Republic of Uganda

The NATIONAL FOREST PLAN

Ministry of Water, Lands and Environment

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Foreword

Government is concerned with sustainable use and management of forests and other natural resources and has actively participated in the United Nations Commission for Sustainable Development (CSD), Intergovernmental Panel on Forests (IPF), and in 1996 undertook a consultative process on national forest and land use programmes in support of the IPF.

Government has already put in place new policies and macro plans that have influenced the forestry sector reform process. My Ministry is committed to supporting the various reforms in the sector, including policy, legal and institutional reforms that aims at creating efficient and transparent systems for management of the forest resources.

The Uganda Forestry Policy (2001) offers the needed guide and identifies the various categories of stakeholders that will contribute to the development of forestry in Uganda. A participatory, cross-sectoral approach will always be promoted to enable the contribution of the government and non-governmental organisations and institutions in the development of the forest sector. The private sector is increasingly playing an important role in promoting forestry, and an enabling environment will be created to enhance their performance.

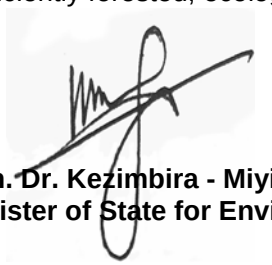
The National Forest Plan has been developed to implement the Policy through a long consultative process involving activities of multi-disciplinary working groups, four regional stakeholder consultations in Kampala, Mbale, Lira and Mbarara, and focus group discussions with and comments from various institutions, organisations, the civil society and individuals. A lot of effort has been directed at developing strategies that address all the policy statements.

The NFP demonstrates the contribution of forestry to people's livelihoods. There has been a deliberate effort to ensure that throughout the seven NFP programmes pro-poor strategies are developed for the improvement of their livelihoods. Also important was the mainstreaming of gender and HIV/AIDS concerns in the forestry sector.

The new institutional landscape that has resulted from the NFP process is in line with the decentralisation policy and other government plans. The NFP makes very clear on the roles and responsibilities of the central government, local governments, the private sector, NGOs and CBOs, and the local communities. This will make the implementation of the Plan easier, once each stakeholder identifies and takes up the relevant roles.

I wish to thank all those who contributed towards the development of this Plan. My special gratitude goes to our Partners in Development, particularly UK's Department for International Development (DFID), the Norwegian Agency for Development (NORAD), and the German Technical Co-operation (GTZ) for the provision of the needed funds that steered the planning process to great success.

I request individuals, communities, government and non-government institutions and the civil society to implement this National Forest Plan so as to contribute to our vision of "a sufficiently forested, ecologically stable, and economically prosperous Uganda".



Hon. Dr. Kezimbira - Miyingo Lawrence
Minister of State for Environment

Acronyms

AAC	Annual Allowable Cut
AAS	African Academy of Sciences
ACODE	Advocates Coalition for Development and Environment
AFRENA	Agroforestry Research Network for Africa
ARDC	Agricultural Research and Development Centre
AGOA	African Growth and Opportunities Act
C&I	Criteria and Indicators
CBG	Capacity Building Grant
CBO	Community Based Organisation
CBR	Centre for Basic Research
CC	Co-ordination Committee
CDM	Clean Development Mechanism
CDRN	Community Development Research Network
CFM	Collaborative Forest Management
CFR	Central Forest Reserve
CITES	Convention on International Trade in Endangered Species
COMESA	Common Market for Eastern and Souther Africa
CSD	United Nations Commission on Sustainable Development
CSO	Civil Society Organisation
DDP	District Development Programme
DFID	British Department for International Development
DFO	District Forest Officer
EAP	Environmental Action Plan
EC	European Commission
EIA	Environment Impact Assessment
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FD	Forestry Department
FFNC	Faculty of Forestry and Nature Conservation
FID	Forestry Inspection Division
FMA	Forest Management Area
FORRI	Forest Resources Research Institute
FR	Forest reserve
FSUP	Forest Sector Umbrella Programme
FY	Financial Year
GDP	Gross Domestic Product
GEF	Global Environment Facility
GoU	Government of Uganda
HIPC	Highly Indebted Poor Country
ICRAF	International Centre for Research in Agroforestry
IFF	Intergovernmental Forum on Forests
IFPRI	International Food Policy Research Institute
IPF	Intergovernmental Panel on Forests
IRR	Internal Rate of Return

ITFC	Institute of Tropical Forest Conservation
IUCN	International Union for the Conservation of Nature
KCC	Kampala City Council
LC	Local council
LDG	Local Development Grant
LFR	Local Forest Reserve
LG	Local Government
LGDP	Local Government Development Programme
LGFC	Local Government Finance Commission
LSSP	Land Sector Strategic Plan
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MAI	Mean Annual Increment
M&E	Monitoring and Evaluation
MES	Ministry of Education and Sports
MEMD	Ministry of Energy and Mineral Development
MFPED	Ministry of Finance, Planning and Economic Development
MGLC	Ministry of Gender, Labour and Community Development
MISR	Makerere Institute of Social Research
MLG	Ministry of Local Government
MJ	Ministry of Justice
MPS	Ministry of Public Service
MTEF	Medium Term Expenditure Framework
MTTI	Ministry of Tourism, Trade and Industry
MUIENR	Makerere University Institute of Environment and Natural Resources
MUK	Makerere University, Kampala
MWLE	Ministry of Water, Lands and Environment
NAADS	National Agricultural Advisory Services
NARO	National Agricultural Research Organisation
NBS/C	National Biomass Study/Centre
NBSAP	National Biodiversity Strategic and Action Plan
NCDC	National Curriculum Development Centre
NCMP	Nature Conservation Master Plan
NCST	National Council of Science and Technology
NEAP	National Environment Action Plan
NEMA	National Environment Management Authority
NFA	National Forestry Authority
NFC	Nyabyeya Forestry College
NFP	National Forest Plan
NGO	Non-Governmental Organisation
NORAD	Norwegian Agency for Development
NP	National Park
NPFL	National Plan for Functional Literacy
NR	Nature Reserve
NTC	National Teachers College
NTSC	National Tree Seed Centre
NURRU	Network of Ugandan Researchers and Research Users
NWFP	Non-Wood Forest Product

PAAP	Protected Areas Assessment Programme
PAF	Poverty Action Fund
PEAP	Poverty Eradication Action Plan
PFE	Permanent Forest Estate
PMA	Plan for Modernisation of Agriculture
PRSC	Poverty Reduction Support Credit
PSRP	Public Sector Reform Programme
PTA	Parent Teachers Association
SME	Small and Medium Enterprise
SP	Service Provider
THF	Tropical High Forest
TSS	Technical Services Section
UBOS	Uganda Bureau of Statistics
UCC	Uganda College of Commerce
UFIDA	Uganda Forest Industries Development Association
UIA	Uganda Investment Authority
UNCED	United Nations Conference on Environment & Development
UNFA	Uganda National Farmers Association
UNHS	Uganda National Household Survey
UPE	Universal Primary Education
UPPAP	Uganda Participatory Poverty Assessment Project
URA	Uganda Revenue Authority
URDT	Uganda Research and Development Training
UUAA	Uganda Urban Authorities Association
UWA	Uganda Wildlife Authority
VAT	Value Added Tax
VECO	Vredeseilanden Coopibo
WANDA	Women's Advocacy Network for Development of Agriculture
WB	World Bank
WID	Wetlands Inspection Division (MWLE)
WPASP	Wildlife Protected Area Systems Plan
WR	Wildlife Reserve

Executive Summary

Introduction

The National Forest Plan

The National Forest Plan (NFP) is the sectoral plan for forestry development in Uganda that was developed through an extensive consultative process. It provides a framework for implementing the March 2001 Forestry Policy, which sets out new policy directions based on a consensus across the sector. The NFP is a strategic document that describes the long-term vision for the forest sector and the reforms needed in its leading institutions. It also includes an investment programme based on a series of activities and measurable outputs. The NFP is a rolling plan that will be regularly reviewed to fit into the Medium Term Expenditure Framework (MTEF) and budget cycle of the Ministry of Finance, Planning and Economic Development.

The importance of forestry in Uganda

Millions of Ugandans depend on forests and trees

Forestry is crucial to the lives of millions of Ugandans, especially the poorest sections of society. The dependence of poor people on forest resources, and their ability to improve their livelihoods through forestry, has not been adequately recognised in Uganda until now. The poorest 35% of the population who live below the poverty line are mostly rural, mostly marginalised (unemployed youth, women, elderly), mostly unable to buy or grow fuelwood, mostly without land or productive assets, and thus depend heavily on access to forest resources for their survival.

About 2.7 million people (15% of the population) live in parishes that neighbour forest reserves, which provide sources of many forest products and services. Many people from 2 or even 3 parishes away also use these resources, and another 6 million people live within access of the many private forests in the country (70% of the total forested area of Uganda). Away from forested areas, many millions more farmers use trees on-farm, for firewood, poles or as part of their farming systems. Over three-quarters of all villages in Uganda are involved in selling some tree products, mainly poles, timber, fuelwood and charcoal, and mainly marketed on-farm and not in town markets. Forestry thus forms part of the livelihood of the great majority of Ugandans, mostly in the informal economy and not recorded in official statistics.

Direct benefits from forests and trees

Forests and trees provide numerous direct benefits to poor people, in the form of energy, food, employment, incomes, quality of life and reduced vulnerability to shocks and stresses:

- Forests provide **incomes** through employment or the sale of forest products (work equivalent to about 850,000 jobs, 100,000 as full-time wage earners, others earning about UShs 66 billion per year from the sale of non-timber forest products, up to UShs130,000 per household).
- Fuelwood **energy** is the major source of energy for domestic cooking, heating and lighting in the country (90% of Ugandans use fuelwood as their main or only source of energy, consuming 16 million tonnes each year as domestic firewood and 4 million tonnes as charcoal).

- Forest products are some of the most important **free goods** produced in nature (providing shelter and food security that are critical to poor subsistence households, especially children and the elderly).
- Forests provide **safety nets** against shortages of food, fuel and income and against ill-health (especially important at times of natural or economic shocks that perpetuate vulnerability and poverty).
- Cultural and **spiritual values** of forests enhance social capital and the sense of well-being (providing the basis for many religious beliefs and much traditional knowledge).

Environmental benefits from forests and trees

Forests and trees provide agricultural support and environmental services in ways that are taken for granted or poorly understood. A diverse natural environment provides a range of services from soil and water conservation to pollination and pest control. A regular supply of clean water and soil fertilisation are major services provided by forests and trees which are especially important to the poor, as they cannot afford alternatives such as piped water or fertilisers. Because these services are "free" they are undervalued, and without investment and protection, they are disappearing:

- Forests protect **watersheds** (maintaining constant water supply and supporting productive agriculture and fisheries – for over 3 million around the Rwenzori Mountains and Mt. Elgon alone, although forest destruction over the last decade has led to decreased water flows in many streams from these mountains).
- Forests and trees protect and improve **soils** and substantially increase crops yields (on average 14 cm more topsoil on forested hillsides, trees can add up to 150kg of nitrogen per hectare, increasing maize yields up to 5 times while also producing 25 tonnes of firewood per hectare, enough fuelwood for 7 families for a year).
- Forests improve local, regional and global **climates** (influencing microclimate and possibly local rainfall patterns, supporting agriculture, absorbing carbon from the atmosphere).
- Forests contain a rich **biodiversity** of national and international importance (Uganda is one of the most species-rich countries in the world for its size, with strong tourism potential and considerable economic value for medicines and agricultural crops).

Forests are declining

FAO estimates that forest cover in Uganda has halved during the past century, and currently is shrinking at a rate of 55,000 ha per year. Others estimate the rate of land clearance to be between 70,000 and 200,000 ha per year. The combined effects of deforestation and high consumption result in an accelerating imbalance between national demand and supply of forest products. Even under the most optimistic scenario, Uganda moved into net national fuelwood deficit in the year 2000. This decline will particularly affect the poorest Ugandans, who are least able to respond to shortages, choose alternative livelihoods or accommodate the loss of natural assets and safety nets.

Tropical High Forests are particularly important as they provide disproportionately high values of forest products, environmental services and biodiversity. The quality of the Tropical High Forest has declined over time, losing productive capacity and biodiversity. Well over 30% of the THF is now degraded, with private forests shrinking more rapidly than forests managed by the government.

The major factors in the loss of forest cover and forest degradation are conversion of forest into agricultural and grazing land, and over-harvesting for firewood, charcoal, timber and non-wood forest products. The cause of these is often market failure or institutional failures. Deforestation has caused an increase in fuelwood costs and in some areas triggered more

investments in tree growing. However, markets fail to respond to loss of environmental values such as soil and water – individuals do not bear the costs. Above all, the current institutions and governance structures in the forest sector are unable to regulate the use of forest resources or facilitate the working of pro-poor policies and programmes.

The main features of the NFP focus on reforming and strengthening the institutional framework of the sector, so as to maximise its contribution to poverty eradication and environmental sustainability.

Complementary national processes

The NFP has been developed within the framework of a number of new government policies, plans and processes. The main frameworks are the Poverty Eradication Action Plan (PEAP) for addressing poverty in Uganda, the Public Sector Reform Programme (PSRP) for the divestment of government civil service departments, the Local Government Development Programme for the decentralisation of planning and budgeting, and the Plan for Modernisation of Agriculture (PMA) for eradicating rural poverty through agricultural transformation.

The NFP is consistent with these development processes, and contributes substantially to the strategic objectives of the PMA and the PEAP.

Goal and objectives of the NFP

Vision

"A sufficiently forested, ecologically stable and economically prosperous Uganda".

In this vision, Ugandans aspire to have sustainably managed forests, woodlands and trees, providing ecological and social services, producing economic benefits for present and future generations of Ugandans, and making a contribution to the global community. They aspire to have a wider range of types of ownership, increased access and management of forest resources, involving government, local communities, the private sector and non-governmental organisations. All of these will make a significant contribution to poverty eradication.

Goal

"An integrated forest sector that achieves sustainable increases in economic, social and environmental benefits from forests and trees by all the people of Uganda, especially the poor and vulnerable".

NFP objectives

The objectives of the NFP focus on poverty eradication, economic development and sustainable forest resource management, and will contribute directly to the 4 Pillars of the PEAP:

- to raise the **incomes and quality of life** of poor people through forestry developments, targeting sustainable livelihoods amongst small-scale, mainly rural stakeholders, with strategies based on-farm, in natural forests or off-farm
- to increase **economic productivity and employment** in forest industries, targeting large-scale, commercial investors, with strategies based mainly on plantation forestry and wood processing

- to achieve **sustainable forest resource management**, targeting local, district, national and international interests in biodiversity and environmental conservation

Uganda Forestry Policy (2001)

The Uganda Forestry Policy (2001) sets out the following policy objectives, which the NFP will turn into action:

1. The **Permanent Forest Estate** under government trusteeship will be protected and managed sustainably
2. The development and sustainable management of **natural forests on private land** will be promoted
3. Profitable and productive **forestry plantation** businesses will be promoted
4. A modern, competitive, efficient and well-regulated **forest products processing industry** will be promoted in the private sector
5. **Collaborative partnerships** with rural communities will be developed for the sustainable management of forests
6. **Tree-growing on farms** will be promoted in all farming systems, and innovative mechanisms for the delivery of **forestry advisory services** will be developed
7. Uganda's **forest biodiversity** will be conserved and managed in support of local and national socio-economic development and international obligations
8. **Watershed protection forests** will be established, rehabilitated and conserved
9. **Urban forestry** will be promoted
10. The government will support sustainable forest sector development through appropriate **education, training and research**
11. Innovative mechanisms for the supply of **high quality tree seed and improved planting stock** will be developed

Beneficiaries

The target beneficiaries of the NFP are the large cross-section of Ugandans who are dependent on forest resources for their livelihoods. In particular the focus is on the poorest, on women and the youth, and on providing services and enabling conditions for enhancing their livelihoods. Attention is also given to larger scale business development that will create employment and wider economic growth.

- **Small-scale rural producers and users** include tree farmers, users and processors of non-wood forest and tree products, pastoralists, forest dwellers, brick and lime makers, fish dryers, commercial nursery operators and seed producers.
- **Larger-scale commercial producers and users** include tobacco growers, tea and sugar estates, private timber producers and natural forest owners, and those who grow trees for carbon fixation.
- **Wood processors** include charcoal makers, commercial fuelwood and charcoal traders, pitsawyers, sawmillers, timber traders, plywood manufacturers, carpenters, joiners and artisans.
- **Institutional producers and consumers** include the government (FD, UWA and local governments), religious and traditional institutions, urban consumers and institutional users, and the building and tourism industries.

NFP programmes

Seven NFP programmes of action have been identified in order to achieve the NFP's objectives, focussing on the sector's leading institutions. These programmes are:

Programme 1 – Enabling Institutions

The line Ministry effectively co-ordinates, guides and supervises the sector's development.

The capacity of the Ministry of Water, Lands and Environment (MWLE) will be strengthened to co-ordinate, guide, inform and monitor the forest sector's development. This will improve sectoral policies, standards and legislation, and co-ordinate the implementation of the NFP. The Forestry Inspectorate of MWLE will monitor the NFA through a performance contract, and guide and assist forestry developments in the districts.

The Ministry of Energy and Mineral Development (MEMD) will develop and implement strategies for biomass energy conservation, focussing on households, charcoal producers and industrial consumers.

Civil society will have an important role to advocate and reflect public concerns in forestry.

Programme 2 – National Agencies

The National Forestry Authority, local governments and communities develop effective partnerships for the management of the forest reserves.

The Forestry Department will be divested and a new National Forestry Authority will be created. The NFA will have a clear mandate to provide a more efficient management of the Central Forest Reserves, in partnership with local governments, forestry businesses and local communities. This will improve protection and biodiversity conservation, increase investments in planting and harvesting, and provide benefits to local communities through collaborative forest management agreements.

The NFA will also deliver services such as advice, training, information and seed supply on a contracted basis, and develop stronger links with UWA. Local governments will increasingly take on responsibility for forest reserves as their capacity is built, under a managed decentralisation process whereby Central Forest Reserves can be reclassified as Local Forest Reserves.

Programme 3 – District Forestry Services

Local governments, service providers and farmers organise improved forestry support services.

Forestry activities outside the Central Forest Reserves will also be decentralised to local governments. Districts will be helped to organise forestry developments. These will include supervision of forestry advisory services, the development of bye-laws, collection of forestry taxes, and the promotion of forestry within the district. Forestry will be integrated into the District Development Planning process, with enhanced participation of local communities in managing government and private forest resources.

Forestry advisory services will be reformed and delivered through the National Agricultural Advisory Services (NAADS) to respond to poor people's priorities. Farmers and others will demand forestry advice, training and information in community-based plans, and qualified service providers will supply these services under NAADS contracts. The kinds of services

delivered will be broadened to include help with forming groups or organisations, and with business development skills as well as technical skills.

District-based forestry grants will encourage tree growing in the public interest in environmentally sensitive areas such as hillsides and riverbanks. These approaches will improve agroforestry, and the management of private natural forests and watersheds.

Programme 4 – Private sector development

The private sector develops efficient and profitable commercial forestry businesses.

Private forestry businesses will be encouraged to build their business skills and take a more active role in the investment and management of forest resources. Access to land for forestry will be improved, through more transparent and legally secure harvesting and planting concessions in forest reserves. A private sector Plantation Development Fund will give access to long-term finance for developing timber plantations. Market-based pricing will be introduced through competitive bidding for harvesting concessions.

Programme 5 – Urban forestry

Urban authorities ensure increased tree growing in urban areas.

Urban authorities will promote the greening of urban environments. This will be done through better urban planning, the mobilisation of building contractors and other businesses, setting standards for urban nurseries and organising advice and training support.

Programme 6 – Forestry research

Research institutions meet the needs of forestry producers and users for new information and technologies.

Forestry research will be strengthened through the Forestry Resources Research Institute of the National Agricultural Research Organisation (NARO). Research and technology development, including agroforestry and forest management, will respond to the priorities of forest producers and users expressed through local planning processes. The Agricultural Research and Development Centres (ARDCs) and agroforestry research networks will be strengthened, to provide information, training and demonstration services, as well as technology developments.

Programme 7 – Forestry education

Education and training institutions enhance professional and vocational forestry skills.

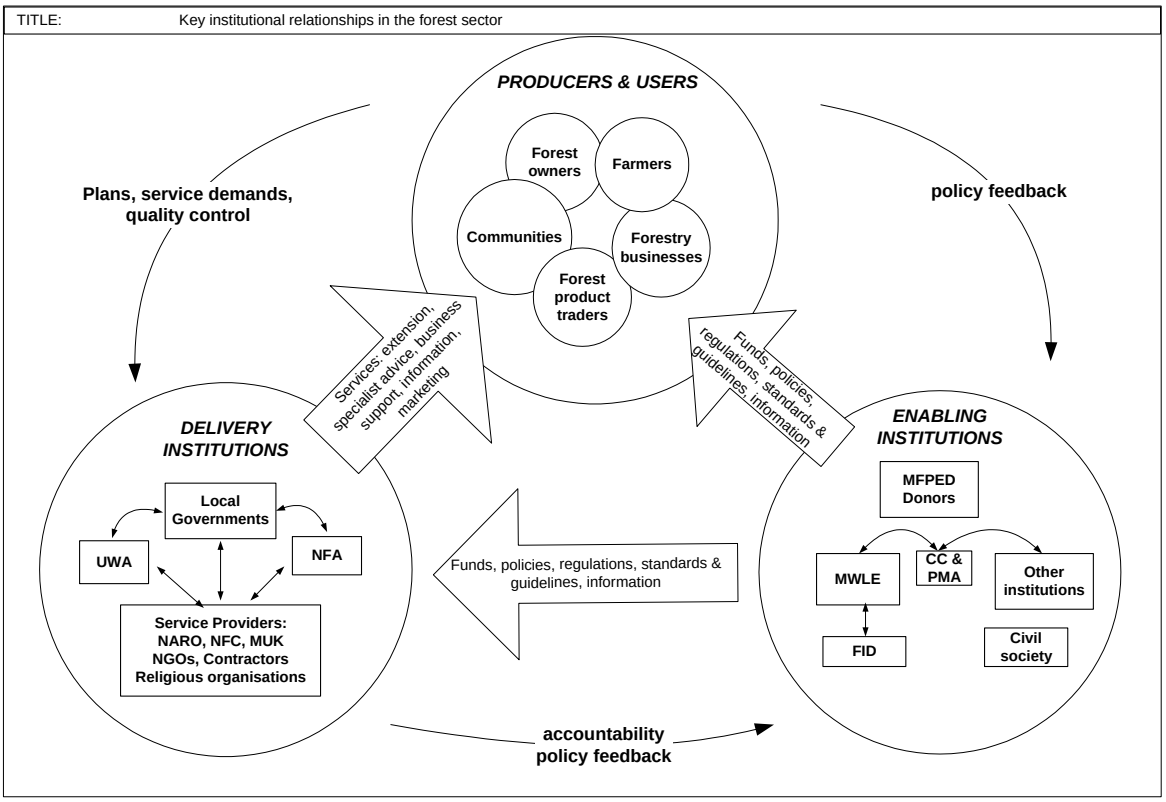
Forestry education and professional development in the sector will be strengthened through colleges and universities and the Ministry of Education and Sports (MoES). They will focus on improving the teaching curriculum in schools and higher education institutions, supporting these institutions and targeting vocational training programmes in forestry.

Responsibilities for the NFP

Responsibilities for the seven programmes focus on key institutions. These are (1) MWLE and MEMD, (2) NFA, UWA and local governments, (3) local governments, NAADS and local community institutions, (4) private sector associations and businesses, (5) urban authorities, (6) NARO and (7) MoES. These programmes allow a practical approach to implementation of the NFP, the participation of civil society, priority strategies and actions to be set, and the poorest groups and geographical areas to be targeted. Subject to adequate funding through

the MTEF allocations to these institutions, all will make significant contributions to PMA and PEAP objectives.

The following diagram summarises the relationships between and among these main stakeholders.



Impacts of the NFP

The achievement of the NFP's objectives of poverty eradication, economic growth and sustainable resource management will be measured in two ways, progress and impact. Progress in implementation will be measured for each of the seven NFP programmes, for which a set of indicators will be developed, measured and updated during the annual review and budgeting process. The impact will be measured according to the contribution made by NFP to the 4 pillars of the PEAP.

The indicators of impact of the NFP will be measured in the following areas:

Economic Growth and Transformation (pillar I): the NFP will increase commercial investment, value addition and quality standards in forestry businesses, which will lead to increased employment and higher contributions from the forest sector to GDP. The strategies are to remove constraints on investment such as land and tree seed, to improve the investment climate with greater transparency and security of tenure, to provide information on markets and prices, economic incentives through a Plantation Development Fund, and skills training and advice.

Good Governance and Security (pillar II): the NFP will increase the level of participation by civil society and the poorest in decision making, and develop accountable and democratic institutions to improve decision-making and management of forest resources for the benefit of the poor. Areas of forest under secure management by the NFA, local governments, the private sector and local communities will increase. The key strategies in the NFP are to promote community-based participatory planning, to support the NFA, NAADS and reforms in local government and community institutions, to develop collaborative management agreements with local communities for the management of forest reserves, to increase access to information, to develop pro-poor regulations and guidelines, and to develop a civil society advocacy forum.

Ability of the poor to raise incomes (pillar III): the NFP will increase the levels of household income derived from forestry-related enterprises, ensure that poor people have secure access to land for forestry purposes, and the skills, advice and investments needed to improve productivity and develop sustainable livelihoods. The key strategies in the NFP are to provide access to advice, information and training, to support small-business growth, to ensure security of land and tree tenure, and the development of appropriate technologies. These will be targeted at specific gender, socio-economic and geographical groups.

Improving the quality of life of the poor (pillar IV): the NFP will secure access by marginalised groups to forest resources for fuel-wood, water, building materials, forest foods, grazing and herbal medicines, reduce distances travelled to collect fuelwood, and improve the management of natural forests in FRs and private forests. This will greatly reduce the vulnerability of the poorest groups to shocks and stresses. The main NFP strategies include developing sustainable forest management, securing cultural values of forests, using forests as safety nets to reduce vulnerability, and promoting biomass energy conservation.

Costs of the NFP

The budget for public expenditure on the implementation of the NFP over 10 years is summarized below (see detail in Table 7.4). Funding is expected to come from Government, development partners and international funding sources, and be agreed during the annual MTEF budgeting process in line Ministries. Total investment in the sector will be greater than this, as it will include the revenues that the NFA and UWA will re-invest in forest management, and private sector investments (see Figure 7.2).

Summary: Investment budget for the forest sector (UShs million, FY 2003 – 2013)

Programmes	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total	%
1. MWLE & MEMD	5,076	1,262	910	953	1,040	1,063	1,008	1,073	984	1,065	14,435	5
2. NFA	10,854	5,912	2,893	1,848	1,150	1,150	1,150	1,150	1,150	1,150	28,407	11
2. UWA	16,600	13,300	14,300	13,100	11,000	11,000	11,000	11,000	11,000	11,000	123,300	46
3. District Offices	3,946	3,576	3,548	3,380	2,995	3,155	2,735	2,705	2,555	2,505	31,099	12
3. NAADS contracts	2,240	4,480	6,720	6,720	6,720	6,720	6,720	6,000	4,800	3,600	54,720	20
4. Private Sector	641	1,113	1,115	1,073	314	320	287	278	278	278	5,692	2
5. Urban Forestry	11	22	40	33	50	26	26	26	26	26	286	0
6. Forestry Research	645	859	923	1,223	1,239	1,223	1,223	1,239	1,223	1,223	11,024	4
7. Forestry Education	362	310	193	217	189	184	217	189	184	217	2,261	1
Total	38,425	30,834	30,642	28,546	24,697	24,840	24,365	23,660	22,200	21,063	269,273	**100**

A substantial early investment is required to launch the NFA, for which donor support is committed, contingent upon the government's contribution. After 4 years, the core operations

of the NFA will be financially self-sustaining, and government support will no longer be required. In contrast, to ensure that decentralised and farmer-driven forestry developments succeed, growing investments in local governments and NAADS will be required. UWA also requires high investments, but in contrast to the NFA, the on-going government commitments remain high.

1. Background to the NFP

1.1 What is the NFP?

The NFP is the strategic sector plan for the development of forestry in Uganda. It sets out goals and strategies that will turn the new Forestry Policy 2001 into action. It redefines institutional roles and responsibilities to reflect the new policy directions, and outlines an investment programme for sector development. It is a rolling plan that will be regularly reviewed, to fit into the Medium Term Expenditure Framework (MTEF) cycles in the Ministry of Finance Planning and Economic Development (MFPED) and other policy or fiscal cycles.

1.2 Why is the NFP needed?

Approaches to sector planning have historically been weak or fragmented, and driven by donors and conditionality. This has resulted in poor Ugandan ownership, lack of sustainability and fragmented development projects that have failed to create synergy. There is a poor record of conditionality as a positive development tool, and there has been poor government capacity to handle a diverse range of projects.

The Government of Uganda has therefore decided that all development planning must take a sector-wide approach and be driven by Ugandan needs and priorities. In the case of the forest sector, this is the NFP.

This NFP therefore meets a range of local, national and international needs:

- The NFP reflects the needs and priorities of many interest groups in the **private sector and civil society**. The plan reflects the positive social, political and economic developments in Uganda over the last 15 years in areas of poverty eradication, good governance and private sector development.
- The NFP provides **MFPED** with a sector-wide investment programme to help budget planning, enabling access to Poverty Alleviation Funds (PAF) and making clear contributions to the Poverty Eradication Action Plan (PEAP), both of which aim to eradicate poverty by improving incomes and quality of life for the poor.
- The NFP sets out **MWLE's** sector priorities and strategies, to guide the implementation of the Forestry Policy and its contribution to the PEAP. It helps to balance national and local interests in forestry, where national interests of economic growth, poverty eradication and environmental protection meet local priorities and actions.
- The NFP provides **local governments** with a framework for spending development funds to eradicate poverty and secure the natural resource base through forestry related livelihood developments.
- The NFP ensures **cross-sectoral co-ordination** with other productive sectors such as agriculture, fisheries, wetlands, land and wildlife, contributing to the Plan for Modernisation of Agriculture (PMA) and the emerging environment sector strategic plan. It helps to clarify the respective roles and responsibilities of government and non-governmental organisations in the development of the sector
- The NFP serves to meet **international commitments** emerging from the United Nations Conference on Environment and Development (UNCED), including the processes of the Intergovernmental Panel on Forests (IPF), the Intergovernmental Forum on Forests (IFF), and other international obligations.

1.3 How was the NFP developed?

The NFP has been developed through a series of interlinked sectoral planning activities. The Forest Sector Umbrella Programme (FSUP) was established with both international and national support and commitment, to co-ordinate and develop a series of sector reforms culminating in the development of the NFP. It has been steered by the cross-sectoral Forest Sector Co-ordination Committee with membership from central and local government, the private sector and civil society, and supported by the Forest Sector Co-ordination Secretariat. FSUP has produced the following products as part of the sector planning and reform process:

- A Forest Sector Review[1]
- A Review of Forestry Initiatives in Uganda[2]
- A new Forestry Policy, approved by Cabinet in March 2001
- A Forestry Bill
- A business plan for a new National Forestry Authority
- The National Forest Plan

The development of the NFP was guided by a twelve member Steering Group, and six Working Groups with 73 members from a diverse range of interest groups and specialists (Annex 1). In addition, a livelihoods study was conducted in 9 indicative districts to listen to the voices of the poor in relation to forestry developments. Working papers, strategy documents and drafts of the NFP were produced by the staff of the Secretariat, and refined through a series of consultation meetings (Annex 2). These consultations have included workshops with specialist stakeholder groups (e.g. sawmillers, NGOs, FD, NEMA, UWA) and with cross-sections of all districts (local government staff, farmers, businesses, civil society), reviews focussing on a diverse range of poor rural communities, and contributions from the AAS Africa-wide NFP support programme. It has been produced by Ugandans in an open, transparent and consultative manner.

The NFP process was guided by, and its implementation will require continued need for:

- **National sovereignty** and country leadership, ownership and responsibility for the NFP, including sustained political commitment. While national policies and programmes should be consistent with global initiatives, international commitments should also respect national policies, strategies and programmes
- **Partnerships** that bring together all stakeholders in an NFP process in which they feel concerned and committed. This involves active participation and consensus building between decision-makers and other interested parties. It also requires that capacity should be developed at all levels with a view of reducing dependency on external assistance.
- A holistic and **cross-sectoral approach** that takes into account the variety of cultures, interests and forest ecosystems. The NFP should evolve as an interactive process that reflects changes in the political environment and the acquisition of new knowledge and experience during implementation. Policy and institutional reforms must recognise the interdependence and linkages between sectors.

[1] *A quantitative analysis of the forest sector*

[2] *A qualitative analysis of the stakeholders in the forest sector*

1.4 Time horizon for the NFP

The NFP provides a framework for the development of the sector for the foreseeable future, consistent with the Forestry Policy. While longer-term investment costs are indicated over a period of 10 years, the operational priorities set out in the programmes in chapter 7 are designed to fit into the current MTEF, and thus represent the first 3-year timeframe for the NFP. The document, its priorities and programmes will be reviewed regularly for development of the annual MTEF.

2. Overview of the forest sector

2.1 Forest and tree resources in Uganda

2.1.1 Area, distribution and biomass of forest resources

There are 4.9 million hectares of natural forests and woodlands in Uganda, which cover 24% of the land area (see Figure 2.1). The majority of this forest area (81%) is woodland, 19% is tropical high forest and less than 1% is forest plantations. The distribution of these resources varies greatly by region, the northern region dominated by woodland, the majority of the tropical high forest in the western region (see Figure 2.2).

Figure 2.1 Land cover in Uganda

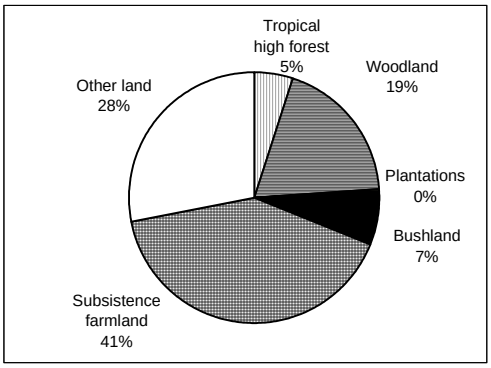
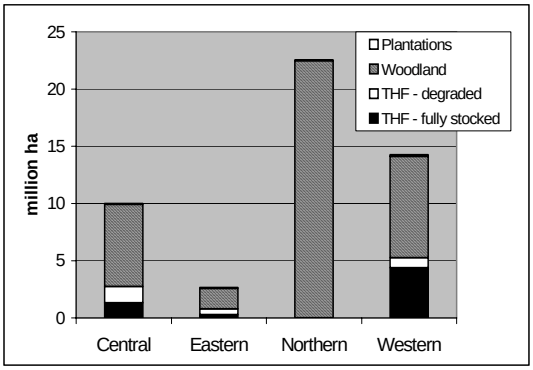


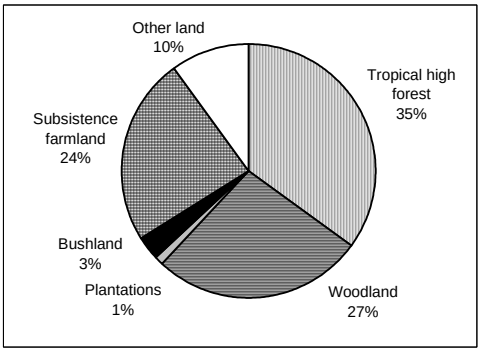
Figure 2.2 Forest areas by region



Source: based on National Biomass Study 2002

Although the area of tropical high forest is small (5% of Uganda's land area, Figure 2.1), it produces significant resources and is highly productive: it holds 35% of the country's total biomass resource and produces a net growth of 15 tonnes of wood on each hectare every year (Table 2.1, Figure 2.3). The plantation resource is currently very small (0.2%) but also very productive (16 tonnes/ha/year), with great potential for expansion in area and yields.

Figure 2.3 Biomass in Uganda



In addition to the 4.9 million hectares of natural forests and woodlands, there are also substantial forest resources on-farm. Over 40% of the land is put to subsistence agriculture (Table 2.1), and this holds 24% of national biomass in the form of scattered trees, forest patches and agroforestry crops included within farming systems. There is thus almost as much forest biomass on-farm as in the country's natural woodlands. Together with the existing natural forests on private land and in government reserves, these on-farm forest resources are a major focus of the NFP, with particular reference to decentralisation and the development of farmer-driven advisory services and agroforestry.

Table 2-1 Area, biomass and growth of forest resources in Uganda

Land cover	Area (ha)	%	Stock ('000 ton)	%	Yield (t/ha/yr)
Plantations (softwood & hardwood)	35,000	0.2	4,000	1	16
Tropical high forest (intact & degraded)	924,000	5	164,000	35	15
Woodland	3,974,000	19	126,000	27	5
Total forest	**4,933,000**				
Bushland (stunted woodland & farm fallow)	1,422,000	7	14,000	3	<1
Subsistence farmland	8,401,000	41	112,000	24	2
Other land*	5,709,000	28	48,000	10	0-1
Total land **	**20,465,000**	**100**	**468,000**	**100**	

** Grasslands, wetlands, commercial mono-crop estates (tea, sugar, tobacco), built up areas, rock*

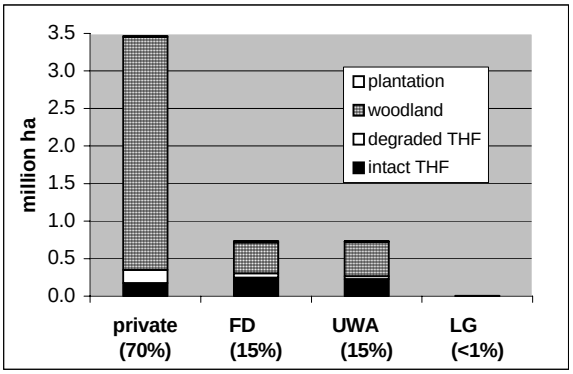
*** Excludes water bodies of 3.69m ha*

Source: data from National Biomass Study (2002)

2.1.2 Ownership of forest resources

In terms of land ownership, the majority (70%) of the forest area is on private land. The remainder is held in trust by government for the citizens of Uganda, 15% in Central Forest Reserves managed by the Forestry Department and 15% in National Parks and Wildlife Reserves managed by UWA. The districts manage a small area (5000 ha) of Local Forest Reserves (Figure 2.4). The vast majority of private forest is woodland. The total area of tropical high forest is 924,000 hectares, containing valuable hardwoods and other important forest products, and this resource is about equally distributed between private owners, UWA and FD (Figure 2.4 and Table 2-2).

Figure 2.4 Forest ownership



Source: based on National Biomass Study 1999

Table 2-2 Area (hectares) of forest and woodland under different categories of ownership and management

Land cover	Government land		Private land	Total
	Forest Reserves (FD & LGs)	National Parks and Reserves (UWA)	Private & customary land	
Tropical high forest	306,000	267,000	351,000[3]	924,000
Woodlands	411,000	462,000	3,102,000	3,975,000
Plantations	20,000	2,000	11,000	33,000
Total forest	**737,000**	**731,000**	**3,464,000**	**4,932,000**
Other cover types	414,000	1,167,000	13,901,000	15,482,000
Total land	**1,151,000**	**1,898,000**	**17,365,000**	**20,414,000**

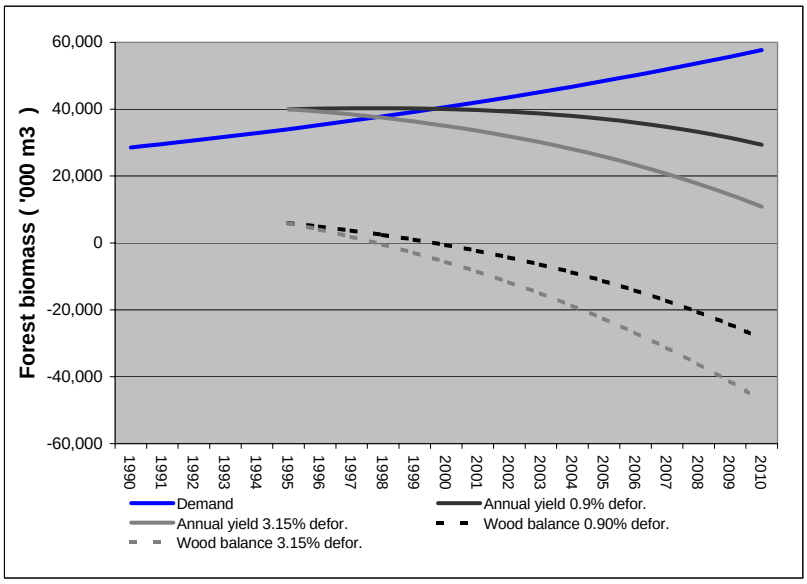
Source: figures from National Biomass Study 1999

[3] *Disputed figure, earlier FD records (1974) indicate a maximum of 150,000 ha*

2.1.3 Trends in production and use of forest and tree resources

Drastic changes in the forest cover have taken place in Uganda during the past century. FAO estimated the forest cover to have been as much as 10.8 million ha in 1890, or 52% of Uganda's surface area[4]. This has now shrunk to only 5 million ha, or 24% of the land surface area. FAO (2000) estimated the deforestation rate in Uganda to be 55,000 ha per year based on the change in the amount of bushland and woodlands from 1990 to 1995. Other official estimates of the rate of land clearance range from 70,000 to 200,000 ha (MFPED, 1994). These figures imply deforestation rates of between 0.9% and 3.15%.

Figure 2.5 Wood balance: increasing demand and decreasing supply of forest products.



Sources: data from MFEP (1998), NBS 1996, MFPED 1996, FAO (2000).

Supply and demand

The combined effects of deforestation and high consumption result in an accelerating imbalance between national demand and supply of forest products (Figure 2.5). This figure shows the projected increase in demand for forest products and the growing shortfall in supply (based on current investment levels) under two different scenarios – the higher (MFPED) and lower (FAO) rates of deforestation[5]. Even under the more optimistic scenario, Uganda moved into net national fuelwood deficit in the year 2000.

Forest degradation and clearance

Tropical High Forests are particularly important as they provide disproportionately high values of forest products, environmental services and biodiversity. The quality of the Tropical High Forest has declined over time. The recent study by MUIENR[6] indicates that the overall biodiversity of the country is declining. This is supported by recent censuses in a range of western forest reserves that show a loss of primate and other mammal biodiversity due to forest fragmentation[7]. Well over 30% of the THF is now degraded, with private forests shrinking more rapidly than forests managed by the government.

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[4] Biodiversity Status Report (2000), Makerere University Institute of Environment and Natural Resources.

[5] For details see Forest Sector Review (2001), UFSCS

[6] Biodiversity Status Report (2000), Makerere University Institute of Environment and Natural Resources

[7] Plumptre et al (1999) Chimpanzee and other large mammals survey of Bugoma forest reserves and Kagombe Matiri forest reserve complex & Plumptre et al (2000) Chimpanzee and large mammal survey of Budongo forest reserve and Kibale National Park

A number of factors have been identified as major causes of forest degradation and loss of forest cover over the century. The major factors are conversion of forest into agricultural and grazing land, and over-harvesting for firewood, charcoal, timber and non-wood forest products. The population of Uganda has been increasing at a rate of 2.9 %. Many practise extensive agriculture, which creates the need for more agricultural land. Combined with the strong dependence of the rural population on forest products for incomes and quality of life, and the absence of effective systems of regulation, this creates pressures for unsustainable harvesting from natural forests.

Market, institutional and policy failures

Although Uganda has only recently moved into a national fuelwood deficit (Figure 2.5), the distribution of scarcity is very uneven. In some districts there is an acute shortage, and this has stimulated a market response. Deforestation causes increased fuelwood costs, both in terms of money and time spent in collection. When wood becomes scarce, prices typically increase and this can trigger more investments in tree growing. Wood supply can thus to a large extent be ensured by allowing markets to develop for wood from plantations and trees on-farm.

However, markets typically fail to respond to loss of environmental values. Deforestation also causes reduced supply of non-wood products, reduced environmental services such as watershed protection and soil protection, and reduced biodiversity. Market mechanisms are unlikely to save natural forests and the important social and environmental services they provide. Clearance of forest for agricultural development is currently more profitable than sustainable forest management, for a number of reasons. One is **market failure**. Negative externalities are not 'internalised' in market prices (e.g., the costs of soil loss downstream are not included in the price of forest products and land cleared upstream). There is no market for environmental and other 'open-access' public goods (e.g. no one pays for water flowing from forests). And there are market imperfections (e.g. forest owners are not aware of the price of forest products in the market and undervalue their assets).

There are also some key **institutional and policy failures** in developing sustainable forest management in Uganda. There is little effective regulation by the managing government agencies (e.g. the Forestry Department is unable to fulfil its mandate to protect and manage forest reserves. There are few effective local management regimes (e.g. current systems of forest management have failed to regulate community use of "open access" resources). And there has been a failure to intervene to close the gap between private and social returns (e.g. private actions are still too far removed from socially desirable actions, which means that individual benefits from forest clearance still outweigh the wider social losses.

The NFP has a range of strategies explicitly aimed at addressing these issues and constraints. These will meet policy objectives of achieving sustainable forest management by enabling the private sector to flourish and by improving the effectiveness of key institutions.

2.2 Poverty and the role of forestry in rural livelihoods

2.2.1 The importance of forestry for poor people

Forestry is crucial to the lives of millions of Ugandans, especially the poorest sections of society. The dependence of poor people on forest resources, and their ability to improve their livelihoods through forestry, has not been adequately recognised in Uganda until now.

The case for public investments in forestry as a means of poverty eradication is strong. Many people depend on forestry for all or part of their livelihoods, and it is often the poorest who depend most critically on forest resources for their well-being and survival in the

absence of other livelihood assets and opportunities. From the 1991 census, there were 2.7 million people living in parishes that neighbour forest reserves[8], which provide sources of many forest products and services. This represents nearly 15% of the total Ugandan population. Studies around some of these protected forests[9] show that a high proportion of the population depend on these resources in some way, and many people from 2 or even 3 parishes away from these areas use the resources. In addition, at least twice as many people live within access of the many private forests in the country (70% of the total forested area of Uganda), possibly adding another 6 million people. Furthermore, away from forested areas, many millions of farmers use trees on-farm, for firewood, poles or as part of the farming system. A recent survey by IFPRI[10] has shown that 76% of villages throughout the country were involved in selling some tree products in 1999, mainly poles, timber, fuelwood and charcoal, and mainly marketed on-farm and not in town markets. Thus forestry forms part of the livelihood of the great majority of Ugandans, mainly in the informal economy and not recorded in official statistics.

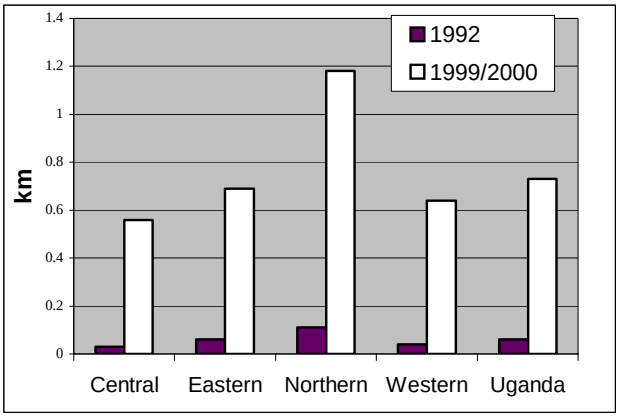
2.2.2 Direct benefits from forests and trees

The poorest 35% of the population who live below the poverty line are mostly rural, mostly marginalised (unemployed youth, women, elderly), mostly unable to buy or grow fuelwood, mostly without land or productive assets, and thus depend heavily on access to forest resources for their survival.

Forests and trees provide numerous direct benefits to poor people, in the form of energy, food, employment, incomes, quality of life and reduced vulnerability to shocks and stresses (see Box 2.1).

With increasing deforestation, these benefits are rapidly being lost, which is sustaining poverty. The burden imposed by forest degradation on people's livelihoods - especially women and children - is exemplified by the sharp increase in the distance people have to travel to collect firewood. According to the Uganda Integrated Household Surveys, the average distance travelled by households to collect firewood has increased dramatically between 1992 and 2000 from 0.06km to 0.73km (see Figure 2.6). The distance travelled is inversely related to the time members of the household can dedicate to other productive activities, and thus has a major impact on poverty.

Figure 2.6 Average distance travelled by households in Uganda to collected firewood



Source: data from UBOS, 2001

[8] *Data from National Biomass Study (Forestry Department) and the National Census (1991)*

[9] *E.g. Cunningham, A.B. (1996) "People, park and plant use" UNESCO*

[10] *IFPRI (2001) Tree commercialization in Uganda – summary of village level data. Washington DC, Environment and Production Technology Division, International Food Policy Research Institute. Mimeo.*

Box 2.1 Direct benefits from forests and trees

- **Forests provide incomes through employment or the sale of forest products**. It is estimated that forestry creates about 850,000 jobs in Uganda. The majority of these are informal, in labour related to collection of domestic fuelwood, but as many as 100,000 people are employed full-time and earning wages in the more formal sectors (charcoal production, plantation management, forest industries and institutions – see chapter 1.4.3). The incomes derived from the sale of non-timber forest products such as bush meat, medicines, rattan and bamboo, craft materials and food are estimated to be about Ushs 66 billion per year. Some studies have shown that poor households in forested areas make up to UShs130,000 per year from the sale of such products, at times when there are gaps in alternative income sources such as labour or the sale of farm products.

- **Fuelwood energy is the major source of energy for domestic cooking, heating and lighting in the country**. Over 90% of Ugandans use fuelwood as their main or only source of energy, consuming 16 million tonnes each year as domestic firewood and 4 million tonnes as charcoal. Fuelwood shortages are now increasing in many districts, and it is especially the women and children who are affected as they must walk further and further to collect firewood.

- **Forest products are some of the most important free goods produced in nature** which are critical to poor subsistence households. Shelter and food security are overriding priorities for poor people, and products such as building materials for housing and farm implements, animal and vegetable forest foods which enhance nutritional status, and herbal medicines for a variety of illnesses are harvested free from natural forests. Over 75% of the world's population depend on traditional medicines, many of which are harvested from the wild. Women, children and the elderly are particularly dependent on these wild resources.

- **Forests provide safety nets against shortages of food, fuel and income and against ill-health**. These are especially important at times of natural or economic shocks that perpetuate vulnerability and poverty. The natural diversity found in forests helps to protect rural families from drought or floods, from drastic fluctuations in markets that affect prices of commodities they may grow and sell, or from the insecurities that result from wars and displacement.

- **Cultural and spiritual values of forests enhance social capital and the sense of well-being**. Forests and natural diversity holds special significance for many communities, providing the basis for many religious beliefs and much traditional knowledge. Increasingly these values are recognised by outsiders through eco-tourism, which in turn can provide sources of income and development for poor people.

2.2.3 Environmental benefits from forests and trees

Forests and trees provide agricultural support and environmental services in ways that are taken for granted or poorly understood. A diverse natural environment provides a range of services from soil and water conservation to pollination and pest control. A regular supply of clean water and soil fertilisation are major services provided by forests and trees which are especially important to the poor, as they cannot afford alternatives such as piped water or fertilisers. Because these services are "free" they are undervalued, and without investment and protection, they are disappearing.

Some of the numerous environmental services that are of substantial value to the people of Uganda, and especially to poorer people, are set out in Box 2.2.

Box 2.2 Agricultural and environmental benefits of forests and trees.

- **Forests protect watersheds** - Uganda has many major watersheds, whose forests are crucial for maintaining constant water supply and supporting productive agriculture and fisheries. The Rwenzori Mountains and Mt Elgon alone represent the primary water source for 3.2 million people, although forest destruction over the last decade has led to decreased water flows in many streams from these mountains.
- **Forests and trees protect and improve soils and substantially increase crop yields** - Forests and trees in and around agricultural systems reduce topsoil erosion and water runoff, increase water infiltration, and improve soil fertility and crop yields. For example, in hilly areas of Kigezi, 7 out of 10 farms with contour hedgerows have on average 14cm more topsoil than those without hedgerows after 3 - 6 years of growth. This represents 79 tonnes of soil conserved for every 100m of hedgerow, or $700,000 worth of available nutrients (at market price) per 1 million trees/shrubs planted. Crop and tree fallow rotations can add 100-150kg of nitrogen per hectare, increasing maize yields up to 5 times while also producing 25 tonnes of firewood per hectare, enough fuelwood for 7 families for a year. In contrast, farms with poor tree and soil management are losing soil nutrients at a rate equivalent to 7 times the fertiliser imports into Africa. These recent findings from ICRAF / FORRI research demonstrate the substantial impact of tree management in farming systems. (Ref: D.Siriri, P.Poncelot & T.Raussen (2000) Agroforestry Trends vol 2:2. AFRENA Project).
- **Forests improve local, regional and global climates** - Forests influence micro-climates and possibly local rainfall patterns, and thus support agriculture. Forests absorb carbon, and there is growing interest in the role Uganda's forests can play in helping the carbon balance in the atmosphere.
- **Forests contain rich biodiversity of national and international importance** - As a result of the wide range of ecosystems in Uganda, the country contains internationally significant biodiversity. It is one of the most species-rich countries in the world for its size, with around 315 species of mammals, over 1000 species of birds and 1200 species of butterflies. In only 0.02% of the world's land area Uganda contains 11% of the world's bird species and 7% of the world's mammal species. Aside from the tourism potential of this biodiversity, there is considerable economic value in the plant and animal genetic resources that provide actual or potential medicines and agricultural crops.

2.2.4 Constraints to poverty eradication through forestry

Given the many ways in which poor people depend on forest resources, it is clear that there are many opportunities for poverty eradication through forestry development. Yet in the context of forestry, poverty is perpetuated by a number of factors. These relate to understanding poverty, to the livelihood assets of poor people, to the institutions and governance structures through which poor people interact, and to the external factors that impinge on their lives.

Understanding poverty

The NFP recognises that poverty is a complex, multi-dimensional phenomenon, the perception of which varies with geographic location, type of community, age, gender and existing levels of service and infrastructure (UPPAP, 2000). The poor themselves define poverty as:

- **Lack of income and material assets** to meet basic needs (food, shelter, clothing, education and health). A poor person owns little and lacks shelter, productive assets, income, employment and education. She or he eats and dresses poorly, has many children to feed, is always in a poor state of health.
- **Absence of social support** creating a feeling of isolation and exclusion from the larger society and socio-economic infrastructure.

- **Disempowerment** through lack of a "voice" and feeling of helplessness to influence conditions around oneself. A poor person lacks the ability to fight against corruption in public services and general exploitation by service providers and politicians, or to secure access to natural resources.
- **Vulnerability** to natural and economic shocks and man-made disasters, including wars, epidemics, prolonged droughts and continuous fluctuations in market prices of imported and exported commodities.

The poorest and most vulnerable include the landless, widows, women heads of households, orphans and abandoned children, the chronically sick, the elderly, the unemployed youth, internally displaced persons and refugees, minority ethnic groups and indigenous forest dwellers, small-scale farmers and cattle-keepers in drought prone areas, fishermen and women, the urban poor, and the terminally ill (especially HIV/AIDS infected persons).

The NFP sets out strategies for addressing these characteristics of poverty, improving incomes of the poor, increasing inclusion and empowerment, and reducing vulnerability through institutional reforms and forestry developments.

Livelihood assets and forestry

The lack of livelihood assets of poor people is characterised by limited access to natural resources such as forests and land, and by the absence of financial resources, social networks, skills and infrastructure to be able to exploit forestry-related livelihood opportunities. People's livelihoods are closely linked to the quality and quantity of natural resources they have access to, but poorer people are often forced by circumstances to act in ways which degrade these resources.

With limited land holdings, for example, the poor use land intensively or with poor land husbandry skills until it becomes unproductive. This can increase poverty and force those involved to open up forest lands for more fertile soils. This often takes place on very steep slopes or marginal lands, which quickly erode and degrade, perpetuating the cycle of poverty and forest degradation. Loss of forest resources further increases food insecurity, reduces incomes and shelter, and increases distances for women to search for fuelwood and other products.

The problems of forest degradation affect the poor disproportionately. There is an uneven spread of costs, which affects different social groups in different ways and accentuates social and economic inequalities and increases vulnerability.

Institutions and governance structures in forestry

The current institutions and governance structures in the forest sector are unable to facilitate the working of pro-poor policies and programmes. The history of forest management in Uganda, as in many countries world-wide, has been one of reservation of resources for central government purposes, often limiting the access and benefits gained by local people, and especially poor people. This has resulted in the weak development of skills, governance structures and programmes that can eradicate poverty through forestry development.

The skills and resources of the Forestry Department to deliver effective forestry extension services have been limited. This has resulted in the weak development of forest resources and opportunities on-farm or in private forests. Further, the opportunities for local people to participate in meaningful ways in decision-making about forest reserves, and to share in the benefits from their effective management, have been constrained by a lack of policies, laws and programmes. The management of forestry has been scattered under several uncoordinated government agencies and Ministries (MWLE, MTTI, MLG, and MAAIF), which has led to a duplication of effort, poor performance and unnecessary competition for funding.

This has resulted in conflict, food insecurity and poor collaboration over forest resource management between local communities and government, and further marginalisation of poor people from the resources on which they depend.

Some policies affect the poor disproportionately. The poorest suffer most from problem animals that destroy crops, and yet current policies are not conducive to address the issue. Eviction of poor people from forest reserves without provision of alternatives results in landlessness for some - although this issue is fraught with difficulties due to the ways in which it has been politicised. In some specific cases, such as the Abayanda (Batwa) who were evicted from Mgahinga and Bwindi Forests, there has been a significant loss of cultural identity.

External factors and forestry

There has been limited provision to buffer the external factors that maintain vulnerability in poor people, such as droughts, insecurity and distorted markets for forest products, which are all disincentives to tree growing and sustainable forest management. Some of these are not within the mandate or possibility of the responsible authorities to address, yet some interventions could limit the worst effects of these factors.

For example, advice on the choice of tree species appropriate to different ecological conditions could buffer some of the effects of droughts or floods for poor people who invest in tree growing. The involvement of the Forestry Department in the provision of fuelwood and poles, or nursery seedlings, at subsidised government rates has in effect undermined private market opportunities for poor people.

2.2.5 Gender dimensions to poverty and forestry

The perceptions of poverty vary from community to community, and women and men of one community may experience poverty differently. This warrants gender responsive forestry interventions which take into account variations in the needs of poor people, appropriate to local circumstances and based on a thorough understanding and knowledge of poor people's livelihood strategies.

The constitution of Uganda commits the government to take affirmative action in favour of groups that are marginalised on the basis of gender, age or disability because of history, tradition or custom. Women, especially widows and female heads of households, are among the poorest and are more disadvantaged than men on a number of fronts. Compared to men, women have limited access to economic assets, education and extension services because of customary laws, beliefs and attitudes, which are aggravated by the relative lack of time and mobility of women. These factors exacerbate their poverty.

Land ownership

Generally, laws related to access, control, ownership and inheritance of land discriminate against women, who depend on their husbands to acquire land. Only 7% of women control and own land in Uganda. Even customary land tenure practices prohibit women from owning land. Since men who own and control land are more concerned with cash crops, women are prompted to turn to forest foods but also to forest land to grow more food for the family. Crop raiding animals compound the difficulties for women, and for children, who often cannot attend school as they must protect crops.

Access to forest resources

Women rely more on forests and trees for their livelihoods and suffer most when access to forests is denied by regulation or eviction. Lack of nearby sources of water, fuelwood, medicine and other forest products compromise the productive time for women, and school time for children, and may affect the nutritional status of families as a result of changes in

eating habits and diet. Some improved technologies may enhance income for men but increase the burden on women. For example, stall-fed cattle require more work for women to feed, or woodlots may require more weeding and care from women.

Health and welfare

The health and general welfare of women and children are compromised by pollution from smoke and sparks, the drudgery of cooking, eye defects and incidences of child burns, resulting from the continuous use of traditional stoves and open fires.

Extension services

In many communities, women still play a dominant role in the production of cash and food, especially in weeding, harvesting and processing activities. However, extension service providers tend to work more with male farmers. Generally there are few trained women foresters and agricultural workers who are able to reach women farmers.

Women are the primary harvesters, processors and marketers of non-wood forest products (NWFPs), providing seasonal or part-time employment and income. However, in most cases women get low returns from their labour and typically use rudimentary and laborious processing technologies. With improved technologies and incomes, men tend to start controlling operations and the proceeds.

Governance

Women are generally excluded from decision-making processes. Many decisions over forest resources affect women more than men. Those that relate to the availability and accessibility of water, firewood and forest products can increase their workloads and affect health and well-being. Women also miss out on the dissemination of information, for example missing radio announcements because of their time schedules.

The NFP has a range of strategies explicitly aimed at addressing these issues and constraints. These will meet policy objectives of contributing to poverty eradication through forest sector development, and reforming the roles and responsibilities of sector stakeholders with regard to governance structures and processes, and ensuring poverty and gender focussed service delivery. In this regard, women, youth and poor people will be particular beneficiaries of the plan, and mechanisms to achieve this have been elaborated in the NFP.

2.2.6 Geographical dimensions to poverty and forestry

Over the past decade the Government of Uganda has provided sound macroeconomic policies and poverty reduction strategies that have been conducive to a stable economy, increased private sector activity and improved livelihoods of the poor. These include fiscal and monetary policies, trade and exchange rate liberalisation, financial sector reforms, external debt policies, the Poverty Eradication Action Plan and the Poverty Action Fund. Some of these measures have helped to reduce poverty to the extent that absolute poverty declined from 56% in 1992, to 44% in 1997 and 35% in 2000 (UBOS, 2001).

Not everyone however has benefited from this decline, mainly because poverty reduction during this period was due to economic growth rather than distribution. Although there have been widespread improvements in welfare across regional and socio-economic groups, improvements in inequality were more modest, as indicated by the poverty trends between 1992-1997 and 1997-2000. The poorest 20% of the population have become poorer, the majority of whom are found in rural areas and generally in Northern and Eastern Uganda. Regional disparity has been pronounced, with poverty rates ranging from 28% in the Central region to 60% in the Northern region, which increased to 66% in 1999/2000. Rural poverty is estimated at 48.2% versus the urban rate of 16.3%.

Given these characteristics of poverty, forestry has strong potential for contributing to poverty eradication in rural areas, and in the north and east of the country, where poverty is most acute. A master-list of forestry-related initiatives in Uganda[11] has recorded 673 initiatives distributed across the country – these show a slight predominance in the east and west (Box 2.3). These forestry initiatives are generally organised by NGOs and CBOs, with a notable absence of interventions from either central or local government.

Box 2.3 Master list of forestry initiatives in Uganda: *types of organisation and geographical locations*

Type of organisation involved	***no.***	***Region***	***no.***
NGO	403	East	172
CBO	132	West	160
Private	62	North	126
Religious organisations	36	South	104
Central government	22	Central	83
Local government	13	National	28
Schools	5	***Total***	***673***
Total	***673***		

They focus mainly on tree planting, agroforestry, tree nurseries and environmental education (Box 2.4). Little attention is being paid to other areas of forestry livelihoods, such as carpentry, charcoal making, seed supply or energy conservation.

Box 2.4 Master list of forestry initiatives in Uganda: *kinds of support offered*

Kinds of support offered	***no.***
Tree planting	354
Agroforestry	272
Environment education	227
Tree nurseries	196
Soil & water conservation	54
Seed	52
Energy conservation	46
Bee-keeping	43
Credit	38
Sawmilling	22
Brick making	16
Eco-tourism	15
Carpentry	9
Charcoal making	2

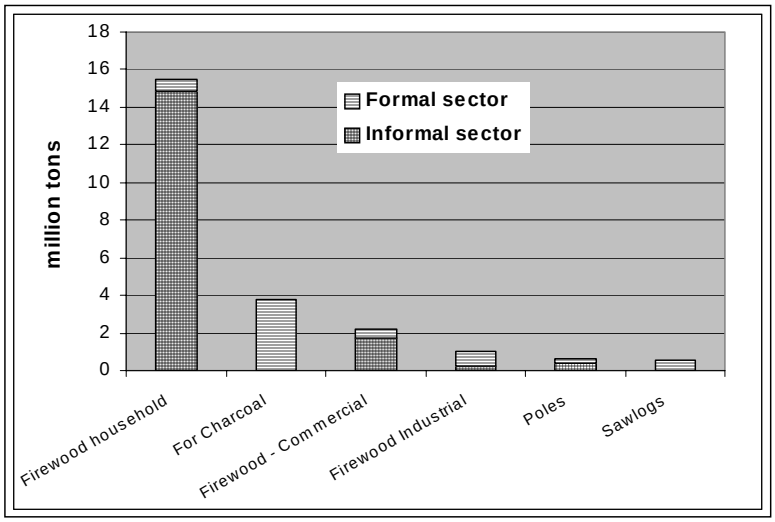
[11] *Forest Sector Co-ordination Secretariat (2001).*

2.3 Forestry in the national economy

2.3.1 Consumption of forest products

The annual consumption of wood in Uganda is estimated to be around 25 million tonnes or approximately 1.1 tonne per capita. About 95% of this is consumed as fuelwood: 16 million tonnes (65%) as household firewood, and about 4 million tonnes each as charcoal and as commercial and industrial firewood (16% and 14% respectively). The remaining 5% is consumed in the form of poles and timber (Figure 2.7).

Figure 2.7 Wood consumption in 1999, excluding imports



Source: Statistical Abstract 2000, Uganda Bureau of Statistics.

The demand for forest products is expected to increase with economic growth and a rapidly increasing population. The demand for charcoal, sawlogs and poles in particular is expected to increase more than the demand for firewood, due to increased urbanisation. However, fuelwood is still expected to be the most important energy source in Uganda for the foreseeable future.

Non-wood forest products are products for subsistence and small-scale commercialisation. The economic value of these products is significant (UShs 66 billion per year, worth 17% of the forest sector's contribution to GDP), and some have a fast-growing commercial value - especially rattan, bamboo, and medicinal plants.

Non-consumptive use of forests is high, in the form of environmental services and tourism, which alone contribute 1.7% to GDP.

2.3.2 Contribution to GDP

Earlier statistics indicated that the forest sector contributed about 2 % of Gross Domestic Product (GDP). It is important to note that this figure is calculated from the value of wood production at the "forest gate" – without value addition. Wood processing, transport and trade are important economic activities in the forest sector, and constitute much of the value in the sector, yet this value in official statistics is accounted for in the GDP contribution of the Manufacturing, Transport & Communications and Wholesale & Retail Trade sectors.

Furthermore, the figure does not properly reflect the true economic value of the sector for a number of reasons. Many forest products and services are important to the livelihoods of the rural poor, a group whose welfare is a major object of public policy but whose demands have little weight in organised commodity markets. Forests provide many environmental services that are not valued in the market. Timber and some other forest products have very long growth periods, and market values are not realised in the short-term. Many forest products, including timber, wildlife and water, are available as free goods, often under open-access conditions, and do not reflect any investment. Finally, scientific data on forest production are

lacking and knowledge of the market for many forest products, or even of their potential economic uses, is limited.

More recent reviews of the contribution of the forest sector[12] estimate that more than 70% of wood consumption in Uganda is in the informal (non-monetised) sector, which alone is valued at about 2.75% of GDP. Including the informal sector and a modest estimate of the value of environmental services provided by forests, the forest sector contributes about 6% to GDP. Major contributors to this are domestic fuelwood (UShs 120 billion), charcoal production (UShs 70 billion), non-wood forest products (UShs 66 billion), commercial fuelwood (UShs 43 billion) and sawn timber (UShs 40 billion). Note that timber, commonly thought of as the major value of the forest sector, is certainly not the main contributor to the sector's GDP. Another UShs 330 billion may also be added as environmental benefits of the country's forests.

2.3.3 Employment

The forest sector is an important employer in Uganda, especially in rural areas. The total employment generated by the sector annually is estimated to be equivalent to about 850,000 full-time jobs. In the formal sector, forest-based activities create employment equivalent to about 96,000 full-time jobs: 89,000 person-years in firewood and charcoal production, 1,400 in plantation establishment and management, 3,200 in forest industries and 2,600 in forestry institutions (FD, UWA, Nyabyeya Forestry College, Makerere, ITFC and FORRI). In the informal sector, current employment is estimated to be equivalent to about 747,000 full-time jobs, in household firewood production (710,000 person-years), commercial and industrial firewood production (36,000 person-years) and pole production (1,000 person-years).

2.3.4 Prices of forest products

In the last decade the prices for charcoal and firewood have not increased as much as other commodities, and in 1995-1998 prices increased even more slowly than general price levels. The price of sawnwood has also been declining. These price trends indicate that wood is still not a scarce resource in the market. This is probably due to a number of factors, including low royalty rates, the lack of harvesting control leading to liquidation of forest stocks and clandestine (over-) exploitation, and illegal imports. Forest clearance for agricultural expansion has certainly also had an important impact on the supply side, flooding the market with wood products. It is likely, however, that in the long run wood prices will increase relative to general price levels.

2.3.5 Investments in forestry

Uganda is endowed with favourable conditions for tree growth. The projected future increase in demand for timber, coupled with a likely shortage of supply of sawlogs from plantations and natural forests, make forest production a promising enterprise. Even though tree growing involves long-term investment, it promises high rates of return for those who put in place proper management structures and technical standards. However, there is currently very limited investment in forestry for a number of reasons. Wood prices are low, due to the unrestricted supply of wood from natural forests and unregistered imports. There is a lack of long-term, low interest finance for investment in forestry. The poor investment climate (fees, taxes, administration of concessions and agreements, land tenure) in Central Forest Reserves creates uncertainty and disincentives for long-term investments. And high population growth is putting pressure on forest land for agricultural production.

The NFP has a range of strategies explicitly aimed at addressing these issues and constraints. These will meet policy objectives of downsizing government, increasing the role

[12] *Forest Sector Review (2001), Forest Sector Co-ordination Secretariat.*

of the private sector, meeting shortfalls in the national production of timber and other forest products, and increasing the contribution of forestry to the national economy.

3 New directions for development

3.1 The Uganda Forestry Policy (2001)

Development of the forest sector has been given a clear direction by the new Forestry Policy, which was prepared through an extensive consultative process during 1999 and 2000, culminating in its approval by Cabinet in March 2001. This replaces the policy of 1988.

The Uganda Forestry Policy 2001 sets out the guiding principles for forest sector development which are reflected in the NFP. The core themes are conservation and sustainable development, livelihood enhancement, and institutional reform with new roles for central and local government, the private sector, local communities and NGOs / CBOs. These build on the Government's national development priorities of poverty eradication and good governance. The principles are set out in Box 3.1.

Box 3.1 Guiding principles for forest sector development

- Consistency with the **Constitution and Vision 2025** in guiding sustainable development
- Commitment to **conservation and sustainable development**, meeting the needs of this generation without compromising the rights of future generations
- **Improvement of livelihoods** as a major goal in all strategies and actions for the development of the forest sector so as to contribute to poverty eradication
- Safeguarding the nation's **biodiversity and environmental services**
- Development of **partnerships in governance**, to enhance efficiency, transparency, accountability and professionalism, and build confidence in all forest stakeholders:
  - ⇒ Reforming the **role of central government** to withdraw from activities that can be carried out more effectively by the private sector or other stakeholders, but to maintain core functions of policy development and regulation
  - ⇒ Enhancing the **role of local government** with more devolved responsibility for resource management wherever practical and advisable
  - ⇒ Developing the **role of the private sector** as investors and managers
  - ⇒ Encouraging more active **participation of local communities and farmers** in the management of the country's forests
  - ⇒ Enhancing the role of **NGOs/CBOs** to strengthen civil society, build capacity and grassroots participation, and help develop the rights and responsibilities of forest users
- Enabling the **active participation and affirmative action** of all women and men, young people and the elderly, and vulnerable or disadvantaged groups in forest sector development
- Respecting the attributes of **cultural and traditional institutions** in forest sector development
- Supporting the implementation of current and future **international commitments** that affect the forest sector
- Ensuring that **environmental and social values** are used in assessing strategies to implement the Forestry Policy

Source: The Uganda Forestry Policy 2001

3.2 Complementary national strategic programmes

3.2.1 Poverty Eradication Action Plan (PEAP)

The PEAP is the Government's main framework for poverty eradication in Uganda, and the benchmark against which Poverty Action Funds and other government investments in poverty eradication are made. The four pillars of the PEAP are (i) a framework for economic growth and transformation, (ii) good governance and security, (iii) improving the quality of life of the poor, and (iv) increasing the ability of the poor to raise their incomes (see Box 3.2).

The NFP is consistent with the PEAP, and will provide a substantial contribution to its objectives. The framework for forest sector development set out in the NFP will contribute directly to each of the four pillars, as set out in chapter 8 on monitoring the impact of the NFP within the framework of the PEAP (see **Table 8-1**).

Box 3.2 The four pillars of the PEAP

Pillar I: Economic growth and transformation.

- Macro-economic stability
- Quality of public expenditure
- Appropriate macro economic incentives
- Removing constraints to investment and private sector development

Pillar II: Governance and security.

- Democracy
- Peaceful conflict resolution
- Accountability and transparency
- Law and order
- Human rights

Pillar III: Ability of the poor to raise incomes.

- Access to productive assets especially land
- Access to markets and credit
- Increased productivity
- Promotion of gainful employment
- Focussing on disadvantaged groups
- Transport and communications

Pillar IV: Quality of life.

- Access to primary health care
- Universal primary education
- Access to safe water and sanitation
- Conservation of natural resources and the environment
- Disaster management
- Functional literacy

There is no doubt that the livelihoods of the majority of the people of Uganda depend heavily on natural resources and services, from lands for agricultural production to wood and other forest products. This *direct* relationship is made explicit in the PEAP, where "environment and natural resources" are placed under the third pillar[13] (see quotes in Box 3.3). However, in addition to being relevant to the economic well being of Ugandans, a healthy environment

[13] *Section 5.7: 'Increasing returns through better resource use: research, advisory and meteorological services for agriculture, livestock, forestry and fisheries', p.111.*

Section 5.8 'Increasing returns through better resource use: environmental policy and natural resource management', p.114.

is recognised as having a direct bearing on their quality of life (PEAP Pillar 4, *Improving the quality of life of the poor*).

Box 3.3 Quotes from PEAP volume 1 (May 2001)

"Natural ecosystems constitute an immense value and contribute directly to the economy and livelihoods of all Ugandans"

"…Government is committed to providing the necessary resources to protect the existing public forests"

"The most effective public sector actions to address environmental issues … include(s) the stimulation of communal initiatives for the conservation and management of common property resources."

"Forestry needs to be promoted by a mixture of public protection and investment in private forests."

"Judicious management of land, forests, wetlands, rangelands, rivers and lakes, are essential for sustaining any gains in poverty eradication."

"Advisory services will cover fisheries and forestry, especially agro-forestry."

"Wells and springs throughout the country are fed through rainwater infiltration made possible by forest cover."

"The role of public forest protection and private forest management needs to be considered."

"Resources need to be made available for support to wetlands and protected forests, subject to a policy decision on the balance between protected and private forests."

"A framework [is needed] for land-use which provides adequate incentives for private wood production and/or protects existing forests on a sustainable basis [for biomass energy]."

3.2.2 Public Sector Reform Programme (PSRP)

Institutional reforms in many sectors, including the productive sectors, are being driven in Uganda by the government's Public Sector Reform Programme (PSRP) and economic liberalisation policies. Government is divesting itself of many civil service departments and promoting private participation.

Through the PSRP and the restructuring of the Ministry of Water, Lands and Environment, in 1998 Government decided to establish a National Forestry Authority (NFA) to manage the nation's Central Forest Reserves. The decision is contained in the Ministry of Public Service report on "Post Constitutional Restructuring of the MWLE" (May 1998). This states that the management of forest reserves should remain the responsibility of central government, that the NFA should be managed in a business-like manner with adequate freedom for decision making and flexibility in resource mobilisation, and that the civil service environment within which the forests are currently managed does not adequately allow such freedom and flexibility.

The result was the decision by Cabinet to establish an autonomous National Forestry Authority to manage the CFRs sustainably and to provide a range of contracted forest services. Through an extensive consultative process, a detailed Business Plan for the NFA has been prepared, and legislation drafted that will establish the NFA.

The NFP is consistent with these reforms, and has built up a framework for the forest sector's development with the NFA being a key agency in its implementation within and around the CFRs, and in the provision of specified forms of services nationally.

3.2.3 Decentralisation

The decentralisation policy is now well rooted in Uganda by the Local Governments Act 1997. One of the main vehicles for this is the Local Government Development Programme (LGDP). The LGDP is the government's framework for devolving the development budget, and multi-donor financial support, to local governments. It has been designed from the pilot experiences of the District Development Project (DDP), which developed procedures for decentralised planning, financing and service delivery under the Local Governments Act. The LGDP devolves development funds through the Local Development Grant (LDG) and Capacity Building Grant (CBG), currently to 31 districts and 13 municipalities in addition to the 5 districts supported by the DDP. It also aims to enhance the capacity of central agencies, principally the Ministry of Local Government (MLG) and the Local Government Finance Commission (LGFC).

The LGDP sets out a single set of **governance access and performance criteria** according to which local governments can qualify for access to LDGs and CBGs. To access the LDG, districts must meet these minimum criteria. Those districts that do not meet the minimum access criteria can however benefit from the CBG. Sub-county and district local governments are also given **incentives for good governance and service delivery** through a reward and penalty scheme. Those that perform well against the performance criteria receive an increase in their allocations in subsequent years (an additional 20%), whilst those that perform poorly get a reduction (reduced by 20%).

The following improvements in governance were realised in the districts benefiting from the DDP 1997-2000:

- **Allocative efficiency** has improved: local government investments are more directly in tune with local priorities.
- **Political accountability** has improved: as a result of discretionary budget support, local councillors can engage in meaningful participatory planning and investment.
- **Horizontal accountability** has improved, increasing the assertiveness of the local government political cadre to hold the administrative cadre to account for their investment management processes, based on earlier political choices.
- **Financial accountability** has improved, despite interruptions in funds flow from the centre: financial reporting and compliance of the local governments have improved.

The NFP is consistent with the policies and practices of decentralised governance in many areas. The development and delivery of services to support forestry will evolve through LGDP and other structures (see PMA and NAADS below), with national support for some information and advisory services through the NFA.

Although Government is committed to a central governance structure for the Central Forest Reserves, to oversee national interests in biodiversity and forest conservation, operations in the field will emphasise local collaboration and private sector participation in forest management. Legal provisions will enable greater local management, deepening decentralisation beyond local governments to farmers and communities.

3.2.4 Poverty Action Fund (PAF)

In 1998 the Government of Uganda was granted debt relief from donor countries and multilateral agencies under the Highly Indebted Poor Countries Initiative. This led to the formation of the Poverty Action Fund (PAF) which was set up in 1998/9 as a mechanism to

demonstrate that resources from HIPC debt relief and additional donor funds were being channelled, in full, to key sectors in the PEAP.

Over the past three fiscal years the PAF has grown significantly, and now amounts to approximately 30% of the GoU budget. The PAF represents a sub-set of the budget or Medium-Term Expenditure Framework (MTEF). It consists of 'ring fenced' budget lines which gain favourable treatment by being protected from budget cuts. In addition, an amount equivalent to 5% of the PAF is allocated to support aspects of monitoring and reporting related to the PAF budget lines.

PAF resources are channelled to district levels only, and as conditional grants. However, as the PAF has grown, it has become the main fiscal instrument for targeting resources to local governments for poverty eradication and the achievement of PEAP goals. PAF Grant Transfers to districts have grown by over 300% from UShs 110 billion in 1997/8 to UShs 340 billion in 2000/01. The majority of PAF expenditures are recurrent (75%) in nature, however the proportion of PAF conditional grants for specific developments has increased significantly and is now UShs 83 billion (25%).

The NFP sets out the case for greater access to PAF funding for forestry-related development, given the significant role that forestry plays in poverty eradication in rural areas.

3.2.5 The Plan for Modernisation of Agriculture (PMA)

The Plan for Modernisation of Agriculture (PMA) is GoU's strategic framework for eradicating rural poverty through agricultural transformation. The objectives of the PMA are:

- to increase incomes and quality of life of the poor through increased productivity
- to improve household food security through the market
- to increase employment through secondary processing and services
- to promote sustainable use and management of natural resources

These objectives can be summarised as eradicating poverty by improving the **natural resource-based livelihoods** of the rural poor in a sustainable manner. This is a key component of the Poverty Eradication Action Plan, contributing to all four pillars of that plan but most fundamentally to 'improving the incomes of poor people' (PEAP pillar III). The objectives of the NFP are entirely consistent with these objectives.

The PMA seeks to place the poor at the centre of the poverty eradication process, and to empower the poor to take advantage of a wide range of livelihoods opportunities. The PMA recognises that farmers needs and opportunities are not always dealt with effectively through existing sectorally defined, and essentially supply-driven programmes. Rather, information, services, skills and capital investments should respond to their priorities and needs. This challenges sectoral thinking, demands co-ordinated and effective government, and requires participatory and gender-focused planning and implementation of programmes.

The proposed mechanisms for PMA implementation are the non-sectoral conditional grant transfers (called the PMA grant), realignment of existing sectoral strategies, and a multi-stakeholder co-ordination forum.

The PMA grant will flow through the LGDP system, to the lowest levels of local government, within an incentive framework that promotes participatory and environmentally sustainable planning and good governance. This deepening decentralisation aims to empower farmers to address their non-sectoral challenges and capitalise on-farm and non-farm opportunities that arise, and for local governments to improve efficiency of service delivery.

The **realignment of existing sectoral strategies** is set out in 7 main areas of priority action (see Box 3.4).

The high level **multi-stakeholder co-ordination forum** is to ensure that lesson learning at the periphery translates into policy adjustment at the centre. This will ensure the co-ordination of multi-sectoral interventions to remove any constraints to agricultural modernisation.

The PMA has identified a number of constraints to wider rural livelihoods transformation: poor land husbandry, low use of improved inputs, limited access to technical advice, poor access to credit, poor transport, communication and marketing infrastructures, and insecure land tenure rights.

Box 3.4 Seven areas of priority action in the PMA

- **Research and technology** development, supporting the dissemination and adoption of productivity-enhancing technologies
- **National Agricultural Advisory Services** (NAADS), reducing public sector involvement and promoting the role of the private sector in service delivery
- **Education for agriculture**, incorporating agriculture into all levels of primary, secondary and tertiary education.
- **Access to rural finance**, building institutional capacity and enabling regulations that encourage the private micro-finance sector
- **Agro-processing and marketing**, to improve skills and technologies that guarantee food security through the market and improved incomes, thereby allowing households to specialise rather than through household self-sufficiency
- **Sustainable management of natural resources**, including land, water, forestry, wetlands and the environment, encouraging improved technologies, skills, practices and policies
- **Physical infrastructure**, developing improved roads, communications, water and electricity

The Review of Forestry Initiatives in Uganda (2001) provides an overview of the main forest stakeholders in Uganda and the constraints they face. The group of stakeholders with a particular interest in improved planning and advisory services are the poorer, small-scale, rural producers and users. These include small-scale tree-farmers, subsistence fuel wood users, non-wood forest produce users, communities with an interest in forest reserves, pastoralists, brick-makers, lime-burners, fish dryers, charcoal producers and tree nursery operators. Other wealthier groups include private forest owners and larger-scale wood processors such as pit-sawyers, saw millers and traders. The constraints identified by the review are set out in Box 3.5.

Box 3.5 Key constraints to development of forestry livelihoods

- Insecure, or poor awareness of, **land and tree tenure** regulations
- Insufficient high quality tree **seeds** of appropriate species
- Lack of accessible technical **advice** (silviculture & policy)
- Inadequate recognition of cultural and **gender** constraints
- Inefficient mechanisms for local control of **problem animals**
- Inefficient **processing technology** (energy, timber & NWFPs)
- Poor **market** structure, low value products & lack of market information
- Lack of **private investor support** (tree growing & processing)
- Limited high quality information from appropriate **research**
- Ineffective **empowerment** of local government & communities
- Inequitable **distribution** of forest reserve benefits to local stakeholders
- Lack of **organisation** and **co-ordination** of stakeholders

Not surprisingly these closely match those found by the PMA as constraints to the modernisation of agriculture. The NFP recognises these constraints, and seeks to address them through appropriate new structures

and processes that are compatible with the emerging PMA and NAADS structures. The NFP sets out new approaches to community-based planning and delivering responsive advisory services that support forestry-related livelihoods.

3.2.6 National Agricultural Advisory Services (NAADS)

Under the PMA umbrella, the GoU has undertaken to reform agricultural extension services and develop the National Agricultural Advisory Services (NAADS). This will eliminate public extension delivery and empower poor farmers to purchase privately-delivered, publicly-funded advisory services. A number of principles have been set out to guide public funding of agricultural advisory services. They should:

- focus on enhancing **intensification and productivity** of small-holder agriculture;
- bring **research** closer to male and female farmers' fields;
- make linkages between farmers, extension workers and researchers more **demand driven;**
- **decentralise** responsibilities for extension to sub-counties;
- move from a civil-service based extension service to **contracting out** agricultural advisory services, technical backstopping, and the training of agricultural advisers;
- allow for a **plurality of providers** and methodologies at the field level;
- **learn** from successful programmes and experiences; and
- **harmonise** donor-supported programmes with PMA principles.

The objective of the NAADS programme is to establish an effective and sustainable demand-driven agricultural advisory service that will enable farmers to identify and pursue opportunities to increase their own productivity and incomes in a sustainable manner. The **NAADS programme** envisages the following actions:

Component 1: Advisory and information services to farmers. Support initiatives by farmer groups, working with their sub-county government, to contract agricultural advisers to deliver priority services. Matching grants will be made available from the district and central government. Activities will include mobilisation, participatory planning, technical advisory service, and information and communications

Component 2: Technology development and linkages with markets. Support the multiplication of technologies at sub-county and district levels, creation of linkages among farmers, advisers and researchers, funding contract researchers to work with them on technology development and adaptation and also to link with markets.

Component 3: Quality assurance - regulations and technical auditing of service providers. Provide a regulatory framework for service providers by setting and enforcing standards for qualification and performance.

Component 4: Private sector institutional development. Assist private service providers to retrain and up-grade their skills, train leaders of farmers' organisations in management and leadership, facilitate the restructuring of the local government staffing following privatisation of services.

Component 5: Programme management and monitoring. Support public institutions in both national and local governments to play their statutory roles with respect to the NAADS, including monitoring and evaluation of programme activities, and establishment of Management Information Systems.

The proposed modalities for the **NAADS grant** by which advisory services will be purchased includes support to the establishment of **farmer groups and farmers' fora** (comprised of

group representatives) that will work together with their sub-county government, to contract agricultural advisory services; **matching grants** will be made available from the district and national levels of government to help farmers finance such contracts; and additional funds may be made available to support natural resource management, through incentive schemes for **natural resource management** evident in sub-county plans.

To participate in NAADS, each district and sub-county is expected to satisfy **criteria** laid down by the Government's Poverty Action Fund and the local government. Expenditures for subsistence farmers will be largely supported from public resources while the commercial or market-oriented farmers will be supported through cost-sharing mechanisms. Farmers' institutions will be the core institution of the NAADS programme, and groups will aggregate into fora at parish, sub-county, district and national level. The National Farmers Forum will be the apex body. The forums will be the major points of leverage between farmers and Government institutions.

The **MAAIF** has overall national responsibility for NAADS, constituting a NAADS Board supported by a Secretariat to guide and advise at national level. Local councils advise and guide at sub-county and district levels. Key partners are private sector organisations, professional bodies, research and training institutions, NGOs, CBOs, local and central government agencies, development partners and donors.

Services will be contracted from **private service providers** who may be individuals, small groups of advisers, professional companies, parastatal agencies, academic institutions or commercial companies. Award of contracts will reflect expressed needs of the farmers, and will be through competitive tendering. Farmers - through their institutions - will be involved in the award of the contracts and the subsequent monitoring and evaluation of performance.

The preliminary NAADS programme cost is estimated at US$108 million over seven years, funded from the revenues of central government, districts and sub-counties, donors and the farmers themselves. The funds will be pooled into a common **'basket'** from which they will be allocated to districts and thereafter to sub-counties. The release of funds will be triggered by the plans of the farmer groups aggregated through the forums and submitted to the MFPED through the NAADS Secretariat. Thus funds will flow directly through local governments to farmers. Further allocation will be subject to annual performance evaluation against work-plan and accountability criteria. Donors will plan, budget and mobilise their support in line with Government's planning and budgeting cycle.

The NAADS programme was launched in early 2001 with the establishment of the Interim Secretariat and Steering Committee. The first two years of the programme are for trailblazing (piloting) activities. Full implementation of NAADS under the NAADS Act 2001 requires the establishment of a NAADS Board and Executive as statutory entities, the creation of legally recognised farmer institutions, and the amendment of tendering and contracting regulations to allow sub-counties to issue contracts of up to US$50,000.

3.2.7 The Land Sector Strategic Plan (LSSP)

The Land Sector Strategic Plan (LSSP) is committed to improve the livelihoods of the poor through more effective use and management of Uganda's land resources. This includes more equitable distribution of land access and ownership and greater tenure security for vulnerable groups, including those who depend on forest resources. It is expected that this will reduce the high rate of encroachment of government-entrusted lands, and enable the longer-term horizons that farmers and others need to grow trees and manage forests. This will help to alleviate poverty and protect the environment.

The NFP makes specific reference to the need to secure tenure for both land and trees. This includes forest owners, tenants, those with customary tenure and those leasing land from government for long-term plantation investments. Many provisions of the Land Act are

favourable to this, but its implementation is constrained by a number of factors, which the Land Sector Strategic Plan aims to address.

The strategic objectives of the LSSP are all highly relevant to and consistent with the NFP. These are:

- to create pro-poor **policies and legislation** for the land sector
- to allocate land resources to **more productive uses and users**
- to ensure a more **equitable distribution of land access and ownership**, and greater tenure security for vulnerable groups
- to create and **disseminate information** on land-use and land rights
- to establish more effective institutions and systems for **delivery of land services**
- to mobilise public and private sector **resources** for development of the land sector

3.2.8 National Action Plan on Women

The Gender Policy 1997 forms a legal framework to address gender imbalances that arise from unequal opportunities and access to control over productive resources. The policy is reinforced by the National Action Plan on Women which spells out areas to address and improve the economic and social status of women and youth. These include a number of areas which the NFP will directly complement:

- improving household nutrition, food security and household incomes
- developing entrepreneurial capacity of women and encouraging women to establish medium and large scale businesses
- reducing the workload of women, and supporting the introduction and use of energy and labour-saving technologies

The NFP is consistent with these actions. It includes a range of strategies that directly address the objectives of the National Action Plan on Women, in particular those aiming at improved incomes for women, development of business skills and enterprises, and reducing workloads through fuel efficient and processing technologies.

3.2.9 International obligations

Uganda has signed a number of international agreements that influence the forest sector and is party to other non-legally binding instruments. Some of them are already implemented or are in the process of being implemented in Uganda. Domestic legislation and action is being developed to support the implementation of current and future international commitments that affect the sector and that help to meet national objectives.

The relevant international process has been the United Nations Intergovernmental Panel on Forests (IPF) and the Intergovernmental Forum on Forests (IFF) on behalf of the UN Commission on Sustainable Development (CSD). A major output has been the development of national forest programmes, as national processes to which all parties are committed. These and other agreements are set out in Box 3.6. Uganda's NFP includes strategies to address all of these obligations and opportunities.

Box 3.6 Key international obligations and opportunities related to forestry

- to prepare a national forest programme (**UN Intergovernmental Panel on Forests** and **Intergovernmental Forum on Forests)**
- to conserve and manage unique areas (**World Heritage Convention**), wetlands (**Ramsar Convention**) and biodiversity (**Convention on Biological Diversity**)
- to control the wildlife trade (**Convention on International Trade in Endangered Species**)
- to combat the spread of deserts (**Convention to Combat Desertification**)
- to manage forests sustainably (**International Tropical Timber Agreement**)
- to store carbon through forestry (**Framework Convention on Climate Change**)
- to co-operate on trans-boundary forestry development (through the regional framework of the **East African Community**), and
- to seek fair trade arrangements for forest products (through the **World Trade Organisation**).

3.2.10 National Environment Action Plan

The Earth Summit of 1992 – the United Nations Conference on Environment and Development – sharpened the international focus on sustainable development. Uganda adopted a National Environment Action Plan (NEAP) in 1994 to reaffirm and guide its efforts in pursing a sustainable development strategy.

The NEAP process arose from concerns about the rapidly degrading environment and the need to take immediate and appropriate actions to reverse this trend and conserve natural resources for the present and future generations. It was intended to provide a broad framework for integrating environmental considerations into social and economic development planning. The process identified, analysed and prioritised major environmental problems and opportunities, and developed a comprehensive national strategy for participatory, sustainable development based on sound environmental management. The NEAP package comprises a set of documents on policy, legislative and institutional reforms needed for the effective management of Uganda's natural resources. The National Environment Management Authority (NEMA) and its supporting legislation were born out of this process.

The NEAP identified five areas for action, namely:

- Capacity building in environmental management
- Enhancing resource (land and water) productivity
- Management and use of biodiversity
- Environmental education and public awareness
- Environmental health and pollution

Key strategies in the NEAP include the establishment and enforcement of regulations designed to regulate resource use directly, and the implementation and enforcement of these regulations to take place at the local level. They include incentives and taxation measures, investments by central and local governments to redress specific environmental problems, and dissemination of technical and other information regarding the environment and natural resources to raise public awareness of the problems and measures needed to address them, together with the NGOs and community organisations.

Provision of environmental information through NEMA's "State of the Environment" Report is a continuing effort geared towards the implementation of the NEAP process, and a self-assessment of the impact of the national interventions in the environment sector.

3.2.11 Wildlife Protected Area Systems Plan

The 1996 the Uganda Wildlife Statute established the Uganda Wildlife Authority (UWA). UWA is charged with the management of the wildlife protected areas. Given that many parts of these protected reserves were settled and cultivated and thus useless for wildlife conservation, and given the intense political pressures to degazette other parts of these areas for agriculture and grazing, there was an urgent need to rationalise the protected area network. This was achieved in the Wildlife Protected Area Systems Plan (WPASP), which was developed through a participatory planning process with a wide range of stakeholders, including local councils.

The objectives of the WPASP are:

- To ensure that important surviving wildlife and plant communities receive adequate protection in wildlife protected areas or in forest reserves
- To indicate how those parts of the protected areas that no longer serve any useful conservation function (for example heavily encroached areas) may be excised from the protected area network
- To recommend appropriate changes in management strategies and status of the protected areas to ensure that UWA can effectively manage its protected area network.

The WPASP recommends that all national parks are retained and are centrally managed by UWA. However, there will be some re-alignment of boundaries where there is encroachment (e.g. Queen Elizabeth, Mt Elgon). In addition, all fishing villages in the QENP will be formally designated as Wildlife Sanctuaries under the Wildlife Statute, with surveyed boundaries. Negotiations have been concluded to excise settled areas from many wildlife reserves, and collaborative management proposed for others. The plan also proposes the establishment of community wildlife areas, and the revocation of all controlled hunting areas. The plan is designed to complement the Forestry Nature Conservation Master Plan, prepared by the Forestry Department in 1998. Where endangered plant or animal communities are adequately protected in the forest reserves by the Forestry Department, they are not considered for additional protection under UWA.

Based on the WPASP, UWA has developed a five-year strategic plan (2001 – 2005) for the management of the protected area network.

4 NFP vision and objectives

4.1 Vision for forest sector development

VISION

"A sufficiently forested, ecologically stable and economically prosperous Uganda"

The Forestry Policy 2001 sets out the vision for the forest sector. This vision aspires to sustainably managed forests, woodlands and trees, providing ecological and social services, producing economic goods for present and future generations of Ugandans, and making a contribution to the global community. It envisages a wider range of types of ownership, access and management of forest resources, involving government, local communities, the private sector and non-governmental organisations.

The vision was drawn up from wide stakeholder consultations, and is consistent with the national vision for Uganda. The new Forestry Policy was developed to give fresh political direction to this vision, and the NFP is now the framework that turns this policy into action.

4.2 Goal and objectives of the NFP

The goal of the Forestry Policy, and thus of the National Forest Plan, is:

GOAL

"An integrated forest sector that achieves sustainable increases in economic, social and environmental benefits from forests and trees by all the people of Uganda, especially the poor and vulnerable"

The NFP thus clearly focuses on **poverty eradication, economic development and sustainable forest resource management.** A key theme in the goal is sustainability, defined by the UNCED (1987) as 'meeting the requirements of present generations without compromising the ability of future generations to meet their own needs'.

The objectives of the NFP are:

- To raise the **incomes and quality of life** of poor people through forestry developments, targeting sustainable livelihoods amongst small-scale, mainly rural stakeholders, with strategies based on-farm, in natural forests or off-farm
- To increase **economic productivity and employment** in forest industries, targeting large-scale, commercial investors, with strategies based mainly on plantation forestry and wood processing

- To achieve **sustainable forest resource management**, targeting local, district, national and international interests in biodiversity and environmental conservation

These relate directly to the 4 Pillars of the PEAP, as set out in chapter 8 on the impact of the NFP.

4.3 Forestry policy statements

The government's forestry policy has been reviewed and Cabinet approved the new Uganda Forestry Policy in 2001. Its specific forestry policy statements are presented in **Table 4-1**. Implementation is to be supported by a number of enabling elements in the policy, directing that a national forest programming approach will be adopted, a favourable investment climate for private and public investment in the sector will be developed, sectoral co-ordination structures and a new institutional framework for the sector will be established, and a new legal framework will be developed. The NFP turns this policy into action.

Table 4-1 Policy statements from the Uganda Forestry Policy (2001)

1. Forestry on government land	The **Permanent Forest Estate** under government trusteeship will be protected and managed sustainably
2. Forestry on private land	The development and sustainable management of **natural forests on private land** will be promoted
3. Commercial forest plantations	Profitable and productive **forestry plantation** businesses will be promoted
4. Forest products processing industries	A modern, competitive, efficient and well-regulated **forest products processing industry** will be promoted in the private sector
5. Collaborative forest management	**Collaborative partnerships** with rural communities will be developed for the sustainable management of forests
6. Farm forestry	**Tree-growing on farms** will be promoted in all farming systems, and innovative mechanisms for the delivery of **forestry advisory services** will be developed
7. The conservation of forest biodiversity	Uganda's **forest biodiversity** will be conserved and managed in support of local and national socio-economic development and international obligations
8. Watershed management	**Watershed protection forests** will be established, rehabilitated and conserved
9. Urban forestry	**Urban forestry** will be promoted
10. Education, training and research	The government will support sustainable forest sector development through appropriate **education, training and research**
11. Supply of tree seed and planting stock	Innovative mechanisms for the supply of **high quality tree seed and improved planting stock** will be developed

4.4 NFP programmes

Seven programmes of activities have been identified in order to achieve the NFP's objectives. These programmes bring together the numerous strategies for policy implementation that are discussed in chapters 5 & 6. The programmes, which regroup these strategies around the institutions responsible for their implementation, are presented in detail in chapter 7. In brief these programmes are:

Programme 1:	**Enabling Institutions**	MWLE effectively co-ordinates, guides and supervises the sector's development; MEMD effectively supports biomass energy conservation; Civil society voice strengthened in the forest sector
Programme 2:	**National Agencies**	The National Forestry Authority, Uganda Wildlife Authority and local governments develop effective investments and partnerships for the management of the PFE
Programme 3:	**District Forestry Services**	Local governments, service providers and farmers organise improved forestry support services
Programme 4:	**Private Sector Development**	The private sector develops efficient and profitable commercial forestry businesses
Programme 5:	**Urban Forestry**	Urban authorities ensure increased tree growing in urban areas
Programme 6:	**Forestry Research**	Research institutions meet the needs of forestry producers and users for new information and technologies
Programme 7:	**Forestry Education**	Education and training institutions enhance professional and vocational forestry skills and knowledge

4.5 Target beneficiaries

The target beneficiaries of the NFP are the large cross-section of Ugandans who are dependent on forest resources for their livelihoods. While particular focus is given to the poorest and most vulnerable, and to providing services and enabling conditions for enhancing their livelihoods, attention is also given to larger scale business development that will create employment and wider economic growth. **Table 4.2** sets out the primary **interest groups** at which the NFP is aimed. These cover the main categories of economic activity in the forest sector. In addition, they are often the focus for the main **social groups** of poor and marginalised people. For example, the landless typically take up employment with commercial producers; widows, women heads of households, orphans and abandoned children normally collect fuelwood and trade in non-wood forest products; the youth usually produce charcoal and work at pitsawing and carpentry.

Table 4.2 Target beneficiaries of the NFP

1. Small-scale rural producers and users	2. Larger-scale commercial producers and users
• Small-scale tree farmers • Subsistence fuelwood users • Communal resource users • Pastoralists • Forest dwellers • Brick makers • Lime burners • Fish dryers • Producers, users and processors of non-wood forest and tree products • Commercial nursery operators and seed producers	• Tobacco growers • Tea and sugar estates • Private timber producers on reserved land • Tree growers for carbon fixation • Private natural forest owners
3. Institutional producers	**4. Urban consumers**
• National Forestry Authority • Uganda Wildlife Authority • Local government • Religious institutions • Institutions of traditional and cultural leaders • Urban authorities	• Urban consumers and institutional users • Building industry • Tourism industry
5. Primary wood processors	**6. Secondary Wood processors**
• Charcoal producers • Commercial fuelwood & charcoal traders • Pitsawyers • Sawmillers • Timber traders • Plywood manufacturers	• Industrial processors • Carpenters and joiners • Artisans

5 NFP policies and strategies

This chapter sets out a detailed analysis of the current context, problems and opportunities around a set of policy themes, and a **set of strategies for sustainable forest sector development**. Chapter 6 provides a similar analysis of the institutional context and sets out strategies for institutional reforms to support policy implementation. The analysis is set out to follow the policy statements in the Uganda Forestry Policy (2001).

The strategies are then regrouped and brought together in chapter into the seven NFP action programmes. The reason for regrouping these strategies is to focus the action programmes on the institutions with lead responsibility for their implementation. Each policy statement requires co-ordinated action from a number of different institutions, at national, district and local levels, and this approach makes it easier to turn policy into action.

NATIONAL FOREST PLAN		
NFP objectives	**Policies and strategies**	**Programmes**
Chapter 4 • Incomes and quality of life • Economic productivity and employment • Sustainable forest resource management	***Chapter 5*** 1. Permanent forest estate 2. Natural forests on private land 3. Forestry plantations 4. Forest products processing 5. Collaborative partnerships 6. Tree-growing on farms & forestry advisory services 7. Forest biodiversity 8. Watershed protection forests 9. Urban forestry 10. Education, training and research 11. High quality tree seed and improved planting stock 12. Biomass energy ***Chapter 6*** 1. Institutional roles and relationships 2. Ministry of Water, Lands and Environment 3. Other central institutions 4. National Forestry Authority 5. Local governments	***Chapter 7*** 1. Enabling Institutions 2. National Agencies 3. District Forestry Services 4. Private Sector Development 5. Urban Forestry 6. Forestry Research 7. Forestry Education

5.1 Forestry on government land

5.1.1 Context

The Permanent Forest Estate (PFE) is defined as land that is set aside for forestry activities in perpetuity. Currently, it consists of all forest reserve land (1,151,000 ha) and all forested areas in the National Parks and Wildlife Reserves (731,000 ha), a total of about 1.9 million hectares (see **Table 2-2**), representing about 9% of the total land area of Uganda. The land is held in trust by government for the people of Uganda. This area comprises tropical high forest, woodlands and grasslands, some intact and some heavily degraded. These are areas set aside permanently for the conservation of biodiversity, the protection of environmental services, and the sustainable production of domestic and commercial forest produce. The maintenance of the PFE is a firm political commitment in the new Forestry Policy (2001), justified on social, economic and environmental grounds (see Box 5.1).

Box 5.1 Statement from the Forestry Policy (2001)

Policy # 1: The Permanent Forest Estate under government trusteeship will be protected and managed sustainably

The forests in the PFE provide the basis for the livelihoods and cultural traditions of many poor Ugandans. They provide food security, energy and incomes, and help to reduce vulnerability in times of hardship, for up to 3 million Ugandans (see chapter 2.2).

The PFE is currently under the management of different institutions, mainly Forestry Department (FD), Uganda Wildlife Authority (UWA), and local governments (LGs), with a wide range of other stakeholders influencing its management. The institutions of traditional and cultural leaders are also taking a keen interest in the management of the PFE. There have been claims expressed over certain reserves, and some have been re-possessed by Bunyoro Kitara Kingdom, but according to the Constitution (1995) and the Land Act (1998), it is the Central Government and local governments that hold forest reserves in trust for the people of Uganda. Government can, however, grant a concession, licence or permit to any person or body for investing in forest reserves for forestry purposes.

5.1.2 Situation analysis

There are two core problems relating to the permanence of this forest estate: the loss of forest cover, and the degradation of the forest resource base. Both are leading to a decline in biodiversity and in productive forest assets and environmental services. These in turn are decreasing the contribution of the PFE to the national economy, and maintaining or increasing poverty amongst those communities most dependent on the resources for their livelihoods.

Furthermore, although the new Forestry Policy indicates that the current PFE is adequate for the purpose of providing forest goods and services to the people of Uganda, there are notable regional differences in the distribution of the area gazetted for forestry. Districts such as Arua, Rukungiri, Mbarara, Tororo, Kabale, Kampala, Mbale, Lira, Adjumani and Ntungamo are already experiencing shortages of firewood, and hence rising costs, and increased burdens on women and children who collect firewood.

Loss of forest cover

The causes of loss of forest cover are forest clearance for agriculture, grazing, urbanisation, and industrial development. Population growth, unsustainable land management practices, lack of economic opportunities and unfair trade are leading to an increase in the demand for land for agriculture and livestock. This in turn has led to encroachment of many forests, particularly the woodlands. Many urban and peri-urban forest reserves are also under threat

of degazettement for industrial development. Least protected forests like the former village forests have virtually disappeared under encroachment.

Many forest reserve boundaries have not been re-opened for a long time, and in some cases these have not been surveyed on the ground. FD records (October 2000) show that out of the total 9,600 km cut-line boundary length in both Central and Local Forest Reserves (CFRs and LFRs), only 1,300 km has been re-opened, leaving an 8,300 km backlog. There is a similar need for boundary re-survey and realignment in national parks, wildlife reserves and sanctuaries as expressed in the Protected Areas Systems Plan of UWA.

Unclear and un-demarcated boundaries are an important pretext for illegal activities, particularly encroachment and forest clearance. The woodlands have been particularly affected by such encroachment. Substantial efforts have been made to evict encroachers, but the process has met with fierce antagonism from the people and politicians, and in some cases from the donor community. In some forests the problem has re-occurred following evictions of encroachers. The underlying reasons for encroachment include the breakdown in law and order, population growth, corruption, political interference, and conflicting government policies.

These factors are exacerbated by the low economic contribution that forests on government-entrusted lands are currently making to districts and the national economy. There are economic opportunities in the forest reserves that are not realised or are poorly managed. Many forest reserves are not fully utilised for forestry developments. The degraded forests and woodland reserves could be used to contribute to poverty eradication, district development and the national economy through forestry-related activities, but this has not been achieved so far. These reserves are thus receiving pressure from competitive and alternative land-uses.

Degradation of forest resources

The cause of the degradation of the forest resource base is over-harvesting of forest products and over-grazing in woodlands. The former is characterised by the "mining" of high-grade timber species and non-wood forest products, cutting at rates that exceed sustainable levels; the latter is characterised by the prevention of forest regeneration by grazing and fires. In some cases this is driven by unregulated economic growth that undermines the resource base, in other cases it is poverty that leads to destructive practices in the absence of clear access rights, skills or alternatives.

The indiscriminate clearance and degradation of forests on private land is indirectly increasing pressure on the PFE to supply forest products as these become depleted on private land. Further degradation is caused by weak protection against fires and invasive alien species of trees, pests and diseases.

Underlying institutional factors

The low **institutional capacity** to manage the PFE is a major underlying cause of its decline, emanating from weak institutional structures, under-funding and inadequate management of human resources. There is poor capacity to control illegal activities in the field, insufficient skills and manpower, and staff indiscipline, coupled with inadequate supervision, control and monitoring of personnel. Lack of staff motivation due to poor pay and conditions has tended to aggravate the problem.

There have been serious **financial constraints** within institutions (UWA, FD, and LG) which have generally depended on donor support for the management of the PFE. There is limited capacity in these institutions to operate efficiently or to generate funds to cover operational costs to maintain the PFE. There are over 500 forest reserves under the Forestry Department. In practice many of these reserves are small and geographically spread, which

makes it difficult for the FD to manage them effectively and efficiently. With limited resources, FD has concentrated attention on the management of only a few selected reserves, especially those considered to be of high economic and biodiversity conservation values. UWA has faced similar difficulties and has supported the management of some wildlife reserves under collaborative arrangements with other agencies like NGOs, concessionaires, and local councils. The result is that reserves of a purely protective nature have been neglected and are prone to encroachment.

Very few forest reserves and national parks/wildlife reserves have operational **management plans**, as most of these expired during the 1970s. Without forest management plans, the majority of the reserves have no guidelines for addressing threats to the PFE and promoting sustainable management. There is limited inventory information on the condition of forest resources, and uncertainty about the existing volumes and growth rates of timber and other products in the natural forests.

The traditional **"top-down" planning approach** is outdated and fails to consider the needs of the increasingly diverse stakeholders in the forest sector, including local communities, the private sector and local governments, and to allow for their participation in the planning and management process. There is a poor understanding of the livelihood strategies of poor people in relation to forest reserves, national parks and wildlife reserves, and their voice is weak. Governance structures do not allow local participation in decision-making, and people are disempowered by a lack of information on government policies and programmes. The traditional forest dwellers, whose livelihoods are almost entirely forest-based, have been given little specific consideration in the planning process to cater for their needs.

There is little **integration of forestry into District Development Plans**, and where some forest reserves cross the boundaries of several districts, there are no structures for the concerned districts to participate in the planning process.

The decisions made about the PFE, particularly related to changes in land-use or degazettement, have not always been made in an open and transparent way. Given that this is **land held in trust for the people of Uganda**, more transparent and democratic processes of decision-making, more accountability for such decisions, and more open sharing of relevant information are required. The voice of civil society advocacy groups is particularly important in this regard, to ensure that development decisions are made in the pubic interest. Such groups have not until recently become organised.

5.1.3 Strategies for forestry on government land

a). To strengthen MWLE structures, capacity and processes

b). To establish the National Forestry Authority for improved management of the Central Forest Reserves

c). To manage Local Forest Reserves in partnership with local communities and the private sector

d). To improve institutional collaboration in the management of the PFE

e). To improve protection of boundaries, forest resources and watersheds within the PFE

f). To improve management planning in the PFE

g). To develop collaborative forest management partnerships with local communities – see chapter 4.5

h). To promote private sector enterprises dealing in forest products and services from the PFE

i). To conserve forest biodiversity – see chapter 4.7

To enhance the efficiency, transparency, accountability and professionalism of the management of the PFE, the leading forest sector institutions will be reformed and strengthened, and their roles and responsibilities will be clarified. Such institutional reform started with the establishment of UWA in 1996 for the management of national parks, wildlife reserves and sanctuaries. The new reforms outlined here for the PFE are therefore more specifically directed towards the management of forest reserves, which require changed responsibilities for the Ministry of Water, Lands and Environment, the establishment of the NFA, and a greater role for local governments, the communities and the private sector.

The main institutional reforms, and the new framework of roles and responsibilities, are set out in detail in chapter 6. They are summarised here briefly.

a). Strengthen MWLE structures, capacity and processes

The structures and capacity of the **Ministry of Water, Lands and Environment** (MWLE) will be reviewed and strengthened, to enable more effective delivery of its core forest sector functions. These functions are:

- formulation and oversight of appropriate policies, standards and legislation for the forest sector
- co-ordination and supervision of technical support and training to local government
- inspection and monitoring of local governments' and the NFA's performance in the forest sector's development
- co-ordination of the NFP and cross-sectoral linkages
- mobilisation of funds and other resources for the forest sector
- promotion, public information and advocacy for forestry developments

These functions relate to the whole forest sector, not just to the forest reserves under the Ministry's jurisdiction, and they are ***elaborated in detail in chapter 6.2.***

b). Establish the National Forestry Authority for improved management of the CFRs

The key reform is the restructuring of the Forestry Department into a **National Forestry Authority** for effective and efficient management of the Central Forest Reserves. While the NFA's core remit will be the management of the Central Forest Reserves, it may also be contracted to provide advice on forest management outside the CFRs (see chapter 6.4 for elaboration on the NFA).

c). Manage LFRs in partnership with local communities and the private sector

Local governments will be strengthened to exercise their responsibilities for more effective management of **Local Forest Reserves** (LFRs). A limited number of small LFRs (total 5,000 ha) are already under the responsibility of local governments, and this number can increase, to support decentralised governance and efficiency. The Minister responsible for forestry may progressively devolve more of the Central Forest Reserves to local governments, if there is demand, if local government capacity is built, and if national interests are not jeopardised, under new regulations and guidelines from MWLE (see chapter 6 for more detail). The main partners for local governments will be local communities and private forestry businesses, particularly those interested in establishing and managing forestry plantations.

d). Improve institutional collaboration in the management of the PFE

With the NFA in place, new kinds of institutional linkages, synergies and collaboration will be possible, and indeed essential. This will include improved working relations between the NFA, UWA, NEMA, Wetlands Inspectorate, Fisheries, and other central government departments, the local governments and communities, and the institutions of traditional and cultural leaders. Plans and approaches to forest management and biodiversity conservation will be harmonised between NEMA, NFA and UWA, and the co-ordination of biodiversity monitoring and the implementation of international biodiversity agreements will be improved.

The forest reserves under NFA and the national parks and wildlife reserves under UWA both have important forest resources with similar sets of underlying problems. Although they operate under different legal mandates, NFA and UWA have a mutual interest in collaboration to improve efficiency, share resources and tackle common problems effectively, especially in areas under "joint management". Improved **collaboration between NFA and UWA** over the forests in national parks and forest reserves will be developed. While a working relationship can be established through formal or informal understandings, effective integration will only happen if the two organisations work within the same Ministry. This will require substantive changes in ministry structures between MWLE and MTTI. These changes were clearly envisaged in the National Environment Management Policy of 1994 but there has been no progress. Under the auspices of a single line Ministry, and once the NFA is in place and working effectively, consideration can be given to merging the NFA and UWA to increase efficiency.

e). Improve protection of boundaries, forest resources and watersheds within the PFE

The security of the PFE **boundaries** will be ensured. This will be the responsibility of both UWA and the NFA. This will be addressed by identifying NP/WR/FRs whose boundaries are not clear or disputed, surveying and agreeing boundaries, ensuring legal instruments for boundary changes (such as land titles), rationalising boundaries if necessary and resolving disputes, marking boundaries appropriately (e.g. with concrete cairns, earth mounds, directional trenches or tree planting), and enforcing the law with regular patrols and continuous monitoring. The backlog of cut-line boundary length of 8300 km will be opened and demarcated.

In addition partnership agreements will be developed with local communities over boundary management, such as where people can plant and have access to planted trees on the boundary, or digging trenches for game and problem animal control.

Improved law enforcement through regular patrols will guard against **illegal harvesting** of forest produce. Where appropriate partnerships with local communities may help to reduce illegal activities by creating incentives and legitimate benefits. The many problems surrounding **encroachment** in the PFE will be addressed through guidelines and practices that are agreed by stakeholders. These practices must meet policy commitments to maintain the PFE for the purposes of forestry development, but must recognise the special circumstances of forest dwellers and pastoralists. Guidelines on compensation and resettlement will be developed as appropriate to minimise the suffering and protect the rights of forest dwellers and communities living adjacent to reserves.

The security of the forest reserves will further be reinforced by the NFA working closely with the Department of Lands and Surveys, and obtaining land titles for the CFRs and LFRs. The legislation will be strengthened to ensure that forest reserves cannot be degazetted without the express wish of Parliament, and that information relevant to the public trusteeship of forest reserves is available to the public.

Where critical **watersheds** lie within protected areas, UWA and NFA are responsible for maintaining natural or planted forest cover to protect such watersheds. This will be achieved through improved management planning, protection from fire and illegal harvesting, tree planting and forest regeneration initiatives and partnerships with local communities.

f). Improve management planning in the PFE

An immediate priority is to develop strategic **Forest Management Plans** for all the forest reserves. This will be facilitated by the NFA in an open and participatory manner to allow local governments, private businesses, communities and civil society to agree overall management objectives for each FR. A similar process is under way for the wildlife areas under UWA. Where a reserve crosses district borders, participation of the local communities and local governments of all districts concerned is called for. The planning process will ensure consistency with, and contribute to, District Development Plans. It will also create ownership and incentives for the districts to participate actively and give political support, and provide a balance between conservation and production priorities that is consistent with the objectives of poverty eradication. The PFE contains most of Uganda's valuable biodiversity, which it is GoU's policy to conserve. However, there must also be clear benefits from forest reserves for poverty eradication and national economic development. These **strategic plans** will be cost-effective and relatively quick to produce, and from these, more detailed **operational plans** can be drawn up for specific sets of activities, addressing the agreed strategic management objectives. Guidelines for producing both types of plans will be developed with an emphasis on participatory processes and the rapid and cost-effective collection of forest resource information. Exploratory inventory, integrated stock survey and management inventory, and permanent sample plots will be important sources of in-forest information necessary for operational planning and decision making.

Standards and guidelines will be developed to guide the management and monitoring of the status of, and activities in, the PFE. Nationally agreed **criteria and indicators** for sound forest management will be developed for assessing and monitoring investment and harvesting plans for the PFE, and possible forest certification, following international standards. These standards and guidelines will be the responsibility of MWLE for FRs and MTTI for wildlife areas, and harmonisation will be essential.

g). Develop collaborative forest management partnerships with local communities

Partnerships with local communities will be particularly encouraged to enhance peoples' access to, and utilisation of, forest products for subsistence and investment opportunities. Incentives will be developed to encourage local communities to develop such opportunities, in ways that build on rather than undermine the role of forest reserves for subsistence use and as safety nets for the poorest people. **Collaborative management agreements** will be developed between lead agencies and community groups, to stimulate well managed economic activities in the PFE. **Investments by local communities** are likely to focus on the regeneration and management of natural forests for subsistence products and the marketing of non-timber forest products to increase incomes and quality of life.

Further details of strategies for developing CFM are given in chapter 5.5 (Collaborative Forest Management).

h). Promote private sector enterprises dealing in forest products and services from the PFE

Economic activities in the PFE will be promoted by the NFA and UWA by creating an enabling environment for the active participation of local communities and commercial businesses, in both wildlife and natural forest management and in plantation development. Opportunities for the better management of economic activities, to improve sustainability and to derive local benefits, lie in all the land categories within the PFE: in the wildlife areas (national parks and wildlife sanctuaries), in government-entrusted reserves (central and local forest reserves), and in community-registered reserves (community forests).

Commercial-scale investment by the private sector will be promoted in the production and harvesting of both timber and non-timber forest products, to stimulate employment and economic growth, and to meet future national demands for forest products. Such investments will be promoted through the development of **commercial forest plantations**, the **licensed harvesting** of forest products from the PFE, and the **development of markets** for forest products and services. **Technical assistance** will be provided to the private sector to enhance the performance of forest produce harvesting. Bare or highly degraded forest reserves will be concessioned to private businesses, farmers or community groups to plant with appropriate tree species to increase the supply of timber and other forest products. Commercial plantations will initially be developed by the NFA, but the private sector will progressively play a greater role in their growth.

In cases where land is a constraint on small-scale tree farming, opportunities will be developed using land in forest reserves for **small-scale tree growing**. Licences in FRs will encourage smaller-scale poverty-focussed initiatives amongst the poor and landless, with preference given to women and youth groups to grow trees in FRs.

Tourism will continue to be an important activity in the major conservation areas, especially the national parks and wildlife reserves and the CFRs with tourist potential. The main objectives are to develop sustainable eco-tourism businesses in high potential sites in NPs, WRs and FRs, to provide conservation education to both local and international visitors, and to generate revenue for the management of conservation areas and for the benefit of local communities. The development of tourism will in general be contracted to the private sector or local community groups. This requires the identification and marketing of potential sites, and the tendering of concessions to the private sector on the basis of viable business plans. Special incentives may be required for local communities or groups to take up forest-based eco-tourism. UWA and NFA will provide guidelines and will monitor impacts to ensure that best practices are maintained.

Further detail of strategies for economic development in the forest reserves are given in chapters 5.3 (Plantation Forestry) & 5.4 (Processing Industries).

5.2 Forestry on private land

5.2.1 Context

Seventy percent of Uganda's natural forests grow on land not owned by the state (i.e. outside the forest reserves and wildlife areas). These forests are referred to as 'private', and grow on land under both private and customary ownership. The majority of private and customary natural forest is woodland, whose main commercial value is currently in charcoal production, and a smaller proportion remains tropical high forest, whose main commercial value is timber.

Box 5.2 Statement from the Forestry Policy (2001)

Policy # 2: The development and sustainable management of natural forests on private and customary land will be promoted

These private and customary forests offer far more than purely commercial values to the national economy, to forest owners and to surrounding communities. These natural forests provide vital subsistence value to the poorest rural communities, and are important in maintaining the environment that ultimately supports both a developing rural and urban Uganda. Such forests also have important spiritual values. The Forestry Policy (2001) is committed to the wise use and management of private and customary forests (Box 5.2). It recognises that this is best achieved through developing the incentives and the institutional framework to enable private and customary forest owners to do this.

The Land Act (1998) classifies private land ownership into 4 different tenure systems, namely freehold, leasehold, mailo (Buganda only) and customary tenure. The NFP makes the distinction between forests owned individually or institutionally under freehold, leasehold, and mailo tenure systems, referred to as '**private'**, and those owned communally under customary tenure systems, referred to as '**customary'**. The considerable diversity of tenure scenarios for both private and customary forests implies that a range of specific solutions is needed to resolve problems of forest degradation.

A **privately owned** forest may, for example, be owned by individuals or institutions (e.g. businesses, churches, traditional institutions), with landlords either present or absent, in which case there may be tenants or squatters on the land. In either case, ownership may be "informal" (based on traditional systems of demarcation) or legally registered (in accordance with the Land Act 1998).

Alternatively, forests may be under **customary ownership**, in which members of a community have traditionally managed and protected the forests communally according to principles and rules agreed either amongst themselves or in accordance with tradition. Traditional management systems of regulation, however simple, have generally broken down and user rights have become increasingly unclear. This is adversely affecting women and the poorest as they rely disproportionately on common property forest resources. Typically, customary ownership rights are made unclear by the insecurity of tenure, and this has resulted in open access use of previously managed customary forests. The Constitution (1995) and the Land Act (1998) have sought to redress the problem of open access, which is leading to severe degradation of forests and land, by recognising the ownership of customary land through formal registration.

5.2.2 Situation Analysis

Natural forests are not being harvested sustainably and are rapidly being degraded or converted to other land-uses, particularly agriculture. The loss of these important resources is reducing biodiversity, promoting soil erosion and reducing soil productivity. It also reduces

the supply of many forest products on which the poorest people depend, and undermines many of the cultural and social values derived from these forests.

There are a number of factors involved in the degradation of private and customary natural forests.

Uncertain or conflicting government policies

There is no formal policy specifying forestry as a preferred land-use on private and customary land. Had such a land-use policy been in place, the indiscriminate misuse of land and the degradation of natural forests may not have been so widespread.

Some government policies and plans are in conflict with the sustainable management of private and customary forests. Some government programmes aimed at a whole range of agricultural developments may also conflict with forestry. Industrialisation and infrastructure development may require forest clearance.

The Land Sector Strategic Plan addresses many issues relating to land reform and the implementation of the Land Act. The Forestry Policy (2001) and the new forest sector legislation (National Forestry and Tree Planting Bill) encourage the registration of both private natural and private planted forests. Rather than increasing regulation, the drive is towards providing the right incentives and enabling framework to encourage forestry as a beneficial land-use.

Open access use

Open access refers to the unrestricted access by anyone to a common resource, which, through overuse, is liable to disappear. The lack of clarity in land and tree ownership, and hence access rights, is worsening the relatively unregulated use of both customary and private natural forests. In the case of private forests this situation is further complicated by the diverse ownership structures and on whether a landlord is absent or present.

Uncertainty of tenure has different facets. Where **land tenure is uncertain**, forests are mismanaged because everybody claims access and nobody takes responsibility for protection and sustainable harvesting. This is a classic characteristic of open access use. However, even where land tenure is certain, **tree tenure may be uncertain**, and serves as a disincentive for both private and customary owners to either plant or sustainably manage natural forests. There are two aspects to the confusion over tree tenure. The Forestry Department has often been perceived to be in control of all trees, although its mandate clearly specifies control only over declared ‘reserved species’. There is also confusion on the ground regarding the ownership of planted indigenous species as opposed to planted exotic species, where planted indigenous species are often not considered ‘owned’ by the landowner.

In addition to the poor knowledge of tenure systems for natural forests outside forest reserves, there is very little information on the patterns of land (and forest) ownership in general. Only 25% of all land in Uganda is officially under title in accordance with the Land Act (1998). This is partly due to the costly and timely process of land registration, which, despite its promotion through decentralisation and clear stipulation by law, remains inaccessible to the majority of the poor. The disincentives to register land further exacerbate this lack of clarity in land ownership, because traditional (and trusted) systems of registration through the LC1 or traditional chiefs (for example ‘kibanja’ tenure on mailo land) are in conflict with formal registration instigated under the Land Act (1998).

The majority of Ugandans, and especially the poor, are also unaware of their land rights in relation to the Land Act (1998). This is due partly to inadequate dissemination of the law and partly to being unable to access or understand the law. Rights of access have therefore remained a matter of local custom and norm, reflected particularly in the ability of outsiders

to settle, clear and harvest from within customary forests with the apparent agreement of the host community.

Low value of natural forests

There is a widespread perception amongst the rural poor that natural forests in themselves yield little or no value in economic terms. Indeed, alternative land-uses such as agriculture are currently more financially profitable, as are their by-products in the form of charcoal and fuelwood which provide crucial short-to-medium term income, particularly to the poor. Forest owners often tend to see themselves as owning bushy land which, at some point in the future, is to be converted into agriculture. It is not uncommon for such forest owners to encourage, or at least not to discourage, gradual clearance of forests by adjacent communities.

In most cases, customary and private natural forest owners lack information on markets for timber and non-timber forest products. They also lack the skills to market their forest products. The challenge is to develop greater value through incentives to encourage forest owners to maintain forests and not to convert them in future. Market-based incentives are being developed, for example through carbon storage, however the extent of such benefits at this early stage is not sufficient to stop the conversion of forest land to other uses.

Natural forests are also cleared to remove the habitat of insect vectors, which can cause human and animal disease, and problem animals, which damage crops and livestock.

There is currently little official recognition of informal markets, or the fundamental subsistence value of natural forests to the livelihood strategies of the poor. Users of customary forests also perceive natural forests as “God-given”, which perpetuates the erroneous view that forests are eternal sources of produce.

Management capacity of owners, tenants and communities

Few private forest owners or customary forest users have a management plan, and few have the knowledge and skills to manage their natural forests productively and sustainably. Management plans need skills, time and money to prepare and use. There is, as yet, no provision for technical support to prepare such plans, and no well-organised and funded advisory service to support their implementation. Historically, the role of the Forestry Department in private and customary forests has been limited to revenue collection from felling licences and the control of reserved species, with little or no extension support or advice on sustainable forest management.

Agreeing a management plan for customary forests amongst competing user groups within a community can be extremely complex and time-consuming due to the local social and political context. There is also a common perception amongst communities that the Forestry Department controls all forest resources, which acts as a disincentive to working together to resurrect traditional management systems which have broken down.

Specific cases – Pastoralism

For the majority of customary forests, pastoralism constitutes the predominant land-use. It is important in this context to understand the importance of woodland management to the livelihood strategies of pastoralists, and the mainly positive impact these have on woodlands.

Woodland management is an integral part of the pastoralist livelihood strategies. The ecological and physical conditions in Karamoja, for example, have necessitated high levels of co-operation amongst the community, so as to ensure survival which is inexorably linked to maintaining the existing natural resource base. There is a strong case for learning about

and building on the traditional systems of management in predominately pastoralist areas that have had a positive impact on woodlands.

However, adverse climatic conditions, agricultural development, war, gazettement, and programmes promoting sedentisation have restricted traditional grazing areas and disrupted access to water sources and common migration routes. These developments have resulted in over-use and degradation of remaining pastoral woodlands. In Karamoja in particular, degradation of pastoral lands is worsened by the strong dry season winds and dry climate, which is resulting in desertification.

Few attempts to provide alternative sources of water and pasture, through for example tree growing and tree management, have been successful to date. This is mainly due to an inadequate understanding of pastoralist livelihood strategies, and the development of new systems, rather than building on the strength of the existing ones which maintain strong roots in local culture, beliefs, and community co-operation.

5.2.3 Strategies for the management of private and customary natural forests

a). To deepen understanding of the complexities of private and customary forest management

b). To develop guidelines for the management of private and customary natural forests

c). To create awareness of ownership rights, opportunities and obligations for owners and users of private and customary natural forests

d). To develop incentives to encourage private and customary forest owners and users to set aside natural forest as permanent forest land

e). To secure tenure for private and customary forests

f). To develop the capacity of forest owners and users to effectively manage their forests

g). To develop the capacity of government institutions and service providers to provide extension support and advice

h). To monitor the ownership and management of private and customary natural forests

Legal regulation has had a limited impact in fostering sustainable forest management, so other more positive approaches are needed. These include forms of economic and cultural incentives, improved advisory, training and information services, securing tenure and developing co-operation agreements to allow controlled access to private and customary forests based upon self-regulation. These approaches will be supported through a greater understanding at the national level of the complexities of managing private and customary forests, especially in the context of multiple land-use strategies (forestry as opposed to agriculture and pastoralism). They will be based upon existing legal and administrative mechanisms, with specific reference to the Constitution (1995), Land Act (1998), and the new forestry legislation.

a). Deepen understanding of the complexities of private and customary natural forest management

Efforts will be made to deepen understanding of the issues and complexities of private and customary natural forest ownership and management. The focus will be on understanding forest ownership and management as they relate to different land tenure settings, different ecological settings, and different cultural settings.

As part of this process, some issues will be specifically considered. These include: impacts of migration and the local social and political context on the scope for co-operation amongst and between communities; identifying opportunities for building on traditional resource and land management systems; understanding constraints and opportunities to land and forest registration as perceived on the ground; identifying incentives and disincentives to maintaining natural forests; and exploring options for multiple land-use.

b). Develop guidelines for the management of private and customary natural forests

National guidelines on the management of private and customary natural forests will be developed. These will be based on the understanding and best practices generated from further insight of the issues above and experiences from pilot initiatives. The purpose will be to inform and guide private and customary natural forest owners, communities, local governments and service providers on the scope and processes for improving management based on securing forest and land ownership and on organising co-operation agreements.

The guidelines will provide an overview of (a) the issues and strategies, (b) the policy, legal and cultural context, (c) the roles and responsibilities of the institutions involved, (d) the process for identifying communities, registering land and developing improved forest management, and (e) model formats for land registration and management agreements.

An important aspect of the guidelines is to clearly define the roles and responsibilities of institutions in the management of private and customary natural forests. **The roles and responsibilities for service delivery** will be set out at the national and district levels. This includes defining how the Forestry Inspection Division in MWLE will work with related institutions, notably the PMA and NAADS. In the districts, the roles and responsibilities of the District Forestry Services, the environment officers, NAADS and others, will be clarified to show the ways in which government institutions and privately contracted service providers are to work together to deliver appropriate extension and advice. **The roles and responsibilities of land registration and dispute settlement** will be clarified, both within District Land Boards and other local and national government institutions, and amongst service providers, forest owners and users.

c). Create awareness of ownership rights, opportunities and obligations for owners and users of private and customary natural forests

The promotion of the sustainable management of natural forests on private and customary lands will entail a prior raising of awareness of the ownership of land and trees, targeting private natural forest owners, customary users, local leaders, and also local government and civil society organisations. This will require mass **communication and sensitisation** on the values of natural forests, the rights of ownership, what ownership of natural forests entails, the opportunities and incentives to support natural forests, and on the responsibilities and obligations of owners and of those involved in facilitating transactions in ownership.

There are a number of processes that will work to strengthen the role of forestry in land-use systems. The LSSP is working to strengthen security of tenure, in conjunction with non-governmental organisations such as the Uganda Land Alliance. New institutions, such as the Private Forestry Division of the NFA and NAADS, will promote the opportunities and benefits arising from registering the ownership of plantation and natural forests.

d). Develop incentives to encourage private and customary forest owners and users to set aside natural forest as permanent forest land

The emphasis in this strategy clearly shifts from one of regulation to one of providing information and economic and cultural incentives. Encouraging private and customary owners to set aside natural forests as permanent forest land will require, on the one hand, the **development of targeted incentives** to help change attitudes and behaviour as to their value and productive uses, and, on the other, the **removal of disincentives** to enable owners to take advantage of the envisaged benefits. In order to do this, the opportunities and constraints facing private and customary owners will need to be understood more fully.

The development of economic incentives will include possibilities of compensation for forest conservation in the form of carbon storage, the marketing of non-wood forest products through access to market information and markets, and the encouragement of high value-added tree-based crops. Customary users and owners will be particularly supported in the reinstatement of traditional systems of management and control where these may apply. The removal of disincentives will focus on supporting the simplification of the process of land registration.

e). Secure tenure for private and customary forests

Security of tenure for **private natural forests** is clearly stipulated in the Land Act (1998) under the systems of freehold, leasehold, and mailo. It is further supported in the new National Forests and Tree-Planing Bill, which stipulates that a person may register, with the District Land Board, a natural forest located on land owned in accordance with the Land Act (1998), and that all forest produce from a natural forest registered as such belongs to the owner (and should be harvested according to an agreed management plan).

Where **customary forests** are considered to have significant subsistence, economic, environmental or cultural value, or where there is a history of communal management through traditional systems of regulation and control, a local community may decide to formally register ownership.

The provisions of the Land Act (1998) and the new forestry legislation will be used to strengthen traditional systems, or create new appropriate systems, by encouraging communities to **register customary ownership** of particular forests. The Land Act (1998) stipulates three forms of formally recognised customary ownership; the declaration of communal land intended for a specific use (eg. a ‘community forest’), the Certificate of Customary Ownership, and the Communal Land Association (CLA). The new forestry legislation further supports this by providing for the specific declaration and registration of a ‘community forest’.

This approach will especially target the poor and the landless. Communities will be encouraged to develop rules to govern the use of such forests, as part of an established local management plan. This will enable regulated communal management systems to evolve and reduce the destructive impacts associated with open access to customary forests.

The **process of land registration** is the main constraint in practice to registering both private and customary forests. This will be supported through the promotion of a simplified, decentralised, systematised, and time-bound registration process, and setting out roles, responsibilities and procedures which are clear to both the District Land Board and the Sub-County Land Committees, and the community at large.

f). Develop the capacity of forest owners and users to effectively manage their forests

The sustainable management of private and customary forests requires both technical capacity and organisation and co-operation between interested parties, for decision-making and enforcement of rules and regulations**.**

Management plans are important tools in the management of forests. Depending on the scale and use of the forest in question, they can be highly detailed management plans for a large-scale private natural forest owner or very simple rules and regulations for a community declaring a 'community forest'. The District Forestry Services and contracted service providers will focus on providing both the technical skills required to develop and operate a management plan, and in facilitating the co-operation required for agreeing and enforcing rules of the management plan.

For private forests, a major strategy will be to encourage **co-operation agreements** between private natural forest owners and adjacent forest user groups. This will form part of forest extension advice and supervision to private natural forest owners on the benefits of best management practices offered by local government (especially the District Forestry Services) and contracted service providers. This will require community sensitisation, fully assessing the scope for co-operation within and among user communities, and building basic technical capacity in support of co-operation agreements with the private natural forest owner.

g). Develop the capacity of government institutions and service providers to provide extension support and advice

The development of management plans and other extension advice, for both private forestry and Communal Land Associations, will be supported through demand-driven service provision. A range of services for supporting natural forest management will be developed, and relevant information and advisory services provided to private and customary forest owners and users. Clear roles and responsibilities for service provision to private and customary forest owners will be established, to involve the District Forestry Services, private service providers or the NFA's Private Forestry Division contracted under the NAADS provisions, and other CBOs and NGOs. Constraints and opportunities to supervising, advising and providing extension services and facilitating ownership transactions will be identified and addressed.

h). Monitor the ownership and management of private and customary natural forests

The sustainable management of private and customary natural forests will require effective monitoring. To this end criteria and indicators will be developed against which progress can be measured. Not only will the areas and status of registered natural forests be monitored, but also the accessibility of the processes for securing tenure and access to the benefits and services designated for natural forest owners. The overall levels of national forest cover will be monitored in terms of areas of forest cover under private ownership. Codes of conduct regarding the use and trade of forest produce will be established, so as to ensure management standards are being met in accordance with agreed management plans. The use of lesser-known species will be promoted and monitored. The protection of private and customary forests from alien species, pests and diseases will also be monitored. These will be the responsibilities of the District Forestry Services overseen by the Forestry Inspection Division.

5.3 Commercial forest plantations

5.3.1 Context

Forest plantations are defined as planted forest stands of introduced or indigenous tree species, of only a few species, even-aged and regularly spaced. The distinction between woodlots and plantations is mainly a question of scale. This section deals with larger-scale commercial plantations, while woodlots on farms are dealt with in chapter 5.6 on farm forestry.

Official statistics show that forest plantations in Uganda cover a total of 33,000 ha. This area is only 0.2% of the forested area. About 20,000 ha are located within Central Forest Reserves and managed by FD and partly by private investors, 2,000 ha are located within National Parks and managed by UWA and 11,000 ha are located on private land. Approximately 55% of the plantation area is *Eucalyptus* (broad-leaved), and 45% is softwoods (coniferous), mainly pine (*Pinus caribea* and *P. oocarpa*) and cypress. However, not all the plantations are maintained, and some are in poor condition. A recent survey of FD plantations showed only 6,000 ha of good quality standing stock.

Box 5.3 Statement from the Forestry Policy (2001)

Policy # 3: Profitable and productive forest plantation businesses will be promoted.

The Central Forest Reserves consist of more than 1.1 million ha of natural forests, grassland and bushland. More than 50,000 ha of these reserves are already identified as well suited for large-scale plantation establishment due to good soil productivity, infrastructure and proximity to main markets. The development of profitable plantation businesses can offer substantial opportunities for economic growth and employment, especially in rural areas. The Forestry Policy (2001) is committed to promoting such businesses (see Box 5.3).

5.3.2 Situation analysis

Plantations can be managed to produce fuelwood, poles and sawlogs. Fuelwood and poles can be grown in a relatively short period of time (3-5 years). In contrast, timber for Uganda's construction and processing industries requires a much longer time to produce, and more careful longer-term planning. The current consumption of sawlogs in Uganda is unsustainable, due to poor management of existing plantations, limited establishment of new plantations and excessive logging in natural forests. Estimates have shown that in order to meet the future demands for timber from domestic supply, 40,000 - 50,000 ha of well managed timber plantations are needed to supplement the potential sustainable supply from natural forests and trees on farms. A national target of 4,000 ha of annual plantation establishment for sawlog production will ensure an appropriate supply of logs to the market over time.

Large-scale plantations will also play a more important role in Uganda’s future energy supply, particularly for the tea, tobacco and sugar industries, which are major industrial consumers.

The main reasons for limited investments in forest plantations in Uganda are:

Long payback period and risks

The length of the investment period is the main economic challenge for the establishment of sawlog plantations. Investment capital must be locked up for long periods, with returns often not obtained for 20-25 years after the initial investment. However, investment analysis of pine plantations shows real internal rates of return (IRR) of between 8-12%. The attractiveness of this return depends on other investment possibilities and the expected risks

in tree growing. The investor will demand a higher IRR as compensation for the risk involved and the long-term characteristics of the investment. The risks involved include fires, pest and diseases, growth and quality failure, uncertainties in future demand and potential political uncertainty. The real IRR of *Eucalyptus* plantations is around 10-12% when managed for production of construction and utility poles. The profitability of fuelwood production in plantations is more variable, depending on local market conditions.

Poor land tenure and investment climate in the Central Forest Reserves

Available and secure land for plantation establishment is a precondition for plantation establishment. Population growth puts pressure on land, which implies land scarcity in many areas. When land is a constraint, the value of production per unit of land has to be maximised which often favours agricultural production.

Central Forest Reserves are set aside by the government for forestry and can play a crucial role in plantation establishment. Only limited plantation activities are however taking place by the Forestry Department or by the private sector in the CFRs. While there is certainly adequate land available in the CFRs, the low marketing effort to attract the private sector, weak land contracts and political interference are all impediments to private investment.

Examples of encroachment in private plantations promoted by politicians and the expropriation of established plantations without appropriate compensation, are severe disincentives for private sector involvement. There is confusion, unclear instruction and abuse of the taungya system, which exacerbates the sense of insecure tenure by investors. Taungya is a practice whereby farmers are allowed to clear the vegetation and grow food crops in amongst planted tree seedlings - the farmers continue to grow the food crops for several years while tending the trees, until the trees are big enough to exclude the food crops. This saves plantation establishment costs, and creates short-term benefits for farmers by providing temporary free cropping land.

Low capacity in FD to undertake plantation management

The established plantations in the CFRs are in general poorly maintained and the crop is over-mature and declining in value in most areas. Despite their technical skills, the FD has not been able to utilise and manage the plantations efficiently. The low Government investment priority in forestry, and the poor and sporadic disbursement of funds for plantation work, are the main impediments to efficient plantation management. Due to a lack of investment, private and government plantations in CFRs are deteriorating fast.

Poor information on economic, social and environmental performance

Local production data and technical guidelines for different species for plantation establishment are limited and poorly disseminated. Silvicultural, environmental and social criteria for sound plantation management are not developed. Such criteria and indicators are needed to attract some kinds of investment, to be able to undertake EIAs, or to take advantage of potential financial support from carbon funds.

Poor tax incentives

For a new investor in plantations the current tax system can work as a disincentive because costs related to past investments including VAT cannot be deducted. Hence most of the gross revenue at the time of harvest appears as net revenue and is taxed because the investment costs incurred in previous years cannot be deducted from the harvesting year's revenue. For investors in FRs the land rent is considered by some to be too high to attract investment

5.3.3 Strategies for the development of plantation forestry

a). To develop a Plantation Development Fund for private sector plantation investments

b). To review tax and other disincentives for private sector plantation investments

c). To increase the establishment of new plantations by the NFA and the private sector

d). To improve the management of existing government plantations

e). To improve collaboration between plantation investors and local communities

a). Develop a Plantation Development Fund for private sector plantation investments

A number of economic incentives will be developed to encourage private investment in forestry plantations. A **Plantation Development Fund** will be established to support plantation establishment for sawlog production, to overcome the problem of access to long-term finance. An indicative target of 4000ha of timber plantations each year is required to meet future shortfall in timber supply, and the fund should act as a partial incentive to reach this target. The Plantation Development Fund will be operated as an independent entity through a management agent or bank, and will provide a mix of grants and credits targeting private investors and organised groups.

Appropriate arrangements for the use of this fund will be developed, whether as grant or loan funds, to kick-start plantation development in the private sector. Once its performance is reviewed, it may be expanded to include other kinds of forestry investments such as fuelwood plantations.

b). Review tax and other disincentives for private sector plantation investments

There are a number of disincentives that need to be addressed concurrently with the Plantation Development Fund, if private plantation forestry is to be developed successfully. The **tax system** will be reviewed to provide incentives for forest owners and investors to make long term investments. **Land rents** and licence terms will be reviewed to attract more investments in FRs, and the **administrative procedures** for allocating permits will be reviewed to ensure transparency and accountability. **Advice** will be given on protecting investments, including insurance against fire or political uncertainties, and on best practices for plantation establishment and management (see below) .

c). Increase the establishment of new plantations by the NFA and the private sector

While the NFA will make substantial initial investments in plantation development in CFRs, the policy intention is that the private sector should quickly take the lead in this (see chapter 5.1.3). This will be through private businesses investing within forest reserves or on private land, or communities investing in community forests. With low investment and inefficient management structures, the FD has not been able to manage the government plantations sustainably. While trying to build up the private sector, the NFA will invest in a modest increase in the area of its forestry plantations and improve the management of its existing ones. However, in the long term the private sector will play an important role in developing and managing commercial forestry plantations.

There are large tracts of land available for forestry plantations in the forest reserves and many other institutions, including the tea and sugar estates, the army, prisons, schools, churches and the kingdoms, have land available for forestry developments.

A diverse range of plantations will be promoted, from small to large-scale, to produce a range of products to meet the growing demands. However, a specific effort will be made to develop **large-scale commercial timber plantations** to meet the national shortfall that is predicted in the supply of construction timber. They will also provide an effective substitution for the bulk of the wood from Uganda's natural forests, whose harvesting is currently a major threat to the conservation of biodiversity.

Private sector investment in forestry plantations will be enhanced through the following:

- **Land in Central Forest Reserves** will be made available for plantation developments, including small to medium commercial plantations. The NFA will licence land in CFRs to private investors, communities, districts and NGOs who are interested to commit themselves to forest investment and management. About 50,000 hectares of land in the CFRs are well suited for large-scale commercial plantations, although the total area suitable for tree growing is substantially higher. The large-scale commercial interests will be developed through revised land-use licences and investment promotions. Large-scale investors will be encouraged to develop softwood plantations in forest reserves close to accessible markets. Smaller-scale woodlot developments will also be promoted through agreements with local farmers. Transparent procedures for developing concessions will be used, with terms and conditions that act as incentives to investors.

- **Forest management plans** will be developed for the forest reserves to identify suitable areas for private sector plantation investment. These plans will be based on a national zoning system for plantation development, accounting for the location of markets, accessibility, extent of suitable areas of land within reserves and other factors. The management plans will consider social, environmental and biodiversity interests, and the types of plantation businesses that would attract local communities and small-scale investors, as well as large-scale investors. The NFA will develop these plans with the active participation of different stakeholders, including local authorities.

- **Business opportunities** for plantations in CFRs and LFRs will be marketed so that both national and international investors become aware of the availability of land and the commercial potential of plantation establishment. Individuals, organisations and institutions such as schools and religious organisations are all eligible. Small-scale private outgrower schemes may also be promoted to benefit from the markets and the operations of large-scale investors. While the NFA will take the lead in this promotion, there is a clear role for the Uganda Investment Authority.

- **Technical assistance, training, guidelines and standards of best practice** in plantation establishment will be developed to assist the private sector in commercial plantation development, both in forest reserves and on private land. The most crucial element of this will be assistance with the procurement and use of **high quality tree seed**, which is fundamental to profitable plantation establishment. This will also include technical guidance on species suitable for the various agro-ecological areas and soil types (species-site matching), silvicultural practices and other technical requirements. The NFA or other competent institutions will be contracted by MWLE to provide advice and develop the necessary guidelines and demonstrations, but progressively private investors will be expected to pay for such advice as the industry develops.

d). Improve the management of existing government plantations

An important part of the NFA's early revenue base will be the existing plantation stocks, and investment will be made to ensure that these are productive. New stocks need to be established quickly to meet future shortfalls

The current plantation area includes 6,000 ha of mature softwoods, and about 5,000 ha of *Eucalyptus* already established and managed mainly for poles and firewood. In addition, the private sector has already established 4,000 ha of *Eucalyptus* plantations in the Central Forest Reserves. All these require effective management and protection against fires to maintain their wood potential. Some 1,800 ha of young stands of softwood plantation that have recently been established need to be pruned, thinned, and protected.

e). Improve collaboration between plantation investors and local communities,

Conflicts between large-scale plantation investors and local communities increase management costs and limit commercial success. Various forms of **collaboration between investors and local communities** will be encouraged to get mutual gains from plantation businesses. Both employees' welfare and neighbouring communities' interests will be considered by investors. This may be in the form of accessing products from the plantations, employment, taungya and outgrowers schemes.

Criteria and indicators for sound plantation management in line with international standards will be developed and agreed by different stakeholders. These are needed to take advantage of international funding for carbon sequestration through future Clean Development Mechanisms. **Environmental Impact Assessment** is an important tool for ensuring the proper environmental and social performance of large-scale plantation establishment.

5.4 Forest products processing industries

5.4.1 Context

The primary wood processing industry comprises mainly pitsawyers and sawmillers. The sawn wood industry, like any other, suffered during the economic decline of the 1970s. Sawmilling in natural forests has gradually collapsed, leaving only pitsawying as the main harvesting method. In Central Forest Reserves, natural forest concessions are allocated to pitsawyers in organised associations. As the natural forests become depleted of timber, pine/cypress plantations planted in the 1960s and 70s are becoming the main focus of the sawmilling industry. Many of these plantations are now over-mature and deteriorating fast. FD and UWA currently licence 92 (mainly mobile) sawmills in plantations (63 FD, 29 UWA), compared to 3 in natural forests. In 2000, 117 pitsawyers were registered. Many pitsawyers are organised in district associations. Sawmillers are organised in a national association (UFIDA), although concessions are allocated to individual sawmillers.

Harvesting of timber is currently unsustainable in Uganda, from natural forests in the CFRs and on private land, and in the plantations. About 225,000 m^3 of sawn timber was harvested legally in 2000 by pitsawyers and sawmillers. An additional amount was harvested illegally, without licence or fees paid, or imported from neighbouring countries. Although not quantified, this influx onto the Ugandan market is believed to be considerable.

Box 5.4 Statement from the Forestry Policy (2001)

Policy # 4: A modern, competitive, efficient and well-regulated wood and non-wood processing industry will be promoted in the private sector.

The secondary wood and non-wood processing industry comprises both industrial operations and traditional trades. Industrial production of wood-based products for the market is small, relatively unsophisticated and not widely diversified in Uganda. In contrast, traditional carpentry and joinery trades, as well as artisanal and handicraft trades based on rattan cane furniture, woodcarving, drum making and other wood and non-wood handicrafts, are flourishing with varying sizes of enterprise. The majority of employment in the wood trades is gained by poor male youth, while women specialise in non-wood processing. The Forestry Policy (2001) is committed to promoting economic growth and employment through forest products processing industries (see Box 5.4).

5.4.2 Situation analysis

A number of legal, administrative, technical and market factors make investments in primary and secondary wood processing insecure and unprofitable.

Poor utilisation and high wastage

A major problem in the sawn wood industry is the shrinking resource of logs due to poor utilisation and high wastage. There are a number of underlying reasons for inefficiency and waste. The prices charged for sawlogs from the Central Forest Reserves have historically been low while private forest owners are in general not aware of the potential value of their trees. Low wood prices are a disincentive for investments in wood-efficient technology and training in better wood utilisation.

Rigid market standards and slow adaptations cause some of the wastage. The timber market has until recently not been accepting timber less than 14 feet (4.2m) long. This "standard length" resulted from a market that is insufficiently conversant with wood qualities and possibilities. As a result, sawmillers and pitsawyers have until recently not been processing anything less than 14 feet, which increases waste, decreases the efficiency of

harvesting and processing operations and affects profitability. There is also no grading system for timber, and timber storage is poor. This is also because of poor quality awareness in the market place, which leads to low incentives for better utilisation, more wastage and loss of product quality.

There are generally poor managerial and technical skills in sawmilling and pitsawing enterprises, and most of the technology is inappropriate, old and of poor quality, which leads to wasteful production and poor storage, and thus poor profitability. Some of the sawmills are not designed for small diameter plantation logs, leading to very low recovery rates from felled logs: typically 1 m^3 of sawn timber is produced from 4 m^3 of logs, a 25% recovery.

The installed sawmill capacity in Uganda is estimated at 350,000 m^3 of sawn timber (equivalent to 1,050,000 m^3 of sawlogs) but only 40-60% of this capacity is used. This over-capacity means that there are higher capital costs relative to output, leading to low profit on investment, which discourages further investment in improved technology and skills development.

Distorted markets

A second major problem in the sawn wood industry is the distorted market and unfair competition. This is due to both the large volumes of cheap, illegal timber on the market, and to poor administration and regulation.

The Annual Allowable Cut in the Central Forest Reserves is 125,000 m^3 - 150,000 m^3 of sawlogs. From the limited data available, at least 800,000 m^3 of sawlogs are harvested. This implies that at least 650,000 m^3 of sawlogs are harvested from private land or illegally in the CFRs. This level of timber harvesting is unsustainable, and represents mining of the resource base. Illegally harvested timber depresses market prices, so that legal operators find it difficult to compete while paying royalties, fees, and taxes. This stimulates illegal activities further, lowering sawn wood prices even more. This acts as a serious disincentive for forest industry investments.

On private land, forest owners are often ignorant of market prices and can rarely regulate harvesting on their land. They frequently sell at low prices and out-compete those who operate legally in forest reserves. The FD uses fixed royalty rates for concession licences and harvesting stumpage fees for all FRs, and thus takes no account of market variation due to local differences in the supply and demand of wood. Compliance rates for royalty payments are therefore low, because of distorted markets or market variation. Until recently UWA and FD were charging different fees for harvesting concessions, after FD increased royalty rates by 480% while those of UWA remained unchanged.

There are also different tax rates of 17% and 30% for VAT registered and unregistered timber dealers respectively. Although designed to equalise the tax burden, this is unfairly distorting profit margins amongst traders. Investment incentives provided in the investment code, such as tax holidays, are given to investors above a threshold investment of US$ 100,000. Very few sawmillers fall into this category, yet those who invest less still compete in the same market as those with these tax advantages.

Uncertain administrative procedures

There is a lack of consistency in issuing harvesting concessions, licences and agreements, leading to a loss of confidence over administrative procedures between sawmillers or pitsawyers and the FD. The FD has often given instructions contrary to contract terms without warning, such as the suspension of sawmilling in 1999, which led to many losses. Such interference is often worsened by local or higher level political intervention. Serious investors are reluctant to invest in the forest sector when the investment climate is so risky,

when administrative procedures are not consistent, and when concession allocation and tenure is so uncertain.

Finally, pitsawing and sawmill workers lack organisation and bargaining power, and wages are low. Licensees are normally business people and traders from afar, and many times they employ migrant workers to cut and carry timber. There are limited opportunities for local employees to get licences or jobs in concessions in their own neighbourhoods. Pitsawing and sawmilling are male-dominated businesses, leaving few opportunities for women, although some are now entering the industry.

Underdeveloped secondary wood processing

The secondary wood-processing sector is generally underdeveloped and inefficient, due to a number of factors. There is a lack of skills and knowledge of the industry, including low labour productivity and poor product quality by apprentices and semi-skilled workers. The technical training centres for woodworking are poorly equipped in terms of machinery and training materials. There is inadequate knowledge of industrial scale plant design, selection of equipment, product engineering and plant operations. There is also no skilled manpower to plan and implement developments in wood preservation and industrial joinery (such as flush doors, plywood and blockboard, particleboard, wood wool, parquet flooring). The bulk of panel products used in Uganda are imported.

The industry is characterised by poor tools and equipment and there is almost no preventative maintenance. The inability to select appropriate machinery has in the past led to costly mistakes of importing unsuitable and unnecessarily sophisticated equipment, which has ended in wasted investments. The development of the secondary wood processing industry is hampered by the lack of appropriate machinery and training materials in the technical training institutions.

Quality standards are poor for furniture, joinery, structural building components and artisanal crafts. Timber kiln drying, handling and storage facilities are poor and a major constraint in the manufacture of high quality wood products for domestic and export markets. Most of the good quality products are imported. In general there is poor market information about demand for quality products.

Underdeveloped non-wood forest products opportunities

Like wood processing, the processing and marketing of non-wood forest products represents a major opportunity for economic growth and job creation. Despite this, the non-wood processing sector is also underdeveloped. This is due to a similar set of factors. Skills in non-wood processing are weak, and knowledge of the opportunities is poorly developed. There is currently limited industrial processing of NWFP, except small-scale rattan harvesting and weaving. Processing and marketing skills are also weak for NWFPs. There are generally low entry costs in NWFP processing and marketing and hence strong competition, low wages and limited opportunities for investments in skills, equipment and marketing.

5.4.3 Strategies for development of processing industries

a). To develop and manage concessions for harvesting in FRs

b). To reduce inefficiency and wastage in wood and non wood processing

c). To reduce market distortions in the wood and non wood industry through better market information

d). To improve business development services for secondary forest products processing

In addition to the creation of the National Forestry Authority to address the undermining uncertainties in administrative procedures in the CFRs, the following strategies will be developed:

a). Develop and manage concessions for harvesting in FRs

The management of harvesting concessions requires a range of technical and organisational improvements. Technical improvements will be made to conducting **stock inventories** in natural forests prior to harvesting (to be set out in operational plans), developing **standards and guidelines** for sawmilling, pitsawing and NWFP harvesting.

Organisational improvements will be made to developing and publicising transparent **guidelines** for the allocation of harvesting concessions, and for the provision of **incentives** for local processors and community institutions to take up harvesting concessions through co-management agreements – see chapters 5.1 and 5.5.

Technical assistance will be provided to the private sector for forest product harvesting in FRs, including **skills training in** sawmilling, pitsawing, and NWFP harvesting, eventually on contract from NFA.

Effective harvesting control measures will also be developed, including monitoring and ensuring the correct usage of harvesting standards and timber grading guidelines, and providing information on better quality harvesting and processing equipment

b). Reduce inefficiency and wastage in wood processing

On the supply side, guidance on the use of better quality equipment will be provided to stimulate more efficient processing and less wastage. Harvesting **standards** and the use of timber-grading **guidelines** will also be promoted to improve technical operations. Training in sawmill management and efficient methods and technologies will be offered to sawmill owners and operators, and to pitsawyers, through short-term courses at Nyabyeya Forestry College. Some kinds of incentives may be developed, such as **efficiency awards** for the companies most successful in reducing waste.

To complement this on the demand side, **awareness** of timber quality in the marketplace will be raised through communications programmes, to ensure demand for less wasteful, higher quality timber.

Another strategy will be to replace fixed royalty pricing with variable market-based pricing of sawlogs. Sawlogs in CFRs are currently priced at a flat rate. Variable market-based pricing, to take account of variable operating costs according to terrain and distance from markets, will set fairer prices and promote the most efficient sawmills in the allocation of concessions.

Competitive bidding for harvesting concessions will be piloted by the NFA as a more efficient pricing mechanism. This will also increase transparency in concession allocation.

Another strategy to pursue will be to encourage **multiple products** from tree harvesting, diversifying the products made, including carving wood, use of saw dust and off-cuts.

c). Reduce market distortions in the wood industry through better market information

Better **market information** on sawlog, timber and NWFP prices in different parts of the country will increase awareness of the values of forests and trees and create more efficient markets.

Illegal harvesting and imports distort market prices for timber and sawlogs, and are a severe disincentive for long-term investment in sawmilling and tree growing. Better protection of CFRs, as well as reduced illegal imports through more efficient customs control, are necessities for sustainable and financially viable forestry businesses.

d). Improve business development services for secondary forest products processing

Efficient and high quality secondary wood and non-wood processing industries are important for income generation and employment. They can be an important opportunity to reduce poverty in rural communities, and in the long-run contribute to the viability of the forest sector. By using **affirmative action** for local groups in the allocation of harvesting concessions, the NFA can assist communities in their livelihoods and establish good relationships. **Support services** in training, information and finance will be developed in addition to the allocation of wood resources (see chapter 5.6 – forestry extension services). Skills in efficient wood sawing methods and technologies will be developed through the training of sawmillers and pitsawyers in the use of timber harvesting, processing and storage guidelines. This will also cover the sensitisation of employees and employers on health and safe working conditions.

Value-added businesses will be supported through improved services and skills in the market analysis of forest products and prices, accessing investment finance, and improved processing technologies. This will also focus on the diversification of product use, to move away from the sense of a “one product” industry - timber. Some forms of forest certification systems will be investigated to add value to forest products. Opportunities for developing certified-products markets will be explored, for example in handicrafts or other wood products. This will be a long-term strategy, as there is currently only a small market for certified products, and a limited export market.

This will be supplemented through support to **vocational and technical training institutions**, following a review of current levels of training and institutional capacity (see chapter 5.10 - education, training and research).

5.5 Collaborative forest management

5.5.1 Context

Collaborative forest management (CFM) refers to the partnership between a local interest group or community living beside a government forest reserve, and the responsible government authority (NFA or local government), for the management of forest resources in the reserve. This partnership includes a process for sharing power among stakeholders to make decisions and exercise control over the resource, a management plan for the area of forest and a licence agreement based on negotiated relationships, rights, responsibilities, and returns that are recognised by the government and the resource users.

Box 5.5 Statement from the Forestry Policy (2001)

Policy # 5: Collaborative partnerships with rural communities will be developed for the sustainable management of forests

The Forestry Policy (2001) is committed to enhancing community participation and the development of partnerships for the management of both government and private forests (see Box 5.5). Such partnerships can contribute significantly to the eradication of poverty, development of good governance, and improvement of incomes and quality of life. These partnerships lead to more equitable sharing of benefits from the management of the resource, help to reconcile stakeholder interests, manage conflicts and improve relationships with the communities. A sense of ownership of the resource is created among the communities, and this builds community support in the management of the resource.

5.5.2 Situation analysis

Understanding of CFM

The **traditional, protectionist approach** to policing forest reserves has not been effective in reducing illegal activities, has not favoured local communities in sharing the benefits from protected forest areas, and has been a source of conflict between the lead agencies and communities. Conflicts have arisen for a number of reasons, including denial of access to forest resources by local communities, insensitive management styles, failure to deal with vermin and problem animals, and a lack of opportunity for communities to voice their concerns.

There is a poor understanding of the livelihood strategies of poor people in relation to forest reserves, national parks and wildlife reserves, and their voice is weak. Governance structures do not allow local participation in decision-making, and people are disempowered by lack of information on government policies and programmes. The traditional forest dwellers, whose livelihoods are almost entirely forest-based, have been given little specific consideration in the planning process to cater for their needs.

Collaborative forest management is a relatively new approach to address these issues, and has **not yet been fully appreciated and integrated** within the institutional cultures and management systems of lead institutions. FD and UWA have recently designed and introduced this approach on a pilot basis under the Collaborative Forest Management Unit and the Community Conservation Department respectively. These pilots are still on a very small scale, particularly in the Forestry Department, and are aimed at providing lessons for the future development of this approach. A number of issues need to be addressed to make the approach successful, and to scale it up from the very limited areas covered at present. In particular there is a need for a strong and sustainable institutional framework for the implementation of CFM, a need to guarantee commitment to agreements, and a need for secure mechanisms for management of conflicts.

The CFM principle of the "4 R's" (relationships, rights, responsibilities and returns) have not been fully understood or appreciated, especially within the communities. Benefit sharing has in most cases been over-emphasised at the expense of understanding the responsibilities involved in collaborative partnerships. There has also been a risk of over-emphasising revenue sharing, sometimes raising high expectations when the potential is actually low. There are **no clear guidelines** on how benefit sharing is to be implemented, and how to ensure that entire communities appreciate these benefits.

Policy and institutional frameworks

Access rights to wood and non-wood forest products differ under UWA and FD, mainly due to the differences in their **legal and policy frameworks** and their institutional mandates. While extractive activities such as logging may be permitted within forest reserves, they are not permitted within national parks and wildlife reserves. Communities do not easily distinguish these different institutional mandates and the management objectives of protected areas.

The **weak and unclear institutional framework at the community level** has limited the capacity of local communities to become effectively engaged in forest management. They are ill-equipped for negotiations and decision-making processes. Local NGOs who could serve as intermediaries between the lead institutions and local communities are lacking, and in the case of UWA, international NGOs or technical assistance agencies (e.g. CARE, IUCN, DED) are the intermediaries.

Some protected areas cross the **boundaries of different districts**, and at the moment there are no structures for the communities or local government officials of the concerned districts to jointly participate in the planning and implementation of CFM.

It is also noted that the people influencing the management of forest resources actually extend beyond the communities immediately around the forests. Timber dealers in major market centres like Kampala tend to operate with contact persons in the vicinity of forest reserves, but it is the dealers who hold the power and the licences. This can weaken the governance and incentives for those close to the resource to make wise decisions on its management. It is important that such distant stakeholders are recognised, yet the focus of power and benefit flows must be corrected to be more local, accountable and pro-poor.

All forest produce on private land is the property of the land owner, who in many cases lives elsewhere, yet these resources are often important to local communities. Frequently the use of such resources is by "open access", without management or stewardship, leading to forest destruction and increasing poverty. There are currently no institutional arrangements for the management of such forest resources, and a limited awareness and capacity at all levels of communities and local governments to organise communities for concerted action to improve the management of these forests.

5.5.3 Strategies for collaborative forest management

a). To develop national guidelines for the implementation of CFM

b). To build capacity in lead institutions to develop CFM partnerships

c). To support local community institutions to implement CFM

d). To develop guidelines for managing problem animals (chapter 5.6.3 d)

CFM activities will be scaled up across the country to embrace and institutionalise local community involvement in the management of the forest resources. UWA will continue to support the collaborative management of national parks and wildlife reserves through its established Community Conservation Department. Likewise the NFA and local governments will develop collaborative forest management of the central and local forest reserves respectively, for the benefit of local communities. The new forestry legislation and its supporting regulations will ensure that both rights and responsibilities are clearly defined.

A number of strategies will be pursued, to provide national guidance and build capacity in both government and local community partners:

a). Develop national guidelines for the implementation of CFM

National **guidelines** will be developed for the implementation of CFM, harmonising the approaches of UWA and the NFA, and guiding these and other service providers in the development of CFM. These guidelines will incorporate the lessons learnt from the various CFM pilot programmes that have been developed over recent years.

The guidelines will clarify the roles and responsibilities of the NFA / UWA, local community institutions and others, outline the process for organising communities and developing simple management plans, set out sample CFM licence agreements with clearly defined rights and obligations, and suggest approaches to conflict management, arbitration and monitoring.

The guidelines for CFM in forest reserves will be subject to approval by the Minister in MWLE, and then become the norm for the process that will result in CFM licence agreements being negotiated and signed between local communities and the NFA.

b). *Build capacity in lead institutions to develop CFM partnerships*

The staff of the NFA, UWA and other service providers will have opportunities for appropriate **training in CFM principles and implementation**, aimed at changing attitudes from the traditional policing approaches and building understanding and capacity to support CFM. Capacity to provide this training will be created, in the form of regional training initiatives, strengthening curricula in Ugandan training institutions, and developing training materials that draw on the lessons from experience in Uganda and internationally.

In addition the NFA will strengthen its capacity to respond to growing demands from local community institutions to negotiate CFM licence agreements. With increasing support from CSOs to local communities, the role of the NFA will be to negotiate partnerships and monitor agreements, rather than to facilitate community mobilisation and organisation for CFM. CSOs will increasingly take on this latter role.

c). Support local community institutions to implement CFM

Robust local community institutions will be required for effective collaborative management of the PFE. CFM agreements in the form of licences will be negotiated and agreed between government institutions (the NFA, UWA or LGs) and local community institutions, with clear expression of the relationships, rights, roles and returns for each of the parties involved in the agreement. Capacity will be built in the local community institutions to enable this to work effectively and sustainably. Given the limited staffing of the lead institutions, greater use of NGO or private service providers will be made in mobilising and developing community institutions and local management plans, and in negotiating agreements with government institutions. These organisations will need to be trained and updated in CFM approaches to ensure harmony with the lead agencies.

This represents a considerable challenge, and can only be met if adequate training capacity is built to respond to demands across the country. A **network of CFM trainers and mentors**

will be developed, to train and support CSOs who will be working with communities to develop CFM. This network may consist of training institutions such as Makerere University and Nyabyeya Forestry College, international and national NGOs and other practitioners. Training materials and methodologies will be developed to support the network, and build the capacity of a wide range of CFM service providers to work with local communities in preparing and implementing CFM.

As capacity is built, support from these CFM service providers will be contracted to assist the building and strengthening of local community institutions and improving their capacity to negotiate and manage CFM agreements. This will include raising community **awareness** on their rights and potential for collaborative management, facilitating the **development of community institutions**, and providing **advice and training** in the implementation of CFM.

Particular attention will focus on promoting livelihood developments consistent with sustainable forest management, and ensuring that the poorest and most vulnerable members of communities benefit from CFM agreements. This will require care to ensure that women, and poor and marginalised groups are brought into community institutions and planning and decision-making processes, and that their rights of access and flow of benefits are ensured under CFM arrangements. This does not necessarily mean cutting out distant users (traders, investors, etc), but that their involvement should benefit local communities under favourably negotiated terms.

5.6 Farm forestry and extension services

5.6.1 Context

Farm forestry

Farm forestry, more recently called agroforestry, refers to growing trees on-farm, as commodities in woodlots or integrated within the farming system. Agroforestry provides farmers with food, medicines, firewood, building poles, crop stakes, livestock fodder, shade, fences and hedges, boundary markers, windbreaks, soil improvement and other social and environmental benefits. It provides cash and subsistence benefits, and is seen by farmers as one of the production components in a holistic farming system.

Agroforestry provides major livelihood opportunities for poor people, improving incomes, quality of life and reducing vulnerability to shocks and stresses. The Forestry Policy is committed to large-scale expansion of agroforestry as a means of poverty alleviation, halting environmental degradation and improving agricultural productivity, and to developing the services needed to realise this (see Box 5.6).

Box 5.6 Statement from the Forestry Policy (2001)

Policy # 6: Tree growing on farms will be promoted in all farming systems, and innovative mechanisms for the delivery of forestry extension and advisory services will be developed … through decentralised, farmer-driven mechanisms

Extension services

The Forestry Department is currently responsible for the delivery of forestry extension services in Uganda. This includes general publicity and the promotion of forestry in the country, as well as the provision of advice and training for farmers who are developing agroforestry. Forestry on-farm and away from the forest reserves has been promoted through a series of extension programmes and national tree planting events. The most successful efforts in forestry extension were in the 1980s/early 1990s Village Tree Planting project and later the Farm Forestry Project implemented jointly by CARE International and the Forestry Department. In the 1990s an attempt was made to unify forestry extension with agriculture and livestock extension services but this Unified Extension Service was later abandoned. Whereas agriculture and veterinary services are the responsibility of districts, forestry has remained a centralised responsibility, apart from a brief but unsuccessful period of decentralisation during the early 1990s.

A new approach to the delivery of advisory services is now being developed nationally, under the Plan for Modernisation of Agriculture (PMA) and the National Agricultural Advisory Services (NAADS). This will reform the way government staff are involved in extension work, and put rural people, especially poor and marginalised groups, at the centre of decisions about the kinds of services and support they require for development. The Forestry Policy (2001) is committed to supporting this innovative, decentralised and privatised service delivery approach (see Box 5.6).

5.6.2 Situation analysis

Despite the many uses and benefits from forest and tree products, the rate of tree growing on-farm is insufficient to meet future demand. There are many livelihood opportunities through agroforestry that are under-developed, representing avenues for the eradication of poverty that are currently untapped.

A number of factors influence the decisions of farmers to grow trees, including tenure, investment capital, availability of advisory services, cultural factors, markets and levels of

vulnerability to external factors. Integrated approaches to addressing these multiple issues have been more successful than traditional tree-planting approaches, and these help to explain past weaknesses of “farm forestry” programmes.

Security of tenure on-farm

Insecure tree and land tenure are important constraints on tree growing. These factors do not seem to influence all farmers in the same way in comparable situations. There is generally a poor awareness of the provisions of the Land Act to strengthen land and tree tenure. There is also confusion over "reserved species" which constrains tree growing. The reserve species rules are complex and poorly understood. Many reserved species are slow growing timber species, which also discourages planting. The problems are even worse when the lack of tenure by women means they are denied access and use of such land, forests and trees.

Land and investment capital

Farmers require land and capital to invest in tree farming, and the scale of tree planting and its commercialisation depends on the size of these assets. Poor farmers (small-scale tree producers) will plant trees if they are suitable in, and beneficial to, the prevailing farming system, and hence beneficial to the overall livelihood strategy of the household. However, many have land holdings that are too small for tree farming, and cannot risk more immediate agricultural income and food security. Richer farmers with more land, labour and capital are more likely to grow trees on a larger commercial scale, not necessarily integrated with the farming system (e.g. woodlots or larger plantations). They have greater economic security and can afford to set aside part of their land under permanent tree cover that does not give immediate returns, without risking basic household food security. Severe poverty in the "poorest of the poor" in rural areas is closely linked to landlessness. The poorest households, without land and capital, are thus generally not in a position to become tree producers themselves, unless possibly through land-use permits in forest reserves.

However, recent experiences with increasing farmer sensitisation about the contribution of agroforestry to farming systems and livelihoods (e.g. in Kabale District) has led to good uptake even by poor farmers with very small farm sizes.

Negative cultural factors

A number of cultural factors constrain tree growing on-farm, notably traditional beliefs, practices and taboos which prohibit women from accessing and owning trees and land. Some beliefs also prohibit growing certain tree species. Such cultures therefore inevitably prohibit tree growing by the majority of the population who are the major users of trees and tree products. Generally men dominate access and control over land and tree products, However, women in several places are becoming active in planting trees, and commercial tree planting is becoming an important focus of many women's groups.

Markets and market information

Farmers generally only grow trees when there is a market for tree products. Markets are often only created once there is a shortage of products from natural forests. Restrictions on harvesting from protected areas are not in themselves sufficient to prompt tree planting. Information about markets and expected revenues is important. Growing trees can be more profitable than other land-uses in cases where soil fertility is poor and crops cannot be grown. There is often poor market information to allow farmers to make these choices.

Currently there are good market opportunities emerging from such initiatives as AGOA, the East African Union, COMESA and other markets that can be tapped through better market information.

Vulnerability to external factors

- **Insecurity** displaces people and deprives them of their property and intensifies their suffering. The displaced and refugees put pressure on forest resources for food, shelter, income and safety nets, while agriculture and tree planting activities are abandoned. However, on-farm trees are often highly valued as sources of food security and income, because they can be reclaimed when conditions become peaceful again. Civil insecurity puts pressure on forests.

- **Climatic factors**, especially prolonged droughts, unpredictable weather, landslides and floods frustrate poor farmers' efforts to produce adequate food and grow trees.

- **Problem animals** are a major threat to food security, and a constraint to tree growing, especially in areas adjacent to protected forests. Planted trees can also harbour problem animals and birds. There is a lack of information on the provisions of the Wildlife Statute, and many of the mechanisms for vermin control are centralised in UWA and the districts, making it difficult for local solutions to be developed.

There is considerable regional variation in this picture. Variation is likely under different tenure systems (mailo, customary, private), different ecological zones (moist lake crescent, drylands in the centre and north, hilly areas of the south-west, wetlands reclaimed for rice cultivation), and different farming systems.

Extension services

It is widely recognised that forestry extension services in Uganda have had limited success, in terms of their impact on poor people's lives, the sustainable management of existing forest resources and the establishment of new plantations and trees on-farm. There are a number of reasons for this:

- **Financial resources:** The Forestry Department's extension service has historically been under-funded. There have been limited resources to mobilise extension agents to deliver the services needed. Staff on the ground have had limited logistical support and transport, and have been unable to work effectively. Extension work has also been overshadowed by the FD's other responsibility of managing the Central Forest Reserves.
- **Approach:** In the past there has been a traditional, top-down approach by extension agents, rather than a holistic, farmer-driven approach. The aim has been limited to getting trees in the ground, rather than to respond to farmers' needs for forest resources. There has been little understanding of how farmers and others earn their living from forestry. Extension workers have been biased against the poor and women, because of their physical and social isolation and low literacy levels. In addition, FD staff are mostly men, who tend to target male farmers, thus further marginalising women and poorer groups. In the virtual absence of FD forestry extension services, NGOs and religious organisations have shown relative strengths in providing the holistic support that farmers need to encourage tree growing. Where zero grazing of livestock is affordable and feasible, planting of fodder tree species becomes a valuable addition in agroforestry systems.

  Experience has shown that tree growing on-farm only works if it is relevant to farming systems and local livelihoods, if there is a market for products, and if land and tree tenure are secure. It is not sufficient simply to supply seed and technical advice, or to encourage national tree planting campaigns. There has been a limited capacity amongst both beneficiaries and extension workers to understand this and to take a broader approach.
- **Kinds of support:** Related to the traditional extension approach, the services provided have emphasised technical support and skills in forest technologies, and omitted the

need for wider organisational support. Such organisation is required, for example, for collaborative forest management, community-based planning and the development of co-operative ventures. These in turn require support with small-business development, access to finance, market information, processing and marketing.

Even the technical support provided has been limited or become outdated. There has been poor tree seed supply, a lack of alternative species to choose from, poor development and dissemination of appropriate technologies, limited use of indigenous knowledge about tree and land management, an over-emphasis on exotic species and weak systems for providing extension advice. There are limited capacities and competencies in the FD to promote agroforestry, in terms of skills, knowledge and extension materials. This emphasises the need for reviews of the training curricula in forestry training at all levels.

- **Institutional arrangements:** With the advent of decentralisation, there has been much confusion over the organisation of forestry extension services between central and local governments. Currently FD extension staff are on a mixture of central, delegated and district payrolls and extension budgets, with confused reporting arrangements to districts and the FD's headquarters. This has resulted from the history of changes in the management of forest resources nationally, leaving ineffective and poorly co-ordinated extension services in forestry.

  The creation of the NFA will allow the districts to now take the lead in the provision of extension support, with the creation of the District Forestry Services, and the NFA is expected to be contracted to offer supporting technical back-up for this work. MWLE's Forestry Inspectorate will mobilise support for the districts' efforts, and provide a monitoring and co-ordination role for what will now be a decentralised programme.

5.6.3 Strategies for farm forestry and extension services

a). To improve the development and delivery of agroforestry technologies

b). To build the capacity of farmers to demand and use appropriate forestry advisory services

c). To improve the capacity of the private sector and NGOs to deliver quality forestry services

d). To recruit district staff and build their capacity to mobilise, plan and co-ordinate District Forestry Services

a). Improve the development and delivery of agroforestry technologies

The main strategies for integrating trees into farming systems for increased incomes and agricultural productivity are to develop improved **research,** and better **forestry advisory, training and information services** to support farmers. These services will be delivered through publicly-funded but decentralised, farmer-owned, and privately-delivered extension mechanisms, including the framework of the National Agricultural Advisory Services (NAADS) being developed under the PMA.

With the establishment of the National Forestry Authority, and the priority given to the PMA, there will no longer be a Forestry Department extension service. Advisory services will be delivered by a range of service providers, at community, district and national levels, to respond to the priorities of farmers and other forest stakeholders.

The NAADS mission is to increase farmer access to information, knowledge and technology for profitable production. Farmers (and others, as there are many forest stakeholders who are not farmers) will organise themselves into groups, and participate in the identification of needs, the development of plans and the contracting of advisory services. The private sector, rather than government civil servants, will be the **service providers contracted by farmers**. They will be funded by NAADS, and will link farmers to the relevant services. This new approach addresses the shortcomings of the past and aims at making service delivery more efficient and effective. Special funds will be available that focus on the **sustainable management of natural resources**, including common property forestry resources.

Community-based planning systems and responsive service delivery will be developed to respond to farmers' expressed needs for forestry-related services, and specifically the needs of poor farmers and women in a range of agro-ecological zones. The **capacity of farmers** and other social and interest groups will be built up to organise and develop forestry-related livelihoods. The **capacity of service providers** will be built to advise on tree seed supply, appropriate forestry technologies, market information, rural finance and small business development, problem animals and land tenure. And the **capacity of local governments** will be strengthened to co-ordinate this new approach to advisory service delivery, with the creation of the District Forestry Services.

b). Build the capacity of farmers to demand and use appropriate forestry advisory services

A key to the success of reformed advisory services will be the degree to which farmers organise themselves and articulate their demands for different kinds of support services. **Community-based planning processes** will be designed to ensure that farmers and others organise themselves in representative groups, and that forestry opportunities suited to different social and interest groups are recognised and developed. Local government planning systems (e.g. LGDP and NAADS) will be supported so that the importance of forestry is properly identified and represented in local programmes. Help will be provided to develop community or special interest groups' plans for forestry services, which can be supported by NAADS contracts.

The **focus on social and interest groups** is important as a means of targeting particular groups that may be marginalised, and supporting groups that may require special attention, such as women groups, the youth, disabled or landless groups.

A major assumption in this is that farmers understand enough about forestry to articulate demands for services. To raise awareness about the many possible opportunities that are available through forestry, farmers and others will be sensitised and helped in making choices and expressing their demands. A **menu of livelihood opportunities in forestry** will be developed, to excite interest and stimulate demand. This will set out a range of possible opportunities, with information on their potential benefits and what is needed to deliver them, so that farmers and local governments are aware about what is possible and available in agroforestry and other forestry developments. This menu will be communicated through written materials as well as **sensitisation meetings** at village, parish, sub-county and district levels.

The menu will also outline the technologies, markets and investments required to realise these opportunities. Some opportunities may be specific to particular areas and circumstances, or require testing in different settings. The menu will offer choices to farmers and others, and will help people to diversify their activities and will stimulate economic growth. A list of potential opportunities is suggested in **Table 5-1**. A number of these opportunities may be especially suitable for particular target social groups, such charcoal making, pitsawing and carpentry for young men, development of tree nurseries for women's

groups, energy efficient technologies for women-headed households, or growing woodlots on land in degraded forest reserves by landless groups.

Table 5-1: A list of potential opportunities for improving livelihoods through forestry

Small-scale rural opportunities

On-farm

- Tree farming – agricultural improvement (agroforestry)
- Tree farming – energy and pole production (woodlots)
- Tree farming – livestock improvement (silvipasture)
- Collaborative forest management on government reserves
- Communal management of non-government forests (private, customary, forest dwellers)
- Non-timber forest products harvesting, producing, marketing (plants, honey, minerals)
- Timber pitsawing
- Development of private natural forests
- Charcoal production

Off-farm

- Seed supply
- Tree nurseries
- Forest services (eco-tourism, research)
- Small-scale trading in forest products
- Small-scale secondary processing (carpentry, handicrafts, etc)
- Energy efficiency (rural household)

Large-scale commercial opportunities

- Plantation production (timber, energy, poles)
- Sawmilling (mainly plantation)
- Trading in forest products
- Secondary processing (joinery, construction, etc)
- Energy efficiency (institutions)

c). Improve the capacity of the private sector and NGOs to deliver quality forestry services

The new approach to service delivery will require **NGOs and private organisations to develop capacity** to meet farmers' service demands. NGOs and private sector service providers are not yet widely available with the appropriate skills and expertise, and in many cases these will need to be strengthened, either through training or by building on the experiences of early contracts. A major source of expertise will be the Forestry Department staff who are not taken on by the NFA, and these will have re-training opportunities through a "Facing the Future" programme to build their capacity as private service providers.

The capacity of service providers will be developed to enhance their ability to advise on a variety of organisational services such as group formation and CFM development, and a range of technical services such as tree seed supply, appropriate forestry technologies, market information, rural finance and small business development. Formal and informal training, through courses and practical in-service work, will be developed through training institutions (especially Makerere University and Nyabyeya Forestry College) and a national network of established service providers. Training providers will need to respond to a range of target groups and target skills. For developing practical agroforestry skills, the UGADEN

network of practitioners will provide a good basis for developing practical training, with support from national (FORRI, MUK, NFC) and international (ICRAF) agencies in the form of information and training materials.

Forestry services will target farmers, private forest owners, managers of important watersheds, non-farming stakeholders, investors, wood processors and others, focussing particularly on the needs of poor people and women. A variety of services has been identified during the NFP's preparation work, to support these groups. These include the following services, some of which are being developed in more detail in the district-based pilot programme launched by MWLE:

- **community-based extension support**: the concept of the community-based forestry extension worker is being developed for the provision of common technical and organisational skills such as tree-planting, nursery management or organising community groups . This will involve the recruitment and training of parish-based workers from the communities using funds from the NAADS programme, and a framework of support to the community workers with **mentoring** and technical back-up.
- **specialist technical and organisational services**: community-based workers may not be able to provide all the specialist, technical and organisational services. These may be required in particular areas of advice and skills training, for example in fuel-efficient technologies, tree seed supply, bee-keeping, or contracting and licensing. In these cases specialists in the private sector or NGOs, will be used with funding and resources provided via the NAADS programme.
- **support to secure better land and tree tenure**: information and support services to secure land and tree tenure are needed for the implementation of the Land Act (1998). This will be a district service, linked to the District Land Boards, and be coupled with information campaigns about land tenure and legal rights and responsibilities in forest reserves.
- **processing, transport, marketing and business support services** and **access to rural finance**: processing, transport, marketing and business development services, for groups or individuals, will be encouraged. Other kinds of business development support will be developed, to provide the range of services that are needed to move forestry products to market. Some services, such as the provision of regular market information, may best be provided at a national level. Accessing rural finance for forestry investments will be a important ingredient of small business development. The PMA has a range of strategies for improving access to rural finance through micro-credit organisations.
- **development of appropriate technologies for processing, production and energy use**: appropriate technologies for production, processing and energy consumption will be developed through responsive research and development organisations. This can be both a local and a national responsibility, to produce standard technologies that can be used or adapted to local circumstances. In particular, agroforestry technologies appropriate to the various ecological zones of the country will be developed and tested to meet the needs of farmers. Other useful trees will be domesticated to provide new opportunities for incomes, market diversification, medicines and food security. *(See chapter 5.10 on forestry research).*

Some of the services will ensure that forestry market opportunities are more accessible to the poor, and that benefits are shared more fairly. This may require the deliberate **allocation of licences** in forest reserves and specific support to poor groups who have been previously marginalised or dominated in trades such as pit-sawing, charcoal trading or saw-milling.

d). Recruit district staff and build their capacity to mobilise, plan and co-ordinate District Forestry Services

It is clear that part of the process of helping poor farmers to express their needs must include mobilisation, raising awareness of opportunities, and co-ordinating support services. The new decentralised District Forestry Services will take responsibility for **mobilising and co-ordinating forestry extension services** in the districts, and developing forestry activities on farms, around forest reserves and in private and customary forests, through support services and incentives for sustainable forest management (see chapter 6.5). They will ensure that communities recognise the potential of forestry and the opportunities for forestry service support, and promote forestry through the District Development Plans. Service demands will be matched with qualified service providers, while local governments will assure the quality of service providers, and develop supportive bye-laws to resolve conflicts and promote forestry in districts. To fulfil these obligations, all local authorities will **recruit district forestry officers** to ensure the delivery of forestry advisory services in districts, and contribute to the NAADS programme as it is rolled out across the country.

The district forestry officers will be further supported with help from MWLE's Forestry Inspectorate, with appropriate resources and guidance on policies and standards. In addition, by maintaining linkages with the NFA's Private Forestry Division the district forestry officers will access back-up information and support to meet the needs of the farmers.

The local governments will also be assisted to deal with problem animals. UWA is already in a process of **developing guidelines for the management of problem animals** that will be applied by the local governments. There is also a need to facilitate the Vermin Control Units at the districts so as to effectively respond to the demands of the farmers to deal with vermin.

5.7 The conservation of forest biodiversity

5.7.1 Context

Uganda is blessed with a rich natural diversity of ecosystems, which include forests, woodlands, wetlands and aquatic systems, and a diversity of species. It is internationally significant for biodiversity conservation, containing 11% of the world's bird species and 7% of the world's mammal species.

Tropical forests are particularly rich in ecosystems, species and genetic resources. These provide important environmental services such as the protection of watersheds and soils and the improvement of local, regional and global climates. They also sustain livelihoods and economic growth, have cultural significance, and offer the potential for economic development through tourism, and plant and animal genetic resources for medicines and agricultural crops. The products and services offered by forest ecosystems therefore support the livelihoods of millions of people world-wide.

Most of Uganda's forest biodiversity is currently found in the protected areas in National Parks and Wildlife and Forest Reserves. The establishment of forest reserves and other protected areas is a significant achievement for the *in situ* conservation of Uganda's forest biodiversity. The Forestry Policy (2001) is committed to strengthening the conservation and management of forest biodiversity, recognising its local, national and international significance for economic development and well-being (see Box 5.7).

Box 5.7 Statement from the Forestry Policy (2001)

Policy # 7: Uganda's forest biodiversity will be conserved and managed in support of local and national social-economic development and international obligations

5.7.2 Situation analysis

The government has instituted measures to ensure the conservation of forest resources. However, there are a number of factors that need to be addressed for the sustainability of this rich biological resource. These are elaborated below.

Habitat loss

Forest ecosystems in Uganda have experienced substantial deforestation and degradation, due to agricultural encroachment and over-exploitation and depletion of species. **Habitat loss** is the greatest threat to species and genetic survival. The major threats to biodiversity conservation include timber harvesting, encroachment on forest reserves, charcoal burning, bush-meat hunting and over-harvesting of non-timber forest products such as bamboo, rattan cane, wild coffee, firewood, honey and liana cords. There are also some specific conservation issues associated with particular forests. These include mining of columbo-tantalite in Kasyoha-Kitomi, human-animal conflict in Budongo, Bugoma and Maramagambo, and fires in Budongo and Bugoma. All these activities contribute to the loss or disturbance of habitats and may lead directly to species and genetic loss.

The rate of disappearance of forest cover is particularly significant in the **private and customary forests**, as these are more freely converted for agricultural and livestock purposes. Whereas the boundaries of protected areas have generally remained intact, the edges of these unprotected forests have significantly shrunk over time. This has led to increased fragmentation of the country's forests. The forest patches between major forest blocks serve as important corridors that permit species and genetic flows. The loss of these corridors is therefore detrimental to the present and future conservation of biodiversity.

Institutional capacity

The habitat loss discussed above is due to a range of institutional factors.

There is much information on conservation documented in the Nature Conservation Master Plan (FD), the National Biodiversity Strategy and Action Plan (NEMA), the Wildlife Protected Area Systems Plan (UWA), and the Important Bird Areas of Uganda (Nature Uganda). The Wetlands Inspectorate, Fisheries Department, MUIENR, FFNC and other research organisations have similarly generated information on biodiversity conservation. While these institutions are complementary in the support they can offer to biodiversity conservation, **poor communication, co-ordination and linkages** between the implementing institutions have often resulted in institutional conflicts or duplication of effort. There is a need to improve systems and structures that link these together to enhance the planning and implementation of conservation activities, and improve communication and sharing of information.

In addition, a number of institutional constraints have hindered Uganda's ability to support the **international commitments and obligations** to biodiversity conservation to which it is a signatory, and this continues to threaten biodiversity conservation. These constraints include a lack of funds and expertise to implement the sectoral action plans of the international conventions, lack of the necessary guidelines (for example on access to genetic resources and safe use and application of biotechnology), weak controls on the international trade in endangered species, and unplanned *ex-situ* conservation of threatened species.

There is a limited understanding of the multiple benefits of forest resources at all levels. This arises from a **lack of proper valuation of forest resources,** and forest valuation methods that do not tag monetary values on environmental benefits. There is also limited **education and awareness** at all levels of society about the importance of biological diversity, and especially those species under threat.

Like many countries, Uganda has maintained **knowledge, innovations and practices of indigenous and local communities** in various agro-ecological zones, which are relevant for the conservation of biodiversity. Currently there is an increasing appreciation of this knowledge, and efforts are directed to the involvement of communities in conservation programmes. However, the mechanisms for implementing this need to be developed. UWA and FD have piloted collaborative forest management programmes as a way forward to improve relationships with the communities, although this has not been adequately institutionalised. Moreover, the benefits shared by the local communities are yet to be appreciated, and the problems such as **crop raiding** associated with protected areas continue to affect communities adversely, and are a major source of conflicts.

5.7.3 Strategies for the conservation of forest biodiversity

a). To incorporate national biodiversity priorities in the operational plans of lead institutions

b). To promote institutional and cross-border collaboration in biodiversity conservation

c). To promote the valuation of forest biodiversity

d). To promote the conservation of forest biodiversity outside the protected areas

a). Incorporate national biodiversity priorities in the operational plans of lead institutions

The various planning documents from FD, UWA, NEMA and Nature Uganda have generated valuable information on national biodiversity conservation priorities. They have highlighted the need to engage with local communities in conservation activities to raise awareness and generate biodiversity-related benefits for local people. UWA and the NFA as the lead institutions in forestry will incorporate these national biodiversity priorities into their resource management programmes. In particular, biodiversity conservation will be developed within the strategic forest management plans in forests of high biodiversity value

The development of **Forest Management Plans** for forest reserves will build on the valuable information base that already exists, and will consider biodiversity values and ecosystem planning as a means to address the management of the multiple functions of forest biodiversity. Stakeholders from the various institutions involved in biodiversity management and other interested parties, including indigenous and local communities will engage in an open, transparent and participatory planning process that can explicitly incorporate these functions as part of wider forest management planning. The Forest Management Plan will be the main vehicle for agreeing measures to combine the biodiversity conservation and production objectives of the NFA and the socio-economic objectives of the forest-dependant local communities and forestry businesses. In some cases, a **social impact assessment** may be necessary for individual sites before the implementation of forest biodiversity conservation programmes, to avoid possible conflicts.

The areas designated as **strict nature reserves and buffer zones** in forest reserves will be clearly demarcated in individual forests for the purpose of identification, and ensuring their proper management to preserve species and genetic resources in an undisturbed, dynamic and evolutionary state. The forests under national parks and wildlife reserves already have high conservation status, and may not need such demarcation.

The involvement of local communities in the protection of biodiversity resources is important for their conservation and development. It requires **community benefits** from biodiversity resources such as eco-tourism, sustainable harvesting and marketing, and alternative income-generation. It also involves an increased understanding of indigenous knowledge, innovations and practices. Forest conservation programmes will integrate such knowledge, and ensure the recognition of customary use of biological resources along with traditional cultural practices. This will also encourage the development and use of indigenous and traditional technologies, and develop the equitable sharing of benefits arising from the use of such knowledge, innovations and practices. It will also help to resolve conflicts between forest managers and communities, and address issues such as problem animals.

b). Promote institutional and cross-border collaboration in biodiversity conservation

The management of biodiversity currently falls under different management bodies in different Ministries (FD, NEMA, Wetlands Inspectorate in MWLE, UWA in MTTI, Fisheries Department in MAAIF), although there are no structures for co-ordination or collaboration. Institutional collaboration will be developed **to co-ordinate and monitor national biodiversity**, with a clear lead role for NEMA, including monitoring resource trends, implementation of international conventions and obligations on biodiversity, regulation to overcome environmentally insensitive developments, building necessary capacity and mobilising funds for biodiversity conservation. Guidelines on access to genetic resources and safe use and application of biotechnology will also be developed. Where necessary relevant memoranda of understanding will be made to enrich collaboration between institutions.

Opportunities for **regional co-operation** in biodiversity conservation will be pursued, through the East African Community or other structures, to conserve biodiversity in cross-

border initiatives. The East African Cross-Border Biodiversity and other regional programmes such as the Albertine Rift initiative will enhance biodiversity conservation in the region and enhance institutional collaboration. Some of the provisions for cross-border natural resources management will include: co-ordination of policies; development and adoption of common protocols, regulations, standards and incentives; adoption of common CFM guidelines; and harmonisation of forest management plans for cross-border ecosystems.

c). Promote the valuation of forest biodiversity

The valuation of biodiversity resources will be promoted. Economic developments are often proposed with little regard to the impact on the environment or biodiversity. Proper valuing of the multiple benefits provided by forest biodiversity (economic benefits, environmental services, and non-consumptive cultural, religious and recreational values) will improve the understanding of the contribution of biodiversity conservation to local, national and international interests, and help more balanced and sustainable development. **Guidelines** on such economic valuation will be developed, and **capacity** will be developed in the various institutions, including NGOs, through appropriate training. Actual **valuations** of the forest resource will be conducted, both within and outside the protected areas. These valuations will be part of the strategic planning process.

d). Promote the conservation of forest biodiversity outside the protected areas

Some areas of land outside protected areas may be identified as being of national significance for biodiversity conservation. In the event that these would be better protected under government's management, the Government may gazette such areas as part of the Permanent Forest Estate, under the provisions of the Constitution, the Land Act (1998) and the new forestry legislation. Before any new gazettement, there is a need to consult with the local communities through public meetings and other means. In addition, the law stipulates that where there is land acquisition by Government or local governments, the owners of the land on which the forest reserve is to be situated shall be paid compensation as computed by the district land tribunals.

Apart from gazettement of forest land, the establishment of community-based conservation will be promoted with support from MWLE. This will entail identifying the critical areas for biodiversity conservation, and encouraging the communities to manage such forests through the strategies and incentives outlined in chapter 5.2. Forest Management Plans will be developed, following guidelines for the community management of forest biodiversity.

There are many private forest patches between the main forest reserves, particularly in the Albertine Rift region, that facilitate the movement of species and genetic resources across these forests. These will be the focal points for developing corridors for the conservation of forest biodiversity, together with the strengthened management of the forest reserves themselves. Private forest owners and other partners will be encouraged to invest in the creation and development of these corridors. This could be done through buying forest patches from landowners, establishing compensation schemes, or under collaborative management mechanisms or development of community forests under customary ownership (see chapter 5.2).

5.8 Watershed management and soil conservation

5.8.1 Context

Natural forests and to some extent trees on farms provide important environmental services of soil protection and water conservation. Hills are steep and vulnerable to erosion, and thus forestry makes a major contribution to the preservation of watersheds.

In Uganda where most agriculture is rain fed, watersheds are important natural features that need to be protected. The Forestry Policy (2001) is committed to promoting the rehabilitation and conservation of the forests that protect the soil and water in the country's watersheds and river systems (see Box 5.8).

Box 5.8 Statement from the Forestry Policy (2001)

Policy # 8: Watershed protection forests will be established, rehabilitated and conserved

5.8.2 Situational analysis

Today many watershed forests including those along rivers and, particularly those on private lands are suffering from degradation and deforestation. Loss of trees and vegetation cover is leading to soil erosion and floods, and in the case of Mts Elgon and Rwenzori, landslides have been common. Such degradation and disasters affect the poor disproportionately because of the few assets they have. In some places the water table is lowering and stream and river flows have decreased. Water bodies are polluted and are silting up, reducing the water quality and water availability for agriculture. In the extreme, there have been displacements and loss of lives and property where landslides have occurred.

Different pressures affect hilltops and riverbanks/lakeshores. Overgrazing, agriculture, bush fires and commercialisation of charcoal and fuelwood are degrading hilltops, while urban expansion, agriculture and firewood harvesting, especially by fishermen, are degrading riverbanks and lakesides.

There is no land-use policy to guide the use of important watersheds. There is limited awareness of the importance of watersheds both on protected and private lands, and little incentive for watershed landowners to protect these watersheds in the public good. The existence of absentee landlords in some areas promotes open access to the resources, and further makes it difficult to offer such protection. However, local environment committees are being developed to address some of these limitations, and NEMA does have powers to ensure the protection of watersheds.

5.8.3 Strategies for watershed management and soil conservation

a). To support the reforestation of vulnerable watersheds through a national tree-planting fund

b). To promote sustainable forest management by UWA/NFA on critical watersheds in national parks and wildlife and forest reserves (see chapter 5.1)

c). To support agroforestry and other soil and water conservation systems on farms (see chapter 5.6)

Watershed management and soil and water conservation requires a range of different approaches, according to the main patterns of land-use and land ownership. Where critical

watersheds lie **within protected areas** and forestry is the main land-use, UWA and the NFA are responsible for maintaining natural or planted forest cover to protect such watersheds. Strategies for this are given in chapter 5.1.

Where critical watersheds lie **in farming areas**, the strategies are to support agroforestry and other soil and water conservation systems on farms. This is to be done through new approaches to service delivery and district forestry support services, set out in chapter 5.6.

Where critical watersheds lie **in private or customary forest areas**, the strategies are to promote sustainable management of such forests, as set out in chapter 5.2, and to support reforestation efforts as set out below:

a). Support the reforestation of vulnerable watersheds through a national tree-planting fund

The National Environment Statute (1995) empowers local governments to identify hilly or mountainous areas at risk from environmental degradation, and encourage **community tree planting** on such areas for the protection of the water catchments and to curb soil erosion. The districts are well placed in the planning and implementation of this under the established parish, sub-county and district environmental committees and the corresponding Environment Action Plans. They are able to mobilise the communities, and provide the necessary forestry advisory services under decentralised extension service delivery systems.

To build on this, an important strategy will be the development of a **national tree-planting fund**, for the purposes of watershed reforestation in the public interest. These will be public funds that encourage farmers groups or local governments to contract the planting and maintenance of watersheds in areas that are particularly environmentally sensitive. The planning and funding mechanisms will build on existing structures and processes such as the NEMA grants to support environmental action plans. Access to such funding will be guided by transparent criteria, and its use supported by the enforcement of local bye-laws and be subject to independent monitoring. The management of the fund may be contracted to a private firm or NGO as the grant management agency.

The eligibility criteria for accessing such funds have been outlined already by NEMA. These are that activities are generated through a local government planning process, target specific environmental problems such as soil erosion, protection of river banks, deforestation or conflicts over boundaries with forest reserves, and be strongly based on community initiative and clear community benefit.

5.9 Urban forestry

5.9.1 Context

The growing and management of trees in urban areas offers a specific set of aesthetic and environmental services to the public, such as shade, amenity and a clean atmosphere in towns. They also provide employment opportunities and other economic benefits to the urban poor through nursery development and tree planting work.

It is useful to include the peri-urban areas when discussing urban forestry because the peri-urban zone acts as in important interface with the rural areas, while having many similarities with the urban area, particularly in terms of better functioning markets that facilitate rural-urban linkages. Urban and peri-urban forestry includes practices within and around cities that compete for resources (land, water, energy and labour) that could also serve other purposes to satisfy the requirements of the urban population.

Urban forestry includes formal parks and gardens, roadside verge trees, fruit and shade trees in peoples gardens, remnants of former woodlands and planted shelter belts and watershed protection forests. Peri-urban areas generally have more space for trees and these can serve two functions in particular: agroforestry systems for fruits, fuel wood, timber, fodder and medicines; and green belt plantations to protect watersheds and provide a wide variety of environmental services.

The Forestry Policy (2001) is committed to promoting urban forestry to improve the urban landscape and environment (see Box 5.9).

Box 5.9 Statement from the Forestry Policy (2001)

Policy # 9: Urban forestry will be promoted

5.9.2 Situation analysis

Recent economic development in Uganda is creating rapid urban growth. Present urban areas are expanding and new areas are being established. Old urban areas are slowly losing trees planted long ago but they are not replaced as they die. Former green belts including recreational grounds like golf courses are being replaced by housing. New urban centres are generally not growing trees or conserving them. It appears that individual developers are planting trees while the urban authorities are doing little.

Pollution from industry and domestic activities is on the increase in the larger towns, as green belts are reduced and trees are cut. Wind damage is reported in many towns as more trees are cut in the surrounding areas. Soil erosion and siltation is a serious problem in the rainy seasons in major towns, leading to flooding of streets and buildings. There is a lack of awareness of the importance of urban forestry, and low priority is given to forestry by urban authorities when making urban physical and fiscal plans and allocating resources. This may be a reflection of a limited understanding of urban forestry. The low priority is also shown in the lack of effective policies on planting and cutting trees in urban public places.

Urban and peri-urban tree nurseries are important micro-enterprises that provide valuable livelihood options particularly for women and youth. The quality of seed and planting materials in urban plant nurseries are often identified as constraints. This may be due to the lack of demand for quality materials and a focus on keeping costs down. A lack technical knowledge and skills may be apparent but more commonly in urban centres poor financial management, marketing skills and poor seed sourcing are the main difficulties. The absence of effective seed distribution systems constrains and distorts the seed market, and has a negative effect on the tree seedling market.

5.9.3 Strategies for urban forestry

a). To integrate forestry into urban development plans

b). To improve support to private urban tree nurseries and tree planting

a). Integrate forestry into urban development plans

The social and environmental benefits from urban forestry, including income and quality of life for the urban poor, and environmental benefits for the general public, will be increased mainly through support programmes for urban authorities. This will include the establishment and maintenance of green belts as part of urban greening plans, and **guidelines, regulations and bye-laws** on tree management and felling in urban areas. **Awareness** of the importance of urban forestry among decision-makers and urban authorities will be raised through public information and targeted advocacy. The importance lies not only in environmental and aesthetic values, but also in the livelihood opportunities for the urban poor through urban nurseries and employment opportunities. Urban authorities will develop the **capacity** to implement urban greening activities, including the use of road reserves as a major opportunity for tree growing. It will also be important to **sensitise the public** on the value of urban trees, to prevent unnecessary felling and to encourage the growing of urban trees. “Protected tree” legislation will be especially relevant in urban areas, and specific bye-laws or regulations will be developed to protect amenity trees in such areas.

Institutional linkages will be developed between the NFA, urban authorities, NGOs and the private sector in all urban areas of Uganda, through appropriate structures and incentives. NGOs and the private sector will have a particular role to play, in growing trees as part of landscape development and building construction, and in promoting opportunities for youth or women’s groups to develop tree nurseries and tree growing businesses.

b). Improve support to private urban tree nurseries and tree planting

Improved services for the management of private urban nurseries and for tree planting and urban landscaping will be developed, following the demand-driven approach developed for other advisory services. Special attention will be paid to women and youth, who dominate the nursery business in the urban areas. **Technical advice and guidance** will be developed, including site selection, species choice and seed sourcing.

Promoting and developing urban and peri-urban trees nurseries provides an opportunity to influence the rural-urban linkages that occur through the tree seedling trade. The better functioning markets in urban areas provide a good platform for the development of the trade. Support to tree nursery operators on financial management, marketing and network formation both within their sector and with tree seed suppliers can make the tree seedling market more efficient and responsive, and help the development of a functioning and viable tree seed trade. The rural trade linkages also provide an opportunity for these benefits to be transferred to rural areas.

The reform of these advisory services is addressed in detail in chapter 5.6.

5.10 Education, training and research

Forestry education

5.10.1 Context

The current poor state of development of the forest sector in Uganda is due not only to poor management practices, low institutional capacity and lack of awareness, but also to low levels of relevant formal education. Forestry education and training have not kept pace with the changing roles of the public and private sectors and civil society in forestry, or with the new understanding of the changing social, economic and environmental values of forest products and services. These changes present both strategic and practical challenges for forestry education, which the Forestry Policy (2001) is committed to supporting (see Box 5.10).

Box 5.10 Statement from the Forestry Policy (2001)

Policy # 10: The government will support sustainable forest sector development through appropriate education, training and research.

This section considers formal education, through schools, colleges and vocational training institutions. Informal training and skills development as part of extension and advisory services are considered under chapter 5.6. The latter is crucial as there is currently a low level of community education and apprenticeship which has barred the poor, who are often illiterate, from accessing forestry information, education, training and research that would change their attitudes and approach towards forestry activities, and hence improve their livelihoods. There are a number of government programmes that will help to improve the situation, including the National Plan for Functional Literacy and the programme of Universal Primary Education (UPE) which aims at universal access to primary education. The numbers of pupils have increased, and infrastructure and programmes are improving, all of which represent avenues for broadening the scope and content of forestry education.

The lead responsibility for formal tertiary forestry training in Uganda today is held by Nyabyeya Forestry College (NFC) and Makerere University, which provide in-service training, and certificate, diploma, degree and postgraduate training. Both have recently undergone a revision of their curricula to meet new professional demands across the sector.

5.10.2 Situation analysis

The main problem in education and training has been low levels of appropriate and relevant skills to meet the changing professional and market demands. There are a number of underlying reasons for this:

Forestry training curricula

There are no forestry curricula in primary and secondary schools. Forestry is given relatively low priority compared to other sectors in the economy, and is subsumed within subjects like environmental studies, agriculture, geography and biology. At higher education institutions, the current curricula at Makerere University (FFNC) and NFC have been reviewed recently and have become more relevant. There are also other institutions at Makerere such as the Faculties of Science, Veterinary, Ecology and MUIENR that have been important in training in forestry-related areas. They require regular review of their curricula to cater for multi-disciplinary approaches and new demands in forestry training, such as the integration of gender, poverty alleviation and indigenous knowledge into forest sector developments. Curricula also need to keep pace with new technological advancements such as modern

surveying techniques and information technology, and approaches to biodiversity conservation.

Given the need for specialised services and skills in the sector, such as law, social studies, economics, or biodiversity management, there are very few postgraduate training and short courses in higher level institutions. Within government service, many older graduates may not have these skills and there is limited provision for refresher training or in-service training for most government services.

The sector currently has limited employment opportunities, which is de-motivating for training institutions and trainees. With new opportunities and investments in the reformed forest sector, new markets for skills will emerge in government, the private sector and NGOs, and training will need to respond to the new skills demanded.

Institutional constraints

Training institutions have limited institutional and financial support from central government, leading to poor infrastructure, training materials and equipment, and the poor remuneration of staff. This applies both to central educational institutions as well as vocational and training colleges in rural areas, which mainly provide skills for school leavers and are thus important avenues for youth employment. There are limitations set by the minimum requirements to join forestry training (minimum being 'O' level) and this excludes a number of school dropouts. And there are few apprenticeship centres in rural areas for such school dropouts to join.

A number of training institutions have become over-dependent on donors, and have not developed a business-like approach to providing training, with the need for short-courses tailored to specific needs and marketed amongst the sector's stakeholders.

Training institutions in the East African region have limited linkages in terms of co-operation agreements, collaboration and exchange programmes for students and trainers, and the sharing of materials and equipment. The same applies to linkages between research and training institutions, to ensure that new research can feed into training, although a number of initiatives are now developing.

Women in forestry professions

There is a very strong gender bias in the forestry professions. Most agricultural activities are carried out by women, yet forestry extension workers work more with male farmers. There are few trained women foresters and agricultural extension workers to reach rural women. Given that men's priorities tend towards tree species that can generate income, the most common tree species selected have been those with commercial value (especially *Eucalyptus*). Women's priority needs, such as domestic fuelwood, fruit trees and fodder have generally not been met. Poor women farmers often have a wealth of indigenous knowledge but have limited access to improved knowledge and skills in tree management, tree nurseries or sustainable agriculture.

With affirmative action, there are increasing numbers of women entering formal forestry education and the Faculty of Forestry and Nature Conservation at Makerere University now has a 24% female intake. However, there are still very few women employed in the forest sector. Vocational skills training in forestry-related activities for the youth has concentrated more on male youth (e.g. carpentry) and young girls have been neglected. In most vocational schools and colleges, facilities such as dormitories and washing rooms for women and girls are lacking or inadequate.

5.10.3 Strategies for forestry education

a). To develop appropriate forestry teaching curricula in primary and secondary schools

b). To build the capacity of school teachers to teach forestry

c). To strengthen the teaching of forestry in business, technical and vocational training institutions

d). To strengthen forestry education and training in universities

e). To encourage women to train in forestry

f). To integrate HIV/AIDS concerns in forestry education

a). Develop appropriate forestry teaching curricula in primary and secondary schools

Advocacy and support will be targeted to increase the quality and content of forestry issues in **primary and secondary school teaching curricula**. The Ministry of Education and Sports has developed a curriculum for agriculture in primary schools, which addresses forestry in general. Agriculture will now be an examinable subject in primary schools, with a fully fledged section on forestry. There is, however, a need to improve the general awareness and advisory services to teachers and pupils in order to strengthen the practical aspects of forestry in primary schools. The MoES (currently through the Agricultural Education Component of the Agricultural Sector Programme Support) will ensure that schools establish school gardens with a practical forestry component. MWLE will work with MoES to ensure that appropriate forestry advice is given to this programme, as part of an overall PMA strategy for improving education in the productive sectors. This will be taken further in the development of secondary school curricula.

To develop basic **practical forestry skills**, local governments and schools will be encouraged and supported to establish tree nurseries and school woodlots, with the advisory support of NGOs, PTAs and teachers. Forestry clubs in schools will motivate children and provide demonstrations and the opportunity to develop practical skills. The distribution of the *Tree Talk* magazine and free tree seeds to all schools in the country has been a success and will be encouraged to continue.

b). Build capacity of school teachers to teach forestry

Incorporating forestry into school curricula will require new teaching skills. The teacher training institutions (National Teacher Training Colleges, Primary Teacher Colleges) will train staff in new areas of curriculum development that relate to forestry. This will also include identifying materials for forestry teaching and learning. In some cases practical forestry teaching will require tools, seeds, demonstration areas and practical teaching facilities. This may be further supported by encouraging teachers to develop forestry clubs in schools or to include forestry in school farms and farming clubs.

c). Strengthen the teaching of forestry in business, technical and vocational training institutions

There are four specific areas in which practical forestry skills and knowledge can be strengthened beyond the school years. These are through the commercial and technical colleges, Nyabyeya Forestry College, vocational training centres, and the farmers' institutions. The Department of Business, Technical and Vocational Education and Training

(BTVET) in the Ministry of Education and Sports is the institutional focus for strengthening these areas.

- **Business and technical colleges:** these include technical colleges, colleges of commerce, health, meteorology, agriculture and fisheries. There is an on-going review of curricula in a number of these. Forestry needs to be seen as a contributing factor to the success of agriculture, and therefore the role of forestry is agriculture will be reviewed and incorporated into the curriculum offered in technical agricultural training. This represents a major opportunity to ensure that natural resources, and forestry in particular, find a place in the overall farming systems of this country, to boost agricultural productivity and incomes, and ensure environmental stability in Uganda's largest land-use sector. Aspects of forestry in the curricula of all the other technical colleges need to be reviewed and emphasised to reflect the role and importance of forestry in those disciplines. For example, the role of medicinal trees and plants (and their potential to treat HIV/AIDS disease) should be reflected in the curriculum for health training institutions.

- **Nyabyeya Forestry College:** this is Uganda's single technical forestry training college. The NFC will continue to regularly update its forestry training curriculum and offer courses and in-service training that are multidisciplinary and respond to professional skills and knowledge needs across the sector, especially in the private sector led economy. New courses on agroforestry, bee-keeping and carpentry have already been developed, and others will follow according to demand.

- **Vocational training centres:** Community vocational forestry training institutions are being developed at district level. Many school dropouts do not have the minimum requirements for joining recognised technical colleges, and yet practical forestry training may not necessarily require "O" or "A" levels. Furthermore there are many disadvantaged youth who do not have resources to continue with secondary education (e.g. HIV/AIDS orphans). Developing practical forestry skills represents a real opportunity for such individuals, and the strengthening of forestry vocational training for school dropouts will be undertaken with MoES. Potential apprenticeship centres will be identified in the rural areas and be encouraged to offer courses in a range of technical forestry subjects, according to the specific needs and opportunities of the area.

- **Farmers' training centres:** The MAAIF is supporting the development of District Agricultural Training and Information Centres (DATICs), farmers schools and rural youth clubs, in some districts, to teach agricultural extension skills and knowledge. Forestry information and skills will be integrated with this work, looking for synergies with agriculture. Young men and women, the disadvantaged and marginalised groups will be specifically targeted and offered practical training in forestry enterprises or in how to integrate forestry into agriculture.

This practical forestry training in colleges and vocational centres will be developed through the MoES agricultural education programme, which targets tertiary education colleges through training staff and curriculum and syllabus development. This programme is based on job market assessments and provides practical training in commercial farming. Practical forestry training will be incorporated, and teaching will require tools, seeds, demonstration plots and practical teaching facilities.

Many tertiary education establishments require increased institutional support, including infrastructure, human resource development and operational capacity, and improved linkages and co-ordination between forestry research, training and extension institutions.

d). Strengthen forestry education and training in universities

The main university education institutions in forestry, including Makerere University, Mbarara University and others, will continue to regularly **update their curricula**, and develop courses and in-service training that are multidisciplinary and respond to professional skills and knowledge needs across the sector. These will especially need to respond to the private sector led economy, where radical reforms in forestry extension services and the roles of local governments are changing.

In general forestry education will become more responsive to forestry as a business and forestry to enhance poor people's livelihoods. Forestry training curricula are likely to shift from discipline-based to issue-based approaches, and become more integrated and better balanced between the technical, social and ecological aspects. They will emphasise field-based learning and include more in-service training in formal and informal education, and develop stronger links between training institutions and the businesses and organisations that are the future sources of employment for graduates.

e). Encourage women to train in forestry

Affirmative action, information campaigns and career guidance will be developed to encourage and support **women to develop professional careers** in forestry. Women are more exposed to fuel-wood and firewood problems than men, generally perform better than men in tree nursery management and the uptake of extension services, and require equally good practical forestry skills. Women are likely to be bteter users of practical training. To mirror this, women are likely to be more effective service providers to other women, and will be encouraged to take up specialised training and join the various forestry professions.

There will be more career guidance for female students to take up forestry, affirmative action will be pursued to encourage more women to join forestry courses and professions, with information campaigns being used to motivate female students in forestry practices and experiences.

f). Integrate HIV/AIDS concerns in forestry education

HIV/AIDS is responsible for 12% of all annual deaths, leaving behind 1.7 million orphans. There are currently 1.5 million people in Uganda infected by HIV/AIDS (2001 figures). These are mainly young people in the prime of their productive lives, aged 18-30 years. The impact of HIV/AIDS has affected all sectors, including forestry, in terms of mortality rates of staff in organisations and businesses, and producers and consumers of forestry products. The rate of forest encroachment rises as people sell their land to treat bed-ridden patients. Forest products can also be a source of medicine for some of the HIV/AIDS opportunistic diseases. It is government policy to integrate HIV/AIDS concerns in all sectoral plans and activities. Forestry training strategies under the NFP will therefore complement the efforts of other sectors and will focus on:

- Integrating HIV/AIDS awareness and prevention activities in the **curricula** of primary and secondary schools, vocational schools, Nyabyeya Forestry College and Makerere University training, and emphasise how HIV/AIDS relates to livelihoods and forestry activities. Awareness will also be raised about the opportunities that forestry can offer to HIV/AIDS affected persons.

- Vocational training in forestry will **target youth and orphans** whose parents have died of AIDS and who are facing difficulties in continuing with secondary education after the government-funded Universal Primary Education.

Information and communications

5.10.4 Context

A wide range of information and data is needed for sectoral analysis, the provision of information services and the creation of public awareness across the sector. There are many stakeholders, including government officials, investors, forest owners, NGOs, donors, research and training institutions, and the general public, who have different information requirements. These are needed to make effective choices and decisions about investments, livelihood options or policy changes. The Forestry Policy (2001) is committed to raising public awareness of the sector (see Box 5.10).

Box 5.10 Statement from the Forestry Policy (2001)

Policy # 10: The government will support sustainable forest sector development through appropriate education, training and research ….. including public education programmes.

5.10.5 Situation analysis

Information needs

There is a lack of information to serve different stakeholders' needs. Some users, including local and central governments, require information for planning, managing resources, monitoring and developing policy. Others, including farmers, small businesses and service providers who are implementing forestry activities in the field, require information on tenure, markets, technologies, funds, policies and regulation amongst others. In many cases rural people are disempowered by lack of information on government policies and programmes.

Information management - reliability and accessibility

There is generally poor management of information across the forest sector. There is very limited information available, it is often unreliable, inaccessible to some users like the poor and often not relevant to their needs. Compared to agriculture and tourism, for example, the forest sector has weak mechanisms for disseminating information to enhance awareness and provide effective information services to those who need them. There are particular problems relating to access to information by women, the youth and school dropouts, who may be over-burdened, and by many poor people who are illiterate.

The co-ordination of information gathering, management and dissemination is also weak, with many institutions collecting information, often overlapping, and little collaboration or clear division of responsibility.

Public image of forestry

Because of limited public awareness, few sensitisation programmes and a number of recent problems in the sector, forestry has had a poor public image and thus limited political support. Given the low priority of developments in the sector, government has provided little financial support, and the impacts of forestry on poverty and the national economy have been under-valued. There is also a weak understanding of laws, rules, guidelines and regulations governing the sector. And to many investors in other sectors, forestry is seen as an obstacle to progress in agriculture and industrial growth.

5.10.6 Strategies for information and communications

a). To establish a national forestry information centre

b). To increase public awareness about forest sector developments

c). To promote political support for forestry through effective advocacy

d). To target the youth with information on tree growing

a). Establish a national forestry information centre

Demand-led information services will be developed, with an improved identification of users' needs and better quality information gathering and dissemination. One major **technical information centre** will be the National Biomass Centre within the NFA, which will eventually run on a self-supporting basis by contracting work from other stakeholders. UBOS, MUIENR, UWA, NARO and others are also important holders of information resources. The lead establishment for information on forestry will however be the NFA, with an important function to maintain updated information and to co-ordinate information services. This co-ordination and collaboration will be developed among information providers. The NFA will develop a one-stop information centre that will organise information collection and dissemination, and will be contracted to provide specific information services.

The management of forestry information will also be strengthened in the **districts**. The district planning units are charged with the collection, storage and dissemination of information for sectoral development planning. Forestry information in the districts has been lacking in this analysis because forestry and the deployment of forest officers have been centralised. With increasing decentralisation and local governments having a larger stake in the management of forestry developments, it will become a local government responsibility to support and strengthen the collection and usage of forestry information at district level.

b). Increase public awareness about forest sector development

Much of the change required to improve the protection, management and development of the forest sector will require a change of attitudes and practices of all stakeholders, including local communities, private businesses, civil servants and politicians. These changes will be driven by raising awareness of forest values, policies and new approaches to sustainable forest management amongst the general public, and amongst key decision-makers and opinion leaders.

Targeted and co-ordinated **public information campaigns** will be developed to increase awareness in the general public. Such exercises will be developed in simple formats and local languages, using written, oral and visual media and drama. Information will include opportunities in agroforestry, the public values of natural forests (watershed, soil, biodiversity), government policies, laws and plans for sustainable forest management, market prices for forest products, tree seed quality and fuel-efficient stoves, and will target consumers, producers and NGOs.

The religious and traditional institutions will be participants in raising awareness on forestry development. Collaboration with such institutions will ensure that messages reach target audiences effectively.

Information on the **menu of forestry opportunities** will also be disseminated (see chapter 5.6). This menu will outline a range of opportunities for livelihood improvements through

forestry, focussing on poor people with few assets as well as those with more assets, and will be crucial in helping to articulate a strong demand for support services through NAADS. In addition, this will be supplemented by the development of a **national information service on market prices** for forest products, to stimulate forestry businesses and encourage economic growth. This service may be commissioned from the NFA or from private sector providers such as agricultural business development centres.

c). Promote political support for forestry through effective advocacy

Specific **advocacy campaigns** targeting decision-makers and opinion leaders will be developed in order to raise the political profile of forestry. This will influence the allocation of public resources for the sector and help to develop enabling policies, legislation and programmes to sustain the sector's development.

In addition, a **forum for NGO and civil society advocacy** will be promoted, to provide added weight to the advocacy for the sector. This will require some financial support for co-ordination, networking, advocacy and dissemination.

Political leaders at the national and district levels will be encouraged to promote forestry development, through their leadership and communication platforms. Political leaders have been very influential in the campaign against AIDS, and this leadership can be brought to bear in creating awareness and attitude change for forestry in Uganda.

d). Target the youth with information on tree growing

The younger generation needs to be motivated and encouraged to grow trees. A change of attitude towards forestry among the youth is needed to demonstrate that forestry is an enterprise that can generate profits and help eradicate poverty. The current **"Tree Talk" magazine** will be sustained and **tree seeds distributed** to schools (approximately 12,000 primary schools, 1,600 secondary schools and 700 rural-based NGOs working with the youth). The magazine will be translated into local languages to cater for out-of-school adolescents. **Radio programmes** will supplement this effort for the same purpose.

Forestry research

5.10.7 Context

Research plays an important role in forestry since many aspects of sustainable forestry depend on the application of relevant research to improve policy, planning, resource management and institutional development. The Forestry Policy (2001) is committed to research in support of the forest sector's development (see Box 5.10).

Box 5.10 Statement from the Forestry Policy (2001)

Policy # 10: The government will support sustainable forest sector development through appropriate education, training and research

Responsibility for government-funded forestry research has shifted from being part of general forest management activities in the Forestry Department, to the specific mandate of the Forestry Resources Research Institute (FORRI) under NARO. NARO is the only publicly-funded and accountable national agricultural research organisation in Uganda, covering crops, livestock, fisheries and forestry. FORRI has the mandate to co-ordinate and conduct research across the forest sector. This includes research in natural and plantation forest management, forest ecosystems and plant genetic resources, forest products and utilisation, agroforestry, forest protection (pests, disease and fire), socio-economics of forestry, recreation and any other areas as may be approved by the NARO governing board. FORRI collaborates with a number of partners to fulfil this mandate, both nationally (e.g. Makerere, World Vision, Africare), regionally (KEFRI, TAFORI) and internationally (e.g. ICRAF, FAO, IUCN, CIFOR).

Other institutions that undertake forestry research include Makerere and Mbarara Universities and independent institutions such as ITFC, CBR, IFPRI, ICRAF.

5.10.8 Situation analysis

The NARO Medium Term Plan for the period 2001 – 2005 specifies three priority areas for FORRI:

- development and promotion of technologies for conservation, sustainable management and efficient utilisation of forestry resources
- development and promotion of agroforestry technologies for sustainable land-use, and
- collection, conservation and characterisation of plant genetic resources.

However, there is currently a relatively limited scale of forestry research undertaken in Uganda, and poor dissemination and uptake of research results.

Identification, implementation, dissemination and uptake of research

A major problem has been the weak management of the research cycle, which can be defined as the chain from identification and design of research problems, through the implementation of research, to the dissemination and uptake of results.

The users of research information include farmers, business managers, planners and others who need information, understanding and technologies. In general there has been limited **participation by research users** in identifying, designing and setting priorities for research, and in its implementation, monitoring and evaluation. The processes and structures for farmers to articulate their demands for research and technology development have also been lacking, although they are now being addressed in NAADS. Likewise demand-side institutions such as the Forestry Department and private forestry businesses have been poor

in expressing their explicit demands for forestry research. As a consequence, the relevance of much research has been weak and the uptake of research findings has been slow.

In addition, **indigenous knowledge** has not been recognised as a vital development tool and there has been little demand for research into this area. Local people use indigenous knowledge to make a living in many environments, including forestry. There is an increasing need to incorporate indigenous knowledge practices in all sector development plans. In forestry, indigenous knowledge is important in resource management systems and extension service provision. It is based on sacred controls, pragmatic rules, civic contracts and initiation of new controlling institutions and rules. Some sacred forests are put aside for prayers, rituals and traditional ceremonies and as burial grounds. Pragmatic controls exist in agreed social rules to promote the conservation of forest resources. Civil norms exist, such as taboos and myths which have implicit rules on forest conservation, the "do's" and "don'ts" in forest reserves and game parks. Indigenous knowledge research can deepen the understanding of these processes and norms and explore their application to the sector's development.

The **dissemination and extension** of research findings has also been poor. There is limited coverage of research results in the print and mass media, and limited translation of research findings into local languages. This low level of dissemination is mainly due to weak extension services, a lack of resources and capacity, and poor co-ordination and networking between the various government and non-governmental organisations for more efficient service delivery.

There are some notable exceptions to this, for example the ICRAF / FORRI / AFRENA agroforestry research efforts in south-west Uganda, which have successfully made the links between research demands from farmers, their participation in the research and their uptake of the results. This has greatly improved the farming methods and livelihoods of the farmers in this region. However, the dissemination of these technologies to other parts of the country is limited, yet they are highly appropriate for the modernisation of agriculture and the eradication of poverty.

Institutional capacity, co-ordination and linkages

There is limited **institutional support** for forestry research, leading to poor infrastructure, human resource development and operational capacity. FORRI is currently unable to implement its research priorities due to limited funding and inadequate facilities such as offices, laboratories, equipment and workshops. Other research and training institutions face similar problems. NGOs often have strengths in farmer participatory research but are in general poorly resourced, and there is limited networking between them.

The NAADS approach requires that stakeholders at the grassroots demand research services, but currently research is centralised with limited participation of the beneficiaries of the research activities. Farmers themselves have little capacity to express their research demands.

Forestry research is spread over various government and non-government institutions. This requires effective co-ordination of research efforts among the institutions involved to avoid duplication and conflict. There are generally **weak linkages and co-ordination** between forestry research, training and extension institutions, and limited linkages between national, regional and international research institutions. The interaction between sister agencies such as UWA, NEMA, FORRI and Makerere University has also been limited.

5.10.9 Strategies for forestry research

a). To establish a forestry research fund to support client-led technology development and strategic research

b). To build the capacity of FORRI, the ARDCs and other research institutions to conduct and co-ordinate forestry research

c). To improve the dissemination and uptake of research information through partnerships

d). To improve the demonstration and packaging of research information

The strategies aim at addressing the needs and objectives of the sector's main stakeholders, from poor farmers and forest users to national policy makers, and at enhancing the relevance and uptake of forestry research results by strengthening the links between clients, researchers and advisory service providers. By strengthening the demand for research, and increasing the participation by the various research clients in planning, implementation and dissemination of research information, research can make an important contribution to the sector's development and poverty eradication through forestry.

a). Establish a forestry research fund to support client-led technology development and strategic research

Research priorities will be determined through a client-based participatory approach, linking clients and researchers in several important ways. Clients will articulate demand for relevant research and technology development, and will be encouraged to participate actively in field research. Establishing new research funding mechanisms will reinforce this approach.

The clients for research will be farmers and other end users, as well as clients at other levels such as institutions (e.g. NFA, MWLE) or private businesses (e.g. plantation investors).

At the grassroots level, farmers will be encouraged to demand relevant technology developments, and research priorities will be determined through participatory mechanisms, for example as set out under the NAADS processes, using a **technology development fund**. Such a fund will be available to allow farmers and forest owners to commission research that reflects their demands, in much the same way as farmers will identify their priorities for advisory services and contract these from private service providers – see chapter 5.6.

The main demands on the technology development fund will be the development of appropriate **agroforestry technologies** (where they do not exist) and the adaptation of promising technologies (that have been tested elsewhere) to local ecological conditions. On-farm participatory research, and building on indigenous knowledge and skills in forestry will be important parts of this development. Agroforestry research will take a problem-solving approach that takes place on-farm, thereby facing the test of improving farmers' livelihoods. One-way technology transfer does not work – technology development will become a two-way process with farmer feedback.

For other clients, different areas of forestry research are likely to be important. Research related to policy, forest industries, non-wood forest products and conservation are also important objectives of the NFP, but the key tests will be whether they are driven by demand

from clients, and whether they will contribute to poverty eradication and sustainable resource management. Some strategic research will be relevant to respond to such demands, and to support this a **strategic research fund** will be established to respond to the main demands for forestry research from institutional and private sector clients.

The modalities for such funding will be established within the new framework for agricultural research currently being developed for Uganda (National Agricultural Research System (NARS) Reform Programme).

b). *Build the capacity of FORRI, the ARDCs and other research institutions to conduct and co-ordinate forestry research*

The capacity of research institutions to undertake and deliver relevant client-led research will be strengthened through infrastructure development, staff recruitment and training.

The Forestry Resources Research Institute (FORRI), as the lead institution on forestry research, will be strengthened to conduct and co-ordinate research across the sector through the development of the required facilities (including laboratories, workshops and equipment) and staff training. Key institutional stakeholders undertook a national priority setting exercise in 1999. From this, FORRI has identified the need to develop strategic research and expertise in three main areas:

- technologies for the conservation, sustainable management and efficient utilisation of forestry resources (including energy efficient technologies)
- agroforestry technologies for sustainable land-use (responding to demands of farmers), and
- collection, conservation and characterisation of plant genetic resources (for tree breeding and the development of seed orchards).

The core expertise of FORRI will be developed in these three main areas of research, and will reflect the range of skills required to conduct and collaborate on research in these priority areas.

The development of the **Agricultural Research and Development Centres (ARDCs)** in the major agro-ecological zones across the country will be an opportunity to decentralise research and create centres of excellence for testing, demonstrating and disseminating technologies. These will provide localised adaptive research, the multiplication of planting materials, the provision of relevant information and be a showcase for the demonstration of technologies. Not all ARDCs will necessarily conduct the same kinds of forestry research, as each may develop a comparative advantage in specific areas of research, depending of the agro-ecological zone and local context and priorities. The ARDCs' capacity will be strengthened through FORRI by recruiting and training researchers in participatory forestry research. The success of forestry in the ARDCs will depend on the support and co-ordination they receive from FORRI, and the support they can get from other research organisations such as ICRAF, the universities or NGOs. It is important that FORRI is adequately resourced to provide this support, in terms of expertise and operational facilities.

Research contracts are increasingly competitive amongst higher level institutions such as **universities and non-governmental research centres**, and this has increased the efficiency and relevance of research to institutional clients such as donors, government ministries and policy centres.

Some strategic research, such as tree improvement to improve the genetic quality of seed and plant material, will require **collaboration** between FORRI, Makerere and the NTSC. Links between these research institutions and the ARDCs will also be strengthened. In other areas of research co-operation between research institutions will be encouraged to increase efficiency and synergy.

c). Improve the dissemination and uptake of research information through partnerships

The uptake of research findings depends to a great degree on the involvement of clients in the design and implementation of research and on accessible information and technologies.

To assist with the dissemination of new information and technologies relevant to forest producers and users, **partnerships between clients, advisory service providers and researchers** will be encouraged, through the NAADS framework and NGO networks. Service providers and NGOs will play a role in these partnerships, forging links between researchers and research users so that research and technology opportunities are better understood by all stakeholders, and researchers are better able to respond with relevant research. Forestry research must be seen as a service to development – to provide technologies that are relevant to people's incomes and livelihoods, in partnership with research users and service providers. Market-oriented forestry technology developments are most likely to be fruitful in bringing tangible benefits to poor farmers.

Technologies whose benefits have been demonstrated can then be disseminated through improved service delivery mechanisms such as NAADS and its new partnerships. This includes knowledge and information, as well as improved seeds and planting materials. A major challenge here lies in scaling up the benefits of new technologies. For example, traditionally research has been done in a few agro-ecological zones and tested with small numbers of farmers. To **scale up to whole watersheds or entire farming systems**, the partnerships between research organisations and service providers, local governments and farmers will have an important role.

An effective framework for such partnerships will be research and development networks. FORRI as the lead agency will encourage the formation of such research co-ordination and networking frameworks, to achieve more effective development, documentation and dissemination of forestry research information and technologies. The proposed **Uganda Agroforestry Development Network (UGADEN)** is a positive step in this direction for agroforestry, and will be hosted by FORRI. UGADEN aims to co-ordinate a network amongst researchers and service providers from across Uganda. This will develop and share region-specific information and training on agroforestry, market information on agroforestry products, and information and materials for the extension of agroforestry. It will also encourage exchanges between agroforestry practitioners and agroforestry dissemination organisations in various zones of Uganda.

Improved networking between researchers will also reduce duplication, create synergy and maximise the rate at which capacity can be built in the research organisations. Such networks will significantly increase the uptake and impact of forestry technologies, provide a rigorous monitoring and evaluation framework for research and development, and improve the quality of services provided by NGOs and the private sector. They will also promote greater collaboration and cross fertilisation between forestry, other natural resource management research and agricultural research.

The role of the national forestry information centre contracted to the NFA will be important in this context (see (chapter 5.10.6 a).

d). Improve the demonstration and packaging of research information

At farmer level, research information dissemination will be further enhanced through the establishment of **demonstration sites** at ARDCs, at Technology Development Sites (TDSs) and on farms with contact farmers. The ARDCs and TDSs are important targets for capacity building by NARO and PMA/NAADS for improved dissemination and utilisation of research, including forestry research.

In addition to these partnerships and demonstrations, the dissemination of research information will be enhanced through the systematic collection, compilation and documentation of available research results into useful packages of information. A **forestry research information centre and database** will be developed by FORRI, to ensure that there is a high profile reference centre for research information. This will focus on providing practical, accessible and relevant information for forestry producers, users and policy-makers.

5.11 Supply of tree seed

5.11.1 Context

There is high unmet demand for tree seed from farmers across Uganda, to meet the growing need for tree products on-farm. There is also a severe backlog of industrial and small-scale tree planting to meet the expected shortfall in wood supply in the future. One of the factors affecting this backlog is the insufficient supply of high quality tree seed and planting materials. The Forestry Policy (2001) makes tree seed supply a priority (see Box 5.11).

Box 5.11 Statement from the Forestry Policy (2001)

Policy # 11: Innovative mechanisms for the supply of high quality tree seed and improved planting stock will be developed.

Currently many large-scale commercial tree planters and consumers such as tea and tobacco companies, are importing seed from other countries, or using poor planting stock. Many potential small-scale tree growers simply cannot buy seed. The National Tree Seed Centre has a remit to develop and supply tree seed, but has performed poorly and has not been able to meet demands. Other options, including NGO and private sector supply closer to the sources of demand, have been successful on a small-scale but are not well developed nationally.

5.11.2 Situation analysis

There are two main problem areas to address in the development of tree seed supply in Uganda, relating to constraints in supply and to difficulties in creating demand for high quality seed:

Tree seed supply

The supply of tree seed is inadequate to meet demand, and the quality and diversity of the seed available is often poor. This applies equally to long-rotation timber species and to short-rotation agroforestry and fuelwood species. This poor seed supply is partly a result of the scaling back of replanting activities by the Forestry Department.

The supply of high quality seed of **indigenous timber species** is especially poor for most preferred high value timber species (such as *Milicia excelsa*, *Entandrophragma* species, *Khaya anthotheca*, *Olea welwitschii* and *Lovoa* species). This has been caused by a lack of protection and management of seed sources, degradation of the genetic base over time, and poor knowledge of the seed biology of these high value species, all of which make seed collection difficult. There is little private sector interest in developing such seed sources, and the FD and UWA have not succeeded in protecting and managing such seed sources effectively. The history of seed supply by the National Tree Seed Centre (NTSC) suggests also that there is little interest in planting indigenous tree species. More effort has been put into promoting fast growing exotic species at the expense of indigenous species.

The supply of seed to meet the needs of increased **agroforestry** activities in the country is poorly developed. There is a multiplicity of seed suppliers emerging to meet demand, but supplying variable quality seeds. Often seeds are provided free by projects and there is only a limited market for tree seed. There are no guidelines for quality control. There is limited regard for regional ecological and social differences and preferences, and for seed to meet a diversity of household needs. Much seed supplied is either too expensive for poorer farmers, or not relevant to the needs of women.

Demand for high quality tree seed

There is little awareness of the importance of high quality tree seed. A special factor in the supply of tree seed, and efforts to improve quality through the market, is that many species take a long time to grow, and the effects of poor quality seeds and planting stock take many years to appear. This reduces the market demand for high quality seeds and hinders the development of quality seed sources.

The tree seed trade is not transparent, in that it is difficult to differentiate between good and poor quality seed by visual assessment if the seed is not distributed with information on its physiological and genetic characteristics. Large quantities of seed have been distributed without such information, which will make it more difficult to carry out improvement work in future.

5.11.3 Strategies for tree seed supply

a). To promote the development of private tree seed suppliers

b). To raise public awareness and disseminate market information on high quality tree seed

c). To establish the framework for a decentralised seed production and supply market

d). To strengthen and commercialise the National Tree Seed Centre

There is still very high demand for tree seed, both for the millions of small-scale farmers widely scattered across the country and the large-scale forest plantation programmes under the NFA and the private sector. This demand will be met through the more effective functioning of the National Tree Seed Centre (NTSC), and the development of the capacity of the private sector to supply tree seed. The NTSC will be commercialised and will be a major source of seed supply to large-scale forest plantations. The role of the small-scale private tree seed suppliers is recognised, and these will be developed as an important source of seed to meet the growing demand from the predominantly small-scale tree growers across the country.

The four major categories of tree species in Uganda, from the point of view of seed supply, are (i) exotic timber plantation species (mainly pines and *Eucalyptus*), (ii) high value indigenous timber species, (iii) exotic partly-tested agroforestry species, and (iv) indigenous untested agroforestry species. The available knowledge, biology, status and potential use of these species suggest a range of seed supply strategies, with clear roles for private sector seed suppliers. There is also a need for a publicly contracted body to provide a framework for the development and distribution of tree seed supplies to ensure quality.

a). Promote the development of private tree seed suppliers

For the agroforestry species, the most urgent need is the development of a decentralised system for seed production and distribution and the creation of an active market for tree seeds. With the potential demand by millions of farmers each requiring a small number of seeds of different species, the market is substantial. The most efficient way to develop production and distribution will be through the private sector. Tree seed (mostly of exotic species) for agroforestry has often been delivered free to farmers though projects, and lessons from similar approaches to agricultural seed supply show that seed relief operations are not sustainable, and often private seed production and distribution systems are undermined.

Given that there are very few tree species in agroforestry use, and very few seed supply businesses in the private sector, a major focus will be on developing **private seed supply businesses** with diverse seed sources. This will address the lack of alternative species choices, the over-emphasis on exotic species, the limited attention paid to regional ecological differences, the diversity of household needs and the specific requirements of women. Systems of credit and payment in kind will help the poorest farmers to engage in seed production, storage and distribution. The development of seed sources from trees in farmland and forests, or the planting of new sources, will be crucial for the development of the market. **Advice, training and information** will be provided through NAADS or the District Forestry Services to enable private tree seed supply businesses to emerge and grow, including information and **guidelines** on seed sourcing, handling and storage, especially from the established agroforestry research and development centres such as ICRAF/AFRENA and VI Agroforestry. The NTSC, Nyabyeya Forestry College and others may provide specialist training in tree seed supply businesses. ***The reform of these advisory services is addressed in detail in chapter 5.6.***

b). Raise public awareness and disseminate market information on high quality tree seed

The development of an active market for agroforestry tree seed is also a part of the strategy, to allow the new private businesses to thrive. A transparent market will be developed where users know what species and provenances are available and what their relative merits are. A high quality seed market requires farmers to have sufficient knowledge of the species available, their provenances and preferred ecological setting, what products and benefits they can produce, and sufficient knowledge of how to handle the species. **Raising awareness and disseminating market information** through public information and communication campaigns are thus key elements of the strategy. This will sensitise the public to opportunities for developing tree seed supply businesses, and build confidence in the market that seeds sold are high quality and appropriate to local conditions and preferences.

The number of tested agroforestry species promoted around the world is remarkably small (about 10 - 20 species) compared to the total number of tree species occurring in the world (50-60,000 species). Surveys of trees on farms frequently show that farmers maintain or plant a large number of species on their land. It is not known how widely disseminated the knowledge of the potential benefits from indigenous species is, nor how efficient the distribution of the germplasm is. However, it is likely that there are barriers to dissemination and distribution, and the use of many species may be relatively localised. Market information will help to break down these barriers.

c). Establish the framework for a decentralised seed production and supply market

Currently farmers rarely buy tree seeds, as they receive the seed for free from NGO's, CBO's, the NTSC or projects. To develop a market for tree seed will require a phasing out of these practices. However, two important challenges will remain in developing a decentralised, market-driven seed supply framework – ensuring the **physiological and genetic quality** of tree seed, and ensuring that there is enough local capacity to **store viable tree seed over time**, as a buffer against years or seasons of poor seed production. While the NTSC and publicly funded projects may have a role to play in this, it is unlikely that central control over a decentralised seed production and supply market will be cost-effective.

There is an important role for an enabling institution to oversee the development of such a seed production and supply system. An initiative is currently under way to elaborate such a

role with a number of national tree seed centres across Africa[14]. The NTSC or NARO/FORRI through the ARDCs will be contracted to develop a planting zone system that provides recommendations on species and provenances that match different sites, for the handful of exotic species that are currently popular and for a large number of indigenous species. This information will stimulate the creation of a network of seed sources as part of a co-ordinated **national seed production and supply system** that can service millions of farmers in the different ecological zones of the country.

To improve tree seed quality, seed certification systems *per se* have a poor track record of contributing to the amount of seed distributed or to its quality. Consumers who are well informed about the market are more likely to ensure improved quality standards. In addition, the quality control of private tree seed suppliers can be further enhanced by quality assured **training, standards and guidelines** for tree seed supply. The development of such training and guidance will also be an important role of the enabling institution (NTSC or FORRI – the reasons why NTSC may not be suitable are discussed below).

d). Strengthen and commercialise the National Tree Seed Centre

The NTSC will become more commercially focussed, improving its efficiency and operating in a business-like manner to reduce its dependence on the state. As a business centre within the NFA, the NTSC will be expected to operate on a commercial basis within a short time. The seed supply business of the NTSC will become a candidate for full privatisation as soon as possible. The public functions of information dissemination, market development and private sector support may thus be better developed through other structures, including the NFA's Private Forestry Division, FORRI and NAADS.

With the planned expansion of timber production (up to 4,000 ha per year), there will be a considerable demand for seeds of exotic timber plantation species, mainly pines and *Eucalyptus*. This will require high quality seed supply on a large scale, which could be met by a privatised NTSC in collaboration with other private suppliers. The NTSC (or NARO/FORRI through the ARDCs) will develop a planting zone system that provides recommendations on species and provenances that match different sites, and will develop a network of seed sources to meet demand. The development of such seed sources could be a joint venture between the NTSC and major seed users.

In contrast, the demand for high value indigenous timber species, arising from habitat restoration and conservation programmes (enrichment planting), or specialist plantation development, may be relatively low. In addition, seed collection costs are high, for a number of reasons. Collection from big trees over wide areas requires particular skills and is time consuming. Few species have been tested, so little is known about their provenance variation making it unsafe to plant widely from only a few sources. Collection of such seed purely for profit may result in seed of low genetic quality, and the consequences of ignoring these aspects of seed quality may only become apparent after many years of growth. The private sector is thus unlikely to develop a market for such species.

Natural forest populations are likely to have become eroded, and the quality of pollination probably decreased, requiring large areas for seed collection. Sources would need to be relatively intact forest with a good density of trees to ensure efficient pollination, and from a sufficient number of seed trees. Conservation of genetic resources of high value indigenous

[14] ICRAF and the Danish Forest Seed Centre are developing strategies and policies to match agroforestry tree seed supply with demand in Burkina Faso, Malawi, and Uganda, 2001-2010.

timber species should thus be considered to be of national or international importance, and seed supply of such species publicly funded. As NTSC increasingly becomes a market-oriented business, any requirement for the NTSC to undertake such work will thus have to be based on a specific contract from government.

5.12 Biomass energy

5.12.1 Context

More than 90% of the energy consumption in Uganda is from woodfuel (firewood and charcoal) and more than 90% of the wood supply in Uganda is for energy consumption. Wood as a source of energy has the following characteristics:

- Wood is the main energy source in rural areas and among the poor (only 1% of the rural population had access to electricity in 2000)
- Fuelwood production and trade is an important source of income and employment
- It is vital for food security, and women and children are largely responsible for collecting fuelwood
- Wood is widely used in many industrial processes: brick and tile making, lime production, tea and tobacco curing, baking and food processing
- Charcoal and firewood are important in urban households (and firewood especially so in poor households), in the majority of institutions (hospitals & schools) and in commerce (restaurants, hotels and bakeries), and industrial production of cement, iron and steel
- Wood has a limited dependency on foreign currency

Woodfuel will continue to be the dominant source of energy in Uganda for the foreseeable future. Even if the entire hydroelectric potential in Uganda was fully utilised (about 2000 MW), wood would still supply more than 75% of the total energy consumption in 2015.

Charcoal production accounts for 15-20% of the wood supply in Uganda and is mainly used in urban areas. Charcoal is still very often a by-product of land clearance for agriculture or livestock development. When the wood from agricultural expansion is not used for charcoal, it is often burned on site. The production of charcoal in Uganda is based on simple methods with a very low efficiency (between 8 and 12% recovery).

Ugandan households generally use woody biomass inefficiently. Only about 15% of urban households owned "improved" charcoal stoves in 1995, and the use of improved wood stoves is limited in most areas. Institutions such as schools, however, have to a larger extent converted from open fires to improved cooking stoves.

5.12.2 Situation analysis

Market forces

The combined effects of deforestation, shrinking forest stock and high consumption result in an unsustainable rate of biomass consumption. Improved end-use efficiency can reduce the demand for wood and reduce the pressure on the forests. However, wood is still abundant in many districts, allowing free access and providing no incentives for commercial markets to develop. In such districts there are few forces driving households to adopt energy-saving fuelwood strategies or to invest in wood production.

In other districts there are increasing fuelwood shortages and incentives for growing trees are increasing.

Poor health and welfare

The decline in the availability of firewood substantially increases the burden on women and children who are mainly responsible for its collection. The health of women and children are compromised by pollution from smoke, burning from sparks and the drudgery of cooking with

traditional stoves, open fires, and poor quality biomass such as grass. Collecting wood from afar limits the time that could otherwise be used in more productive activities.

Low wood efficiency in biomass energy consumption

The main reasons for the low uptake of more wood-efficient energy strategies are:

Lack of incentives for behavioural changes: when wood is still abundant and prices or collection efforts are low, the incentives for behavioural changes are also low even though the consumption might be unsustainable. Even in urban areas, where the wood and charcoal market is commercial, the uptake of improved stoves is still quite limited.

Cultural resistance: even though wood is becoming scarce, behaviour is also based on traditions that complicate the uptake of improved technologies. Open fires are used for heating and light as well as cooking. Women and children bear the costs of increased efforts in firewood collection, yet often have limited say on household expenditure, and spending on fuel efficient technologies is given a low priority.

Low public awareness: the biomass energy sector has received little public attention. Despite the importance of biomass, energy policies have been centred on other energy sources. The public awareness about challenges in the biomass energy sector and the possibilities for improved technologies are consequently low.

Unco-ordinated efforts: a number of NGOs have been involved in the introduction of improved wood and charcoal stoves. The initiatives have in general been small, unco-ordinated and in some cases based on insufficient knowledge about the wood situation in the target areas. Switching to more efficient consumption of biomass is dependent on many factors, and hence integrated approaches are needed.

Variable quality and cost of improved stoves: the quality of available improved wood and charcoal stoves varies both in terms of efficiency, user-friendliness (including health impacts) and durability, often not meeting the needs of women who are the main users. They are also an additional cost to households.

Inefficient charcoal production

There is a poor uptake of improved kiln technology, which is more wood efficient. The main reasons for this are:

Access to free, cheap or illegal wood for charcoal production: cheap wood is a disincentive to the introduction of improved kilns if wood is not a significant cost in charcoal production.

Improved kilns imply cash investments: charcoal producers earn very little money for their labour and are amongst the poorest stakeholders in the forest sector, with little spare cash for investment. The transport of iron sheets is also a constraint to the uptake of new kiln technologies, although improved kilns without the use of iron sheets are being tested.

Improved kilns have a slower production process: in cases when the landowner wants the land cleared as fast as possible, or the charcoal production is illegal, a slower production process is a disincentive.

Low skills: the charcoal producers are in general a group with a low level of education and many are only involved part-time in charcoal production. They are not organised which makes it hard to target them with training.

Inefficient wood consumption in the industrial sector

There is a significant potential to improve the biomass energy efficiency in tobacco, lime, brick and tile industries. Improved technologies have been adapted for tobacco curing. Poor knowledge about more efficient technologies and the availability of cheap wood in many areas are constraints to the uptake of more efficient energy technologies.

5.12.3 Strategies for biomass energy

a). To increase the production of wood for energy (supply side)

b). To improve the development and uptake of energy efficient technologies (demand side)

c). To encourage the use of alternative energy sources

d). To improve research, advisory and training support services

e). To develop a national energy information and reference centre

The better protection of forests and woodland, increased investments in wood production and improved wood consumption efficiency are all important for the sustainable use of wood as an energy source. It is important to note that **increasing supply** is insufficient in itself, and will have a limited long-term impact. There is greater urgency to develop effective strategies and technologies to **reduce demand**, as this will have a more substantial long-term impact.

a). Increase the production of wood for energy (supply side)

Strategies on the supply side (protection and production) are covered under PFE and private forest management, plantation development and farm forestry in chapters 5.1, 5.2, 5.3 & 5.6, and include:

- Capacity building for private forest management and trees on farms through better public awareness, training and land-use planning
- Increased prices of wood through protection, taxation and licensing, market information and public awareness
- Better management of CFRs through establishment of the NFA
- Promotion of fuelwood plantations, especially by large-scale fuelwood using industries such as lime makers, and increasing awareness by the private sector about investment possibilities in fuelwood plantations

b). Improve the development and uptake of energy efficient technologies (demand side)

Many attempts to introduce improved cooking facilities have failed because of insufficient understanding of consumption patterns, wood availability, incentives for behavioural changes, cultural traditions such as the multiple roles of traditional stoves, and unco-ordinated efforts. The **demand-side biomass energy strategy** will thus need to be informed by up-to-date price and consumption data and a better understanding of the uptake of fuel-efficient technologies. The strategy will involve important stakeholders, especially

women, and will cover urban and rural households, small-scale processors, institutions and industries. The strategy will clarify institutional roles and responsibilities, which are currently overlapping and unco-ordinated. Key elements of the strategy will include:

- Uptake of **energy efficient technologies by consumers** will be improved – including households, small-scale processors and institutions. The technical development and quality control of charcoal burners and wood stoves will be promoted to improve efficiency, durability and user-friendliness of introduced stoves. Another challenge is to **raise awareness** among consumers, producers and NGOs about available facilities and technologies as well as other wood-saving strategies and biomass energy sources.
- Uptake of **energy efficient technologies by charcoal producers** will be improved. Charcoal production technologies will be tested and developed to improve efficiency, reduce investment costs and save production time. Relevant information will also be disseminated widely. The entry point for such developments will be through markets and trading groups of producers – these producers will need significant incentives to take up improved technologies and engage in sustainable production. Only if their incomes increase will they use new technologies in the long-term.
- Uptake of **energy efficient technologies in the industrial sector** will be improved, particularly amongst the tea, tobacco and sugar estates and their outgrowers. Profitable and efficient technologies, and strategies including the use of different biomass energy types, will be piloted in industries such as brick and lime making and fish smoking, to improve efficiency and maximise income and employment.

The National Energy Policy and the Rural Electrification Strategy and Plan initiated by the Ministry of Energy and Mineral Development cover most of these issues in detail, and will lead the development of suitable strategies and technologies.

c). Encourage the use of alternative energy sources

Alternative energy sources such as butane, biogas, electricity and kerosene will be promoted. The challenge is to raise awareness among consumers, producers and NGOs about available alternatives and technologies. Although this is likely to target only a limited section of the population who can afford them and who can access alternative energy sources, it will form part of the overall energy conservation strategy. The focus for this programme of raising awareness will be the MEMD information and reference centre (see below).

d). Improve research, advisory and training support services

Many of the opportunities for improving biomass energy efficiency are under-developed because of the lack of effective support services, a situation similar to that found in tree farming. This covers advice, training, research, market information, marketing and business skills, and micro-finance. Poor organisation in some of these activities both sustains poverty and also creates pressures for the unsustainable use of natural forests. A number of institutions (e.g. the Nyabyeya Forestry College's Biomass Energy Resource Centre), NGOs and private businesses will be able to provide such support services. New technology demonstration centres could be set up around the country in the regional Agricultural Research and Development Centres (ARDCs), and private businesses encouraged to develop and promote new technologies. Such technologies will aim to improve efficiency and user-friendliness, reduce costs, and target specific user groups – households, charcoal makers, small and large industries.

e). Develop a national energy information and reference centre

The MEMD oversees the National Energy Policy and the Rural Electrification Strategy and Plan. It is their role to establish a national energy information and reference centre. This

centre will lead the development of biomass energy strategies, and will be responsible for national standards, information and co-ordination. It will be in a position to commission research and technology development, and to co-ordinate national information campaigns to raise awareness of energy consumption issues and promote new fuel-efficient technologies and alternatives to biomass energy.

6 NFP institutional framework

6.1 Institutional roles, responsibilities and relationships

There are a number of institutional reforms required to ensure support for the implementation of the new sector policies and plans. The Forestry Policy (2001) makes sector-wide planning and investment, sector co-ordination and institutional and legal reform a high priority (see Box 6.1).

Box 6.1 Statements from the Forestry Policy (2001)

Policy # A: A national forest programming approach will be adopted.

Policy # B: The government will develop a favourable investment climate for private and public investment in the sector.

Policy # C: Sectoral co-ordination structures will be established.

Policy # D: The institutional framework for the forest sector will be strengthened.

Policy # E: A new legal framework for the forest sector will be developed

Effective changes across the forest sector require a clear understanding of the roles and responsibilities of different institutions in the implementation of the NFP, and strengthening their capacity to deliver policy objectives. The situation analyses in chapter 5 have clearly identified the need for redefining the roles and strengthening the capacity of lead institutions in the forest sector, in order to improve co-ordination and performance.

Table 6.1 sets out the main institutions and their **responsibilities** in the forest sector, and **Figure 6.1** shows the **relationships** between these institutions. Each of these institutions is discussed in this chapter, with strategies for reform and improving performance. Changes are needed in the relationships between institutions, as well as within the institutions themselves.

The main instruments envisaged in the NFP to drive the changes in institutional relationships as set out in **Figure 6.1** are:

- the introduction of **more diverse service delivery systems**, such as the separation of regulatory and management functions, the “privatisation” of extension services, and defining explicit roles for NGOs and the private sector
- **strengthening of civil society**, by supporting civil society organisations and creating more open processes in government policy-making
- providing for **new contractual relationships** in the provision of advisory services, for developing private forests on government land, for the management of CFRs by the NFA, or for collaborative agreements with local communities for forest management

The internal organisational changes required to fulfil each institution’s responsibilities will be considered against the seven S's of institutional reform:

- Strategy - the approach needed to fulfil institutional responsibilities
- Structure - the organisation of units within the institution
- Systems - the processes and procedures for working effectively

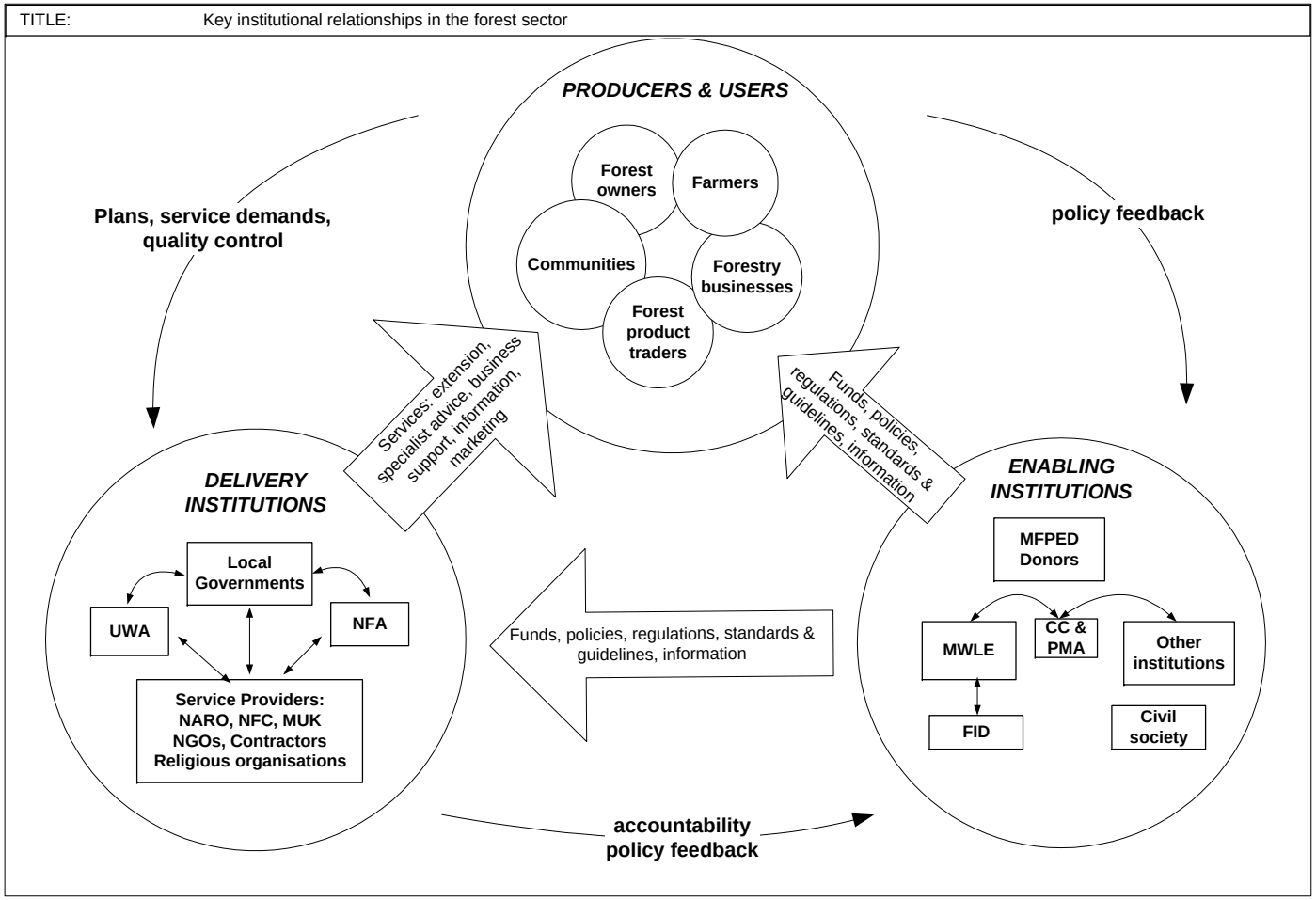
- Shared vision - the understanding that is shared between staff members about the organisation and its objectives
- Staffing - the levels, motivation and attitudes of staff
- Skills - the staff skills and competencies to implement the strategies and systems of the organisation
- Style - the pattern of leadership and management of the organisation

This chapter sets out the strategies for strengthening the important government institutions that will guide the forest sector's development.

Table 6.1: Institutional roles and responsibilities in the forest sector

Institution	Responsibilities in the forest sector
MWLE	• Formulation and oversight of appropriate policies, standards and legislation for the forest sector • Co-ordination and supervision of technical support and training to local government • Inspection and monitoring of local government and the NFA performance in forest sector development • Co-ordination of the NFP and cross-sectoral linkages • Mobilisation of funds and other resources for the forest sector • Promotion, public information and advocacy for the forest sector
Other central institutions	
→ MFPED	• Sector budget allocations
→ MTTI / UWA	• National parks and wildlife, about 50% of the gazetted forest estate
→ MAAIF / PMA	• Agriculture and forestry interface
→ NAADS	• Delivery of advisory services
→ MES	• Education (schools, colleges and vocational training institutes)
→ MGLCD	• Community mobilisation and labour regulation
→ NEMA	• Control of forestry activities in relation to environmental legislation
→ NARO / FORRI	• Research, with a specific focus on agroforestry
→ MLG	• Decentralised services through local government structures
→ MPS	• Public sector reforms, including transition from FD to the NFA
→ URA	• Taxes on forest products, businesses and trading
→ UIA	• Investment promotion in plantation development and processing
→ MEMD	• Biomass energy conservation and substitution
Local government	• Establish District Forestry Services • Strengthen forestry in production and environment committees and District Development Plans • Implement international and national policies on forests • Permits, licence fees and tax collection • Mobilise funds (PAF etc) • Develop and enforce bye-laws • Support and quality control of forestry extension, brokering between farmers and service providers, providing market information • Manage LFRs in partnership with communities and private investors • Land administration, surveying, approval of Community Forests
NFA	• Management of CFRs in partnership with private sector and local communities • Advisory, research or commercial services on contract • Seed supply (NTSC) • National forest inventory and other technical services (NBS)
Service Providers	
→ NARO / FORRI	• Research and development
→ MUK, NFC	• Training
→ NGOs, contractors	• Advisory services through NAADS and other contracts
→ Media organisations	• News, communications and public education
Private Sector	
→ Including forest owners, farmers and other investors, communities, forest industries, and traders	• Forest management and tree farming investments on private land • Forest investments in CFRs on rented land • Collaborative Forest Management of CFRs • Wood and NWFP processing • Trade in forest products • Efficient use of fuelwood
Civil society	• Advocacy and promotion of government accountability

Figure 6.1: Institutional relationships in the forest sector



6.2 Ministry of Water, Lands & Environment (MWLE)

6.2.1 Context

As part of the process of government reform in Uganda the Ministry of Public Service (MPS) has guided a programme of revising Government structures in the light of the Constitution and the Local Governments Act (1997). The MPS report[15] was approved by Cabinet and sets a framework for the development of the Ministry. The Constitution, Local Governments Act and MPS report clearly identify the setting of **forestry policy, standards, co-ordination, inspection, regulation, monitoring and technical guidance** as central government responsibilities (see **Table 6.1**).

For the purpose of ensuring the implementation of national policies and adherence to performance standards on the part of the local governments, the Local Governments Act specifies that Ministries shall inspect, monitor and shall where necessary, offer technical advice, support supervision and training within their respective sectors.

Given the major reforms proposed in divesting the Forestry Department and creating the NFA, and in strengthening the District Forestry Services, the structures and role of MWLE in overseeing the forest sector will also be strengthened.

6.2.2 Strategies for strengthening forestry in MWLE

a). To recruit staff and build capacity to oversee the forest sector

b). To formulate and oversee forestry policies, standards and legislation

c). To provide technical support and monitor forestry in local governments

d). To monitor the NFA using a performance contract

e). To provide advice, public information and advocacy to sector stakeholders

f). To ensure effective NFP co-ordination and cross-sectoral linkages

g). To mobilise funds and other resources for the forest sector

a). <u>Recruit staff and build capacity to oversee the forest sector</u>

The MPS study recommended the establishment of a Department of Environment Affairs under the Directorate of Lands & Environment, containing a Forestry Inspection Division. Currently there is limited capacity to collect and manage information, conduct policy analysis and support local governments. The Ministry's structures and capacity, in particular in the **Planning and Quality Assurance Department** (PQAD) and **Forestry Inspection Division** (FID) will be strengthened to ensure that it is able to perform these functions effectively.

[15] *"Post Constitutional Restructuring of the Ministry of Water, Lands & Environment, May 1998"*

The Forestry Inspection Division (FID) will be the means by which MWLE will formulate national **forestry policies**, **standards and legislation**, will **monitor** their implementation, and will **mobilise and co-ordinate** support and resources for forestry nationally. To achieve this, the FID will require a core staff complement, with adequate resources and skills, to function effectively. In addition, it may need to contract in specific support and commission other bodies to provide relevant services.

b). Formulate and oversee forestry policies, standards and legislation

The national forestry **policy** has been revised and approved by Cabinet, but will require periodic review in the light of operational experience and in relation to other policies (land-use, land, environment, wildlife, local government, etc). Some specific policies may require review from time to time, such as a review of tax incentives, land rents and administrative procedures for private investors (see chapter 5.3).

A number of **standards** will be developed, including national standards on sustainable forest management, and criteria and indicators for investments in and monitoring of natural forests and plantations. Standards will also be produced on specific issues such as seed supply (sourcing and handling), seed and forest management certification, EIA of forestry developments, timber harvesting and grading, access to genetic resources, arboreta and other gene pool storage, safe use and application of biotechnology, amongst others (see various sections of chapter 5).

The Forests Act of 1964 has been revised to provide the enabling **legislation** necessary for implementing the new policies and programmes outlined in the NFP. The new National Forestry and Tree-Planting Act will provide a framework around which ministerial regulations can be developed as needed, and amended as experience demands. The NFP focuses on education, information and financial incentives to develop the sector, rather than overly restrictive regulations. This applies particularly to legislation governing the private sector and private forestry.

Some of the areas requiring the development of **regulations or guidelines** by the Minister responsible for forestry are set out in **Table 6-2** (see also various sections of chapter 5). In addition guidance is needed on "best practice" local bye-laws.

Table 6-2 Regulations and Guidelines to be approved by the Minister

Topic
Conditions that apply to:
(a) a site of special scientific interest;
(b) a strict nature reserve;
(c) a joint management forest reserve;
(d) a recreation forest;
(e) any other area for a purpose to be defined
Regulations for:
• **Collaborative forest management** arrangements with a forest user group
• Registration and management of **private forests**
• Access and trade in forest **genetic resources**
• Declaring **reserved tree species**
• Prohibition, control and management of **fires**
• Notification of plant and livestock **pests and diseases**
• Making an **inventory** of all forests and related matters
• Setting **licence fees** and granting, varying, suspending or cancelling licences

• **Sale** or disposal of forest produce • **Export** of timber and the inspection and grading of timber • **Trade names** for tree species and other forest produce • Introduction of **alien and exotic** species • Certification and control of **tree seeds** and other reproductive materials. • Marking of **livestock** in forest reserves • **Certification** and labelling of forest produce to verify its origin • Support to the development of the trade in **carbon sequestration** credits • Protecting trees or groups of trees • Tree species or other forest produce that may be cut or removed from a forest reserve • Controlling damage and entry to forest reserves • Sustainable management or utilisation of forests • Protection of any forestry resource • Forest utilisation practices • Granting of rights in or over forests
Guidelines and standards for:
• **Publicity** and consultation regarding CFRs and LFRs • Generally accepted **principles of forest management** • Production, approval and dissemination of **management plans** for forest reserves, community forests and private forests • How a District Land Board may declare **community forests**, including draft bye-laws • Performance of **local governments**
Directions, prescriptions or orders:
Directions for **planting trees** Directions on the operation of the **National Tree-Planting Fund** Prescriptions concerning forests owned or managed by **cultural institutions** Orders restricting the **movement of forest produce** Gazettement of **honorary forestry officers**, and determination of their terms and conditions Designation of "**authorised persons**" Directions on reporting requirements from the **NFA** Directions on the terms and conditions of **the NFA Board** appointments and their remuneration

c). <u>Provide technical support and monitor forestry in local governments</u>

The districts will be responsible for a range of services (see chapter 6.5) including the provision of forestry extension services to complement the broader national programme of the PMA and NAADS. The FID's role will be one of organising the provision of **technical support, guidelines, information bulletins and training** to the District Forestry Office of each of these local governments, much of which it will do by using the contracted services of the NFA and other organisations. In particular, contracts will include information services to support forestry sensitisation, information on markets and market prices, and special studies on economic opportunities in forestry (e.g. from the NFA's Private Forestry Division). They may also include national tree seed supply services (e.g. from the National Tree Seed Centre).

The FID will also **monitor** the forestry activities of local governments to ensure their harmonisation with national policies and their compliance with national standards, regulations and measures of performance in service delivery. Some of this work may also be contracted out, for example monitoring of national forest cover by district (e.g. by the National Biomass Centre).

d). Monitor the NFA using a performance contract

The FID will also monitor the performance of the NFA, and any contracts for services that the NFA delivers to support the District Forestry Services. A performance contract between MWLE and MPFED and the NFA will be the governing tool by which is it regulated. This will include principles, standards and performance targets that will assess its commercial performance as well as its trusteeship of public goods (the central forest reserves held in trust for the nation). This work will be co-ordinated with the MFPED's Parastatal Monitoring Unit.

Some of this monitoring work may include forest cover assessments, which could be contracted from the NFA's National Biomass Centre.

e). Provide advice, public information and advocacy to sector stakeholders

The FID will have an important role in promoting forestry using a range of means. These will include promotional campaigns for tree planting, promotion of private sector investments in forestry, sensitisation of the public in all matters relating to forestry, advocacy targeting decision-makers and opinion-formers, and the development of markets, market information and business opportunities. The FID may build capacity to provide public information services, or it may contract the NFA's NBC to establish a **national forestry information centre** to fulfil this function.

Specific topics for promotion and information campaigns will be to:

- Develop programmes of **tree planting**, including targeted promotional campaigns for schools and youth
- Promote **investment in industrial forestry** production and processing
- Sensitise and raise awareness of sector issues such as the importance of **quality standards** for tree seed and forest products, market information for quality seeds, and forest conservation
- Increase **political support** for forestry through effective advocacy**,** targeting key decision-makers
- Create awareness of ownership rights, opportunities and obligations for private and customary natural forests, and promote **land registration and sustainable forest management** amongst private natural forest owners
- Develop national **information services on market prices** across the country
- Develop and disseminate a **menu of forestry opportunities**, with information on production, processing, investment and marketing requirements and potential economic returns

f). Ensure effective NFP co-ordination and cross-sectoral linkages

The implementation of the new Forestry Policy (2001) will be co-ordinated by MWLE using the NFP as the main planning instrument for the sector. The reform processes and sector plan set out in this NFP were initiated by MWLE and have included **information** collection and dissemination (forest sector reviews and information bulletins), **sector planning** (preparation of the NFP), development of the new forestry **policy and legislation**, inter-Ministerial and donor **co-ordination**, and **divestment** of the Forestry Department. Some of

these are “one-off” functions (divestment of FD), others are on-going or periodic. The on-going and periodic functions will be sustained through the **sector co-ordination** efforts of the FID. This will remain a crucial element of the implementation of the NFP.

The on-going reforms, the oversight of the sector and the advice given to the Minister responsible for forestry has been steered by the Uganda Forest Sector **Co-ordination Committee**. This committee has had wide representation, including the Ministries of Finance, Tourism, Energy, Education, Agriculture, Public Service and Local Government, the Local Authorities Association, the Uganda Forest Industries Development Association, the Uganda Wood Farmers Association, the Uganda National Farmers Association, and two representatives from civil society. Significantly, this structure has allowed for the first time the private sector, civil society and other central and local government institutions to contribute to policy advice to the Ministry.

This co-ordination structure will be consolidated so that:

- there is a continued source of advice on forestry policy
- cross-sectoral linkages are cemented
- local governments, the private sector and civil society continue to have a voice in sector developments
- international forestry obligations are co-ordinated and monitored, including liaison with international and regional agencies and oversight of cross-border issues of forestry conservation and trade

Linkages with other existing structures such as the PMA Steering Committee will need to be consolidated.

g). Mobilise funds and other resources for the forest sector

The NFP will remain without substance unless it becomes embedded in the MFPED’s core budgeting structure, the **Medium Term Expenditure Framework**. This will be the main focus of the work of PQAD with FID support, to ensure that the profile of forestry is raised in MFPED and that adequate budgetary allocations are made to implement the NFP. To achieve this, influence needs to be brought to bear in a number of important fora, including the periodic PEAP revisions, the Poverty Monitoring and Analysis Unit, the various PMA committees and in the Sector Working Groups and negotiations during annual budget developments.

Other sources of finance should also be sought, including **Poverty Action Funds**, international biodiversity **conservation funds**, **carbon sequestration funds** and corporate **sponsorship**. Such funds will be used to provide incentives for a range of tree growing and conservation activities, such as farm forestry, or to encourage private and customary forest owners and users to set aside natural forest as permanent forest land.

6.3 Other institutions and organisations

6.3.1 Strategies for ensuring cross-sectoral linkages

There are numerous other institutions that have a significant bearing on the forest sector (see **Table 6.1**). The main responsibilities for these institutions, and the strategies for their co-ordination by FID as part of the NFP process, are outlined below:

Roles and responsibilities of other relevant institutions	Strategies for NFP co-ordination
NFA – the lead institution in the sector, with responsibility for the management of the Central Forest Reserves in partnerships with local governments, private businesses and local communities.	• to oversee the NFA through a performance contract
NEMA (MWLE) – with overall responsibility for supervision and monitoring of environmental concerns. Oversight of environmental activities associated with forestry will be exercised in conjunction with the NFA (within central forest reserves) and local governments (outside forest reserves and in local forest reserves).	• to link with DEOs in implementing forestry components of DEAPs • to provide advice on forestry EIAs
Other MWLE (CDM, Lands, Wetlands, Water)	• to ensure coherence of forestry policy and practice
PMA Secretariat (MAAIF) – the leading framework for rural transformation through the modernisation of agriculture. A key component of PMA is the development of NAADS, through which forestry extension services will be delivered.	• to contribute to PMA Steering Committee work • to mainstream forestry within NAADS • to contribute forestry advice in the implementation of UNCCD (MAAIF)
MLG and ULAA – responsible for government at district level and below. The local governments will provide a crucial role in decentralised forestry planning and service delivery	• to ensure coherence of forestry policy and practice • to enhance support for District Forestry Services
UWA (MTTI) – the lead institution for wildlife management, under whose mandate is included the management of half of the entire government-entrusted forest estate in Uganda. Close working relations will be developed with the NFA, with a view to increasing efficiency and, eventually, the integration of the NFA and UWA into a single management body.	• to ensure collaboration in management of protected areas • to work towards eventual integration of the NFA and UWA
FORRI (NARO) – the lead agency for forestry research. FORRI will provide research and technology development services that respond to demands from forest producers and users, and assist in the development of the Agricultural Research and Development Centres (ARDCs) in each agro-ecological zone in Uganda.	• to ensure appropriate research and technology development and dissemination
MES – the lead Ministry for the development of education and training. Forestry will be integrated into programmes of	• to support the integration of forestry in formal and

curriculum development and the strengthening of tertiary and vocational training institutions.	informal education
MEMD – the Ministry responsible for energy. MEMD will develop a demand-side biomass energy strategy aiming to reduce dependence on biomass energy, promote alternatives, and promote the efficient use of biomass energy in households, institutions and industry.	• to support the development and implementation of demand-side biomass energy strategies
MFPED – the Ministry responsible for fiscal policy and national budgeting	• to ensure coherence of forestry policy and practices • to oversee the NFA performance contract • to mobilise funds and other resources
MPS – the Ministry with responsibility for the public service. MPS will play a key role in the divestment of the Forestry Department and the transition to the NFA, and in otherrestructuring within MWLE.	• to ensure support for institutional reforms
URA – responsible for tax collection.	• to review forestry-related tax incentives • to revise the collection of forestry taxes within districts
UIA – responsible for investment promotion in Uganda.	• to encourage and market responsible investments in forestry plantations on the forest reserves
MGLCD – the Ministry whose responsibilities include community mobilisation and support for marginalised groups	• to ensure integration of forestry policy in community-based planning and mobilisation

6.3.2 Strategies to strengthen the voice of civil society in the forest sector's development

Civil society has an important role in holding government to account, as well as sensitising and promoting the forest sector's development. The voice of civil society will be strengthened through support to structures and processes that encourage civil society to participate in important decision-making fora, and to promote forest-related NGOs and civil society networks. The establishment of a **civil society advocacy forum** such as the Uganda Forestry Working Group is one step forward in achieving this. This network of CSOs will ensure the development of pro-poor benefits from the PFE through CFM agreements, and will monitor the impact on the poor of commercial business interests in the PFE. It will also provide information related to the public trusteeship of forest reserves to the public, and hold government to account in delivering on its forestry policy commitments.

Other civil society initiatives will be developed, especially those that aim to raise awareness of poor people's rights, and of government programmes to promote these rights through forestry, and those that aim to build capacity in local communities to benefit from partnerships in the management of the PFE.

6.4 The National Forestry Authority

6.4.1 Context

The need for reform

The need to reform the Forestry Department as the lead institution in the forest sector arises from a number of pressures. As part of its public service reform programme, Government decided in 1998 to establish a National Forestry Authority to manage the nation's Central Forest Reserves. In August 2000 the Parliamentary Select Committee on Forestry directed the Minister responsible for forestry to provide a plan and a timetable for the establishment of such an authority.

The current process of developing the NFP also clearly identified the need to reform the Forestry Department, and to give a new organisation the autonomy and management freedoms required to achieve redefined objectives. The management of the current Department has not been able to meet the public's expectations. By its own assessment, the Department lacks transport, working funds, motivation and a clear mission. As a consequence, the CFRs lack protection, investments and private sector and local community involvement. Outside the reserves, for the same reasons, FD is carrying out virtually no forestry extension work.

The new Forestry Policy passed by the Cabinet in March 2001 reflects these pressures, stating that the institutional framework for the forest sector will be strengthened and that the Government is committed to the transformation of the present Forestry Department into a more autonomous institution.

Divestment options

A number of divestiture options have been considered, including agentisation, decentralisation and privatisation. These options show that an **autonomous Government-owned authority** is the organisational form that best meets the criteria of cost efficiency, sustainable forest operation, decentralised management and effective private sector and community involvement. Coupled with the move towards the privatisation of forestry extension services, and the commitment to new working partnerships in the management of the nation's Central Forest Reserves, the authority will be a sustainable organisation.

Agentisation (i.e. the creation of a less-autonomous public agency) would not allow sufficient management freedoms to achieve better performance than the current Forestry Department, and it would remain overly dependent on scarce public funding. **Full decentralisation** of all forest-management activities to the districts would risk losing potential efficiencies and economies of scale, and could pose risks where capacity is weak and where local and national interests conflict. **Privatisation** would not achieve public benefits, and would risk assets that are held in trust for the nation.

The public service's financial and operating systems have proved to be incompatible with the needs of an efficient forestry service. The structure of an autonomous authority is needed to meet the challenges of decentralisation, privatisation and conservation, the aspirations of forest-users and forestry businesses, and the long-term investment requirements of the CFRs. Although named the National Forestry Authority, the challenges and aspirations of the organisation are best captured in the spirit of "partnerships", rather than a centralised regulatory body.

In line with the government's policy on farmer-driven advisory services, the NFA will also position itself to become a technical service provider backing up the PMA's efforts in decentralised forestry extension and support services outside the CFRs.

2.1.1 Strategies for developing the National Forestry Authority

a). To divest the Forestry Department and develop the mission, objectives and organisational structure of the NFA

b). To develop the products and services of the NFA

c). To ensure that the NFA will become a self-financing organisation

d). To develop a Facing the Future programme for FD staff not employed by the NFA

a). Divest the Forestry Department and develop the mission, objectives and organisational structure of the NFA

The work of divesting the Forestry Department has largely been completed by MWLE's NFA Divestment Unit, as part of the sector reform programme. The following mission, objectives and organisational structure have been agreed for the NFA:

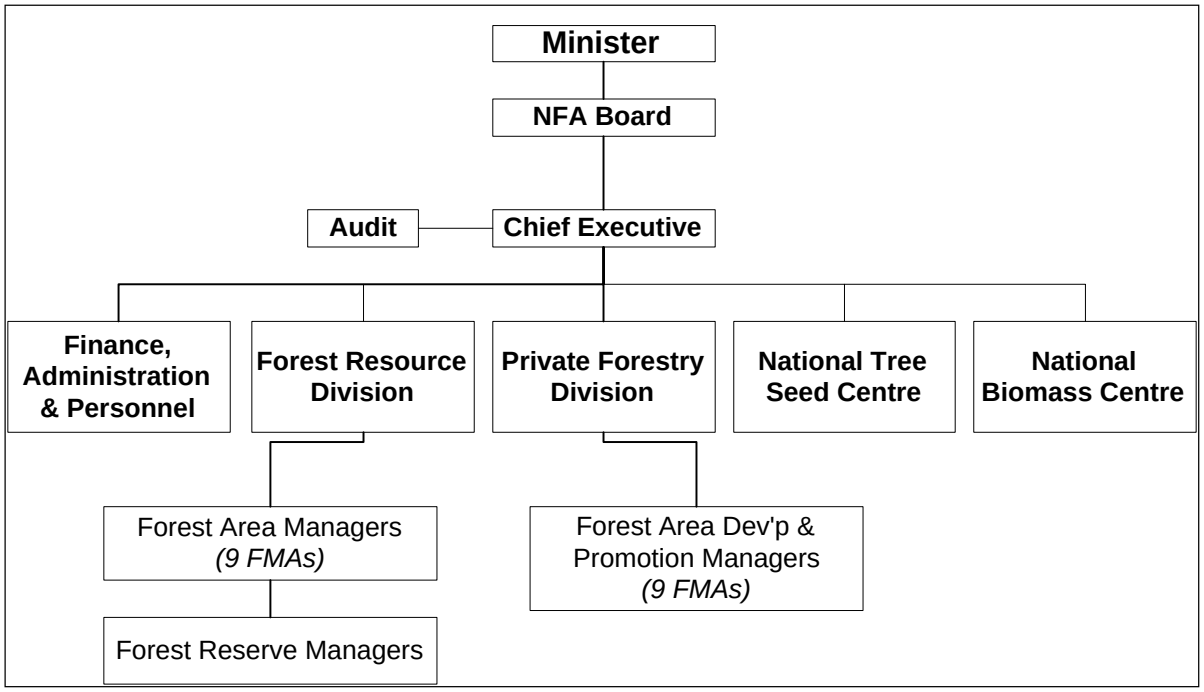
The **mission** of the NFA will be to manage and supervise the Central Forest Reserves on a sustainable basis and to supply high quality forestry-related products and services.

The NFA will achieve the following **objectives** within 5 years:

- Improved management of the CFRs - sustained yield and income from the CFRs will be increased through new investments and better management
- Decentralised management – executive management responsibilities for CFRs will increasingly be transferred in licensed partnership arrangements to local governments, local communities and private businesses as capacity is built
- Private sector investment - the private sector will be attracted to invest in forest production in the CFRs, through the transparent allocation of land, the provision of technical advice and attractive concession agreements
- Collaborative forest management – collaborative forest management of the CFRs will be developed to benefit local communities
- Financial sustainability – the NFA will become financially sustainable by the fourth year of operation, through a combination of revenues from its operations and contracted public services
- Supply of other services – high quality services will be supplied to public and private clients on a contractual basis

The **organisational structure** of the NFA will be along corporate lines (see Figure 6.2). It will have a Board of Directors that will appoint a Chief Executive. At the headquarters there will be Directors in charge of (i) Personnel, Administration & Finance, (ii) the Forest Resources Division, and (iii) the Private Forestry Division. It will also operate two other business units, the National Tree Seed Centre and the National Biomass Centre, that will each have to become financially self-sustaining.

Figure 6.2 Organisational structure of the NFA



The field organisation will consist of Forest Management Areas (FMAs) and a number of forest stations relating to the main CFRs. The country has been divided into 9 FMAs based upon the pattern of the country's forest resources. The Forest Resource Division will manage the Central Forest Reserves in each FMA (see chapter 5.1). The Private Forestry Division will support forestry developments in the private sector (see for example chapters 5.2 on private forest owners, chapter 5.3 on forestry plantations, chapter 5.4 on processing industries, and chapter 5.6 on farm forestry). The NTSC will supply tree seed and planting material on a commercial basis and may be contracted to establish the framework for a decentralised seed production and supply market (see chapter 5.11 on tree seed). The NBC will be a core source of information on national forest resources (see chapter 5.10 on information).

The proposed staffing of the NFA will be about 440 people of whom 25-30 will be in the headquarters, 340 in the Forest Resource Division, with the remainder in the Private Forestry Division and the Tree Seed and Biomass Centres. The total number of people engaged in economic activities in the Central Forest Reserves will be significantly higher than this figure due to the involvement of local authorities, the private sector and communities via partnerships.

The NFA will encourage community support and respect for the nation's assets, through closer working links with local councils, NGOs and communities. **Forestry Committees** will be established to facilitate wide stakeholder involvement in setting management objectives for individual forest reserves. The development of **forest management plans** will involve the private sector and local communities and will help identify ways to improve the economic, social and environmental functions of the Central Forest Reserves for all stakeholders to benefit.

b). Develop the products and services of the NFA

The four divisions of the NFA will be developed to deliver the following main products and services:

- **Public goods and services from the Central Forest Reserves.** The authority structure of the NFA is considered to be an efficient way of delivering both private and public goods related to the management of the CFRs. The delivery of public goods, such as environmental services and community benefits, is likely to be improved, with revenues generated from the CFRs reinvested back into them. The NFA's management will have freedoms that the Forestry Department does not have as a civil service organisation. As a government-owned organisation, the NFA will operate under a performance contract with MWLE that will set the balance between income generation and the delivery of public goods and services. Many of these public goods and services will be delivered based on contracts funded by government and international agencies.

- **Licences and partnerships for the harvesting of forest products in the CFRs** will be a core activity of the Forest Resource Division of the NFA. This will also cover the sustainable harvesting of sawlogs, poles and non-wood forest products by the private sector, under licences or collaborative management agreements with local communities. The planned annual harvest of wood in the CFRs will be 200,000 m^3 of which $^2/_3$ will be harvested from plantations.

- **Licences and partnerships to use land in the CFRs for forestry purposes.** From the outset there will be a major programme covering the allocation of land in the CFRs to communities, councils, private investors and NGOs who are interested in committing themselves to forest investments such as plantations or tourism development. The Forest Resource Division of the NFA will work to targets set by Government to expand the proportion of the CFRs being managed by such groups.

- **Forestry advisory, information and seed supply services** to local councils, farmers, NGOs, communities and private forest owners on a contractual basis. The NFA will become an important service provider supporting local governments and NAADS, with services such as national forest and biomass inventories and Geographic Information Services (National Biomass Centre), tree seed supply (National Tree Seed Centre), and market analysis, technical advice and public information (Private Forestry Division).

c). Ensure that the NFA will become a self-financing organisation

The financial projections for the NFA show revenues from CFRs, market operations and government start-up support rising from UShs 3.1 billion to over UShs 5 billion in the first 5 years. The revenues from the CFRs will increase as more efficient and effective NFA protection systems and revenue collection operations become established. Donors have committed financial support for the start-up phase of the NFA, to fill the initial shortfall in revenue, declining to a minimal level after 5 years. With annual operating costs of about UShs 6.7 billion, the NFA will achieve an operating surplus in the fourth year, and become financially sustainable.

The capital cost of establishing the NFA will be almost UShs 6.5 billion over the first two years in working capital, buildings, transport and equipment. This will be funded from Government's initial support, reinvested depreciation and donor assistance.

The NFA's operating surplus in its fourth year of operation is based on a number of assumptions:

- that 100% of the revenue collected from sales within CFRs is retained by the NFA, that the assessment of the potential revenue sources is realistic and conservative, and that economic developments in Uganda do not negatively influence the price of wood
- that the NFA will use the revenue generated from the sales of produce and concessions from the Central Forest Reserves to improve the protection of the forests, and to carry out overdue forest investments
- that whatever additional services the NFA supplies to the public must be fully funded
- that the tax collection across the forest sector (e.g. transport fees, trading licences, charcoal licences) will be wholly transferred to local authorities, which are likely to be more efficient than central institutions
- that political pressures do not constrain the management freedoms that the NFA will have to institute the changes proposed

d). Develop a Facing the Future programme for FD staff not employed by the NFA

There will be substantial career changes for the current staff of the Forestry Department, with the creation of the NFA, the establishment of the District Forestry Services and the development of privatised advisory services under NAADS. However, these changes present many new opportunities for professional forestry careers in Uganda, and retraining and counselling will be provided to assist the transition. Some of the professional opportunities include

- New employment in the NFA (up to 440 jobs)
- Temporary contracts with NFA for completion of essential backlog activities to maintain the CFRs
- Forestry specialists employed by local government to oversee and co-ordinate forestry advisory and support services (up to 7 jobs per district)
- Private forestry business (numerous potential jobs, depending on the success of the NFA in attracting new investment and in other sector reforms)
- NAADS service provision (potentially another 500 jobs on contract to farmers' groups and other producers and processors)

6.5 District Forestry Services

6.5.1 Context

A number of institutions relate to local government, including the Ministry of Local Government, the district councils, the various line Ministries and the local authorities associations:

The **Ministry of Local Government** is responsible for the co-ordination of and advocacy for local governments, and for ensuring that national policies and performance standards are adhered to.

The **local governments**, including the district councils and administrations at LC5 and LC3 levels, are responsible for conducting local government under the provisions of the Local Governments Act (1997), including technical planning, the enactment of district bye-laws, and the delivery of specified services.

The **sector Ministries** can inspect, monitor and offer technical advice, support and training in their respective sectors. In the forest sector, **MWLE** will be responsible for providing forestry policy, standards and guidelines, carrying out forestry inspection and monitoring, providing technical advice and support to forestry training to the districts, in line with the provision of the Local Governments Act. The nature of the support required will be agreed between the Forestry Inspection Division of MWLE, the MoLG and the districts. In addition, the districts will also call upon professional support from the NFA's Private Forestry Division as required. The NFA will establish Forestry Committees for groups of districts, with representation from local government, the private sector and civil society to advise the NFA on the management of the CFRs and to act as a wider consultation forum about forest management planning.

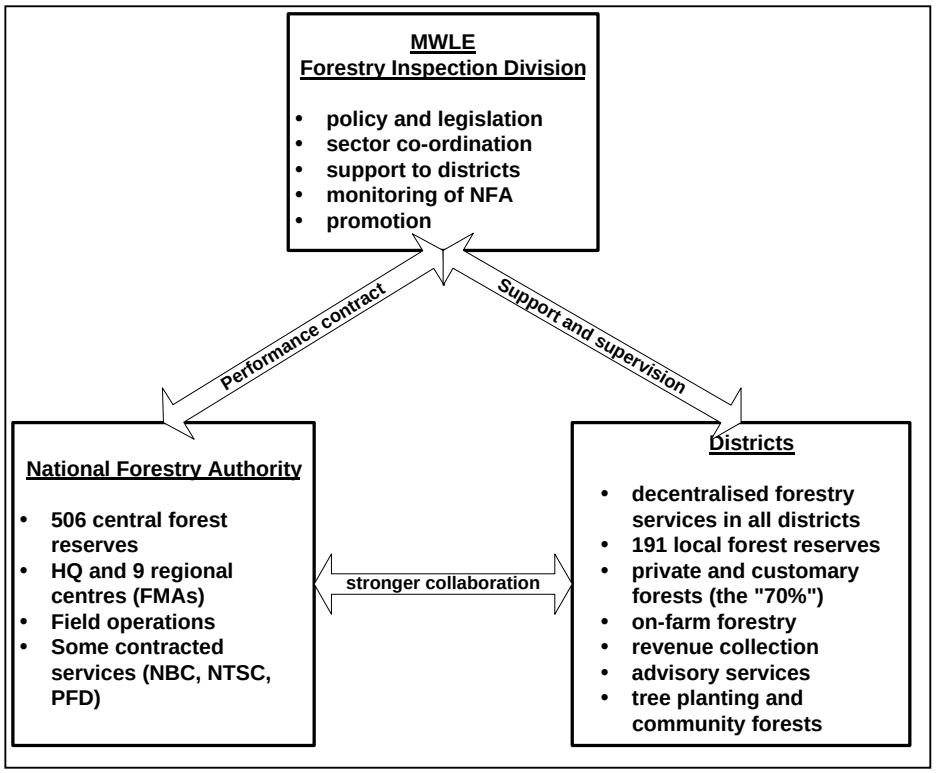
The **Uganda Local Authorities Association** (ULAA) and the Uganda Urban Authorities Association (UUAA), have special roles in advising on the development of forestry in the districts and in urban areas and act as an interface between the councils and central government.

New District Forestry Services

Unlike all other district services (except wildlife), forestry has historically remained centralised under the Forestry Department. This has meant that local governments have had little voice in the management of forestry resources, and a limited role in providing forestry services.

The reforms of the forest sector now have important implications for local governments. The reforms will divest the Forestry Department and create the National Forestry Authority to run the central forest reserves, and will decentralise other forestry services to the districts (see **Figure 6.3**).

Figure 6.3 Responsibilities of MWLE, NFA and districts in forestry developments



Decentralised District Forestry Services will need to develop new and clear **functions and services**, as set out in the strategies below.

6.5.2 Strategies for strengthening local forestry by the District Forestry Services

a). To recruit staff and build capacity to run effective District Forestry Services

b). To improve the promotion, planning and funding of forestry developments

c). To improve management of Local Forest Reserves

d). To collect revenue from licences and taxes on forestry activities

e). To support the delivery of forestry advisory services in

- development and delivery of agroforestry technologies
- collaborative forest management partnerships
- management of private and customary forests

f). To promote tree planting and the protection of vulnerable areas and watersheds

a). Recruit staff and build capacity to run effective District Forestry Services

The district councils will require forestry specialists on their staff in order to fulfil their many forestry functions. Each district will employ forestry specialists with support staff to oversee the new responsibilities for forestry development in the district, in line with the PMA and NAADS programmes, and under guidelines issued by MWLE. In some districts this may overlap with the role of the district environment officer, and districts will decide on the relevant mix of skills they need, under the new local government staffing structures.

These specialists will oversee local government responsibilities for District Forestry Services outlined above. They will be required to develop a plan for the delivery of such services, relevant to the circumstances of the district and consistent with the NFP.

The new posts will largely replace the old posts of Forestry Department District Forest Officers, so that as one set of FD posts is phased out, the new set of district posts will be phased in. The major difference is that that the new posts will be fully decentralised to the control of the districts. Once the NFA is launched the district forestry specialists will be able to call upon professional support from the NFA's Private Forestry Division staff at both headquarters and in the Forest Management Area offices. This will form part of the NFA's future contracted services.

b). Improve promotion, planning and funding of forestry developments

The forestry specialists will ensure that forestry is adequately promoted in the local government planning processes and in the districts. This will include support to community-based planning, the strengthening of forestry in the Production and Environment Committees, and the incorporation of forestry into Sub-county and District Development Plans. An overview of each district's forestry resources and stakeholders, and the district's priorities and strategic objectives will be developed in a District Forest Plan. This will be prepared in consultation with communities, businesses, the NFA and UWA, local political and administrative structures, and other potential partners in forestry development. This will follow district planning procedures, be realistic in terms of the capacity, resources and incentives for the district to implement, and will be mainstreamed into the overall District Development Plan.

This will require intensive sensitisation and information dissemination, to raise awareness of forestry issues and economic opportunities amongst the public, civil servants and politicians, and to develop their active participation in forestry development in rural and urban areas.

In turn this will require efforts to mobilise funds to support forestry developments, from local and national sources, with the support of MWLE. The District Forestry Services will advise the council on expenditures on forestry, and actively advocate and promote the reinvestment of forestry revenues in programmes to support forestry.

c). Improve the management of Local Forest Reserves

While forests and wetlands are listed among the decentralised services under the second schedule of the Local Governments Act (1997), the Forest Reserves (Declaration) Order (1998) has subsequently clarified the distinction between Central and Local Forest Reserves. The Local Forest Reserves are the responsibility of local governments, while Central Forest Reserves are the responsibility of the centre, following the failure of a previous attempt to decentralise forest reserves in 1993-1995. Currently, there are 191 local forest reserves totalling 5,000 ha, which are mainly woodlands or degraded plantations. The districts will be required to produce suitable management plans for these reserves and decide on how they should be managed.

The NFA will maintain responsibility for the Central Forest Reserves, but Section 45(2) of the Land Act (1998) and the new forestry legislation will allow management responsibilities for individual reserves to be transferred to local governments as local forest reserves on a case by case basis. This transfer may be in the form of a re-designation from Central to Local Forest Reserve, under clear and transparent criteria relating to trusteeship of the land for forestry purposes, or in the form of a long-term licence for a CFR from the NFA to a local government.

The local governments will have to apply for such transfers, and must demonstrate their **capacity and commitment** to their management. This includes increased district investment, adequate staffing, development of partnerships with the private sector, NGOs and communities, and systems for monitoring the status of reserves. The **partnerships** with local communities and private businesses must be based on clear incentives for investment in planting and harvesting forest products, and a combination of rights with responsibilities. The alienation of forest reserves to other land-uses is not an option under the Forestry Policy (2001), the draft forestry legislation and the Land Act (1998) – these are lands held in trust for the nation.

The role of MWLE to support this decentralisation process will be to develop the modalities, information and guidelines on the process for seeking decentralised control from the responsible Minister, and the modalities for the inspection of local governments' performance in the management of the local reserves. It is important that capacity is built within the partner organisations, otherwise the failures of previous decentralisation efforts will be repeated. MWLE may thus contract the NFA to build capacity and provide guidance and mentoring to local governments and their partners on the management of Local Forest Reserves.

d). Collect revenue from licences and taxes on forestry activities

Revenue from the forest sector is currently derived from three main sources: sales of forest produce (often called royalties or stumpage fees), sales of licences (in the form of registration, trading and operating permits) and taxes (on transport of forest produce, VAT and forest fees on non-VAT timber).

The local governments have been getting a 40% share of the gross revenues collected by the Forestry Department, without bearing any of the investment costs or the costs of collecting this revenue. During 1995-2000, this amount varied between UShs 72 million – 443 million per year, for all districts combined. This is much less than the revenue potential in the forest sector. Furthermore, this sharing arrangement is unsustainable, without any investment on the part of local government. A new basis for revenue generation will be put in place.

With the creation of the NFA to replace FD, all the revenues from **royalties and sales of forest produce** from the CFRs will be collected and retained by the NFA. In turn the local governments will collect and retain all the revenues from **taxes and registration fees** from forestry activities, except VAT which will remain the responsibility of URA. The MWLE will provide guidance on fee rates to assist local governments in setting their charges.

The main forestry revenue sources for district councils will be from transport fees on firewood and charcoal, and taxes and registration fees on saw-milling, pit-sawing, timber trading, charcoal production and casual trade in non-timber forest products. Although VAT on sawnwood will be collected by URA, forest fees on sawnwood from non-VAT registered producers will be collected by the districts. The districts will have greater efficiency and incentives for collecting forest taxes and fees, and can significantly increase their revenues from the forest sector under this new arrangement. Estimates suggest that after building up revenue collection systems over 5 years, and after deducting collection costs, districts could

receive UShs 6.7 billion per year. This is more than a ten-fold increase in forest revenues across the country.

The mechanisms for transferring this responsibility from FD to local governments will be carefully prepared and supported. Subsequently the District Forestry Services will advise the council on tax collection from forestry activities.

e). Support the delivery of forestry advisory services

The role of local government within the framework of NAADS will be to oversee forestry advisory services in the management of natural forests, plantations, woodlots and trees on farms outside the central forest reserves. While advice, training and information will be delivered by private contractors (firms, NGOs or the NFA's Private Forestry Division under contracts from NAADS - see chapter 5.6), the District Forestry Services will have a major role to support the delivery of these services.

Support will be provided to build the **capacity of farmers and forest users** to demand forestry advisory services (see chapter 5.6). This will include promoting forestry through sensitisation and advocacy, highlighting business opportunities in forestry, and brokering relationships between farmers, forest users and private service providers, to ensure that relevant services are demanded and met by competent service providers.

Support will also be given to build the **capacity of service providers** to deliver high quality forestry advisory services (see chapter 5.6). This will include ensuring that the capacity of service providers is built through training and in-service skills development, and by monitoring the quality of service delivery to ensure that extension advice is relevant, timely and of high quality. Districts will ensure that gaps in services are adequately filled by attracting needed service providers. They will also strengthen the availability of business development support and market information to stimulate market opportunities.

Districts will in particular promote the areas of forestry advisory services that are highlighted in the Forestry Policy. These are agroforestry, collaborative forest management, and management of private and customary forests:

- **agroforestry technologies** will be developed and disseminated by promoting forestry research and demonstrations in ARDCs, demonstration sites and through tree farmers (see chapter 5.10). There is massive demand for the establishment of woodlots and for tree growing on farms, appropriate to different agro-ecological areas, to raise farm incomes, increase soil productivity and provide fuel and fodder. The districts will have an important role in promoting research and demonstrations of locally effective technologies, and promoting business opportunities for tree products.
- **collaborative forest management** will be promoted by strengthening community institutions to develop partnerships with NFA and local governments (see chapter 5.5). The new Forestry Policy explicitly provides for access by local communities to forest reserves through collaborative forest management. This will increase benefits to local people as well as providing more effective protection and management of the resources through the sharing of rights and responsibilities. The districts will support the development of strong local institutions, through sensitisation, mobilisation and advice.
- **management of private and customary forests** will be supported by helping to secure tenure to land and forest resources and by providing forest management advice. This will done by assisting in the registration of community and private forests, by advising forest owners and District Land Boards, and by helping to resolve conflicts (see chapter 5.2). The forestry legislation provides for local communities to identify private forests under customary or other uses and to register and manage these as Community Forests for the benefit of the community. This is one of the strategies in the protection and management of the remaining private forest, which constitutes 70% of Uganda's total forest area. This

will require the support of the District Forestry Services and the District Land Boards to facilitate the processes.

These services will be financed from a blend of funding sources, including district revenues from forestry taxes, from NAADS, and from central government grants (such as PAF funds, PMA grants and other conditional grants). It is expected that districts will take some time to gear up to capacity, given that this is a new service in the districts (having previously been centralised). Funding will thus be phased to ensure that all districts have access to some funds, and these will increase as good performance is demonstrated.

f). Promote tree planting and protection of vulnerable areas and watersheds

The need to protect and maintain watersheds for their important environment services is well recognised. These watersheds may be within protected areas or on private land. A national **tree-planting fund,** generated from public funds and accessible to the districts, will be established to encourage tree planting in environmentally sensitive areas and vulnerable watersheds – those that are particularly prone to flooding, erosion and landslides. Local communities will be contracted by local governments to grow trees to stabilise sensitive areas and conserve environmental services. The planning and funding mechanism will be built on existing structures and processes such as the NEMA grants to support environmental action plans, in which local governments have a key role (see details in chapter 5.8).

The districts will also develop and implement appropriate **bye-laws** that enable more effective and sustainable forestry development, tree planting and the protection of sensitive and vulnerable areas.

7 NFP programmes and budget

7.1 Seven NFP programmes

The strategies set out under each policy heading in chapters 5 & 6 have been regrouped and brought together here into seven programmes of activity (Box 7.1). These are the seven NFP programmes of action to implement the Forestry Policy (2001).

Box 7.1 Seven NFP Programmes

Programme 1 : **Enabling Institutions**

Programme 2 : **National Agencies**

Programme 3 : **District Forestry Services**

Programme 4 : **Private Sector Development**

Programme 5 : **Urban Forestry**

Programme 6 : **Forestry Research**

Programme 7 : **Forestry Education**

These programmes provide a practical approach to the implementation of the NFP. They focus on major institutions, and allow priority strategies and actions to be set within these institutions. They also allow the poorest groups and the poorest geographical areas to be targeted.

The chapter is set out as follows:

- A summary of the seven NFP programmes is given in **Table 7-1** showing objectives, lead institutions, key partners and target beneficiaries, and following descriptions.
- The links between all the policy strategies in chapter 5 & 6 and the NFP programmes are shown in **Table 7-2.**
- This is followed by a tabular outline of each programme (**Table 7.3**), showing objectives, strategies and lead responsibility for implementation. References are given back to chapters 5 & 6 for the description of each strategy.

An indicative 10-year sector investment budget for implementing these programmes is then presented in chapter 7.2 including an analysis of investment sources. This 10-year investment programme allows MWLE and other line Ministries to develop detailed annual budgets to fit MFPED's Medium-Term Expenditure Framework.

Table 7-1 Summary of 7 NFP Programmes

Programme	NFP programme objectives	Lead institutions	Key partners	Target beneficiaries
1. Enabling Institutions	MWLE effectively co-ordinates, guides and supervises the sector's development MEMD effectively supports biomass energy conservation Civil society voice strengthened in the forest sector	MWLE MEMD CSO forum	▪ Line Ministries - MTTI, MEMD, MAAIF ▪ MFPED & MPS ▪ NFA ▪ Local governments ▪ Service providers ▪ Civil society ▪ Household and institutional energy consumers	All forest sector stakeholders
2. National Agencies	The NFA, UWA and local governments develop effective investments and partnerships for the management of the PFE	NFA, UWA, Local governments	▪ Forest-adjacent communities ▪ Forestry businesses & investors ▪ Cultural institutions	Communities and businesses around FRs – producers, users, small & medium enterprises
3. District Forestry Services	Local governments, service providers and farmers organise improved forestry support services	Local governments	▪ NAADS ▪ MWLE ▪ Service providers ▪ Producers and users ▪ NFA & UWA	Poor households – producers, users, landless, small businesses
4. Private Sector Development	The private sector develops efficient and profitable commercial forestry businesses	MWLE with private sector associations and businesses	▪ Trade associations ▪ NFA & UWA ▪ NEMA	Small and medium businesses, labourers
5. Urban Forestry	Urban authorities ensure increased tree growing in urban areas	UUAA	▪ Urban nurseries ▪ Housing companies ▪ Urban society	Urban poor, women and unemployed youth, urban public
6. Forestry Research	Research institutions meet the needs of forestry producers and users for new information and technologies	NARO (FORRI)	▪ Producers and users ▪ Research institutions ▪ Local governments ▪ NFA & UWA ▪ NCST	Producers and users of forest products
7. Forestry Education	Education and training institutions enhance professional and vocational forestry skills and knowledge	MES	▪ Schools and training institutions ▪ Local governments ▪ NFA & UWA ▪ Religious institutions	Students, unemployed youth, women, forestry professionals

There follows a more detailed description of each programme:

Programme 1 – Enabling Institutions

The line Ministry effectively co-ordinates, guides and supervises the sector's development.

The capacity of the Ministry of Water, Lands and Environment (MWLE) will be strengthened to co-ordinate, guide, inform and monitor the forest sector's development. This will improve sectoral policies, standards and legislation, and co-ordinate the implementation of the NFP. The Forestry Inspectorate of MWLE will monitor the NFA through a performance contract, and guide and assist forestry developments in the districts.

The Ministry of Energy and Mineral Development (MEMD) will develop and implement strategies for biomass energy conservation, focussing on households, charcoal producers and industrial consumers.

Civil society will have an important role to advocate and reflect public concerns in forestry.

Programme 2 – National Agencies

The National Forestry Authority, local governments and communities develop effective partnerships for the management of the forest reserves.

The Forestry Department will be divested and a new National Forestry Authority will be created. The NFA will have a clear mandate to provide a more efficient management of the Central Forest Reserves, in partnership with local governments, forestry businesses and local communities. This will improve protection and biodiversity conservation, increase investments in planting and harvesting, and provide benefits to local communities through collaborative forest management agreements.

The NFA will also deliver services such as advice, training, information and seed supply on a contracted basis, and develop stronger links with UWA. Local governments will increasingly take on responsibility for forest reserves as their capacity is built, under a managed decentralisation process whereby Central Forest Reserves can be reclassified as Local Forest Reserves.

Programme 3 – District Forestry Services

Local governments, service providers and farmers organise improved forestry support services.

Forestry activities outside the Central Forest Reserves will also be decentralised to local governments. Districts will be helped to organise forestry developments. These will include supervision of forestry advisory services, the development of bye-laws, collection of forestry taxes, and the promotion of forestry within the district. Forestry will be integrated into the District Development Planning process, with enhanced participation of local communities in managing government and private forest resources.

Forestry advisory services will be reformed and delivered through the National Agricultural Advisory Services (NAADS) to respond to poor people's priorities. Farmers and others will demand forestry advice, training and information in community-based plans, and qualified service providers will supply these services under NAADS contracts. The kinds of services delivered will be broadened to include help with forming groups or organisations, and with business development skills as well as technical skills.

District-based forestry grants will encourage tree growing in the public interest in environmentally sensitive areas such as hillsides and riverbanks. These approaches will improve agroforestry, and the management of private natural forests and watersheds.

Programme 4 – Private sector development

The private sector develops efficient and profitable commercial forestry businesses.

Private forestry businesses will be encouraged to build their business skills and take a more active role in the investment and management of forest resources. Access to land for forestry will be improved, through more transparent and legally secure harvesting and planting concessions in forest reserves. A private sector Plantation Development Fund will give access to long-term finance for developing timber plantations. Market-based pricing will be introduced through competitive bidding for harvesting concessions.

Programme 5 – Urban forestry

Urban authorities ensure increased tree growing in urban areas.

Urban authorities will promote the greening of urban environments. This will be done through better urban planning, the mobilisation of building contractors and other businesses, setting standards for urban nurseries and organising advice and training support.

Programme 6 – Forestry research

Research institutions meet the needs of forestry producers and users for new information and technologies.

Forestry research will be strengthened through the Forestry Resources Research Institute of the National Agricultural Research Organisation (NARO). Research and technology development, including agroforestry and forest management, will respond to the priorities of forest producers and users expressed through local planning processes. The Agricultural Research and Development Centres (ARDCs) and agroforestry research networks will be strengthened, to provide information, training and demonstration services, as well as technology developments.

Programme 7 – Forestry education

Education and training institutions enhance professional and vocational forestry skills.

Forestry education and professional development in the sector will be strengthened through colleges and universities and the Ministry of Education and Sports (MoES). They will focus on improving the teaching curriculum in schools and higher education institutions, supporting these institutions and targeting vocational training programmes in forestry.

Table 7-2 Policy strategies and NFP programmes

Policy strategies / NFP programmes	1	2	3	4	5	6	7
5.1.3 Strategies for forestry on government land							
a). To strengthen MWLE structures, capacity and processes	4						
b). To establish the National Forestry Authority for improved management of the CFRs		4					
c). To manage LFRs in partnership with local communities and the private sector			4				
d). To improve institutional collaboration in the management of the PFE		4					
e). To improve protection of boundaries, forest resources and watersheds within the PFE		4					
f). To improve management planning in the PFE		4					
g). To develop collaborative forest management partnerships with local communities		4	4				
h). To promote private sector enterprises dealing in forest products and services from the PFE		4		4			
i). To conserve forest biodiversity – see chapter 5.7		4					
5.2.3 Strategies for the management of private and customary natural forests							
a). To deepen understanding of the complexities of private and customary forest management	4						
b). To develop guidelines on the management of private and customary natural forests	4						
c). To create awareness of ownership rights, opportunities and obligations for private and customary forests	4		4				
d). To develop incentives to encourage private and customary forest owners and users to set aside forests	4						
e). To secure tenure for private and customary forests			4				
f). To develop capacity of forest owners and users to effectively manage their forests			4				
g). To develop the capacity of government institutions and service providers to facilitate ownership transactions			4				
h). To monitor ownership and management of private and customary natural forests			4				
5.3.3 Strategies for the development of plantation forestry							
a). To develop a Plantation Development Fund for private sector plantation investments				4			
b). To review tax and other disincentives for private sector plantation investments	4						
c). To increase establishment of new plantations by the NFA and the private sector				4			
d). To improve management of existing government plantations		4					

Policy strategies NFP programmes	1	2	3	4	5	6	7
e). To improve collaboration between plantation investors and local communities				4			
5.4.3 Strategies for the development of processing industries							
a). To develop and manage concessions for harvesting in forest reserves				4			
b). To reduce inefficiency and wastage in wood and non wood processing				4			
c). To reduce market distortions in the wood and non wood industry through better market information	4			4			
d). To improve business development services for secondary forest products processing				4			
5.5.3 Strategies for collaborative forest management							
a). To develop national guidelines for implementation of CFM	4						
b). To build capacity in lead institutions to develop CFM partnerships		4					
c). To support local community institutions to implement CFM			4				
d). To develop guidelines for managing problem animals (chapter 5.6)	4						
5.6.3 Strategies for farm forestry and extension services							
a). To improve development and delivery of agroforestry technologies			4			4	
b). To build capacity of farmers to demand and use appropriate forestry advisory services			4				
c). To improve the capacity of the private sector and NGOs to deliver quality forestry services			4				
d). To recruit district staff and build capacity to mobilise, plan and co-ordinate District Forestry Services			4				
5.7.3 Strategies for the conservation of forest biodiversity							
a). To incorporate national biodiversity priorities in the operational plans of lead institutions		4					
b). To promote institutional and cross-border collaboration in biodiversity conservation	4	4					
c). To promote the valuation of forest biodiversity	4						
d). To promote the conservation of forest biodiversity outside the protected areas			4				
5.8.3 Strategies for watershed management and soil conservation							
a). To support reforestation of vulnerable watersheds through a national tree-planting fund			4				
b). To promote sustainable forest management by UWA/NFA on critical watersheds in reserves		4					
c). To support agroforestry and other soil and water conservation systems on farms			4				
5.9.3 Strategies for urban forestry							

Policy strategies NFP programmes	1	2	3	4	5	6	7
a). To integrate forestry into Urban Development Plans					4		
b). To improve support to private urban tree nurseries and tree planting					4		
5.10.3 Strategies for forestry education							
a). To develop appropriate forestry teaching curricula in primary and secondary schools							4
b). To build capacity of school teachers to teach forestry							4
c). To strengthen the teaching of forestry in business, technical and vocational training institutions							4
d). To strengthen forestry education and training in universities							4
e). To encourage women to train in forestry							4
f). To integrate HIV/AIDS concerns in forestry education							4
5.10.6 Strategies for information and communications							
a). To establish a national forestry information centre	4						
b). To increase public awareness about forest sector developments	4						
c). To promote political support for forestry through effective advocacy	4						
d). To target the youth with information on tree growing	4						
5.10.9 Strategies for forestry research							
a). To establish a forestry research fund to support client-led technology development and strategic research						4	
b). To build the capacity of FORRI and the ARDCs to conduct and co-ordinate forestry research						4	
c). To improve dissemination and uptake of research information through partnerships						4	
d). To improve demonstration and packaging of research information						4	
5.11.3 Strategies for tree seed supply							
a). To promote the development of private tree seed suppliers				4			
b). To raise public awareness and disseminate market information on high quality tree seed	4						
c). To establish the framework for a decentralised seed production and supply market		4					
d). To strengthen and commercialise the National Tree Seed Centre		4					
5.12.3 Strategies for biomass energy							
a). To increase production of wood for energy (supply side)		4	4	4			

Policy strategies NFP programmes	1	2	3	4	5	6	7
b). To improve development and uptake of energy efficient technologies (demand side)	4						
c). To encourage the use of alternative energy sources	4						
d). To improve research, advisory and training support services	4						
e). To develop a national energy information and reference centre	4						
6.2.2 Strategies for strengthening forestry in MWLE							
a). To recruit staff and build capacity to oversee the forest sector	4						
b). To formulate and oversee forestry policies, standards and legislation	4						
c). To provide technical support and monitor forestry in local governments	4	4					
d). To monitor the NFA using a performance contract	4						
e). To provide advice, public information and advocacy to sector stakeholders	4						
f). To ensure effective NFP co-ordination and cross-sectoral linkages	4						
g). To mobilise funds and other resources for the forest sector	4						
6.3.2 Strategies for strengthening the voice of civil society in forest sector development							
a). To strengthen the voice of civil society in forest sector development	4						
6.4.2 Strategies for developing the National Forestry Authority							
a). To divest the Forestry Department and develop the mission, objectives and structure of the NFA	4						
b). To develop the products and services of the NFA		4					
c). To ensure that the NFA will become a self-financing organisation		4					
d). To develop a Facing the Future programme for FD staff not employed by the NFA	4						
6.5.2 Strategies for strengthening local forestry by the District Forestry Services							
a). To recruit staff and build capacity to run effective District Forestry Services			4				
b). To improve promotion, planning and funding of forestry developments			4				
c). To improve management of Local Forest Reserves			4				
d). To collect revenue from licences and taxes on forestry activities			4				
e). To support the delivery of forestry advisory services in							
• Development and delivery of agroforestry technologies			4				

Policy strategies NFP programmes	1	2	3	4	5	6	7
• Collaborative forest management partnerships			4				
• Management of private and customary forests			4				
f). To promote tree planting and protection of vulnerable areas and watersheds			4				

Table 7.3 Details of the 7 NFP Programmes

Programme objectives	Strategies	Respon-sibility	Reference in chapters 5 & 6
Programme 1: Enabling Institutions			
A. MWLE effectively co-ordinates, guides and supervises the sector's development	1. Recruit staff and build capacity to oversee the forest sector	MWLE	5.1.3 a 6.2.2 a
	2. Formulate and oversee forestry policies, standards and legislation	MWLE	6.2.2 b 5.2.3 b 5.3.3 b 5.5.3 a,d
	3. Provide technical support and monitor forestry in local governments	MWLE	6.2.2 c
	4. Monitor the NFA using a performance contract	MWLE	6.2.2 d
	5. Provide advice, public information and advocacy to sector stakeholders	MWLE	6.2.2 e, 5.1.3 a,c,d, 5.4.3 c, 5.7.3 c, 5.10.6 a-d 5.11.3 b
	6. Ensure effective NFP co-ordination and cross-sectoral linkages	MWLE	6.2.2 5.7.3 b
	7. Mobilise funds and other resources for the forest sector	MWLE	6.2.2 g
	8. Complete divestment of the Forestry Department	MWLE	6.4.2 a
	9. Develop a Facing the Future programme for FD staff not employed by the NFA	MWLE	6.4.2 d
B. MEMD effectively supports biomass energy conservation	10. Improve development and uptake of energy efficient technologies	MEMD	5.12.3 b
	11. Encourage the use of alternative energy sources	MEMD	5.12.3 c
	12. Improve research, advisory and training support services	MEMD	5.12.3 d
	13. Develop a national energy information and reference centre	MEMD	5.12.3 e
C. Civil society voice strengthened in the forest sector	14. Develop a civil society advocacy forum	CSOs	6.3.2

Programme objectives	Strategies	Respon-sibility	Reference in chapters 5 & 6
Programme 2: National Agencies			
D. The NFA, UWA and local governments develop effective investments and partnerships for the management of the PFE	15. Establish the National Forestry Authority and develop its products and services	NFA	6.4.2 b, 5.1.3 b, 5.11.3 c-d 6.2.2 c
	16. Improve institutional collaboration in the management of the PFE	NFA UWA	5.1.3 d
	17. Improve the protection of boundaries, forest resources and watersheds within the PFE	NFA UWA	5.1.3 e
	18. Improve management planning in the PFE	NFA UWA	5.1.3 f 5.8.3 b
	19. Build capacity in lead institutions to develop CFM partnerships	NFA UWA	5.1.3 g 5.5.3 b
	20. Improve the management of existing government plantations	NFA	5.3.3 d
	21. Conserve forest biodiversity	NFA UWA	5.7.3 a,b
Programme 3: District Forestry Services			
E. Local governments, service providers and farmers organise improved forestry support services	22. Recruit district staff and build capacity to mobilise, plan and co-ordinate District Forestry Services	DFS	5.6.3 d 6.5.2 a
	23. Improve the promotion, planning and funding of forestry developments	DFS	6.5.2 b
	24. Manage LFRs in partnership with local communities and the private sector	DFS	5.1.3 c 6.5.2 c
	25. Collect revenue from licences and taxes on forestry activities	DFS	6.5.2 d
	26. Build the capacity of farmers to demand and use appropriate forestry advisory services	DFS NAADS	5.6.3 b
	27. Improve the capacity of the private sector and NGOs to provide quality forestry services	DFS NAADS	5.6.3 c

Programme objectives	Strategies	Respon-sibility	Reference in chapters 5 & 6
	28. Improve the development and delivery of agroforestry technologies		5.6.3 a, 5.8.3 c 6.5.2 e
	29. Support local community institutions to implement CFM	DFS NAADS	5.5.3 c, 5.1.3 g 6.5.2 e
	30. Support the management of private and customary forests	DFS DLBs NAADS	5.2.3 c, e-h, 5.7.3 d 6.5.2 e
	31. Increase tree planting and the protection of vulnerable areas and watersheds through a national tree-planting fund	DFS	5.8.3 a 6.5.2 f 5.8 3 b-c
Programme 4: Private Sector Development			
F. The private sector develops efficient and profitable commercial forestry businesses	32. Develop a Plantation Development Fund for private sector plantation investments	NFA Private	5.3.3 a
	33. Increase the establishment of new plantations by the NFA and the private sector	NFA Private	5.1.3 h 5.3.3 c
	34. Improve collaboration between plantation investors and local communities	NFA Private	5.3.3 e
	35. Promote the development of private tree seed suppliers	MWLE NFA Private	5.11.3 a
	36. Develop and manage concessions for harvesting in FRs	NFA Private	5.4.3 a
	37. Reduce inefficiency and wastage in wood and non-wood processing	NFA Private	5.4.3 b
	38. Reduce market distortions in the wood and non-wood industry through better market information	NFA	5.4.3 c
	39. Improve business development services for secondary forest products processing	NFA	5.4.3 d
Programme 5: Urban Forestry			
G. Urban authorities ensure increased tree growing in urban areas	40. Integrate forestry into Urban Development Plans	Urban Authoriti es	5.9.3 a

Programme objectives	Strategies	Respon-sibility	Reference in chapters 5 & 6
	41. Improve support to private urban tree nurseries and tree planting	Urban Authorities Private	5.9.3 b
Programme 6: Forestry Research			
H. Research institutions meet the needs of forestry producers and users for new information and technologies	42. Establish a forestry research fund to support client-led technology development and strategic research	NARO / FORRI	5.10.9 a
	43. Build the capacity of FORRI, the ARDCs and other research institutions to conduct and co-ordinate forestry research	NARO / FORRI	5.10.9 b
	44. Improve the dissemination and uptake of research information through partnerships	NARO / FORRI	5.10.9 c
	45. Improve the demonstration and packaging of research information	NARO / FORRI	5.10.9 d
Programme 7: Forestry Education			
I. Education and training institutions enhance professional and vocational forestry skills and knowledge	46. Develop appropriate forestry teaching curricula in primary and secondary schools	MES	5.10.3 a
	47. Build the capacity of school teachers to teach forestry	MES	5.10.3 b
	48. Strengthen the teaching of forestry in business, technical and vocational training institutions	MES	5.10.3 c
	49. Strengthen forestry education and training in universities	MES	5.10.3 d
	50. Encourage women to train in forestry	MES	5.10.3 e
	51. Integrate HIV/AIDS concerns in forestry education	MES	5.10.3 f

7.2 Sector investment

7.2.1 10-year GoU investment budget for the NFP

The revenues collected from, and the public investments made in the forest sector have been low historically. By establishing the NFA and allocating clear new responsibilities for revenue collection to both the NFA and local governments, public revenues are expected to increase. In the past, more resources have been extracted from forests than have been ploughed back in the form of investments. Thus the use of forest revenues outside the forest sector must be expected to decline in the short-term, as reinvestment is essential. Indeed this is one of the major objectives of the NFA, to improve the efficiency of revenue collection and reinvestment in the CFRs.

The NFA will manage the revenues from sales from Central Forest Reserves. These will be reinvested in improved protection and silviculture. Local governments will collect and retain taxes and fees from forestry activities outside the reserves, and reinvest a proportion of these in forestry support services (see chapter 6.5.2 d). Revenues from both sources are expected to increase under the strategies set out in the NFP.

In addition to the more efficient collection and use of revenues generated from the resource base itself, a greater commitment by government to invest in forestry is expected under the NFP, as part of its responsibilities to provide public goods and to eradicate poverty. These are expected to operate through the MTEF budgeting process, including through new public funding mechanisms such as the PMA and PAF.

The budget for the public expenditure required for the implementation of the NFP is summarised in **Table 7.4** and **Figure 7.1**. Significant points to note in this budget are:

- General: Although MWLE is the lead ministry for the forest sector's development, the NFP covers implementation strategies that are the mandate of **different ministries and local governments**. Public funding of forestry-related programmes in these other agencies (MEMD, local governments, NARO, MES) is thus also included.
- The support indicated from a variety of **donors and other international partners** has been committed for the first 2 - 4 years only, under projects. Many donors are moving towards general budget support, as requested by government, and project funding is unlikely to continue. However, some international public funding in the form of biodiversity conservation and carbon funds can be expected to continue.
- Programme 1: Public funding for national services that are to be provided on contract (e.g. contracts with the NFA for support to private forestry and local government backstopping, national biomass surveys, national tree seed supply) are included under the MWLE budget.
- FD divestment costs are one-off, to cover severance packages for FD staff.
- The MEMD budget for biomass energy conservation has been covered for years 1-4 under the World Bank / GTZ Energy for Rural Transformation Programme.
- Programme 2: The NFA investment costs represent those costs required to establish the NFA as a self-financing, semi-autonomous institution – these investment costs will be required only for the first 2 years. Donors have already committed to fund other start-up costs (EU, NORAD, DFID). Some continuous international funding will be required to support the public good functions of the NFA (e.g. biodiversity conservation). By contrast the UWA business plan requires continuous government support and much higher levels of on-going donor support than the NFA.
- Programme 3: The budget for the District Forestry Services is focussed on three main areas, the district forestry staff and their facilitation, decentralised advisory service

contracts, and the centrally managed national tree-planting fund. Some of the advisory service funds will come through the NAADS budget if forestry is adequately mainstreamed within NAADS. The budget for the district forestry office includes staff, who will be funded through the MPS if the local government restructuring process approves the inclusion of forestry staff.

- Programme 4: The EU has committed start-up funds of about UShs 3.5bn for the Plantation Development Fund, dedicated specifically to long-rotation commercial timber plantations. This has been spread over 4 years in the budget.
- Programme 6: The budget for forestry research is similar to that set out in the NARO Medium Term Plan. NARO is undergoing restructuring and the scale of FORRI will be determined during that process.

The budget set out in Table 7.4 does not represent the total investment in the sector, as it does not include the revenues that the NFA and UWA will re-invest in forest management and protection, nor the private sector investments which the NFP framework is expected to promote. An indication of these total investments in the sector is given in Figure 7.2 for illustration purposes. Assumptions in the illustration are that GoU contributions are as set out in Table 7.4, that the NFA and UWA will re-invest their income from protected areas, and that private sector investments will grow at 15%. These figures still do not include the many unquantified contributions from NGOs, communities, households and development projects.

7.2.2 Budgeting in the Medium-Term Expenditure Framework (MTEF)

Within MWLE's Results Oriented Management (ROM) and annual MTEF budgeting processes, annual performance targets will be developed to achieve the expected outcomes of the NFP programmes and strategies, normally in a 3-year rolling forecast. Each of the strategies set out in the NFP programmes in Table 7.3 will form the basis for setting outcomes and annual performance targets[16] and budgets will be attached to forecast activities. Budget details have been developed for all activities over the first 3-year MTEF period, and extrapolated over a ten year period to develop the budget in Table 7.4, but these figures will be reviewed and updated annually during the MTEF exercise.

7.2.3 Other sources of finance

The new Uganda Forestry Policy (2001) states that **"The government will develop a favourable investment climate for private and public investment in the sector".** One of the main challenges for the forest sector is to increase investments to ensure sustainability and to increase future income and welfare from forest resources. The implementation of the NFP will require significant financial and human investments. This will require a co-ordinated programme of support based on four types of investment:

Private sector

The NFP is designed to create a positive investment climate for the private sector. Relevant strategies include the removal of market distortions, a review of the Investment Code and tax

[16] **Example of ROM Expected Outcomes and Forecast Outcome Indicators**

Outcomes of strategies	Forecast 2003/4	2004/5	2005/6
1. FID adequately staffed with capacity to oversee the forest sector	FID staff structures agreed, recruitment started	All staff recruited to FID, adequate accommodation in MWLE	Staff performance measures in place

regulations, a review of contracts for land concessions, the establishment of a **Plantation Development Fund** to support long-term investments, and the development of more transparent and accountable systems of administration and regulation. Strategies to attract funding for carbon sequestration projects are also proposed. The new climate created by these strategies, coupled with the active investment promotion with the Uganda Investment Authority, will encourage a range of private investments in commercial forestry. Strategies to improved skills in silviculture, processing and marketing will improve the profitability of forest operations and attract more private investments into the forest sector.

Small-scale investments in-kind by local communities, in the form of labour, land and capital, will also be part of the sector's overall investment.

Opportunities for **corporate sponsorship** of forestry activities will also be explored.

Development partners

Support from development partners will be needed for the forest sector's development during the transition to sustainable private and government public funding. Fragmented development projects that have failed to create synergy, and the limited capacity in the past to handle a diverse range of donor projects have given impetus to new funding mechanisms.

The government's preferred modalities for donor support are, in order of preference, general budget support, earmarked poverty action funds, sector budget support (basket funding) and project aid.

The co-ordinated funding of support to the various sectors of the economy is essential, through GoU driven sector-wide programmes. The NFP is the coherent sector-wide forestry development programme. The improved co-ordination of this support will be a responsibility of the new forest sector co-ordination structures within MWLE. Where donor procedures and preferences are for project aid, this support should fit within the priorities and programmes of the NFP. Funding should be aimed at supporting activities and programmes within NFP target institutions rather than establishing stand-alone projects, which tend to have limited financial and institutional sustainability.

International funding

The costs of protection and management of many of Uganda's natural forests exceed their potential revenue, if the forests are to be managed sustainably. Uganda's forest biodiversity has value for the international community, and attracting funds from the international community for the protection of natural forests will be an important task for the NFA and MWLE. By improving performance and transparency, it is expected that international support to such activities will be achieved.

Forests have a significant role in the carbon cycle as trees absorb carbon dioxide from the atmosphere. Carbon offsets in forestry activities can be achieved through carbon sequestration, carbon conservation or carbon substitution. The Clean Development Mechanism (CDM) of the Kyoto Protocol may include forestry projects. If so, the CDM will be used by countries to invest in developing countries in programmes that lead to a reduction of greenhouse gas emissions. The CDM is the only Kyoto mechanism of relevance to developing countries.

As long as no agreed mechanisms for the incorporation of forestry activities in international climate agreements exist, financial and technical guidelines for carbon offset projects in forestry are only available on a voluntary basis. Ways will be explored in which Uganda can find an appropriate role for CDM in the development of sustainable forestry activities and create comparative advantages for forestry initiatives in Uganda. The following outputs are needed to create an enabling environment for carbon offset projects:

- **Base line data** for forestry in the context of carbon sequestration to be developed and made available to project implementers in order to document additionality
- **Criteria and indicators** agreed for forestry projects based on international principles and national policies
- An **institutional home** for the approval of CDM projects established
- **Secure land** for carbon offset projects available and marketed
- A **Carbon Fund** established in line with CDM modalities
- **Capacity in national institutions** (government institutions, NGO, private sector) to take advantage of carbon offset funding possibilities established

Table 7.4 GoU investment budget for the forest sector for 10 years (FY 2003 – 2013). UShs million

Investment budget for the forest sector for 10 years (FY 2003/4 - 2013/14) UShs million													
Programme	**Funds for**	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**	**Yr 6**	**Yr 7**	**Yr 8**	**Yr 9**	**Yr 10**	**Total**	**%**
1. Enabling Institutions													
MWLE FID (wage)	MWLE	34	34	66	66	66	66	66	66	66	66	597	**4**
MWLE FID (non-wage)	MWLE	25	14	26	10	10	13	10	13	10	13	144	
MWLE FID policy and planning	MWLE	253	285	136	177	191	195	163	166	148	197	1,909	
FD divestment (donor)	*MWLE*	*1,965*	-	-	-	-	-	-	-	-	-	*1,965*	
MWLE contracts for national services	MWLE	528	541	542	607	668	696	676	723	668	696	6,345	
Biomass energy conservation (donor)	*MEMD*	*277*	*344*	*96*	*48*	*61*	*48*	*48*	*61*	*48*	*48*	*1,079*	
Civil society forum (donor)	*CSOs*	*45*	*45*	*45*	*45*	*45*	*45*	*45*	*45*	*45*	*45*	*446*	
2. National Agencies													
NFA start-up operations	NFA	1,300	200	-	-	-	-	-	-	-	-	1,500	**56**
NFA capital expenditures	NFA	919	-	-	-	-	-	-	-	-	-	919	
NFA (donor)	*NFA*	*8,635*	*5,712*	*2,893*	*1,848*	*1,150*	*1,150*	*1,150*	*1,150*	*1,150*	*1,150*	*25,988*	
UWA recurrent costs	UWA	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	20,000	
UWA (donor)	*UWA*	*14,600*	*11,300*	*12,300*	*11,100*	*9,000*	*9,000*	*9,000*	*9,000*	*9,000*	*9,000*	*103,300*	
3. District Forestry Services													
District Forestry Office (wage)	Districts	1,505	1,505	1,505	1,505	1,505	1,505	1,505	1,505	1,505	1,505	15,053	**10**
District Forestry Office (non-wage)	Districts	1,353	1,101	1,081	861	476	896	476	476	476	476	7,672	
Sensitisation and development	Districts	528	410	402	454	454	454	454	424	374	324	4,274	
Advisory service contracts	NAADS	2,240	4,480	6,720	6,720	6,720	6,720	6,720	6,000	4,800	3,600	54,720	
National tree-planting fund	MWLE	560	560	560	560	560	300	300	300	200	200	4,100	
4. Private Sector Development													
Plantation Development Fund (donor)	*MWLE*	*554*	*1,010*	*1,010*	*1,010*	*260*	*260*	*260*	*260*	*260*	*260*	*5,144*	**2**
Private sector support	MWLE	87	103	105	63	54	60	27	18	18	18	548	
5. Urban Forestry													
Urban forestry	MWLE	11	22	40	33	50	26	26	26	26	26	286	**0**
6. Forestry Research													
Research fund	NARO	55	231	311	611	611	611	611	611	611	611	4,874	**4**
Support to FORRI	NARO	478	494	478	478	494	478	478	494	478	478	4,824	
Support to ARDCs	NARO	113	135	135	135	135	135	135	135	135	135	1,326	
7. Forestry Education													
Forestry in schools	MES	223	200	88	79	79	79	79	79	79	79	1,063	**1**
Forestry in BTVs	MES	101	85	85	100	85	85	100	85	85	100	911	
Forestry in universities	MES	18	5	-	18	5	-	18	5	-	18	87	
Women's career promotion	MES	20	20	20	20	20	20	20	20	20	20	200	
Total		**38,425**	**30,834**	**30,642**	**28,546**	**24,697**	**24,840**	**24,365**	**23,660**	**22,200**	**21,063**	**269,273**	**77**
Total GoU		**12,349**	**12,423**	**14,298**	**14,496**	**14,181**	**14,338**	**13,863**	**13,144**	**11,697**	**10,561**	**131,351**	
Total donor & international support		*26,076*	*18,411*	*16,344*	*14,051*	*10,516*	*10,503*	*10,503*	*10,516*	*10,503*	*10,503*	*137,922*	

Figure 7.1 GoU investment budget for the forest sector for 10 years (FY2003 - 2013)

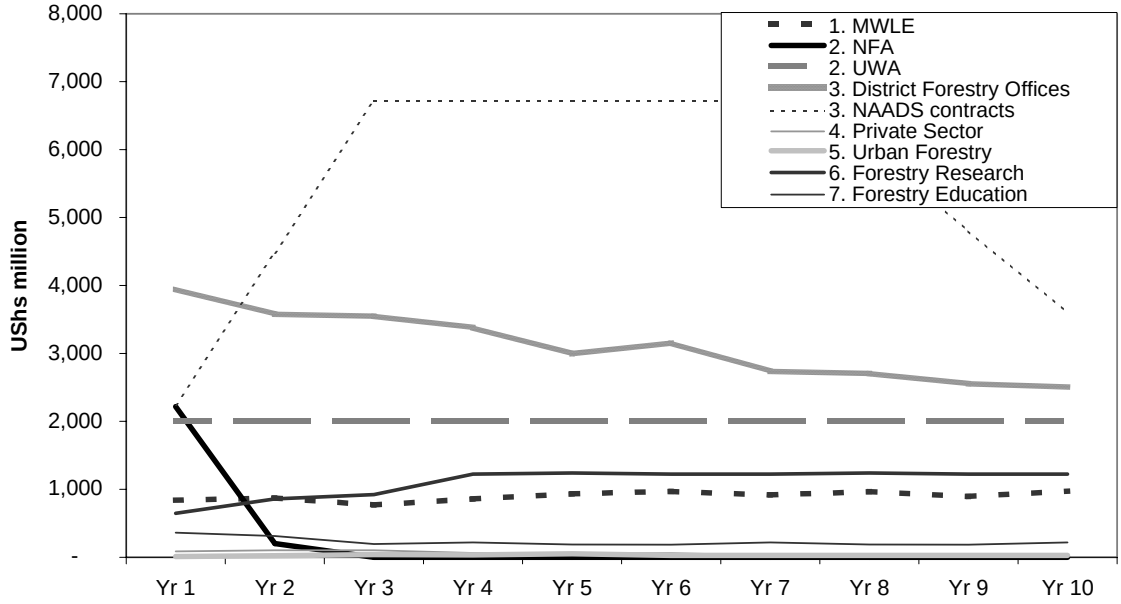
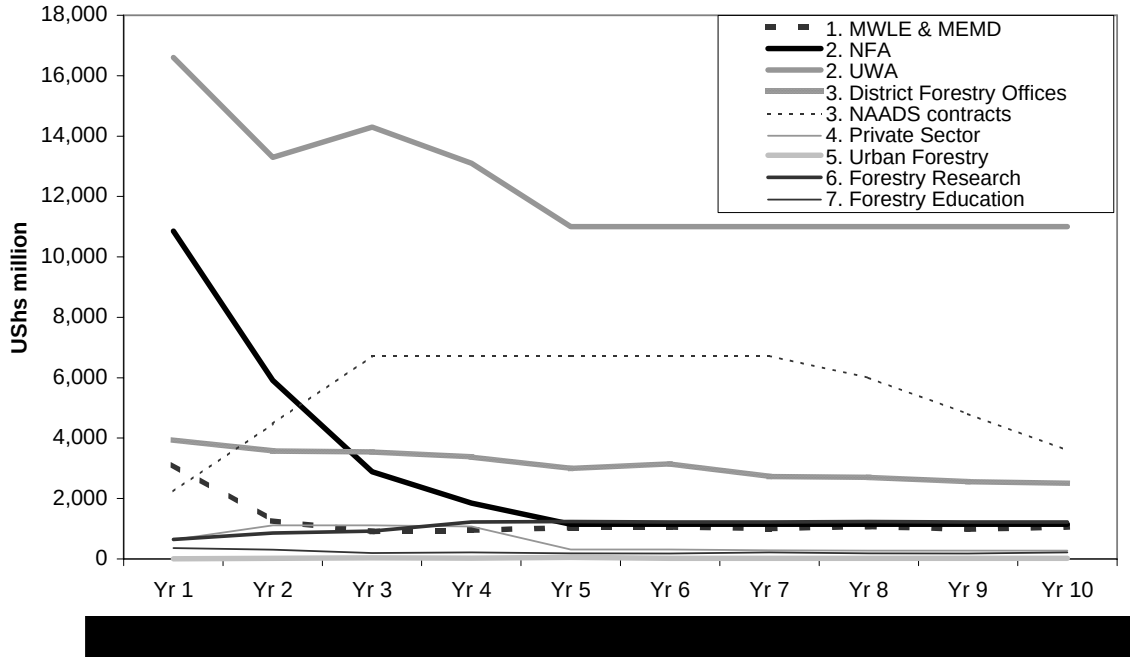


Figure 7.2 Total expected forest sector investments over 10 years



8 Measuring the impacts of the NFP

8.1 Monitoring and evaluation objectives

The objectives of monitoring and evaluation are to generate timely information for NFP co-ordination and management, to provide information for learning, public education and policy advocacy, and to provide a framework for tracking the linkages between poverty and environmental degradation. The progress and performance of the NFP in achieving its goal of poverty eradication, economic growth and sustainable resource management will be measured at two levels:

- **Performance** of the NFP– measuring outcomes of the seven NFP programmes (see chapter 7 and chapter 8.2 below)
- **Impact** of the NFP – measuring its contribution to the four pillars of the PEAP (see chapter 3.2.1 and chapter 8.3 below)

8.2 Measuring the performance of the NFP

To ensure theeffective implementation of the NFP, the progress and performance of the programmes outlined in chapter 7 will be monitored using specific, measurable, achievable, realistic and timebound (SMART) indicators. Within MWLE's Results Oriented Management (ROM) process, such indicators will be developed around the expected outcomes of the NFP programme's strategies. During the annual budget process, MWLE will ensure effective performance management and budgeting by setting annual targets for each of these expected outcomes, normally in a 3-year rolling forecast (see chapter 7.2).

8.3 Measuring the impact of the NFP on PEAP objectives

Poverty eradication is one of the main planks of government policy, expressed in the PEAP. Given the NFP's design within the PEAP framework, its impact will be measured according to its contribution to the 4 pillars of the PEAP. The main strategies in the NFP that will contribute to poverty eradication, and the indicators of their impact, are set out in Table 8-1. The MWLE Forestry Inspection Division will develop these indicators further, into quantifiable and timebound measures that can be periodically assessed using mainstream GoU monitoring institutions (e.g. UBOS, Poverty Monitoring Unit, UPPAP, National Biomass Centre, etc: see chapter 8.8). This will require the establishment of quantified **baselines** (which in most cases do not currently exist), and the setting of realistic targets for the achievement of impacts – expressed in terms of a **timeframe** and **quantities**.

Table 8-1: Measuring the impact of the NFP within the PEAP framework

PEAP Pillars	Main NFP strategies	Indicators of impact on PEAP (source of information)	Direction of change
I. Economic growth and transformation	• Removal of constraints (land, tree seed) • Improvement of investment climate (transparency, secure tenure)	1. Value of **commercial investment** in forestry businesses (NFA / UIA, UBOS annual national accounts) 2. Volumes and values of **forest products traded** (domestic and	Increasing Increasing

PEAP Pillars	Main NFP strategies	Indicators of impact on PEAP (source of information)	Direction of change
	• Provision of information (markets, prices) • Economic incentives (Plantation Development Fund) • Training (skills and advice)	international – URA / UBOS) 3. Number of people and wage rates (by gender, socio-economic group, geographic location) in forestry-related **employment** (UBOS 5-yr labour force survey) 4. Value and % contribution of forestry to **GDP** (annual UBOS)	Increasing, in the formal sector Increasing, through higher production and value-addition
II. Good governance and security	• Participatory planning and increased access to information • Creation of NFA, NAADS and District Forestry Services • CFM and customary forest management • Pro-poor regulations and guidelines • Civil society advocacy forum	5. Local representation on FMA **Forestry Committees** (NFA) 6. Area of FRs under productive forest management by the **NFA and local governments** (NFA / LGs) 7. Number of effective **CFM agreements** in FRs (NFA) 8. Number and areas of **community forests** (LGs) 9. Open access to **public information** on forestry (MWLE)	Increasing, none exist now Increasing, through better control and management Increasing, virtually none exist now Increasing, none exist now Increasing, through improved communications and popular participation
III. Ability of the poor to raise incomes	• Access to forestry resources • Improved forestry advisory services • Small-business development in forestry opportunities • Security of land and tree tenure • Appropriate technologies	Each indicator measured by gender, socio-economic group, geographic location – to ensure targeting of interventions: 10. % of **household income** derived from different forestry-related enterprises (UBOS) 11. Number of **NAADS contracts** for forestry advisory services (NAADS) 12. Number of poor people with tree-growing **permits in FRs** (NFA) 13. Number of farmers using improved **agroforestry technologies** (UBOS)	Increasing Increasing, none exist now Increasing, few permits exist Increasing, currently very limited geographically
IV. Improving	• Use of forests as	14. % of population with	Increasing

PEAP Pillars	Main NFP strategies	Indicators of impact on PEAP (source of information)	Direction of change
the quality of life of the poor	safety nets to reduce vulnerability • Biomass energy conservation • Developing sustainable forest management • Securing cultural values of forests	secure **access to forest resources** for subsistence (as #7 & #8 under pillar II) 15. **Tree cover, biodiversity and water flows** from natural forests in FRs and private forests (NFA – NBC) 16. **Distance** to collect fuelwood (UBOS household survey) 17. Number of households and businesses using improved **biomass energy technologies** (UBOS)	Reversed rate of deforestation, increasing tree cover on-farm Halved within 10 years Increasing

The following sections set out examples of the ways in which the NFP programmes will contribute to the PEAP pillars.

8.4 Pillar I - Economic growth and employment

The main area of intervention will be removing constraints to investment and private sector development. The focus on large-scale commercial investments will increase employment and the sector's contribution to GDP. The proposed strategies in the NFP will promote forest-based economic activities through:

- **Removal of constraints** for economic activities (such as making land in CFRs available for private sector plantation investments, or ensuring the supply of high quality seeds)
- **Improvement in the investment climate** by addressing the legal and institutional framework (such as revising contracts for land concessions, establishing the NFA as a business partner for investors and sawmillers, providing new forestry legislation that clarifies tree tenure, and improving the protection of CFRs to reduce the illegal harvesting that suppresses market prices)
- **Provision of information** to improve decision-making by stakeholders (informing forest owners about wood prices so they can increase their revenue, providing market information to sawmillers so they enter the most attractive markets, providing silvicultural guidelines to tree growers so that they can improve their quality and hence the income from their trees)
- Stimulate forestry activities by providing **economic incentives and support** (such as providing capital for forest plantations through the Plantation Development Fund, supporting local communities involved in tree planting and wood processing through CFM agreements)
- **Education and training** of stakeholders (such as improving advisory and training services in commercial forestry, and ensuring demand-driven curriculum development)

These strategies will increase the level of economic activity in the forest sector in the medium-term. However, in the short-term, decreases in some kinds of activities will be

expected in order to make forest management sustainable, notably a reduction of clearance and over-harvesting from natural forests.

The economic impact of this increased level of activity will be higher incomes, especially in rural communities, higher employment, especially among relatively poor farmers and forest workers, and sustainable utilisation of resources. These impacts will depend on the successful implementation of the strategies, as well as favourable external factors that influence their outcomes, such as markets, the growth of the economy, continuimg political stability, etc.).

Some examples of these impacts are given below (see Boxes 8.1 & 8.2), relating to Impact Indicators for economic growth and transformation.

Box 8.1: Example of increasing profits from sawmilling

Sawmilling and pitsawing in Uganda are in general wasteful. The average recovery rate in sawmilling is as low as 25 %, in other words out of 1 m^3 of sawlogs the industry is only producing 0.25 cubic meter of sawnwood.

The introduction of training, timber grading rules and more competitive pricing of wood are proposed as strategies to improve the recovery rate in sawmilling and pitsawing. If the recovery rate can be increased even from 25% to 30%, the annual consumption of sawlogs would decrease from 900,000 m^3 to 750,000 m^3 (a decrease of 17%). The 17% reduction in sawlogs consumption will reduce the pressure on forests, especially the Tropical High Forests, improving the sustainability of the resource and consequent environmental, economic and social benefits.

Efficient wood recovery is crucial for the profitability of the sawmilling industry, as the costs of production relate to consumption of sawlogs, whereas the revenue comes only from the output of sawnwood. An increased recovery rate from 25% to 30% in sawmilling of pine will increase profitability by 15% (many sawmills currently only just break even).

Box 8.2: Example of the economic impact of establishing 4,000 hectares of pine plantation

Plantation establishment and management involve many different operations such as seed collection, seedling production, tree growing and harvest. After harvest, the sawlogs produced in a pine plantation will be a major input in construction or carpentry. The main characteristics of these operations are that they are located in rural areas and are labour intensive. The table below shows the potential annual impact of 4,000 hectares of pine plantations (the proposed annual target for sawlog plantations). It shows that the employment generated from 4,000 hectares of pine is 2,760 permanent jobs. The gross value of the production that originates from these 4,000 hectares is UShs 4.8 billion, of which 38% will be salaries for jobs. These jobs are creating an annual income for the rural and poor population of UShs 1.8 billion.

Activity	Annual income for suppliers & processors (UShs million)	Annual value of rural labour (UShs million)[1]	Annual employment (man-years)[1]	Women and men as beneficiaries in the workforce
Seed supply[2]	7	4	6	Farmers involved in seed collection
Seedling production[3]	35	21	32	Nurseries workers
Ground preparation[4]		10	15	Forest workers, a higher number of women if tangya system is applied
Silviculture[5]		144	218	Forest workers
Harvesting[6]	1,070	72	109	Forest workers
Sawmilling[7]	2,400	119	180	Sawmill workers
Furniture/ carpentry[8]	4,800	1,440	2,200	Carpenters, furniture makers
Total	**Ushs 4,800**	**UShs1,810 (38%)**	**2,760**	

Assumptions:

1) 25 years rotation (to calculate annual values), salaries of UShs 3,000 per man-day, 220 working days/year

2) 0.1 kg seed/ha, US$250 per kg, 25 years rotation (to calculate annual income) 60% labour costs

3) 2000 seedlings per ha, 10% beating up, UShs100 /seedling, 60% labour costs

4) 20 man-days per hectare

5) 300 man days per hectare (over the rotation period incl. thinning)

6) MAI of 15m^3, 75% sawlogs give 1.125 million m^3. UShs 30,000/m^3 for sawlogs final cut, UShs 15,000/m^3 for thinning. 900,000 m^3 in final cut, 1.5 m^3/man-day.

7) MAI 15m^3, 80% sawlogs gives 48,000 m^3 sawlogs annually. 25% recovery rate gives 12,000 m^3 sawnwood of UShs 200,000/m^3. Labour cost sawmilling 5% of sawnwood production cost (excluding harvesting costs)

8) Gross value of wood products. Wood costs are assumed to be 50% of product value of carpentry/furniture making, labour cost 30%. The workforce is not rural, but still a low-income segment of the population.

8.5 Pillar II – Good Governance

The main focus of the NFP's strategies is on developing the institutions, policies, laws and processes that enable poor people to participate effectively in the decision-making and management of forest resources, and in developing economic benefits from them. The promotion of decentralisation, accountability and transparency will contribute substantially to improved governance and community empowerment, and greater democracy in decision-making. This will be achieved through:

- ensuring that **community-based planning** includes marginalised social and interest groups, that it builds on a greater understanding of the livelihood assets of poor people (e.g. natural resources, skills, social networks, savings, infrastructure), and identifies their priorities and opportunities for forestry developments.
- creating the **NFA**, which will achieve substantial improvements in the governance of the forest estate, and greatly increase levels of **collaborative management** of forest reserves using CFM agreements between the NFA and adjacent communities. The NFA will ensure that participatory planning and affirmative action are incorporated into forestry management operations, by empowering resident communities not only to participate in decision-making, but also to manage forest resources and maximise sustainable benefits.
- increasing the **decentralisation of FR management** to districts under a carefully managed process.
- developing appropriate agroforestry and other services through **NAADS** and local government planning processes, building capacity in farmers groups, district and sub-county governments and service providers.
- improving the co-ordination and guidance capacity of **MWLE**, and linkages to the PMA and other poverty and gender related programmes. Developing structures and communication channels that ensure that policy reflects experience in the field, and that the views of central and local governments, religious organisations, private forest owners, NGOs, traditional institutions and grassroots organisations are heard and can influence forestry development processes.
- increasing **access to information** to enable the poor to participate and negotiate effectively in matters related to forest benefits, raising their awareness of policies, regulations and rights through communication programmes.
- developing **regulations and guidelines** to safeguard the integrity of FRs (encroachment, compensation and degazettement), and to secure access to common property forest resources (through communal land associations or other groups to manage community forest reserves, or to strengthen existing traditional management systems). To similarly regulate commercial forestry plantations, gazettements and other developments that impact on forest resources and people's livelihoods (e.g. social impact assessments).
- promoting a **civil society forum** for NGO advocacy to influence policies and programmes, and to provide feedback to communities.

8.6 Pillar III - Incomes

The major focus is on increasing access to productive assets and to forestry-related opportunities and services. These can complement farm activities, or fill seasonal cash flow gaps, or become alternatives to farming, particularly for landless or unemployed people. These strategies will significantly increase investments in productive forestry activities, both on-farm, in natural forests and on forest reserve land, and enable poor people to diversify livelihood options and increase their incomes.

The main framework for the delivery of these benefits is the Plan for Modernisation of Agriculture (PMA), and particularly the National Agricultural Advisory Services (NAADS), which will reform the effectiveness of advisory services to poor farmers.

The main NFP strategies include:

- improving **advisory and training support**. This will include community-based and specialist extension services based on the priorities of farmers and other poor or

marginalised people. This will require public information services to increase awareness of livelihood opportunities in forestry, and the building of capacity in rural colleges, schools, NGOs and religious institutions to provide vocational skills to school leavers.

- increasing **small-business growth** in a number of ways. A menu of forestry-related business opportunities will be developed to broaden understanding of the possibilities for livelihood diversification in forestry. Investment will be attracted in large-scale commercial plantations which can provide employment, out-grower schemes or "taungya"[17] benefits for the poor and landless. Urban youth will be targeted in the development of wood and non-wood processing businesses and the improvement of tree nursery management. Market information services will be developed, and access to rural micro-finance will be improved for starting and expanding small enterprises, linking explicitly with the micro-credit programmes in the PMA.
- ensuring **security of land and tree tenure** through access to forest reserves in collaborative forest management agreements or concessions.
- disseminating appropriate and affordable **technologies** to poor farmers, with an emphasis on appropriate multi-purpose trees and agro-forestry technologies that contribute to food security and the production of fuel, fodder and building materials. This will improve incomes and quality of life while also enhancing natural resource management.

8.7 Pillar IV - Quality of life

The main areas of intervention will be the conservation of natural forest resources and their environmental benefits, the conservation of the cultural values of forests, and the maintenance of the role of forests in reducing the vulnerability of the poor. This will contribute significantly to the quality of life of all Ugandans, especially the poorest who are most dependent on forest and tree products and services.

The main NFP strategies include:

- promoting the **sustainable management of forest resources** in a number of ways. The management and protection of the forest reserves under the NFA and its partners will be improved. Awareness of the value of private and customary natural forests will be raised. Investment in commercial timber plantations and in agroforestry will increase, to reduce pressures on natural forests and to enhance soil productivity. Energy efficiency and utilisation methods will be improved, to reduce wastage of forest resources during cooking, harvesting and processing (see Boxes 8.3 & 8.4).
- supporting the important **cultural and spiritual values** of forests and trees, which enhance the sense of well-being for the poor, through traditional management systems, land tenure rights and incentives for protecting forests of spiritual or cultural significance.
- supporting the role of forests and trees as **safety nets** in reducing the vulnerability of the poorest, through a range of strategies that secure access to forests for subsistence (fuel-wood, water, building materials, forest foods, grazing and herbal medicines), develop forestry technologies to mitigate extreme weather conditions or improve food security, improve health and assist refugees and internally displaced people (see Box 8.5).
- improving **energy efficiency** in households to save time and effort for women and children in fuelwood collection, providing extra time for women to engage in other

[17] *"taungya" is the practice of growing food crops under newly planted trees until the trees grow and shade out the crops*

productive work and also minimising health hazards (Box 8.4). Other strategies aim at improving the energy efficiency in charcoal production and its use by industrial fuelwood users.

Box 8.3: Example of the impact of improved management of forest reserves

Control of illegal harvesting and encroachment in forest reserves, better planning and harvesting methods, and the involvement of communities in the management of the resource are all measures expected to reduce the rate of forest loss, and improve forest regeneration and growth within the protected areas. Effective protection over a period of 20 years will return 350,000 ha of tropical high forest to a productive state, and contribute to the maintenance of forest ecosystems, species and genetic resources, and provide long-term economic assets for the people of Uganda. The promotion of non-consumptive uses of forest resources such as ecotourism is an alternative approach that is expected to contribute to resource conservation and economic development.

Box 8.4: Example of improved wood efficiency in households

Ugandan households, mainly in rural areas, consume more than 15 million tons of firewood per year. Fuel-efficient technologies will reduce domestic wood consumption. The target is an annual reduction in wood consumption of 10% per household by the year 2005. This is equivalent to 1.5 million tons of firewood, or the total biomass on 27,000 hectares of woodlands or 75,000 hectares of bushland (assuming NBS figures of 56 tons and 20 tons of air-dry biomass per ha for woodland and bushland respectively). This will contribute substantially to reducing the pressure on natural forests, especially the tropical high forests, and hence improve the sustainability and the environmental benefits of these resources. Improved cooking stoves will also reduce drudgery, accidents and improve the quality of commercial products like smoked food, thereby increasing incomes and quality of life.

The reduction of 1.5 million tons of firewood also corresponds to 75 million head-loads of wood. Reduced firewood collection can save woman and children 75-150 million hours or 10-20 million days of work. If the reduced labour on firewood collection is translated into income generating activities of UShs 2,000 per day, the value of the targeted 10% reduction of firewood consumption would be UShs 20-40 billion, which will directly benefit the rural population and reduce poverty.

Box 8.5: Examples of strategies to promote the role of forests as safety nets

Natural forests provide important safety nets for poor people in times of duress, as sources of water, food security, biomass energy and health. The vulnerability of the poor in Uganda has increased in terms of adverse weather conditions, epidemics (particularly HIV/AIDS), insurgency, problems animals, restrictive regulations and population growth. Apart from the immediate devastation to life and property, disasters disproportionately affect the poor since they possess few assets to buffer these shocks. The NFP's strategies will strengthen the role of forests as safety nets for the very poorest.

Agroforestry technologies and tree planting initiatives that are relevant to particular ecological zones and are suited to steep slopes, watershed protection, marginal soils or grazing for pastoralists, will mitigate extreme or unpredictable weather patterns and protect water points in drought prone areas.

The **taungya system,** allowing people to grow food crops amidst commercial plantation trees during the early years of tree growth, can enable the landless, poor farmers and groups of women and youth to have access to forest land for household food security.

Access to forest resources will improve food security, which is a major dimension of vulnerability brought about by man-made and natural disasters. Many NFP strategies support employment and income-earning activities, especially in periods of cash-flow hardship, but access to forests will allow the harvesting of nutritious foods and other products such as fuel-wood, water, building materials and herbal medicines.

Problem animals are a major concern to many farmers living adjacent to forests. The policies and guidelines developed for vermin control management and the building of capacity of local communities and local government to deal with problem animals, will reduce vulnerability.

Guidelines on eviction and compensation will protect rights, minimise suffering and improve or restore the income, living standards and productivity levels of those affected by gazettement or degazettement. They will pay special attention to indigenous people, the landless and female-headed households who, if displaced, may not be protected by national compensation legislation. Where feasible, the possibility of rationalising reserve boundaries will minimise the disruption to people's lives and maintain their access to forest resources.

Secure access to forests will improve health where there is a strong reliance on traditional medicines. Linkages through District Development Plans to health and forest-related vector control programmes (such as river-blindness and trypanosomiasis in cattle and humans - Nagana and sleeping sickness) will also promote health benefits. Health and safety will also be promoted in plantations and other forest-related working places.

The development of **woodlots and agro-forestry systems around refugee camps** will support refugees and internally displaced people. Insurgency has displaced people in various parts of the country, forcing them to seek refuge in forests for food, shelter, income and safety.

8.8 Institutional responsibilities for NFP monitoring and evaluation.

8.8.1 Data collection

The NFP's monitoring and evaluation strategy will be guided by a number of principles. The process will encourage the **participation of major stakeholders**, especially the primary producers and users, so that both policy makers and those affected by the policies use monitoring information.

Such information will be **disaggregated by gender, social group and geographic location**, to measure the degree to which the needs of the poorest 20% of the population are addressed, and whether adequate resources are allocated to regions and districts that are most disadvantaged.

For the purposes of harmonisation and reducing collection costs, the NFP monitoring and evaluation strategy will be developed within the **national framework** of the work of UBOS, the Poverty Monitoring Unit, UPPAP, the PMA and the National Biomass Centre.

A number of **participatory and qualitative methodologies** will supplement traditional survey methods, to ensure that the voices of the poorest are heard. This will link with the work of UPPAP to understand from the poor themselves what the environment (including forestry) means to them and how changes and policies impact on their lives.

Monitoring information will combine elements of **poverty reduction, environmental sustainability and economic empowerment**, so that changes are measured both in terms of forest resources and in terms of impacts on the poor.

8.8.2 Institutional responsibilities

A wide range of data will be involved for monitoring and evaluation, by a number of different institutions. Different methodologies, and the responsibilities for this monitoring data are summarised in **Table 8-2**. Note that this table includes only the national institutions charged with collecting monitoring data. There are also important lower levels of monitoring and evaluation, including local governments (e.g. district statistics, forestry and environment officers) and local communities. District reports will be an important source of national monitoring of the forest sector in future, once the District Forestry Services are established.

Table 8-2: Data requirements, methodology and responsible institutions for forest sector monitoring

Data	Methodology	Responsible institution
Economic and social data		
Employment	UNHS	UBOS
Income generation from forestry activities	UNHS	UBOS
Consumption of forest products	UNHS	UBOS
Production	NFA and LG reports	MWLE
Trade in forest products	URA reports	URA
Market prices	Market surveys/ UNHS	MWLE/UBOS
Investments	NFA and UIA reports	MWLE
Tree planting activities	Agricultural surveys/UNHS	UBOS
Access to resources	UNHS	UBOS
Firewood collection efforts	UNHS	UBOS
Forestry related vulnerability	UNHS	UPPAP
Adoption of biomass energy technologies	UNHS	UBOS
Environmental data		
Forest cover / deforestation	Remote sensing	MWLE-NBS
Forest inventory and growth	Remote sensing / inventory	MWLE-NBS
Status of protected areas	NFA and UWA reports	MWLE / MTTI
Policy and institutional data		
GOU budget for forestry activities	Budget allocations	MWLE
Ownership and management of forests	NFA reports	MWLE
Responsive policy development	Reports	MWLE
Civil society voice in policy processes	Reports	MWLE
District forestry developments	District / PMA reports	MWLE
Delivery of forestry services	District / NAADS reports	MWLE
Research and training	MUK, NFC, NARO reports	MWLE / NARO
Public awareness	Reports	MWLE

The main institutions are:

- **PMU**: the Poverty Monitoring and Analysis Unit in the MFPED is responsible for co-ordinating PEAP data collection, integrating the data from UBOS, UPPAP and other sectors into the Poverty Status Report every two years.
- **UBOS**: the Uganda Bureau of Statistics runs the Uganda National Household Survey. This includes a socio-economic survey, community survey, informal sector surveys for livestock, poultry, fishing and forestry, and a labour force survey. The sample is 3% of the country (1100 of the 40,000 villages), and the survey is repeated every 2 years.
- **UPPAP**: the Uganda Participatory Poverty Assessment Programme conducts surveys of the perceptions of the poor about development processes across the country.
- **NBS**: The National Biomass Survey covers the whole country, with the capacity to monitor trends in land cover (use) and woody biomass supply (production), as well as natural resource mapping and analysis. NBS produces a 1:50,000 map series on land cover (use) stratification, and maintains a large sample of permanent sample plots across the country for measuring biomass growth.
- **URA**: the Uganda Revenue Authority collects detailed data on exports and imports. The product classification follows international standards, but it is not grouped into aggregate measures to present a total picture of trade in forest products.
- **MWLE**: the Ministry's planning staff and the Forestry Department currently collect a range of research and administrative data relevant to sector monitoring, including information on wood consumption, revenue collection, annual sales from the Central Forest Reserves, and policy development processes. The collection of such information will be the responsibility of MWLE's FID, which may commission work from the **NFA** or other service providers, including the **local governments,** whose forestry and environmental officers will be important sources of information.

Appendix 1 Contributors to the NFP

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Appendix 2 NFP published reports and working papers

Title	Author	Year
For the Forest Sector Review		
The Private Sector in Uganda – Opportunities for Greater Involvement.	Paul Jacovelli and John Carvalho	December 1999
Economic Evaluation of the Forest Sector in Uganda	C-M. Falkenberg and S. Sepp	December 1999
Voices from the Field: a Review of Forest Initiatives In Uganda. *Volume 1 – Synthesis Report* *Volume 2 – Reports from 44 initiatives*	UFSCS & Consultants	April 2001
Forest Sector Review – draft	UFSCS	June 2001
Study of Forests and Society	K. Sentongo et al. (MISR)	April 2000
Working relations between selected UN-conventions and the forest sector: the current Ugandan setting	Stephan Mann	June 2001
For the Livelihoods Study		
Master list of forestry initiatives	UFSCS	March 2000
Improving Livelihoods through Forestry – Luwero district Report: *Opportunities and Services in Kabala Parish, Butuntumula Sub-county.*	Environmental Alert	May 2001
Improving Livelihoods through Forestry – *A Case Study of Tororo district*	WANDA	May 2001
Livelihood Study for Kalangala district - *A Case Study Of Maboga Village.*	DRT	May 2001
Improving Livelihoods Through Forestry: Masindi district Report – *Opportunities and Services In Nyabyeya Parish, in Budongo Sub-County.*	BUCODO	May 2001
Improved Livelihoods Through Forestry: Soroti district Report – *Opportunities and Services in Apapai Parish in Otuboi Sub-County*	SOCADIDO	May 2001
Improving Livelihoods Through Forestry: Arua district Report – *Opportunities and Services in Eruba Parish, in Vurra Sub-County*	CEFORD / FD	May 2001
Improving Livelihoods Through Forestry - Nakasongola district Report – *Opportunities and Services in Katugo Parish, in Kakonge Sub-County*.	CDRN / FD	May 2001
Improving Livelihoods Through Forestry – Kabale district Report – *Opportunities and Services in Kasingo Parish in Bwanswa*	URDT / FD	May 2001
Improving Livelihoods Through Forestry – Bushenyi district Report – *Opportunities and Services in Nyabubare Parish in Ryeru Sub-county*	KHANYA – mrc and UFSCS	March 2001
Improving livelihoods through forestry: *A Methodology For Exploring Opportunities and Support Services*	KHANYA – mrc and UFSCS	March 2001
Livelihood Study workshop report 22 May: *Consultative meeting on Forestry Extension in the National Forest Plan*.	KHANYA –managing rural change	May 2001
Improving livelihoods through forestry: *a synthesis report* – draft	UFSCS	June 2001
For Forest Management Plans		
Forest Management Plan Forestry Department workshop report: *Proceedings of the Workshop on Pilot Management*	Steven Kaukha and FD	2001

Title	Author	Year
Plans.		
FMP Rakai workshop report: *Participatory Forest-Management-Plan Development*.	Stephen Khaukha	2001
For the National Forest Plan		
National Forest Plan – draft version 1	UFSCS	May 2001
Consultancy reports:		
Financing Private Sector Forestry Development in Uganda – *the Forest Fund*	Cornelius Kazoora & Geoff Tyler	2001
The Potential of Carbon Management to assist in the Achievement of Uganda's Forest Policy	Richard Tipper	2001
Working Papers:		
Guidelines on evictions and resettlement & compensation	Betty Dungu	2001
Issues papers in gender and poverty and forestry	Betty Dungu	2001
Villages Forest Reserves Consultation reports	Betty Dungu	2001
Land Concessions in Central Forest Reserves	Damian Akankwasa & Erik Tromborg	2001
Price Setting for Forest Products in Central Forest Reserves – *the case for Competitive Bidding.*	Damian Akankwasa & Erik Tromborg	2001
Challenges & Strategies in the Biomass Energy Sector	Damian Akankwasa & Erik Tromborg	2001
Revision of the Tax & Fee System in the Forest Sector	Damian Akankwasa & Erik Tromborg	2001
Carbon Management in the Uganda forest sector-Opportunities and strategies	Damian Akankwasa & Erik Tromborg	2001
Data requirements for economic analyses of the Uganda forest sector	Damian Akankwasa & Erik Tromborg	2001
Commercial Forest Plantations in Uganda	Damian Akankwasa & Erik Tromborg	2001
Pricing of sawlogs in CFRs	Damian Akankwasa & Erik Tromborg	2001
Forestry curricula in Uganda	J Obua & W.Kasolo	2001
Development skills for the Forest sector	Gaster Kiyingi	2001
Information management and communication in the forest sector	Gaster Kiyingi & Agnes Namu Kwaya	2001
Research in the forest sector	F. Esegu	2001
Tree seed supply	Alfred Khalage	2001
Urban forestry	Geo Dutki	2001
Forestry under the Institution of Traditional and Cultural Leaders	Stephen Khaukha	2001
Reform of Forestry Extension Services	Mike Harrison	2001
Consultation reports:		
Report on Regional Consultation Workshops on the National Forest Plan.	Steve Nsita	2001
Proceedings of the Consultation Steering Group & Standing Working Group	Steve Nsita	2001
Memorandum of the Uganda Forest Working Group on the draft National Forest Plan and draft NFA Business Plan	UFWG	May 2001
Consultative meeting on Forestry Extension Services.	KHANYA mrc & UFSCS	2001
Proceedings of the Stakeholders Workshop on the National Tree Planting Programme	Damian Akankwasa	April 1999
Capacity Building In National Forest Programmes, Second Regional Training Workshop on National Forest Programmes	UFSCS	November 2000

Title	Author	Year
Communications		
Forest Sector Communications – visit reports by Head of Information, Forestry Commission of GB	Colin Morton	August 1999 July 2000
Communications strategy - phase 1: Awareness Raising & Partnership Forming.	Colin Morton	March 2000
Report On Survey Of Awareness and Attitudes Towards Forestry in Kampala	Amos Kaddu	June 2001
National Forestry Authority Updates	NFA Working Group	Issue 1-10, latest April 2001
Branching Out – monthly since Dec 2000	UFSCS	Dec-2000 to May-2001
For the Policy		
New Forestry Sector Policy Statement of the Republic of Uganda – 1st draft	UFSCS	June 1999
The Uganda Forestry Policy – 2nd draft	UFSCS	January 2000
Report of the Regional Consultative Workshops on the Uganda Forest Sector Policy	Frank Turyatunga	January 2000
The Uganda Forestry Policy - draft for Cabinet	MWLE	September 2001
The Uganda Forestry Policy	MWLE	March 2001
For the Act		
Minor Notes on first reading of discussion draft for the Forestry Act.	Liz Wily	October 2000
Trends in Forest Law Reform in Africa: An Overview	Liz Wily	November 2000
The Forest Act, Draft for Consultation	MWLE	2001
An Overview Of Forest Rules And Other Related Management And Legal Matters	Forestry Department	August 1999
List of FD Rules and Regulations	UFSCS	2001
For the NFA		
The National Forestry Authority Business Plan, Draft for Consultation	UFSCS	April 2001
The National Forestry Authority Business Plan, Last updated version	UFSCS	June 2001
The National Forestry Authority – briefing notes	UFSCS	March 2000
Financial "mini model"	UFSCS	2000
Management Plans for softwood plantations - *all main plantations*	Forestry Department	2000-2001
An Assessment Of Harvesting Operations In Government Owned forest reserves	Forestry Department/UFSCS.	July 1999
FD assets: Buildings – *regularly updated*	UFSCS	September 2001
FD assets: Stores, vehicles and plants – *regularly updated*	UFSCS	September 2001
FD Contract Agreements and Tree growing permits – *regularly updated*	UFSCS	October 2001
FD staff database – *regularly updated*	UFSCS	September 2001
Human resource manual – *first draft*	UFSCS	October 2001
Review of the National Forestry Authority Business Plan	Richard Hooper	May 2001
Roles & Institutional Form of NFA.	Richard Hooper	May 2001
Report on the condition, current use, and options for the future use of the physical assets on the Nakawa Forest Station in the context of the present plans for the National Forestry Authority	Enock Mugyenyi	June 2000
National Forestry Authority Headquarters – Project Implementation Team report on Nakawa site & facilities	UFSCS	August 2000
National Forestry Authority Headquarters – Project Implementation Team, Report of Architect	Pro-Plan Partners	April 2000

Title	Author	Year
Draft Human Resources Manual	UFSCS	January 2002
For sector co-ordination		
Co-ordination Committee Retreat	UFSCS	October 2000
Proceedings of the First Consultative Conference on Uganda's Forests	UFSCS	September 1999
Proceedings of the Second Consultative Conference on Uganda's Forests	UFSCS	February 2002