14%</td>
</tr>
<tr>
<td>Gum</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Charcoal</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Farm produce</td>
<td>150</td>
<td>75%</td>
</tr>
<tr>
<td>Cotton</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Sesame for oil</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Green gram</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Groundnuts</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Maize</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Sorghum</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Other sources of cash</td>
<td>23</td>
<td>11%</td>
</tr>
<tr>
<td>Petty trade</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>20</td>
<td>100%</td>
</tr>
</tbody>
</table>

### AN EXAMPLE OF TOOL 4 – STEP 2
**NON-CASH COMPONENTS OF HOUSEHOLD’S ANNUAL LIVELIHOOD**

**BUSONGO VILLAGE, SHINYANGA, TANZANIA — GROUP 1 POOR WOMEN**

<table>
<thead>
<tr>
<th>Group Participants</th>
<th>Totals</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest products</td>
<td>89</td>
<td>44%</td>
</tr>
<tr>
<td>Wild green leaves</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Fuelwood</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Charcoal</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Mushrooms</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Tamarind</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Honey</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials for building</td>
<td>2</td>
<td>15%</td>
</tr>
<tr>
<td>Thatch grass</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fodder</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Farm produce</td>
<td>111</td>
<td>56%</td>
</tr>
<tr>
<td>Maize</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Sorghum</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Groundnuts</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Mung beans</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Sesame</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Greengram</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Green vegetables</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Red Beans</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fruits</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>20</td>
<td>100%</td>
</tr>
</tbody>
</table>
Finally write the heading ‘Food for work, barter’. Prompt if necessary.

Second

- Give each individual in the group 20 beans/stones in a plastic bag.
- Get group members, one by one, to assign ALL their 20 beans/stones across the categories on the chart, putting more beans/stones where their non-cash income sources are more important.
- Make sure to say that it is fine to leave empty squares if no cash income comes from that source.
- Do not let individuals put beans on generic lines such as ‘forest products’, ‘farm produce’ but only on specific sources of income — ‘gum’, ‘ charcoal’, ‘maize’, etc. (see completed chart on page 3).
- As each individual completes his/her column, and is satisfied with it (they often want to adjust a little), write the numbers in the squares, and return the beans/stones to the individual. Check that the individual allocated 20 stones and numbers written add up to 20. Begin again with the next person.

Third

- At the end of Step 2, count totals laterally, and put them in the column on the right.
- Check that each vertical column totals 20 and that (if there are 10 people in the group) the next column to the right totals 200.

Later that evening

Work out the percentages and write them in (if manual data recording is used).

STEP 3

PROP ORTION OF THE HOUSEHOLD’S ENTIRE ANNUAL INCOME THAT COMES FROM CASH SOURCES, AND PROP ORTION WHICH COMES FROM NON-CASH SOURCES

A blank table layout for this step is provided on page 11

Explain that in the last two exercises we have looked at the income that comes from cash sources, and the income which comes from non-cash sources.

The pre-prepared chart is placed on the floor. Make sure each individual has his/her small bag containing 20 beans/stones. Take someone’s pile of stones and pile it on the mid-line between cash and non-cash. Explain as follows, demonstrating as you go:

‘Suppose this pile of stones represents your household’s whole annual income, from all the sources we have just looked at. Let’s split it into two, to show how big a pile the cash part of that income represents, and how big a pile the non-cash part of it represents. This side of the line is the cash side, and that side is the non-cash side. (Make it clear which is which if participants are not literate).

If you are a school teacher, probably most of your income is in cash, like this, but a little comes from the fodder your wife gathers for your animals — so you use some non-cash sources too. If you are a farmer, you might decide that your cash pile looks smaller, like this, and your non-cash pile larger, like this.’

It is important to try to avoid using the words ‘proportion’ or ‘percentage’ — these are too abstract. Invite one of the more self-confident participants in each group to have a try first. S/he can spend time thinking about it and pushing stones to and fro across the line. Do not hurry him/her.

1 Some reviewers found it hard to believe that villagers would be able to make this cash/non-cash estimate. However, from our experience at a variety of sites and wealth groups, so long as it is explained and demonstrated in an unrushed way, making these estimates gives them no trouble at all. It is essentially the calculation that rural people have to perform in their heads to get through the year.
When the individual is happy with the relative sizes of his/her two piles, say, ‘So—you mean this pile to represent cash and this pile non-cash. Am I right?’ When he/she agrees, count the stones in each pile, write the numbers in the cash and non-cash columns against number 1 below, and start with the next person.

This exercise has been tested successfully in a variety of country contexts. Those who have not observed it being carried out find it hard to believe that participants do not find the assessment difficult, once they have understood what is being asked for. This represents the rough and ready calculations that rural people have to make in their heads every year.

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**STEP 4**

**CALCULATIONS FOR FACILITATORS TO UNDERTAKE, BASED ON TOOL 4, STEPS 1, 2 AND 3**

*a blank table layout for this step is provided on page 12*

NB: Tool 4 Step 4 does not need to be done with the villagers. It is an analytic tool that can be done by facilitators in the evening to prepare for the plenary report-back to the village (see Section 4).

Tool 4 Steps 1–3 provide the data for a set of diagrams to express the contribution of forestry to livelihoods in terms of a set of simple pie charts for communication both to local audiences and national-level policy audiences. The choices made by individual participants in Step 1 (their own main sources of cash coming from forest resources, farm resources and other cash sources), and Step 2 (forest and farm-based non-cash livelihood resources) are totalled and then represented as percentages on the charts. They are turned into pie charts for presentations back to the community and to higher level bodies in the following way.  

1. For each of Step 1 and Step 2, work out what percentage of the total is taken up by each of the group’s ‘forest products’, ‘farm produce’, ‘livestock (if any)’ and ‘cash sources (if any)’.

2. Draw a large pie chart (circle) for each step, using compasses.

3. Using a protractor, and remembering that a circle has $360^\circ$, each percentage category can be represented on the circle by multiplying the percentage by 3.6 to give correct proportions.

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2 If computers are available these pie charts can easily be generated with Excel. But if poorly resourced district officials are being trained, it is better that they know how to make the calculations and present findings without using computers.
For example, suppose the chart gives:
- Forest products: 14% x 3.6 = 50 degrees
- Farm produce: 40% x 3.6 = 144 degrees
- Livestock: 35% x 3.6 = 126 degrees
- Other cash sources: 11% x 3.6 = 40 degrees
- TOTALS: 100% = 360 degrees

A third step asks participants to divide their piles of stones into two which represent, by their size, the relative weighting of cash and subsistence components in their annual income. In the case of the Busongo ‘poor women’ group, this came to 49% from cash, and 51% from subsistence items.

**Combining results from the three steps**

Using these weightings, the two pie-charts representing the cash and subsistence components of the income can be combined into a single final pie-chart which represents the contribution (cash and subsistence) of forests, agriculture, livestock, and cash–income to the total annual livelihood. The way to make this calculation (using no more than a calculator) follows below.

- Column 1—shows the original cash figures from Tool 4 Step 1.
- Column 4—shows the original non-cash figures from Tool 4 Step 2.
- Columns 2 and 5—From Tool 4 Step 3 we discovered that in the case of the poor women’s group from Busongo, the cash contribution to the year’s income was about 49%, and the non-cash contribution is 51%. Write these figures in at the bottom of these columns.
Column 2—To obtain the figures that total 49% in column 2, divide each figure in column 1 by 100, and multiply by 49.

Column 5—To obtain the figures that total 51% in column 5, divide each figure in column 4 by 100, and multiply by 51.

Columns 3 and 6 round the figures up or down so you have whole numbers. Round figures coming to .50 or above up to the next whole number, and round those coming to .49 or less, down to the next whole number, as shown.

Column 7—Add together the figures in columns 3 and 6 to obtain the numbers in Column 7, which should then total 100%. Column 7 gives you the combined cash and non-cash contribution of the listed items to the annual income. Thus Agricultural Products contribute 66% and Forest Products 29%.

The resulting pie-chart looks like this:

All three of these pie-charts give quick instantly-accessible ways of seeing the extent to which Busongo’s poorer women and middle-income and rich men depend on forest resources. By contrast, the way the three pie-charts look in the case of Busongo’s middle-income and rich men is displayed at right.
**RANKING THE IMPORTANCE OF TREE AND FOREST PRODUCTS DRAWN FROM TOOL 4**

A ranking of forest products, in terms of their importance for both cash and non-cash use, can be made by referring to the first two data tables of Tool 4. Each forest product is listed in the table below, using the totals for each respondent group to rank their importance, beginning with the highest scoring products. Where products have the same total score they are given the same rank (see example). The number of ranked products is also recorded.

*Several issues stand out:*
- All groups rely on a greater range of forest products for their non-cash needs than their cash needs.
- Each group relies on a different forest product as their main source of cash income: for A/B men it is bushmeat, for A/B women it is mushrooms, for C/D men it is snails, and for C/D women it is firewood.
- The C/D women rely on the largest range of forest products for cash, whilst the C/D men utilize the largest range of forest products for non-cash needs.
- Bushmeat (i.e. hunting) is predominantly a male activity.
- Mushroom and snails appear to be the most widely used non-timber forest products (in cash and non-cash terms).
- Medicinal plants are also widely used by all groups, although they have a lower rank than for mushrooms and snails—perhaps as a consequence of the intermittent need for medicine compared to the everyday need for foodstuffs.

---

**RESULTS FROM THE ANALYSIS OF TOOL 4**

**RANKING THE IMPORTANCE OF TREE AND FOREST PRODUCTS, BY GENDER AND BY WEALTH RANK**

**ASSIN AKRPONG, GHANA**

<table>
<thead>
<tr>
<th>Forest Product</th>
<th>Poor women</th>
<th>Middle/rich women</th>
<th>Poor men</th>
<th>Middle/rich men</th>
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<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
<tr>
<td>Bushmeat</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
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<tr>
<td>Wrapping leaves</td>
<td>2</td>
<td></td>
<td>13</td>
<td>4</td>
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<tr>
<td>Mushrooms</td>
<td>2</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Charcoal</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Wild Yam</td>
<td>4</td>
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<td>Sponges</td>
<td>7</td>
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<tr>
<td>Spices</td>
<td>6</td>
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<tr>
<td>Snails</td>
<td>6</td>
<td>3</td>
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<tr>
<td>Pestle</td>
<td>2</td>
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<td>Palm wine (adoka)</td>
<td>8</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Medicines</td>
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<td>Lumber</td>
<td>1</td>
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<tr>
<td>Handicrafts</td>
<td>6</td>
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<tr>
<td>Fruits and Nuts</td>
<td>3</td>
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<tr>
<td>Firewood</td>
<td>6</td>
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<tr>
<td>Chewsticks</td>
<td>9</td>
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<tr>
<td>Building materials</td>
<td></td>
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</tbody>
</table>

**Total number of ranked products** 4 9 2 9 4 13 6 9

*Note that low numbers mean a high ranking.*
LAYOUT FOR TOOL 4 – STEP 1
CASH COMPONENTS OF HOUSEHOLD’S ANNUAL LIVELIHOOD

Name of location:
Name of group:

<table>
<thead>
<tr>
<th>Group Participants</th>
<th>1</th>
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</tbody>
</table>
LAYOUT FOR TOOL 4 – STEP 2
NON-CASH COMPONENTS OF HOUSEHOLD’S ANNUAL LIVELIHOOD

Name of location:
Name of group:

<table>
<thead>
<tr>
<th>Group Participants</th>
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</tbody>
</table>
**LAYOUT FOR TOOL 4 – STEP 3**

**PROPORTION OF INCOME FROM CASH AND NON-CASH SOURCES**

*Name of location:*

*Name of group:*

<table>
<thead>
<tr>
<th></th>
<th>CASH</th>
<th>NON-CASH</th>
<th>Total</th>
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</tbody>
</table>
RESULTS FROM THE ANALYSIS OF TOOL 4
RANKING THE IMPORTANCE OF TREE AND FOREST PRODUCTS,
BY GENDER AND BY WEALTH RANK

Name of location:
Name of group:

<table>
<thead>
<tr>
<th>Forest Product</th>
<th>Poor women</th>
<th>Middle/ rich women</th>
<th>Poor men</th>
<th>Middle / rich men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
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</table>
TOOL 5

FOREST PROBLEM AND SOLUTION MATRIX

IN GROUPS SELECTED BY GENDER AND WEALTH CATEGORY

AIM: TO IDENTIFY AND RANK THE MAIN FOREST PROBLEMS, AND SUGGEST POTENTIAL SOLUTIONS. PROBLEMS OF LAW, POLICY, TENURE AND ACCESS ARE CAPTURED THROUGH THIS TOOL.

Ask: What do you think are the main forest problems in this area? Brainstorm a list and write them down in the left hand column.

Roads/markets: If no mention of markets or road access is made, ask if there are problems in getting forest products to market, or in accessing markets for forest products.

A NOTE ABOUT PREPARATIONS FOR TOOLS 4 AND 5

Tools 4 and 5 are based on a series of charts the outlines of which have to be drawn ahead of time, if being done manually. Otherwise the tables and charts will be produced electronically by spreadsheet (a standard template is available from the PROFOR website).

Tool 4 uses five charts while Tool 5 uses two. Seven large flip-chart sheets are thus needed for each sub-group to be worked with. A minimum of four subgroups is needed (see Tool 1) for which 28 flip-chart sheets would be needed before going to the field. The task is made much easier if three or four facilitators help and if there are one meter long rulers available (or A1 cardboard sheets to act as rulers—such as the backs of flip-chart pads). The task still takes about half a day but it is a good way of making facilitators thoroughly familiar with the charts before they are used in the village. Those training the facilitators should be present to help throughout, to reduce errors.

Another task for facilitators is to count out 20 beans or stones into each of 40 or so small plastic bags—enough for 10 per group if it has been decided that there will be 10 participants in a group. Allowing a few spares, that means 800–900 beans or stones.

It is important to choose an object of a standard size and that will not confuse participants by breaking in half during the exercise. (It should not be too edible—avoid peanuts.) Choose beans or stones that do not roll about or blow away. Dry, hard maize kernels, haricot beans, coffee beans or gravel work well.

The counting is quick with a few helpers. It is important that there are exactly 20 beans in each bag.

Materials needed: 28 (7 x number of groups—it might be more than this) pre-drawn flip-chart sheets; other blank flip-chart sheets; plenty of marker pens in black (for drawing charts) and in other colors (for filling them in). Ideally, 4 meter-long rulers.

Counters for participants. Each participant in a group needs a plastic bag with 20 stones or beans in it—say 20 x 10 = 200 x 4 = 800 in all.

Calculators, compasses and protractors will be needed to prepare pie charts on flip-charts for Tool 4. Calculators are needed for percentages on other tools. Where possible, the use of laptop computers, with all the sheets set up within a spreadsheet program, is highly recommended. This saves considerable time and is a more secure method of data collection.
Tenure/access rights: If no mention of problems accessing forest resources is made, ask if there are tenure or access problems

- As each individual completes his/her column, write the numbers in the squares, return the beans/stones to the individual, and begin again with the next person.
- Count totals laterally, and put them in the column on the right.
- This will give a ranking of problems from greatest to least.
- Copy these problems down, IN RANK ORDER, onto the next sheet before working through it with the group.

The problems raised – as perceived by richer and poorer, male and female groups will cover a range of issues as the example shows. Each time this exercise has been run, there has been a very good discussion afterwards of where solutions ought to come from. It is usually possible to sort problems out into:

- Problems that could be solved by the household itself, or by the village government using the rights it has.
- Problems that need to be taken to the local authorities beyond the village. In the example below, some clearly constitute requests for help, or adjudication, to higher local authorities.
- Problems that (even if villagers do not understand this) can only be solved at higher levels. Some problems given in the list below need to be addressed at the national level.

The different kinds of problems can be marked with different colored markers, so that they can be grouped together, for presentation at the final plenary (Tool 6) and for raising elsewhere.
### Worked Example from Tanzania:
The final column was added following discussions

<table>
<thead>
<tr>
<th>Forest Problems</th>
<th>Solutions to Main Forest Problems</th>
<th>Level at Which to Deal with Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Shortages for Farming and for the Creation of New Village Forests</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pw: 1 Lack of land for forest restoration/ village forests</strong></td>
<td>Tree boundary planting</td>
<td>Some solutions at farm level, but lack of village forest land and farm land needs to be addressed at village, district and regional level.</td>
</tr>
<tr>
<td><strong>Pw: 4 Landlessness</strong></td>
<td>Reallocation of land for equal utilization especially for those who have large pieces of land not fully utilized</td>
<td></td>
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<tr>
<td><strong>Lack of Water / Drought</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Pw: 2 Lack of water hinders tree-planting</strong></td>
<td>Plant trees during rainy season</td>
<td>Farm level</td>
</tr>
<tr>
<td><strong>Rw: 3 Dying of tree seedlings due to drought</strong></td>
<td>Water tree seedlings and use manure. Use of natural regeneration of tree seeds dispersed by cattle.</td>
<td>Farm level</td>
</tr>
<tr>
<td><strong>Rm: 5 Drought</strong></td>
<td>Tree-planting of drought tolerant species and fruit trees.</td>
<td>Farm level</td>
</tr>
<tr>
<td><strong>Fuelwood Shortages</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pw: 3 Only one source of fuelwood</strong></td>
<td>On-farm tree-planting</td>
<td>Farm level, but see also land redistribution problems</td>
</tr>
<tr>
<td><strong>Conflict with Authorities over Charcoal</strong></td>
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<tr>
<td><strong>Pw: 5 Conflict between villagers and foresters over forest products</strong></td>
<td>Re: charcoal-burning from own farmland, the Village Government should provide the permit so that it can be taken to market. That permit should be respected on the road by police etc.</td>
<td>Lack of clarity about documents needed to sell charcoal from own land. District Level and Village Government.</td>
</tr>
<tr>
<td><strong>Rm: 4 Dying of tree seedlings due to diseases and insects</strong></td>
<td>Plant many. Use pesticides and mixed ashes and manure.</td>
<td>Farm-level</td>
</tr>
<tr>
<td><strong>Gum Marketing</strong></td>
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<tr>
<td><strong>Rm: 4 Lack of promising markets for gum (+ Low market prices for gum); 7 Lack of knowledge on gum quality and the mixing of gums of different qualities and tree species</strong></td>
<td>Request assistance on better markets for gums, and better knowledge of current prices. Education to gum collectors on the importance of gum quality, and the importance of not mixing different gums.</td>
<td>Better market intelligence, through request from District-Regional level forestry officials to National Forestry and Beekeeping Division of Ministry of Natural Resources.</td>
</tr>
<tr>
<td><strong>Illegal Use of Village Forests by Others</strong></td>
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</tr>
<tr>
<td><strong>Rw: 1 Illegal cutting of trees in village land and forest conservation areas</strong></td>
<td>To establish protection measures for village and private owned forests. Sharing patrol/policing of the resources. Education/sensitization through meetings in the village.</td>
<td>Village Government and some outside facilitation from ward forester</td>
</tr>
<tr>
<td><strong>Rw: 5 Illegal tree cutting for fuelwood for home use</strong></td>
<td>For conservation areas, get permits from sub-village forest officer. For village forest, get permission from the village chairman owning village forest. Abide by regulation on use/harvesting of forest resources as advised by authorities (forest department and village government).</td>
<td></td>
</tr>
<tr>
<td><strong>Pm: 1 Accidental starting of forest fires</strong></td>
<td>Arrest and take to Village Government who will fine him/her.</td>
<td>Village Government</td>
</tr>
<tr>
<td><strong>Rw: 2 Illegal/ unauthorized grazing of cattle in village forests</strong></td>
<td>A village meeting to put in place security strategies to solve the problem of illegal activities. Use village bylaws appropriately. Change security guards.</td>
<td>Village Government</td>
</tr>
<tr>
<td><strong>Pm: 2 Unauthorized grazing</strong></td>
<td>Arrest and take to Village Government to fine or warn him/her.</td>
<td>Village Government</td>
</tr>
</tbody>
</table>
## Worked Example from Tanzania, Continued

<table>
<thead>
<tr>
<th>Forest Problems</th>
<th>Solutions to Main Forest Problems</th>
<th>Level at Which to Deal with Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Illegal Use of Village Forests by Others</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rm: 6 Inappropriate livestock grazing</strong></td>
<td>Enact local bylaws on sustainable forest utilization. These should be given equal importance among other bylaws in the village/ward/division. Reinforcement of current bylaws on forest utilization and management.</td>
<td>Village Government/ Ward/Division</td>
</tr>
<tr>
<td><strong>Pm: 3 Unauthorized tree cutting</strong></td>
<td>Arrest and take to Village Government to be judged and punished accordingly (fine or warn)</td>
<td>Village Government</td>
</tr>
<tr>
<td><strong>Pm: 4 Unauthorized collection digging of herbal medicine products</strong></td>
<td>Arrest and take to Village Government with his/her roots/medicine as evidence.</td>
<td>Village Government</td>
</tr>
<tr>
<td><strong>Pm: 5 Unauthorized/illegal cultivation in forest/village forest areas</strong></td>
<td>Arrest, take to court, fine.</td>
<td>Village Government</td>
</tr>
<tr>
<td><strong>Pm: 6 Illegally hunting in village forests</strong></td>
<td>Arrest and report to village bylaws councils to be fined (punished).</td>
<td>Village Government</td>
</tr>
</tbody>
</table>

### Need for More Forestry Input at the Local Level

| Rm: 1 Lack of forestry extension officers | Urgent request to government to provide forest extension officers for improved forest productivity. Education through seminars and workshops on forest conservation. | District Level Government |
| Rm: 2 Lack of education on tree-raising and forest conservation | Education on sustainable forest management and conservation through seminars and workshops. | Contact ward-level forestry official |
| Rm: 3 Lack of projects for seed supply, tree nurseries and planting | Request projects on tree-planting and conservation. Requests for tree seeds, seedlings, plastic poly bags, and booklets on tree-establishment. Requests for help to form farmer groups to undertake tree-nursery raising. | District Level government |

Rm = rich men; Pm = poor men; Rw = rich women; Pw = poor women
Obtaining a ranking of the importance of tree and forest products can be done without administering a further tool to the four groups. Key data can be drawn from Tool 4 Steps 1 and 2, collating the results from all the four groups’ results by the facilitators.

The results show clearly which are the most valued forest products, and which are of most value to the poor and to women.

Cattle are the chief asset and store of wealth in Shinyanga, and they are fed, according to their owners, from 60-90% of the time on grazing which is reserved for them inside small privately and communally owned forests, where the trees protect the grazing until late in the dry season.

However, although the huge importance of cattle came out in Tool 4 (for all groups except poor women), and they were far more important than any (other) forest product, fodder was only mentioned inconsistently as a ‘forest product’. For that reason, cattle have also been included here.

**A WORKED EXAMPLE OF TOOL 6**

<table>
<thead>
<tr>
<th>Forest Product</th>
<th>Poor women</th>
<th>Middle/rich women</th>
<th>Poor men</th>
<th>Middle /rich men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Gum</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Fuelwood</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Building materials</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Traditional medicine</td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Wild animals, birds</td>
<td></td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Charcoal</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Tamarind and other wild fruit</td>
<td>4</td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Timber</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Thatch grass</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fodder</td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Wild green leaves, vegetables</td>
<td>6</td>
<td></td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Honey</td>
<td>8</td>
<td></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Mushrooms</td>
<td>9</td>
<td></td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

Note that low numbers mean a high ranking.
## LAYOUT FOR TOOL 6: RANKING THE IMPORTANCE OF TREE AND FOREST PRODUCTS, BY GENDER AND BY WEALTH RANK

<table>
<thead>
<tr>
<th>Forest Product</th>
<th>Poor women</th>
<th>Middle/rich women</th>
<th>Poor men</th>
<th>Middle /rich men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
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<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
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<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>Non-cash</td>
<td>Cash</td>
<td>Non-cash</td>
</tr>
</tbody>
</table>
AIM: TO SHOW THE CONTRIBUTION OF FORESTS TO THE ACHIEVEMENT OF THE MDGs.

All the data from the Steps in Tool 4 are useful for completing a chart which shows the contribution of forests in this location to the achievement of the Millennium Development Goals. This chart will not be used in the village, but is filled in after discussion and analysis by the toolkit team and facilitators.

**WORKED EXAMPLE FROM TANZANIA**

<table>
<thead>
<tr>
<th>GOALS</th>
<th>TARGETS</th>
<th>POTENTIAL CONTRIBUTION OF FORESTS TO THESE</th>
<th>ACTUAL CONTRIBUTION OF FORESTS IN THIS CASE (drawn from Tool 4, steps 1,2,3) Busongo, Tanzania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1: Eradicate extreme poverty and hunger</td>
<td>Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day</td>
<td>Are improvements in livelihoods coming about as a result of using the forest?</td>
<td>Villagers cite forest contribution to livelihoods of 20-29% in Busongo, Tanzania. Charcoal, fuelwood, ghee and milk, livestock, gum, thatch and fodder grass contribute directly and indirectly to the meeting of these targets. Forest protection ensures their availability.</td>
</tr>
<tr>
<td></td>
<td>Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger</td>
<td>Are improvements in food security coming about as a result of using the forest?</td>
<td></td>
</tr>
<tr>
<td>Goal 2: Achieve universal primary education</td>
<td>Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling</td>
<td>Does generation of cash from forest products help access of primary age children to school (where fees and bus-fares are barriers)?</td>
<td>Livestock, charcoal, gum, fodder and thatch grass sales all mentioned for these purposes by individuals. Forest protection ensures their availability. Village forests are used to construct staff houses for primary schools and extra classrooms.</td>
</tr>
<tr>
<td>Goal 3: Promote gender equality + empower women</td>
<td>Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015</td>
<td>Girls’ access to school cannot be directly promoted through using the forest. But girls as well as boys are more likely to attend school where forest incomes help women to find cash for school fees and uniforms. As incomes rise overall, it is observed that girls are more likely to be sent to school as well as boys.</td>
<td>Women mention goats and cattle as items sold to raise money for these expenses. Forest protection ensures their availability.</td>
</tr>
</tbody>
</table>
# Worked Example from Tanzania, Continued

## The Millennium Development Goals and Targets, and the Contribution of Forests to Them

<table>
<thead>
<tr>
<th>GOALS</th>
<th>TARGETS</th>
<th>Potential Contribution of Forests to These</th>
<th>Actual Contribution of Forests in This Case (drawn from Tool 4, steps 1,2,3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 4: Reduce child mortality</td>
<td>Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate</td>
<td>Are improvements in access of mothers and children to good quality foods, to forest medicines and to the money to buy food and pay for medical attention coming about as a result of using the forest?</td>
<td>Charcoal, fuelwood, ghee and milk, livestock, gum, thatch and fodder grass contribute directly and indirectly to the meeting of these targets. Forest protection ensures their availability.</td>
</tr>
<tr>
<td>Goal 5: Improve maternal health</td>
<td>Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio</td>
<td>Are improvements to health coming about as a result of using the forest for food, medicine, and to pay for medical attention?</td>
<td>Charcoal, fuelwood, ghee and milk, livestock, gum, thatch and fodder grass contribute indirectly to the meeting of these targets. Forest protection ensures their availability.</td>
</tr>
<tr>
<td>Goal 6: Combat HIV/AIDS, malaria, and other diseases</td>
<td>Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS</td>
<td>Are improvements to environmental resources coming about as a result of better protection of forests (which occurs, for example, where pro-poor policies of devolution and tenure or access rights are secured)?</td>
<td>Households invest in, and enrich, their small ‘village forests’ because they own them and the forests support their animals (‘their bank’). The Village Government protects the forest, applies bylaws and encourages natural regeneration, so that a good flow of products continues to be available.</td>
</tr>
<tr>
<td></td>
<td>Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal 7: Ensure environmental sustainability</td>
<td>Target 9: Integrate the principles of sustainable development into country policies and programs, and reverse the loss of environmental resources</td>
<td>Are improvements to environmental resources coming about as a result of better protection of forests (which occurs, for example, where pro-poor policies of devolution and tenure or access rights are secured)?</td>
<td>Households invest in, and enrich, their small ‘village forests’ because they own them and the forests support their animals (‘their bank’). The Village Government protects the forest, applies bylaws and encourages natural regeneration, so that a good flow of products continues to be available.</td>
</tr>
<tr>
<td></td>
<td>Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water</td>
<td>Are there any improvements to water flow/water quality noticeable in this location, as a result of better protection of the forest?</td>
<td>NO FIELD DATA</td>
</tr>
<tr>
<td></td>
<td>Target 11: Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers</td>
<td>Not the direct task of rural people. But better rural livelihoods reduce migration to towns/cities.</td>
<td>NO FIELD DATA</td>
</tr>
<tr>
<td>Goal 8: Develop a global partnership</td>
<td>Target 12: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system</td>
<td>NOT APPLICABLE</td>
<td>NOT APPLICABLE</td>
</tr>
<tr>
<td>GOALS</td>
<td>TARGETS</td>
<td>POTENTIAL CONTRIBUTION OF FORESTS TO THESE</td>
<td>ACTUAL CONTRIBUTION OF FORESTS IN THIS CASE (drawn from Tool 4, steps 1, 2, 3)</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>---------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Goal 1: Eradicate extreme poverty and hunger</td>
<td>Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day</td>
<td>Are improvements in livelihoods coming about as a result of using the forest?</td>
<td>Percentage of livelihood supported by forest is between 2-22%, bush meat, honey, fuel wood, wild vegetables, wild fruits and small scale commercial timber are primary sources of income; they contribute directly to meeting these targets;</td>
</tr>
<tr>
<td></td>
<td>Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger</td>
<td>Are improvements in food security coming about as a result of using the forest?</td>
<td>Use of forest as farmlands provide food products which contribute between 8-38% of livelihood. Protection and restricted access from strangers ensures reduced pressure and therefore their availability.</td>
</tr>
<tr>
<td>Goal 2: Achieve universal primary education</td>
<td>Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling</td>
<td>Does generation of cash from forest products help access of primary age children to school (where fees and bus-fares are barriers)?</td>
<td>Timber from the forest, has been used to construct benches for a primary school and cash derived from sales of timbers and NTFP like bush meat, honey, and fuel wood are used for paying school fees, and buying school supplies. Payment of the Parent Teacher Association (PTA) fees is used to pay part time teachers. Protection and restricted access from strangers ensures reduced pressure and therefore their availability.</td>
</tr>
<tr>
<td>Goal 3: Promote gender equality and empower women</td>
<td>Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015</td>
<td>Girls’ access to school cannot be directly promoted through using the forest. But girls as well as boys are more likely to attend school where forest incomes help women to find cash for school fees and uniforms. As incomes rise overall, it is observed that girls are more likely to be sent to school as well as boys.</td>
<td>Women mention selling forest products like timber, honey, spices and fuel wood to pay fees for both male and female children.</td>
</tr>
<tr>
<td>Goal 4: Reduce child mortality</td>
<td>Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate</td>
<td>Are improvements in access of mothers and children to good quality foods, to forest medicines and to the money to buy food and pay for medical attention coming about as a result of using the forest?</td>
<td>Use of locally available medicinal plants was mentioned to contribute directly for the treatment of some common diseases like malaria and typhoid. Cash from sales of forest products like bush meat, timber, honey and fuel wood is used to pay medical bills at a nearby village health centre. Protection and restricted access from strangers ensures reduced pressure and therefore their availability.</td>
</tr>
<tr>
<td>Goal 5: Improve maternal health</td>
<td>Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal 6: Combat HIV/AIDS, malaria, and other diseases</td>
<td>Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS</td>
<td>Are improvements to health coming about as a result of using the forest for food, medicine, and to pay for medical attention?</td>
<td>Use of locally available medicinal plants was mentioned to contribute directly for the treatment of some common diseases like malaria and typhoid. Cash from sales of forest products like bush meat, timber, honey; fuel wood is used to pay medical bills at a nearby village health centre. Protection and restricted access from strangers ensures reduced pressure and therefore their availability.</td>
</tr>
</tbody>
</table>
## WORKED EXAMPLE FROM CAMEROON

### The Millennium Development Goals and Targets, and the Contribution of Forests to Them

<table>
<thead>
<tr>
<th>GOALS</th>
<th>TARGETS</th>
<th>Potential Contribution of Forests to These</th>
<th>Actual Contribution of Forests in This Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 7: Ensure environmental sustainability</td>
<td>Target 9: Integrate the principles of sustainable development into country policies and programs, and reverse the loss of environmental resources</td>
<td>Are improvements to environmental resources coming about as a result of better protection of forests (which occurs, for example, where pro-poor policies of devolution and tenure or access rights are secured)?</td>
<td>Households invest in the forest by having a protected community forest, and fruit trees, and by not felling all trees on their owned farmlands to ensure sustainability of the forest resources; There is a feeling of ownership of the forest by the entire village and extraction of some products like fuel wood and timber are controlled by the village council which also collect levies from an external timber exploiter and the tourism organisation (ecotourism). Protection of the seedlings of timber species in their respective farms.</td>
</tr>
<tr>
<td>Goal 8: Develop a global partnership</td>
<td>Target 12: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system</td>
<td>NOT APPLICABLE</td>
<td>NOT APPLICABLE</td>
</tr>
</tbody>
</table>

---

Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water

Are there any improvements to water flow/water quality noticeable in this location, as a result of better protection of the forest?

The village use revenue from the forest to maintain local pipe borne water supply.

Target 11: Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers

Not the direct task of rural people. But better rural livelihoods reduce migration to towns/cities.

Information obtained reveal that most persons considered wealthy with Zinc roofed houses, Motorbikes and small scales enterprises in the village got their money from sales of timber, fuel wood and ecotourism. This activity helped employ some youths who are now based in the village and reduced the rate of theft and prostitution thus contribute in its development. Villagers mostly depend on forest products for payment of electricity bills, and purchases of basic needs, thereby improving livelihoods.
In order to make the case for the importance of forests to local people, some kind of numerical data is almost essential. Calculations suggested here view the data gathered during the Field Toolkit exercise in the context of official per capita income data. This is the only way of deriving numerical data from toolkit data. Even a rough and ready method for assigning cash values to the forest proportion of annual incomes can be useful for making a preliminary case for the importance of including forest product questions in future household surveys.

The critical first step is to obtain data from the national or provincial statistics body and to understand what these figures do and do not include. The data needed for this exercise, which should be readily available, include:

- Mean income for the country
- Mean income for the actual province, district, ward or village surveyed (or at least a breakdown between rural and urban income)
- An analysis of where this income comes from (e.g. percentages from employment, remittances, agriculture and other activities)
- Mean household size for the country, and for the actual province, district, ward or village surveyed
- The number of households in the village or district where the tools were applied
- The number of households in each of the four wealth categories (these figures come from Tool 1, Wealth Ranking, rather than from official statistics)

Usually, the official statistics on sources of household income do not include non-cash income. Sometimes the statistics do include non-cash income from agriculture but not non-cash income from collected wild products and forestry (as in the worked example from Tanzania below). It is important to know whether and how different forms of non-cash income are included, because these differences will affect your calculations of monetary value.

Two worked examples, from Tanzania and Madagascar, demonstrate the use of this tool using slightly different approaches. Again, note that your calculation will most likely need to be adapted according to the kind of official statistics that you have and the assumptions made in those statistics (e.g. inclusion of forest products and of non-cash income). The example from Tanzania is worked in US$ values, useful for international communications, but can be worked in the same way in the national currency.

**WORKED EXAMPLE FROM TANZANIA**

**Figures and definitions from Bureau of Statistics data**

1. The average per capita income for all Tanzanians in 2005 stood at $327.

<table>
<thead>
<tr>
<th>Cash income</th>
<th>Cash income estimated as 49% of total income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Forest</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>6.86</td>
</tr>
<tr>
<td>2. Farm</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>36.75</td>
</tr>
<tr>
<td>3. Other</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>5.39</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>49.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-cash income</th>
<th>Non-cash income estimated as 51% of total income</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Forest</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td>22.44</td>
</tr>
<tr>
<td>5. Farm</td>
<td>56%</td>
</tr>
<tr>
<td></td>
<td>28.56</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>51.00</td>
</tr>
</tbody>
</table>

Total annual cash and non-cash income

<table>
<thead>
<tr>
<th>Total annual cash and non-cash income</th>
<th>100.00%</th>
</tr>
</thead>
</table>
2. Shinyanga (where the toolkit was tested), as one of the country’s poorest regions averages 74% of this figure, or $242.

3. Average household size in Shinyanga is about six, so the average household income in the region is $1,452.

4. Per capita income includes cash income from all sources (1, 2 and 3 in the chart) and non-cash income in the form of farm-raised crops consumed at home (5 in the chart). It excludes non-cash off-farm income such as forest products, which are consumed and not sold (4 in the chart).

USING THE FIGURES IN CONJUNCTION WITH TOOLKIT DATA

1. Adding in the missing fraction of income derived from non-cash forest resources. The average per household income figure from the official statistics ($1,452) includes non-cash income from agriculture but not from forestry. Therefore the total household income (cash and non-cash) must be higher than the official figure. If 22% of total household income is non-cash income from forestry, then the total household income amounts to $1,452 x 100/(100-22) = $1,862. This is an additional $410 a year per household.

2. Additionality. An additional $410 a year for a household ($68 a head) may not sound like much, but the sum may be much more than the annual per capita sum allocated by the district to a specific budget item such as health or education in the area.

GOING BEYOND AN AVERAGE PER CAPITA FIGURE: WEALTH DISTRIBUTION

However, an average figure for the whole of Shinyanga does not allow us to look at the different cash value of forest for richer and poor people. Is there any way of taking the calculation further? An attempt was made as follows.

1. In the original village wealth-ranking exercise, the team was told that there were 255 households in the village in total of which 18 were wealthy, 29 were middling, 150 were poor and 58 were very poor.

2. The team was also given average cattle numbers and land holdings for each of these categories as indicators.

3. From these, a simple scoring system was devised in order to develop a ‘wealth score’ for each category, with which to develop an indication of wealth distribution among the four categories.

4. Shinyanga’s 255 households, with an average of six household members each, have a population of 1,530. With official per capita income at $242, it can be said that Busongo’s total average income is $370,260. Including the component from non-cash forest income, the per capita income comes to $310 ($242 + $68) and the total for Busongo is $474,300. How is that sum split between the different wealth categories?

These calculations can be used to show what proportion of total household income, expressed in monetary terms, comes from forest for households in different wealth categories.


WORKED EXAMPLE FROM MADAGASCAR

South-East

What is the overall dependence on forest products for all residents (poorer and richer, men and women) of both villages?

In Ambinanindrano and Ampasipotsy there are a total of 220 households (from Tool 1), which have been classified by local people into categories of richer (Rich + Middling) and poorer (Poor + Very Poor). We assume an equal distribution of men and women in the two wealth categories. Different wealth and gender classes within the two villages have a different split between cash and non-cash income and between forestry and non-forestry (agriculture + other) revenues. Using the percentage of households in each of these four groups in the two villages, it is possible to calculate overall figures for the importance of forest products to cash, non-cash and total income.

How do we apply a monetary value to these percentages?

The average income of rural households in Vatovavy Fitovinany Region was 215,536 Ariary in 2005 (Source: l’Enquête Periodique Ménages 2005, INSTAT-DSM) and is expected to be similar in 2008. This figure includes both cash and non-cash income. The Enquête Periodique Ménages 2005 estimated that non-cash income from agriculture accounts for about 30% of total household income, which is comparable to the finding in this study.

<table>
<thead>
<tr>
<th>Wealth Rank categories of HHs in Busongo</th>
<th>No. HHs</th>
<th>% of Busongo income owned by each wealth category</th>
<th>Proportion of all Busongo income in $</th>
<th>Income Per HH</th>
<th>Income Per cap.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rich HHs</td>
<td>18</td>
<td>28</td>
<td>132,804</td>
<td>7,378</td>
<td>12,300</td>
</tr>
<tr>
<td>Middling</td>
<td>29</td>
<td>22</td>
<td>104,346</td>
<td>3,598</td>
<td>600</td>
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<table>
<thead>
<tr>
<th>Wealth Ranking of HHs in Busongo</th>
<th>No. HHs</th>
<th>% of all Busongo income</th>
<th>Proportion of all Busongo income in $</th>
<th>Income Per HH</th>
<th>Income Per cap.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>150</td>
<td>42</td>
<td>199,206</td>
<td>1,328</td>
<td>221</td>
</tr>
<tr>
<td>V.poor</td>
<td>58</td>
<td>8</td>
<td>37,944</td>
<td>654</td>
<td>109</td>
</tr>
<tr>
<td>TOTALS</td>
<td>255</td>
<td>100</td>
<td>474,300</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ESTIMATION OF OVERALL VALUE OF FOREST PRODUCTS TO ALL RESIDENTS IN AMBINANINDRANO AND AMPASIPOTSY

<table>
<thead>
<tr>
<th></th>
<th>Ambinanindrano</th>
<th>Ampasipotsy</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PW</td>
<td>PM</td>
<td>RW</td>
<td>RM</td>
</tr>
<tr>
<td>Number of households</td>
<td>57</td>
<td>57</td>
<td>22</td>
</tr>
<tr>
<td>% total hhs in the two villages</td>
<td>26%</td>
<td>26%</td>
<td>10%</td>
</tr>
<tr>
<td>% income that is non-cash</td>
<td>57.5%</td>
<td>60%</td>
<td>35%</td>
</tr>
<tr>
<td>% forestry contribution to non-cash income</td>
<td>45%</td>
<td>36%</td>
<td>23%</td>
</tr>
<tr>
<td>% forestry contribution to cash income</td>
<td>5%</td>
<td>7%</td>
<td>30%</td>
</tr>
<tr>
<td>% forestry contribution to total income</td>
<td>28%</td>
<td>25%</td>
<td>27%</td>
</tr>
</tbody>
</table>
that non-cash contributions from agriculture account for from 22% to 55% of total household incomes, with an overall contribution to all households of 37%.

However, the Enquête Periodique Ménages 2005 estimates the contribution of non-cash income from non-agricultural enterprises, including forestry, at only 0.2% of total household income, whereas the estimate in this study is 21% (proportion of income that is non-cash x proportion of forestry’s contribution to non-cash income). There are several possible explanations for this difference, including (a) the EPM definition of agricultural products includes some of the products that the Forests-Poverty Toolkit defines as forest products, such as fruits, (b) the EPM figure includes urban households, which are expected to have a lower dependency on forest products, (c) the questions in the EPM do not extract the full range of forest products that are recorded in the Forests-Poverty Toolkit.

If the total household income in Vatovavy Fitovinany Region is 215,536 Ariary per year and forest products contribute 26% of this income (cash + non-cash) then the annual contribution from forestry to each household is 56,039 Ariary (approximately US$35).

However, it is not possible, from an average figure of the two villages, to estimate the respective financial contribution of forests for the richer and the poorer.

1. In the initial classification of households by wealth/social class, the team established that there was a total of 220 households (158 Ambinanindrano, 62 Ampasipotsy), of which 17 (12+5) were Rich, 44 (31+13) Middling, 147 (111+36) Poor, and 7 (4+3) Very Poor.

2. The team also recorded the average number of livestock and the average cultivation area (paddy fields + dryland fields) for each of those classes, as indicators.

3. On that basis, a simple scoring system was devised to establish a “wealth score” for each class, to provide an indication of wealth distribution among the four classes.

4. If the total income of the two villages is 47,417,920 Ariary per year (215,536 x 220), the mean income can be estimated separately for each wealth class by dividing total income proportionately among the four classes.

5. The contribution of forestry can then be calculated separately for the four classes using the percentage of total income from forestry for the richer group (23%; Rich and Middling) and the poorer group (28%; Poor and Very Poor).

North-West

What is the overall dependence on forest products for all residents (poorer and richer, men and women) of both villages?

In Ambodimanga and Ambodibonara there are a total of 278 households (from Tool 1), which have been classified by local people into categories of richer (Rich + Middling) and poorer (Poor + Very Poor). We assume an equal distribution of men and women in the two wealth catego-
ries. Different wealth and gender classes within the two villages have a different split between cash and non-cash income and between forestry and non-forestry (agriculture + other) revenues. Using the percentage of households in each of these four groups in the two villages, it is possible to calculate overall figures for the importance of forest products to cash, non-cash and total income.

**How do we apply a monetary value to these percentages?**

The average income of rural households in Sofia Region was 225,240 Ariary in 2005 (Source: l’Enquête Periodique Ménages 2005, INSTAT-DSM) and is expected to be similar in 2008. This figure includes both cash and non-cash income. The Enquête Periodique Ménages 2005 estimated that non-cash income from agriculture accounts for about 30% of total household income, which is comparable to the finding in this study that non-cash contributions from agriculture account for from 30% to 70% of total household incomes, with an overall contribution to all households of 45%.

However, the Enquête Periodique Ménages 2005 estimates the contribution of non-cash income from non-agricultural enterprises, including forestry, at only 0.2% of total household income, whereas the estimate in this study is 20% (proportion of income that is non-cash x proportion of forestry’s contribution to non-cash income). There are several possible explanations for this difference, including (a) the EPM definition of agricultural products includes some of the products that the Forests-Poverty Toolkit defines as forest products, such as fruits, (b) the EPM figure includes urban households, which are expected to have a lower dependency on forest products, (c) the questions in the EPM do not draw out the full range of forest products that are recorded in the Forests-Poverty Toolkit.

If the total household income in Vatovavy Fitovinany Region is 225,240 Ariary per year and forest products contribute 30% of this income (cash + non-cash) then the annual contribution from forestry to each household is 67,572 Ariary (approximately US$42).

However, it is not possible, from an average figure of the two villages, to estimate the respective financial contribution of forests for the richer and the poorer.

1. In the initial classification of households by wealth/social class, the team established that there was a total of 278 households (180 Ambodimanga, 98 Ambodibonara), of which 8 (4+4) were Rich, 49 (32+17) Middling, 151 (96+55) Poor, and 70 (48+22) Very Poor.
2. The team also recorded the average number of livestock and the average cultivation area for each of those classes, as indicators.

3. On that basis, a simple scoring system was devised to establish a “wealth score” for each class, to provide an indication of wealth distribution among the four classes.

4. If the total income of the two villages is 62,616,720 Ariary per year (225,240 x 278), the mean income can be estimated separately for each wealth class by dividing total income proportionately among the four classes.

5. The contribution of forestry can then be calculated separately for the four classes using the percentage of total income from forestry for the richer group (28%) for the Rich and Middling and the poorer group (30%) for the Poor and Very Poor.
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.
POVERTY AND FORESTS

LINKAGES

A Synthesis and Six Case Studies

PROFOR

2008

The World Bank
Washington, D.C.
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This report was prepared by:
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Published 2008.
Printed on 80% post consumer fiber paper.
Cover photo credit: Curt Carnemark/World Bank.
Contents

Acknowledgments ix

Acronyms and Abbreviations xi

1. Linking Poverty Reduction, Livelihoods, and Forests 1
Introduction 1
Forests and Poverty Linkages 2
Strategies for Poverty Reduction 3
Methodology 4
Synthesis of Findings from Case Studies 5
   Rural People and Forests 5
   Forests in National Economies 6
Poverty Reduction Strategy Papers 7
   Forests as a Strategy for Poverty Reduction 8
Summary of Main Case Study Findings 12
   Nepal 12
   Guinea 13
   Indonesian Papua 14
   Tanzania 15
   Lao PDR 15
   India 16
Conclusions 17
   Lessons Learned 17
   Implications for PRSPs 18
References 18
## 2. Summary of Case Study—India

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>21</td>
</tr>
<tr>
<td>Background and Overview of India</td>
<td>22</td>
</tr>
<tr>
<td>Forest Resources</td>
<td>23</td>
</tr>
<tr>
<td>Forestry Contribution to Gross Domestic Product</td>
<td>23</td>
</tr>
<tr>
<td>Structure of the Domestic Forest-Based Industry</td>
<td>24</td>
</tr>
<tr>
<td>National Wood Supply and Demand Trends</td>
<td>24</td>
</tr>
<tr>
<td>National Forestry Policy</td>
<td>25</td>
</tr>
<tr>
<td>Forest Livelihoods: Perspectives of Forest Dwellers and Key Issues</td>
<td>26</td>
</tr>
<tr>
<td>Forest Management Systems and Community Forestry</td>
<td>26</td>
</tr>
<tr>
<td>Forest Marketing Systems and Benefit Sharing</td>
<td>27</td>
</tr>
<tr>
<td>The Tenth Plan—India’s Poverty Reduction Strategy</td>
<td>28</td>
</tr>
<tr>
<td>Forestry in the Tenth Plan</td>
<td>28</td>
</tr>
<tr>
<td>A Case Study</td>
<td>29</td>
</tr>
<tr>
<td>Overview of the Three Focal States and Tribal Characteristics</td>
<td>29</td>
</tr>
<tr>
<td>Background and Study Area</td>
<td>29</td>
</tr>
<tr>
<td>Livelihoods Impact Pathways</td>
<td>30</td>
</tr>
<tr>
<td>Indicators</td>
<td>32</td>
</tr>
<tr>
<td>Conclusions</td>
<td>35</td>
</tr>
<tr>
<td>Recommendations for Forest Poverty Linkages</td>
<td>35</td>
</tr>
<tr>
<td>2. Strengthening Forest Management, Monitoring, and Control Systems</td>
<td>36</td>
</tr>
<tr>
<td>4. Developing More Effective and Flexible Institutional Models</td>
<td>38</td>
</tr>
<tr>
<td>References</td>
<td>39</td>
</tr>
</tbody>
</table>

## 3. Summary of Case Study—Nepal

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>41</td>
</tr>
<tr>
<td>Background and Overview</td>
<td>42</td>
</tr>
<tr>
<td>Poverty in Nepal</td>
<td>42</td>
</tr>
<tr>
<td>Forest Resources and Management</td>
<td>43</td>
</tr>
<tr>
<td>National Forestry Plan and Policies</td>
<td>45</td>
</tr>
<tr>
<td>Poverty Reduction Strategy Paper: Nepal’s Tenth Plan</td>
<td>45</td>
</tr>
<tr>
<td>Donor Programs in the Forestry Sector of Nepal</td>
<td>48</td>
</tr>
<tr>
<td>A Case Study</td>
<td>49</td>
</tr>
<tr>
<td>Sites: TAL Area</td>
<td>49</td>
</tr>
<tr>
<td>Methodology</td>
<td>50</td>
</tr>
<tr>
<td>Dovan</td>
<td>50</td>
</tr>
<tr>
<td>Lamahi</td>
<td>52</td>
</tr>
<tr>
<td>Mahadevpuri</td>
<td>54</td>
</tr>
</tbody>
</table>
Contribution of Forests to Poverty Alleviation 55
  Community Forestry 56
  Leasehold Forestry 56
  Protected Areas 57
  Forestry and the MDGs 57
Conclusion 57
References 59
Appendix 60
4. Summary of Case Study—Indonesian Papua 61
  Executive Summary 61
  Forests and Local Land Rights in Indonesia 62
    Indonesia’s Poverty Reduction Strategy and Land Rights 62
    Indonesia’s Forests 62
    Emerging Opportunities for Change in the Forest Sector 63
Introduction to Papua 63
  Forests in Papua—The Issues at Stake 64
    High Growth, High Poverty 64
    Livelihoods and Legal Uncertainty over Land and Resource Rights 64
    Contested Decentralization 65
  An Emerging Consensus for Policy Reform 67
    The Coalition for Change 67
The Multistakeholder Policy Agenda in Papua 68
  Toward a New Way of Allocating Forest Resources 69
    Recalculating Forest Potential 69
    KPH as a Framework for Land Reallocation 70
  Clarifying the Rules for Forest Management Rules for KPH-HKMs 71
    Rules for Large-Scale Investors 71
Institution Building 72
  Strengthening the Role and Inclusiveness of Community Institutions 72
  Building Vertical Integration between Community Producers and the Private Sector 72
  Repositioning Government 73
Enabling Legislation 74
Conclusions and the Future 75
References 76
Appendix 77
5. Summary of Case Study—Guinea 79
  Executive Summary 79
Introduction 80
Findings about Scaling Upwards (the Vertical Influence of the Project) 110

Dissemination of Project Lessons within the Forest Sector 110
Perceptions about the Influence of the Project 110

Discussion, Recommendations, and Suggestions 110
Regarding Scaling Sideways 111
Regarding Scaling Upwards 113

References 115

7. Summary of Case Study—Tanzania 117

Executive Summary 117

Background and Overview of Tanzania 118
Poverty Status and Distribution 118
Forest Cover and Status 118
Institutional Framework for Forest Management 119
Current Issues Facing Forest Management 120
Legal, Policy, and Regulatory Frameworks for Forest Management 120
The Contribution of Forests to Livelihoods and the National Economy 121
Forestry, Natural Resources, and Environment within Broader Poverty Reduction Processes 122

Case Study, Shinyanga Region 124

Background on the Shinyanga Region 124
Forest Resources in Shinyanga Region 126
HASHI Program 126
Contribution of Forests to Poverty Reduction 127
HASHI Challenges 129

Conclusion and Recommendations 130
National-Level Recommendations 130
Local-Level Recommendations 132

References 132

Appendix 136

Boxes
Box 1.1: World Bank Guidelines for PRSPs 8
Box 1.2: Poverty Reduction Strategy Documents 9
Box 1.3: Forests and Poverty Alleviation in Lao PDR’s PRSP (Lao PDR, 2004) 11
Box 2.1: Pressures on India’s Forests 23
Box 3.1: Four Pillars and Cross-Cutting Approaches of Nepal’s PRSP 46
Box 3.2: Forest-Based Enterprises in Dovan 52
Box 3.3: Forest-Based Enterprises in Lamahi 54
Box 4.1: Vulnerability to Land-Use Change 65
Box 4.2: Legal Conflict over Community Logging Rights 66
Box 4.3: The Search for Social Justice and the Rule of Law: Converging Agendas 67

CONTENTS
Box 4.4: Customary Land Tenure—A Viable Basis for Growth and Poverty Reduction? 68
Box 4.5: Participatory Mapping—Staking Out Customary Management Space 69
Box 4.6: A Scenario for a KPH-HKM 72
Box 5.1: Population Characteristics of Guinea 81
Box 5.2: PRSP NRM and Environment Strategy 87
Box 5.3: Guinea: Obstacles to Private Sector Development 93

Figures

Figure 2.1: India 22
Figure 2.2: GDP Shares, Forestry and Logging, and Agriculture, India 24
Figure 2.3: Conceptual Model of CFM Contributions to Livelihoods: Impact 33
Figure 3.1: Map of Nepal Showing Five Physiographic Regions 42
Figure 3.2: Terai Landscape Corridors and Bottlenecks 49
Figure 3A.1: Organizational Chart of the Ministry of Forestry and Soil Conservation 60
Figure 4A.1: Indonesia 77
Figure 4A.2: West Papua 77
Figure 5.1: Map of Guinea 80
Figure 5.2: Forest Products and Trade in Guinea 83
Figure 5.3: Location of Sincéry-Oursa and Other Classified Forests in Guinea 89
Figure 6.1: Forest Food Security and Forested Protected Areas in Lao PDR 100
Figure 6.2: Learning from Projects: Information Sources and Flows 106
Figure 6.3: Mechanisms Contributing to the Sideways Spread of the NAFRI/IUCN NTFP Project Interventions 108
Figure 7.1: Map of Africa and Tanzania, Showing the Districts of the Shinyanga Region 125
Figure A7.1: Institutional Arrangements for Forest Management 136

Tables

Table 1.1: Summary of Case Study Findings 19
Table 2.1: Possible Indicators of Livelihood and Livelihood Change at the Village Level in Jharkhand 34
Table 3.1: Use of Forest Products by Respondent Households in Dovan 52
Table 3.2: Use of Forest Products by Respondent Households in Lamahi 53
Table 3.3: Use of Forest Products by Respondent Households in Mahadevpuri 55
Table 3.4: Summary of Findings 58
Table 5.1: Zone-Specific Forest Product Information: Collectors, Users, Uses, and Importance 92
Table 5.2: Income from Selected Forest Products 92
Table A5.1: Wealth Ranking and Definition of Poverty 96
Table 6.1: Main NTFP Project Interventions in Ban Nampheng 103
Table 6.2: Changes in Village Development Indicators, 1996–2006 105
Table A7.1: Summary of Forestry-Related Goals and Strategies in the National Strategy for Growth and Reduction of Poverty 137

POVERTY AND FORESTS LINKAGES
Acknowledgments for the first chapter of this volume go to Gill Shepherd (ODI/IUCN), Jill Blockhus (PROFOR, World Bank), H. Carolyn Peach Brown (University of Guelph), and R.J. Fisher (IUCN), and to Carolyn Peach Brown for editing the case studies. Case study work featured in this publication was led by Winrock International in Guinea (including Chris Kopp and Boubacar Thiam); CIFOR in India (including Deep Pandey (CIFOR), Brian Belcher (CIFOR) and Grant Milne (World Bank)); ODI in Indonesia (including Gill Shepherd, Adrian Wells (ODI), and Martin Kayoi); IUCN in Lao PDR (including Andrew W. Ingles, Sounthone Kethpanh, Andy S. Inglis, and Khamphay Manivong); Winrock International in Nepal (including Erin Hughes and Shyam Upadhyaya); and Winrock International in Tanzania (including Devona Bell (Winrock International), Moeko Saito (World Bank), Jill Blockhus (PROFOR), and Ed Barrow (IUCN)).
# Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>APHI</td>
<td>Association of Indonesian Forest Industries (Asosiasi Pengusaha Hutan Indonesia)</td>
</tr>
<tr>
<td>BPKH</td>
<td>Ministry of Forests</td>
</tr>
<tr>
<td>BPS</td>
<td>Central Statistics Bureau (Biro Pusat Statistik)</td>
</tr>
<tr>
<td>CBFM</td>
<td>Community-based forest management</td>
</tr>
<tr>
<td>CBNRM</td>
<td>Community-based natural Resource Management</td>
</tr>
<tr>
<td>CBO</td>
<td>Community-based organization</td>
</tr>
<tr>
<td>CBS</td>
<td>Central Bureau of Statistics</td>
</tr>
<tr>
<td>CESS</td>
<td>Centre for Economic and Social Studies</td>
</tr>
<tr>
<td>CIFOR</td>
<td>Centre for International Forest Research</td>
</tr>
<tr>
<td>CFM</td>
<td>Community Forest Management</td>
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<tr>
<td>CFR</td>
<td>Community forest reserve</td>
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<tr>
<td>CFUG</td>
<td>Community forest user group</td>
</tr>
<tr>
<td>CSO</td>
<td>Community Support Organization</td>
</tr>
<tr>
<td>DAFEO</td>
<td>District Agriculture and Forestry and Environment Offices</td>
</tr>
<tr>
<td>DAFO</td>
<td>District Agriculture and Forestry Office(r)</td>
</tr>
<tr>
<td>DAP</td>
<td>Papuan Customary Council (Dewan Adat Papua)</td>
</tr>
<tr>
<td>DDC</td>
<td>district development committee</td>
</tr>
<tr>
<td>DFID</td>
<td>Department for International Development</td>
</tr>
<tr>
<td>DFRS</td>
<td>Department of Forest Research and Survey</td>
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<tr>
<td>DNEF</td>
<td>Direction Nationale des Faux et Forêts (National Directorate of Waters and Forests)</td>
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<tr>
<td>DNPWC</td>
<td>Department of National Parks and Wildlife Conservation</td>
</tr>
<tr>
<td>DPIP</td>
<td>District Poverty Initiatives Program</td>
</tr>
<tr>
<td>DOF</td>
<td>Department of Forest</td>
</tr>
<tr>
<td>DTE</td>
<td>“Down to Earth” Journal, Delhi, India</td>
</tr>
<tr>
<td>ENRMA</td>
<td>Expanded Natural Resource Management Activity</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>FBD</td>
<td>Forestry and Beekeeping Division</td>
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<tr>
<td>FDA</td>
<td>Forest Development Agency</td>
</tr>
<tr>
<td>FRC</td>
<td>Forestry Research Centre</td>
</tr>
<tr>
<td>GAA</td>
<td>German Agro in Action Accord</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GF</td>
<td>Guinean franc</td>
</tr>
<tr>
<td>GNI</td>
<td>gross national income</td>
</tr>
<tr>
<td>HDI</td>
<td>Human Development Index</td>
</tr>
<tr>
<td>INGO</td>
<td>international nongovernmental organizations</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>---------</td>
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</tr>
<tr>
<td>IPKMA</td>
<td>customary community timber harvesting license (Ijin Pemungutan Kayu Masyarakat Adat)</td>
</tr>
<tr>
<td>I-PRSP</td>
<td>Interim Poverty Reduction Strategy Paper</td>
</tr>
<tr>
<td>ITTO</td>
<td>International Tropical Timber Organization</td>
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<tr>
<td>IUCN</td>
<td>The World Conservation Union</td>
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<tr>
<td>IUCN-CEM</td>
<td>IUCN-Commission on Ecosystem Management</td>
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<tr>
<td>JFM</td>
<td>Joint Forest Management</td>
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<tr>
<td>KPH</td>
<td>forest management units (Kesatuan Pengelolaan Hutan)</td>
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<tr>
<td>KPH-HKM</td>
<td>community forestry management unit (Kesatuan Pengelolaan Hutan—Hutan Kemasyarakatan)</td>
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<tr>
<td>LAFR</td>
<td>local authority forest reserve</td>
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<tr>
<td>Lao PDR</td>
<td>Lao People’s Democratic Republic</td>
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<tr>
<td>LFP</td>
<td>Livelihood Forestry Programme</td>
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<td>LSFP</td>
<td>Lao-Swedish Forestry Programme</td>
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<tr>
<td>MAF</td>
<td>Ministry of Agriculture and Forestry</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<td>MNRT</td>
<td>Ministry of Natural Resources and Tourism</td>
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<td>MOEF</td>
<td>Ministry of Environment and Forestry</td>
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<td>MOF</td>
<td>Ministry of Finance</td>
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<td>MOFSC</td>
<td>Ministry of Forests and Soil Conservation</td>
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<tr>
<td>MRP</td>
<td>Papuan People’s Council (Majlis Rakyat Papua)</td>
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<tr>
<td>MT</td>
<td>metric tons</td>
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<tr>
<td>NAFRI</td>
<td>National Agriculture and Forestry Research Institute</td>
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<td>NBCAs</td>
<td>National Biodiversity Conservation Areas</td>
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<td>NBSAP</td>
<td>National Biodiversity Action Plan</td>
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<td>NESAC</td>
<td>Nepal South Asia Centre</td>
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<td>NFP</td>
<td>National Forest Program</td>
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<td>national forest reserve</td>
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<td>NGO</td>
<td>nongovernmental organization</td>
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<td>NPC</td>
<td>National Planning Commission</td>
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<td>NGPES</td>
<td>National Growth and Poverty Eradication Strategy</td>
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<td>NPEP</td>
<td>National Poverty Eradication Program</td>
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<td>NRM</td>
<td>natural resource management</td>
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<td>NrP</td>
<td>Nepalese rupee</td>
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<td>NTFP</td>
<td>non-timber forest product</td>
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<td>ODI</td>
<td>Overseas Development Institute</td>
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<td>OTSUS</td>
<td>Special Autonomy (Otonomi Khusus)</td>
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<td>PAFO</td>
<td>Provincial Agriculture and Forestry Office</td>
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<td>PCSSF</td>
<td>Papuan Civil Society Support Foundation</td>
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<td>Perdasus</td>
<td>special regional regulation (Peraturan Daerah Khusus)</td>
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<td>PESA</td>
<td>Panchayat Raj (Scheduled Areas) Act</td>
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<tr>
<td>PF</td>
<td>private forest</td>
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<td>PMO-RALG</td>
<td>Prime Minister’s Office-Regional Administration and Local Government</td>
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<td>PNG</td>
<td>Papua New Guinea</td>
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<td>PP</td>
<td>Implementing Regulations</td>
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<td>participatory rural appraisal</td>
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<td>PROFOR</td>
<td>Program on Forests</td>
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<td>PRS</td>
<td>poverty reduction strategy</td>
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<td>PRSP</td>
<td>Poverty Reduction Strategy Paper</td>
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<tr>
<td>RIM</td>
<td>Medium Term Plan (Rencana Jangka Menengah)</td>
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<td>RUPFOR</td>
<td>Resource Unit for Participatory Forestry</td>
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<td>SP</td>
<td>Woodworkers Union (Serikat Pekerja)</td>
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<td>ST</td>
<td>Scheduled Tribes</td>
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<td>ST</td>
<td>Scheduled Tribes</td>
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<td>SWAP</td>
<td>sectorwide approach</td>
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<tr>
<td>TAL</td>
<td>Terai Arc Landscape</td>
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<tr>
<td>TPTI</td>
<td>Indonesian selective cutting system (Tebang Pilih Tanam Indonesia)</td>
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<tr>
<td>VDC</td>
<td>village development committee</td>
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<td>VFMPC</td>
<td>Village Forest Management and Protection Committee</td>
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<td>VLFR</td>
<td>village land forest reserve</td>
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<td>WWF</td>
<td>World Wildlife Fund</td>
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<td>YBAW</td>
<td>Foundation for the Customary Development of Walesi (Yayasan Bina Adat Walesi)</td>
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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. It is estimated that 60 million indigenous people are totally dependent on forests, 350 million people are highly forest-dependent, and 1.2 billion are dependent on agroforestry (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

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).

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.

Linking Poverty Reduction, Livelihoods, and Forests
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, 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

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,
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**

**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; Sunderland et al. 2006).

**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 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 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. 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. 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

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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

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 dependence on forest resources differs according to many factors.

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 (NTPs) 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 fuel-wood 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 ngilik 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 ngilik 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
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.

**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-
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)5 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 expected to involve broad participation by civil society, the private sector, and bilateral, multilateral, and nongovernmental 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.

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.

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 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 AND FORESTS LINKAGES**
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.

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.

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

<table>
<thead>
<tr>
<th>Country</th>
<th>PRSP or other plan</th>
<th>National Name for the PRSP (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzania</td>
<td>PRSP</td>
<td>MKUKUTA*</td>
</tr>
<tr>
<td>Guinea</td>
<td>PRSP</td>
<td>National Growth and Poverty Eradication Strategy (NGPES)</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>PRSP</td>
<td></td>
</tr>
<tr>
<td>Indonesian Papua</td>
<td>PRSP</td>
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</tr>
<tr>
<td>Nepal</td>
<td>PRSP</td>
<td>Tenth Plan</td>
</tr>
<tr>
<td>India</td>
<td>Tenth Plan</td>
<td></td>
</tr>
</tbody>
</table>

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 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...
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.** 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.

**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 forest 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.

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 Sincéry-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. 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 lead 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

<table>
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<tr>
<th>Country</th>
<th>Forests in PRSP</th>
<th>Key Issues in Forests</th>
<th>Key Forest Issues Included in PRSP</th>
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<td>• Rural poor derive 25–30 percent of income from forest products</td>
<td>• Protection of forests</td>
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<td></td>
<td></td>
<td>• Forests important for domestic trade</td>
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<tr>
<td></td>
<td></td>
<td>• Timber and wood products not large part of export trade</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Lack of economic growth</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>Yes</td>
<td>• Forests are undervalued in GDP</td>
<td>• Need to ensure environmental sustainability</td>
</tr>
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<td></td>
<td></td>
<td>• Forests are degraded from unsustainable use</td>
<td>• Need to place forests in broader context of rural development</td>
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<td></td>
<td></td>
<td>• JFM has not resulted in poverty reduction</td>
<td>• Revise policy of JFNI to better address poverty reduction concerns</td>
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<td></td>
<td></td>
<td>• Dependence on forests, particularly for tribal communities</td>
<td>• Involve tribal communities in managing and benefiting from forests</td>
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<tr>
<td></td>
<td></td>
<td>• Interests of tribal communities marginalized</td>
<td>• Improve market strategies</td>
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<tr>
<td></td>
<td></td>
<td>• Market imperfection</td>
<td></td>
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<tr>
<td>Indonesian Papua (2004, full document not available)</td>
<td>Yes</td>
<td>• Lack of customary tenure in forested areas</td>
<td>• Calls for forest tenure reform</td>
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<tr>
<td></td>
<td></td>
<td>• Local conflict with timber companies</td>
<td></td>
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<td></td>
<td></td>
<td>• Increasing poverty in forest areas</td>
<td></td>
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<td></td>
<td></td>
<td>• High dependence on forest resources for livelihood</td>
<td></td>
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<tr>
<td>Lao PDR</td>
<td>Yes</td>
<td>• NTFPs are key source of livelihood</td>
<td>• Enhancement of local management of forest resources</td>
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<td></td>
<td></td>
<td>• Investment in marketing and local institutional development result in poverty reduction</td>
<td>• Participatory management and improved marketing of NTFPs</td>
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<td></td>
<td></td>
<td></td>
<td>• Rules for sustainable wood industry</td>
</tr>
<tr>
<td>Nepal (2003)</td>
<td>Yes</td>
<td>• Forests important as livelihood strategy</td>
<td>• Strategies to target the poor through leasehold forestry</td>
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<tr>
<td></td>
<td></td>
<td>• Community forestry important in poverty mitigation</td>
<td>• Emphasis on community forestry</td>
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<td></td>
<td></td>
<td>• Community forestry does not necessarily benefit the poorest of the poor</td>
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<td></td>
<td></td>
<td>• Lack of access to commercially valuable products, such as timber</td>
<td></td>
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<tr>
<td>Tanzania (2005)</td>
<td>Yes</td>
<td>• Forest products important for livelihood</td>
<td>• Forests are important for poverty reduction</td>
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<tr>
<td></td>
<td></td>
<td>• Forests undervalued in GDP</td>
<td>• Emphasis on community management of resources</td>
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<tr>
<td></td>
<td></td>
<td>• Local institutions important in forest restoration and sustainable management</td>
<td>• Importance of sustainable use of resources</td>
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<tr>
<td></td>
<td></td>
<td>• Need to improve markets</td>
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</table>

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

POVERTY AND FORESTS LINKAGES
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-forests 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.

REFERENCES


———. 2006. Unlocking Opportunities for Forest-Dependent in India (Vol 1). Washington, DC.


EXECUTIVE SUMMARY

A recent study by the World Bank indicates that forests offer huge potential for poverty reduction and rural economic growth in India, 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.

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.2

FIGURE 2.1

Source: The CIA World Factbook.

POVERTY AND FOREST LINKAGES
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. 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). 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

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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.
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-

![Graph showing GDP shares for forestry and logging, and agriculture in India from 1982 to 2001.](image)

**Sources:** World Bank (2005a), World Bank databases.
pely 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.6 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.
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 73rd Constitutional Amendment of 1992 supports the government of India’s goal for decentralization of governance through Panchayat Raj Institutions.\(^7\) 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;\(^8\) 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, particularly 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.

**POVERTY AND FORESTS LINKAGES**

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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 northeastern 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**

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

Overview of the Three Focal States and Tribal Characteristics

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 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 (CFM12), 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.13 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

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).
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 though 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 interrelated 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...
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

<table>
<thead>
<tr>
<th>Capital</th>
<th>Indicators</th>
<th>Source of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>1. Forest Dept. wages/capita (3-year rolling average)</td>
<td>1. Forest dept. records</td>
</tr>
<tr>
<td>Assets</td>
<td>2. Forest revenue/capita (3-year rolling average)</td>
<td>2. Forest dept. records</td>
</tr>
<tr>
<td></td>
<td>3. Number of kiosks selling consumer goods</td>
<td>3. Survey of kiosks</td>
</tr>
<tr>
<td></td>
<td>4. Average price of 5 most expensive items</td>
<td>4. Survey of kiosks</td>
</tr>
<tr>
<td>Physical</td>
<td>1. Number of pukka houses/capita</td>
<td>1. Observation/key informants</td>
</tr>
<tr>
<td>Assets</td>
<td>2. Number of houses with electrical service/capita</td>
<td>2. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>3. Number of motorcycles/capita</td>
<td>3. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>4. Number of functioning wells/capita</td>
<td>4. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>5. Average travel time (or cost) to nearest market</td>
<td>5. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>6. Area of irrigated land/capita</td>
<td>6. Records/key informants</td>
</tr>
<tr>
<td></td>
<td>7. Number of functioning tractors/capita</td>
<td>7. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>8. Number of functioning water pumps/capita</td>
<td>8. Observation/key informants</td>
</tr>
<tr>
<td>Natural</td>
<td>1. Standing volume of timber/capita</td>
<td>1. Forest dept. estimate</td>
</tr>
<tr>
<td>Assets</td>
<td>2. Area of productive fruit tree plantations/capita</td>
<td>2. Forest dept. estimate/key informants</td>
</tr>
<tr>
<td></td>
<td>3. Area of key NTFPs/capita</td>
<td>3. Forest dept. estimate/key informants</td>
</tr>
<tr>
<td></td>
<td>4. Number of livestock (in cattle equivalents)/capita</td>
<td>4. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>5. Average time spent collecting fuelwood per household per</td>
<td>5. Key informants</td>
</tr>
<tr>
<td></td>
<td>month</td>
<td>6. Key informants</td>
</tr>
<tr>
<td></td>
<td>6. Average time spent collecting water per household per</td>
<td>7. Forest dept. records</td>
</tr>
<tr>
<td></td>
<td>month</td>
<td>8. Forest dept. records</td>
</tr>
<tr>
<td></td>
<td>average)/capita</td>
<td>10. Key informants/village records</td>
</tr>
<tr>
<td></td>
<td>8. Value of annual firewood production/capita</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Value of annual NTFP (nationalized NTFPs) production/capita</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Annual rice production (kg.)/capita</td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>1. Infant mortality/capita</td>
<td>1. Village records/key informants</td>
</tr>
<tr>
<td>Capital</td>
<td>2. Number of deaths during dry season/capita</td>
<td>2. Village records/key informants</td>
</tr>
<tr>
<td></td>
<td>3. Percentage of school age children attending school</td>
<td>3. School records</td>
</tr>
<tr>
<td></td>
<td>4. Average age of school leaving</td>
<td>4. School records</td>
</tr>
<tr>
<td></td>
<td>5. Number of people who work outside village on a daily</td>
<td>5. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>basis/capita</td>
<td>6. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>6. Number of people that leave village to work outside for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>extended periods/capita</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>1. Proportion of adult population participating in VFMPC</td>
<td>1. VFMPC secretary</td>
</tr>
<tr>
<td>Capital</td>
<td>2. Proportion of VFMPC members who are women</td>
<td>2. VFMPC secretary</td>
</tr>
<tr>
<td></td>
<td>3. Number of VFMPC meetings and attendance</td>
<td>3. VFMPC secretary</td>
</tr>
<tr>
<td></td>
<td>4. Number of other citizens' groups active in the village</td>
<td>4. Observation/key informants</td>
</tr>
<tr>
<td></td>
<td>5. Collective selling of agricultural or forest products</td>
<td>5. Key informants/focus group</td>
</tr>
<tr>
<td></td>
<td>results in improved prices (yes/no)</td>
<td></td>
</tr>
</tbody>
</table>

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**

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:**

1. **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...
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.


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 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.

SUMMARY OF CASE STUDY—INDIA

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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EXECUTIVE SUMMARY

Nepal’s Tenth Plan (2002–2007) (Nepal/NPC 2003b) serves as Nepal’s Poverty Reduction Strategy Paper (PRSP)\(^1\) 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.

\(^{1}\) 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.

POVERTY AND FORESTS LINKAGES
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.

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 (NrP) 4,404 per person per year. 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 of the people fall below the poverty line. In the Terai, 42 percent fall below the poverty line. Remote and rural areas of the midwestern 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), *Picrohiza scrophulariflora* (kutki), *Rheum australe* (padamchal), *Swertia chirayita* (chiraita), *Valeriana jatamansi* (sug-anhwal), *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.

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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 NrP 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 NrP 1.9 billion a year. In 2002/03, protected areas in Nepal generated about NrP 60.9 million in revenue. 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.

POVERTY AND FORESTS LINKAGES

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).


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. 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.
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 NPR 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 con-
servation promotion and proper use of the forest
and environment. In other words, forestry will focus
on poverty by conserving and improving manage-
ment and use of forest products and benefits to
increase people’s income to alleviate poverty. Many
of the strategies mentioned focus on the environ-
ment. The social strategies include:

- developing livelihood opportunities for disad-
vantaged people living below the poverty line by
expanding leasehold forestry
- expanding community, leasehold, and collabora-
tive forests, and raising the participation and
access of poor, women, and disadvantaged com-
munities to these forests
- sustainable management and utilization of valu-
able NTFPs, promoting investment of the private
sector, and promoting exports
- developing community, leasehold, and partner-
ship 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 com-
munity forestry and leasehold forestry develop-
ment programs
- creating 44,027,000 workdays, and creating
12,000 jobs, of which 34,027,000 workdays
would be created in village areas through com-
munity forestry, collaborative forestry, and soil
and watershed management programs
- contributing to local autonomous rule by devel-
oping 20,000 participatory user groups (in com-
munity forestry, leasehold, watershed conserva-
tion, and biodiversity conservation), that will
have direct access in formulating user plans,
making decisions, implementing, and monitor-
ing 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 house-
holds in community forest consumer committees,
increasing the participation of women and disad-
vantaged people in forest-related activities and deci-
sion-making processes, and increasing opportuni-
ties 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 manage-
ment 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 conserva-
tion 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 partici-
pation 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),
which had prepared earlier Nepalese develop-
ment 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 prepa-
ration 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 rep-
resentatives from district development committees
(DDCs), municipalities, socially disadvantaged class-
es, major political parties, NGOs, CBOs, academia,
the private sector, women and ethnic minorities,
and remote areas. Two additional national consulta-
tions 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 acade-
mia, the private sector, ethnic minorities, disadvan-

d. 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. 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.

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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).8

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 VDCs9 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 (Siddartha 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.

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 fees seem 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 Npr 20 million. The TAL program provided about Npr 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,
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 NPr 700,000 provided by the TAL program, NPr 400,000 was used to build a 2.5 kilowatt microhydro plant. Electricity from this plant is distributed among the households from Barpokhari and Dhapkhola CFUGs. A portion was also used for electricity distribution to the members of Dhapkhola 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,

<table>
<thead>
<tr>
<th>Forest Products</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
<th>Group IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuelwood (bhari/month)</td>
<td>4.40</td>
<td>9.60</td>
<td>9.18</td>
<td>11.00</td>
</tr>
<tr>
<td>Fodder (bhari/day)</td>
<td>0.75</td>
<td>0.93</td>
<td>2.09</td>
<td>1.60</td>
</tr>
<tr>
<td>Grass (bhari/day)</td>
<td>1.50</td>
<td>1.33</td>
<td>1.91</td>
<td>2.10</td>
</tr>
<tr>
<td>Timber (cubic foot/year)</td>
<td>6.25</td>
<td>17.73</td>
<td>17.14</td>
<td>20.25</td>
</tr>
</tbody>
</table>


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 *tejpata* (*Cinnamomum tamala*), but it was discontinued due to lack of markets. It then started producing oil from *titepati* (*Artimesia indica* or mugwort). Farmers collect *titepati* from community forests and private land and sell it to the industry at NPr 2 per kilogram. About 600 kilograms are needed to produce 1 kilogram of oil. The price of *titepati* varies from NPr 2,300 to NPr 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*.


POVERTY AND FORESTS LINKAGES
livestock as a source of cash income plays a relative-
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)\(^\text{10}\) 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 

\(\text{10. Held in Nepal to elicit people’s opinion on whether they wanted 
multi-party or partyless democracy.}\)

rule 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 sig-
nificant increase the following year in thatch grass 
for the community. This helped people to under-
stand 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 

\(\text{11. Fallen sal trees command a minimum price of NRP 250 per cubic foot.}\)

cFUG varies from 3 to 1,486 hectares, and the num-
ber 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 conces-
sion price. Some CFUGs require user households to 
buy a coupon for collecting fodder or cut grass. The 
price of the coupon varies from NRP 5–10 per sea-
son; however, rules vary among CFUGs. For exam-
ple, 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 fuel-
wood for sale must pay NRP 15 for four Saturdays. 
These users can collect only one \(bhari\) on one 
Saturday. The market price of fuelwood is about NRP 
50–60 per \(bhari\). Rapti CFUG does not charge users 
for fodder and cut grasses. Poles for house construc-
tion are NRP 1 per pole and dead and fallen \(\text{sal}\) 
trees are NRP 50 per cubic foot. \(^\text{11}\) 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 mem-
bership fees, sale of forest products, and contribu-
tions from donor agencies. Rapti CFUG, which was 
identified as the highest-earning CFUG among 28 
CFUGs, collects about NRP 500,000 in annual 
income in years when timber is sold. Three CFUGs 
earn some money by supplying \(babriyo\) (sabai grass), 
a raw material used for paper production, to a paper 
factory (Bhrikuti Paper Mill) in Nawalparasi. Last

**TABLE 3.2**

*Use of Forest Products by Respondent Households in Lamahi*

<table>
<thead>
<tr>
<th>Forest Products</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
<th>Group IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Fuelwood (bhari/month)</em></td>
<td>5.69</td>
<td>6.82</td>
<td>8.00</td>
<td>3.33</td>
</tr>
<tr>
<td><em>Fodder (bhari/day)</em></td>
<td>0.11</td>
<td>0.60</td>
<td>1.50</td>
<td>0.57</td>
</tr>
<tr>
<td><em>Grass (bhari/day)</em></td>
<td>0.57</td>
<td>0.70</td>
<td>0.25</td>
<td>1.00</td>
</tr>
<tr>
<td><em>Timber (cubic foot/year)</em></td>
<td>4.11</td>
<td>2.25</td>
<td>8.00</td>
<td>17.00</td>
</tr>
</tbody>
</table>

year, the TAL program provided about NR$ 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 farwestern 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 income.
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 NrP 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 NrP 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.

**TABLE 3.3**

Use of Forest Products by Respondent Households in Mahadevpuri

<table>
<thead>
<tr>
<th>Forest Products</th>
<th>Quantity of Forest Products per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group I</td>
</tr>
<tr>
<td>Fuelwood (bhari/month)</td>
<td>12.17</td>
</tr>
<tr>
<td>Fodder (bhari/day)</td>
<td>0</td>
</tr>
<tr>
<td>Grass (bhari/day)</td>
<td>0.3</td>
</tr>
<tr>
<td>Timber (cubic foot/year)</td>
<td>0.67</td>
</tr>
</tbody>
</table>

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.12

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 the 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 750 million (approximately US$10 million) are extracted and sold. CFUGs earn about NR 914 million per year (US$12 million) from these products and other sources (fees, fines, grants) and expend about NR 450 million per year (US$6 million). Community forestry user groups spent 46 million NR (US$630,000) per year on employing local residents as forest watchers (often hiring the disadvantaged). Forestry, through CFUGs, contributed NR 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 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 Nrs25,000 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.

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 economic 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-

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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 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-

TABLE 3.4
Summary of Findings

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

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

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

REFERENCES


APPENDIX

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

EXECUTIVE SUMMARY

This case study highlights the importance of institutional arrangements in determining the outcomes of forest management. 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-
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.²

**Indonesia’s Forests³**

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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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).

³ This section is based upon the Ministry of Forests Web site (www.dephut.or.id) and on Wollenberg et al. (2004).
contest for forest control—and its associated pro-
fits—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, con-
flits 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 pri-
orities 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 cus-
tomary 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 under-
mining long-term investment by extractive indus-
tries. In areas such as Bintuni Bay, forestry land-use
maps have demarcated virtually no land for com-
munity management, but have instead assigned all
land either to commercial concessions or to protect-
ed areas (figure 4A.2, see appendix). In the absence
of negotiated land settlements, many concession-
aire are now struggling to provide post hoc compen-
sation 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 cus-
tomary 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 exacerbat-
ing vulnerability among local communities by tak-
ing away secure access to land and resources. The
ability of the Provincial Forestry Office to demon-
strate 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 substantially 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...
on which to hold companies accountable for unpaid timber royalties. 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 communities 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).

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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 Pemungutan 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.

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 IPKMA, 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

SUMMARY OF CASE STUDY—INDONESIAN PAPUA
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 sustainable 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

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).
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.

SUMMARY OF CASE STUDY—INDONESIAN PAPUA
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).\(^5\) 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.


**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 IPKMAs. 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
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.

SUMMARY OF CASE STUDY—INDONESIAN PAPUA
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

**POVERTY AND FORESTS LINKAGES**
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.

SUMMARY OF CASE STUDY—INDONESIAN PAPUA
REFERENCES


POVERTY AND FORESTS LINKAGES
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.

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.
EXECUTIVE SUMMARY

Natural resources in general are major sources of wealth and power in West Africa. 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.

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 (Sincery-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 (Foulal 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-

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<td><strong>Population Characteristics of Guinea</strong></td>
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<td><strong>Health:</strong></td>
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*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 *Guinea 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 *Isobertinia 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-
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). 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.

POVERTY AND FORESTS LINKAGES
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 included 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
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.

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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

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**BOX 5.2**

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 Fount 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

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 2006.³

INTRODUCTION TO THE CASE STUDY

Research Area

The Sinçery-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 Sinçery-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.⁴ 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 Sinçery-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).
Methods

The survey team was directed by a senior Guinean consultant with considerable experience in survey research, as well as work on a variety of NRM and forestry issues in West Africa. The data collection involved approximately four weeks of fieldwork, with surveys carried out in October 2004. Surveyors spent two to three days in total per village. The initial survey was conducted in one to two days, with follow-up visits to corroborate initial findings. Surveyors included selected personnel from local nongovernmental organizations collaborating with ENRMA, as well as professionals who participated in the PRSP surveys. All were fluent in the local language and familiar with forest, poverty, and rural issues. A week was spent field testing the semistructured questionnaire to refine its contents.

In addition to the semistructured questionnaire, data collection methods included in-depth, semi-structured interviews, informal conversational interviews, open-ended interviews, focus group discussions, open community meetings, direct observations, and participatory rural appraisal (PRA) techniques such as mapping, diagramming, and ranking. Groups targeted for data collection included national-level government officials involved in the PRSP process (DNEF, Ministry of Agriculture, Ministry of Finance and Economic Planning). Additionally, regional and local-level forestry officials and community leaders in selected communities were interviewed. Data was also collected from key community groups and associations, such as forest user groups, women’s groups, and youth groups. Households and individuals were also surveyed.

The main areas of data collection included the roles of forests and trees in meeting the subsistence and income needs of local people. In addition to determining the relative proportion of forest products marketed and used for household use, the economic value of forest products as a percentage of overall family income was estimated. Data was collected concerning the system of land tenure and right of access of local people to planning, manage-
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, néré 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 néré, 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

**SUMMARY OF CASE STUDY—GUINEA**
### TABLE 5.1
Zone-Specific Forest Product Information: Collectors, Users, Uses, and Importance

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

*Source: Authors’ compilation.*

### TABLE 5.2
Income from Selected Forest Products

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
<th>Quantity produced</th>
<th>Annual income (GF)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>Shea butter</td>
<td>40–65</td>
<td>10 liters</td>
<td>50 liters</td>
</tr>
<tr>
<td>Néré</td>
<td>10–25</td>
<td>10 kg</td>
<td>20 kg</td>
</tr>
<tr>
<td><em>Saba senegalensis</em></td>
<td>10–25</td>
<td>7 bags</td>
<td>15 bags*</td>
</tr>
</tbody>
</table>

*Source: Authors’ compilation.*

a. 50 kg each.
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: néré, 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 division 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). 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.

POVERTY AND FORESTS LINKAGES
REFERENCES


APPENDIX

TABLE A5.1
Wealth Ranking and Definition of Poverty

<table>
<thead>
<tr>
<th>Categories</th>
<th>Characteristics</th>
<th>Percentage of the category within the population</th>
</tr>
</thead>
</table>
| Rich            | ■ 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)  
■ Has food during 12 months of the year to feed family  
■ Has 10–50 domestic animals (cows, sheep, and/or goats)  
■ Has big family (1–4 wives and many children) as labor  
■ Has means of transportation (motorcycle or bike)  
■ Is healthy  
■ Has a concrete house  
■ Is able to pay school fees for children  
■ Can afford to buy medicine for family  
■ Has many internal and external interpersonal relationships | 5–10 |
| Middle rich     | ■ Has at least 2 ha of land  
■ Has one wife  
■ Has food for most of the time in a year  
■ Has a few domestic animals  
■ Does not have a means of transportation  
■ Cannot cover all the school fees for children  
■ Cannot afford to buy drugs for family  
■ Does not have any savings | 20–35 |
| Poor            | ■ Has someone who is sick in family  
■ Does not have enough food on daily basis  
■ Barely meets needs  
■ Does not own land  
■ Is illiterate  
■ Does not have any interpersonal relationships  
■ Does not have a wife  
■ Lacks courage and initiatives | 50–65 |
| Chronic poor    | ■ Has someone in family who is mentally ill or blind  
■ Has no possessions  
■ Depends on other people to live  
■ Lacks motivation  
■ Is handicapped  
■ Is leprous | 10–40 |

Source: Authors’ compilation.

POVERTY AND FORESTS LINKAGES
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.1 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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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 interventions 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.2

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\(^3\) 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 (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

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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.
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**

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

*Source: WFP 2004.*
LAO PDR’S PRSP: NATIONAL GROWTH AND POVERTY ERADICATION STRATEGY

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.

SUMMARY OF CASE STUDY—LAO PDR

THE PILOT SITE OF BAN NAMPHENG AND THE NTFP PROJECT

Ban Nampheng is a small village of some 50 households located in Oudortixai 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\(^5\) 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.

\(^5\) 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

<table>
<thead>
<tr>
<th>Intervention &amp; Purpose</th>
<th>Key Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village rice bank: 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</td>
<td>Replaced the need to overexploit NTFP resources and sell too cheaply to traders because of loans taken to buy rice</td>
</tr>
<tr>
<td>Forest land allocation and collaborative management: 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</td>
<td>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</td>
</tr>
<tr>
<td>Marketing groups: An organization was established that developed agreed rules for harvesting and selling bitter bamboo shoots (Indosas sinensis) and cardamom pods (Amomum spp.). The organization also created and managed a NTFP development fund generated through a locally applied tax of 10% on NTFP sales</td>
<td>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. A successful village development fund was created. The organization continued to facilitate further development of marketing strategies and facilities.</td>
</tr>
<tr>
<td>Grading and processing: Capacity was built for adding value to cardamom pods (Amomum spp.) used in the production of Chinese medicine</td>
<td>Significant increase in income from cardamom sales occurred because of improvements in the quantity and quality of the product through drying and grading</td>
</tr>
<tr>
<td>Drinking water supplies: A local drinking water supply scheme was established</td>
<td>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</td>
</tr>
<tr>
<td>Women’s savings group: An additional organization was created to encourage the effective use of additional cash circulating in the village</td>
<td>Provided credit for local initiatives and strengthened collaboration within the village</td>
</tr>
<tr>
<td>Domestication of important NTFP species: Planting trials were undertaken for three NTFP species, paper mulberry (Broussonetia papyrifera), cardamom (Amomum spp.), and eaglewood (Aquilaria spp.)</td>
<td>A marginal increase in the resource base and some raised awareness about the concept of domestication generally occurred</td>
</tr>
</tbody>
</table>

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 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. The next most important source of cash income is animal husbandry (20 percent), followed by cash cropping of sesame seeds and corn (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

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).
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 officials 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

### SUMMARY OF CASE STUDY—LAO PDR

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

<table>
<thead>
<tr>
<th>Development indicators</th>
<th>1996</th>
<th>2002</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food security</td>
<td>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</td>
<td>Now rice is “not much worry” and no longer need to hire out labor or cut timber</td>
<td>Secure</td>
</tr>
<tr>
<td>Child mortality (under 5)</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Illnesses</td>
<td>Malaria, diarrhea, and lung infection (for elderly)</td>
<td>Same illnesses, but now able to access medical services and purchase medicines</td>
<td>Same illnesses, but now able to access medical services and purchase medicines</td>
</tr>
<tr>
<td>Formal education</td>
<td>30 children</td>
<td>67 children</td>
<td>67 children</td>
</tr>
</tbody>
</table>
| Agriculture & forestry | ■ 0 hectares of paddy rice  
■ 45 hectares of upland cultivation  
■ Forests not allocated | ■ 5 hectares of paddy rice  
■ 30 hectares of upland cultivation  
■ 515 hectares of allocated forest | ■ 10 hectares of paddy rice  
■ 30 hectares of upland cultivation  
■ 520 hectares of allocated forest  
■ 5 hectares of fruit orchards  
■ 4 fish ponds |
| Animal husbandry       | ■ 60 cattle  
■ 10 buffalo  
■ 13 goats  
■ 30 pigs  
■ 100 poultry | ■ 28 cattle  
■ 12 buffalo  
■ 55 goats  
■ 40 pigs  
■ 200 poultry | ■ 17 cattle  
■ 19 buffalo  
■ 12 goats  
■ 120 pigs  
■ +1,000 poultry |
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

POVERTY AND FORESTS LINKAGES
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
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

POVERTY AND FORESTS LINKAGES
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.

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 Oudamxai 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.

POVERTY AND FORESTS LINKAGES
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 villages, 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.
REFERENCES


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. 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.

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 northwestern Tanzania, where the HASHI2 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 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).

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 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.
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 (VLFRs) 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, nongovernmental, 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).
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 ccess) 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 (Salim 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 MKUKUTA4 (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 unsus-

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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, agro-forestry 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 community 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...
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 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.

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.

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5. The other three regions are Lindi, Singida, and Mara.
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”). 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 developed...
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 ngitiili 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 ngitiili enclosures. Some of the restored ngitiili dated back to the days before villagization, and others were newly created by farmers and villages. In addition to restoring ngitiili, 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 ngitiili (Barrow and others 1988).

Armed with this powerful combination of traditional and scientific knowledge, villages across Shinyanga gradually revitalized the institution of ngitiili 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 ngitiili 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 ngitiili 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 ngitiili and decide disputes regarding individually owned ngitiili, 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 ngitiili 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 ngitiili 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 ngitiili. 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 ngitiili had been restored or created in 833 villages, encompassing a population of 2.8 million (Barrow and Mlenge 2004). Roughly half of the ngitiili 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 ngitiili-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. 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 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.

7. Unless otherwise noted, this section is based on Ghazi and others 2005.
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 co-managed 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 co-management 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.

SUMMARY OF CASE STUDY—TANZANIA
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). 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.

REFERENCES


London: International Institute for Environment and Development (IIED) and IUCN.


FIGURE A7.1
Institutional Arrangements for Forest Management

Forestry and Beekeeping Administration

Organogram depicts lines of reporting.

(a) District-level forestry officials report to the national level (Ministry of Local Government) via district-level authorities.

(b) They communicate only very indirectly (dotted lines) to the Director of Forestry and Beekeeping and the Ministry of Natural Resources and Tourism.

Source: Authors’ research.
**TABLE A7.1**  
Summary of Forestry-Related Goals and Strategies in the National Strategy for Growth and Reduction of Poverty

<table>
<thead>
<tr>
<th>Cluster 1: GROWTH AND REDUCTION OF INCOME POVERTY</th>
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<tbody>
<tr>
<td><strong>Goal 2</strong>: Promoting sustainable and broad-based growth</td>
<td><strong>Strategy</strong>: Protect property rights, reduce environmental damage, and improve production and productivity in energy, industry, agriculture, fisheries, forestry, tourism, communications, transport, and so on.</td>
</tr>
<tr>
<td><strong>Goal 2</strong>: Promoting sustainable and broad-based growth</td>
<td><strong>Strategy</strong>: 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.</td>
</tr>
<tr>
<td><strong>Goal 4</strong>: Reducing income poverty of both men and women in rural areas</td>
<td><strong>Strategy</strong>: Ensure sustainable management of water catchment areas and maintenance of forest cover in critical highland catchment areas.</td>
</tr>
<tr>
<td><strong>Goal 4</strong>: Reducing income poverty of both men and women in rural areas</td>
<td><strong>Strategy</strong>: Develop programs for increasing local control and earnings in wildlife management areas and establish locally managed natural resource funds, tapping into local traditional knowledge.</td>
</tr>
<tr>
<td><strong>Goal 5</strong>: Reducing income poverty of both men and women in urban areas</td>
<td><strong>Strategy</strong>: Ensure sustainable natural resource use to ensure energy supplies are maintained (forests, water catchments, and charcoal industry).</td>
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<tr>
<th>CLUSTER 2: IMPROVEMENT OF QUALITY OF LIFE AND SOCIAL WELL-BEING</th>
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<tr>
<td><strong>Goal 1</strong>: Increased access to clean, affordable, and safe water, sanitation, decent shelter, and a safe and sustainable environment, thereby reduced vulnerability from environmental risk.</td>
<td><strong>Strategy</strong>: Sustainable management of catchment forest areas.</td>
</tr>
<tr>
<td><strong>Goal 1</strong>: Increased access to clean, affordable, and safe water, sanitation, decent shelter, and a safe and sustainable environment, thereby reduced vulnerability from environmental risk.</td>
<td><strong>Strategy</strong>: 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.</td>
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<th>CLUSTER 3: GOVERNANCE AND ACCOUNTABILITY</th>
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<td><strong>Goal 1</strong>: Structures and systems of governance as well as the rule of law are democratic, participatory, representative, accountable, and inclusive.</td>
<td><strong>Strategy</strong>: 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.</td>
</tr>
<tr>
<td><strong>Goal 1</strong>: Structures and systems of governance as well as the rule of law are democratic, participatory, representative, accountable, and inclusive.</td>
<td><strong>Strategy</strong>: Develop effective mechanisms to ensure equitable access and use of environment and natural resources, especially for poor and vulnerable groups.</td>
</tr>
</tbody>
</table>

*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.