FOREST LANDSCAPE RESTORATION

Uganda Country Report

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EXECUTIVE SUMMARY

The Rio Conference in Brazil in 1992 brought to the attention of many governments the concern for environmental degradation. However, despite the commitments of governments thereafter to reverse the negative trends, some problems still do remain. They will take relatively long to be addressed, and one of such problems is forest degradation.

In Uganda, it is estimated that the annual rate of forest loss is – 0.9%. Population is growing at 2.5% and exerting more demands on forests and their functions. Scarcity of forest functions has already been reflected in contaminated water, reduced land productivity, micro – climate change and rural energy crisis. Wildlife and biodiversity too have dwindled as their habitats, the forests, have been cleared to give way for agricultural expansion, construction industry and to supply energy needs.

Owing to the above concerns, it is increasingly being endorsed that more sustainable approaches to using forest resources should be institutionalised. Past efforts for massive tree planting, even with political mobilisation haVE not worked as expected. Part of the reason is that the minds of those involved have not fully internalised the true functions of forests, and how they relate to the diversity of ecological, social – cultural and economic landscapes. It is the understanding of that diversity that has been a big missing link. Consequently, regeneration efforts have tended to remain site – specific. They have been initiated by few promoters with little or no effort to involve others. As a consequence, we have failed to achieve minimum level of scale at landscapes to restore basic forest functions that would continue to benefit the entire society.

Needless to mention, achievement of forest regeneration at landscape level is not without its challenges. There are issues of land and tree tenure, policy environment, inputs like labour, capital and seedlings. Further, there are issues of competing land uses for agriculture, settlement, industrialisation and conservation.
All these can and do act as barriers to restoring forest functions at a landscape level.

For the above reasons, it is increasingly gaining prominence true time restoration of forest functions needs to adopt a landscape approach, hence the focus of this study.

The aim of the study was to document the past and current forest regeneration initiatives with a view of identifying opportunities for a FLR approach. The study also assessed the extent to which FLR would be supportive of other development programmes like PEAP and PMA. It also evaluated the relevance of existing policies in promoting FLR.

The study has found that FLR would complement the PEAP and PMA for example because they all shore the same principles. These are continued processes for consensus – building among stakeholders on priorities, long – term commitment or perspective and multi – stakeholder involvement.

Besides, the proposed formulation of land use policy under PMA would generate consensus on prioritising land areas for certain functions e.g cropland, rangelands, settlements and conservation. The long-term commitment of donors and government to provide funding is an opportunity that would also support FLR.

However, despite the above great opportunities, there would be need to make a fundamental shift in the on – going and planned initiatives for Forest Restoration. Besides, the policy environment too, would need to be empowered.

First, initiatives must be consciously and deliberately planned at landscape level. Institutional mechanisms must be put in place to allow consensus building among the several stakeholders. Through the same mechanisms, trade – offs among forest functions on one hand, and between forest functions and other functions must be made. All these must be assessed fully in the socio – cultural and economic environment. Partnerships among institutions and individuals must be built, and the right package of policy instruments put in place.

The new Forest Policy 2001 provides an enabling environment for FLR. It is complemented strongly by other policies and laws like the National Environment Management Policy, National Environment Statute 1995, the Wildlife Policy and Statute, to mention but a few.

However, areas, which need to be streamlined, are the clarification for the role of central government and local governments in FLR. The government to allow individuals too must articulate incentives and communities invest in forest regeneration for its wider social benefits. The weakness with on – going initiatives is that they focus on one or two functions and other functions are derived as incidentals. This is not sustainable because in meantime, some functions could be lost irreversibly.

CHAPTER ONE: INTRODUCTION

1.1 Background

With the continued growth in world population and competing land uses, the world's forests are getting lost. At the same time, governments and other agencies are continuing to plant trees and to strengthen conservation measures of forest reserves. Despite these efforts, humanity is still threatened by accumulation of problems from forest degradation like fresh water contamination, climate change, decline in agricultural productivity, to name but a few. Accordingly, it is increasingly being recognized that merely planting trees is not enough.

In Uganda, it is estimated that the annual rate of forest loss is –0.9%. yet, with much of the population still rural, forests continue to be a source of many people's livelihoods.

Accordingly, new approaches are being thought out to overcome the gaps in the benefits and values societies used to derive from forests and trees. One of such approaches, which is the basis for this report, is the Forest Landscape Restoration (FLR). This is multi-sectoral, encompassing social, economic, ecological, technical and institutional dimensions. The services provided by a restored forest landscape include soil stabilization, local climate regulation, food security and wildlife habitat. Forest Landscape Restoration also involves a range of diverse stakeholders from small individual landowners to government.

By definition, a landscape is a contiguous area, intermediate in size between an 'eco-region' and a 'site', with a specific set of ecological, cultural and socio-economic characteristics distinct form its neighbours. On the other hand, a Forest Landscape Restoration (FLR) is a planned process which aims to regain ecological integrity and enhance human well-being in deforested or degraded forest landscapes. This approach is strongly supported by the preamble to the "non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests". It says:

> *"The subject of forests is related to the entire range of environmental and development issues and opportunities… and these …..…should be examined in a holistic and balanced manner within the overall context of environment and development, taking into account the multiple functions and uses of forests"*

1.2 Rationale for FLR concept

It is recognized from the above that embedded in the FLR concept are the elements of forest functions (values), scale and multi-stakeholder involvement. Some values can only be realized if FLR is of a scale, and this inevitably may imply going beyond the administrative jurisdiction of individuals or entities.

So, increasingly, new constituencies have to be reached for sustainable forestry management. This is clearly borne out by an observation by Dr.Sydney Ronald at the 14th Commonwealth Forestry Conference in Kuala Lumpar, Malaysia, 1993. He said that the concepts of sustainability and multiple benefits were well hallowed in the literature of forestry. But he wondered why forest managers have so much difficulty applying them in practice. His view was that 'there was nothing new under the sun' with regard to the management of forests for sustainability and multiple uses.

Rather instead, he observed that what has changed is the dramatic increase in the number of constituencies and the number of demands that these constituencies are placing on forests. In view of this, he held the view that the challenge is that forest managers must convince all the forest's constituencies, through the political processes, that they are best served by forest management that delivers the greatest good for the greatest number of people now and in the future.

From the above, one realizes the rationale for a FLR. The remaining forests cannot fulfill the functions, which the larger forest areas once performed. PRO SILVA, a European federations of foresters who advocate for forest management based on natural processes strongly argue that forest management should now take account of the whole landscape. It argues that actions at the scale of a single tree should be related to their effects on the individual stand of trees, the whole forest, and the broader landscape.

Conservationists and resource users are now compelled to work in partnership with a wide range of stakeholders, including central and local governments, the private sector, NGOs and CBOs, women and

landlords. It is only then that needs and interests of different groups are taken into account in the short-term and long-term planning. Compromises and trade-offs can also be reached once there is a deliberate effort for consensus building.

Despite the benefits that would be derived by a landscape approach, landscape function is often still poorly understood [Hobbs R. 1997]. It is argued that to date, landscape ecology has failed to integrate the various disciplines it brings together and lacks a coherent theoretical structure and principles of relevance in practical terms. If landscape is to provide useful input into land use and conservation issues, greater effort needs to be expended in understanding the functional aspects of landscapes.

CHAPTER TWO: FOREST LANDSCAPE RESTORATION STUDY

2.1 Justification for the study

The first justification for the FLR study is that there is limited understanding of this concept, and how it can be used to make a turn-around in the management of forests. This is well illustrated by some observations. The Forestry Nature Conservation Master Plan (Vol.1) of Uganda observes that forest reserves established in Uganda in 1950s and 1960s were clearly **inadequate** in assuring minimum landscape scale for sustaining minimum viable populations. The plan however, did not make suggestions how that scale could be improved, implying therefore, a continued gap in a landscape approach even for sustaining viable populations.

Secondly, as opposed to command and control which were used for managing government forest reserves, a new set of policy instruments acceptable to other new stakeholders is necessary, first to help them get a return on their investments, but also, to deal with wider societal issues like externalities[*]. Under such changed circumstances, methods for consensus building and balancing trade-offs among competing land uses and forest functions themselves must be given due attention. It is thus important for the study to establish the current practices, and to recommend the necessary changes that have to be made in support of FLR.

The second rationale for the study is to establish the overall climate for FLR, with a view of identifying immediate opportunities and barriers to its implementation. Thereafter, the most effective and feasible strategies for promoting FLR can be developed at national and even regional level.

2.2 Objectives of the study

The main objectives for FLR study are:

(i) to review past and current forest regeneration initiatives in the light of the FLR concept
(ii) to review the evolution of forest regeneration policies in the light of the FLR concept
(iii) to identify players, opportunities and potential constraints to the promotion of the FLR approach (at policy and pilot levels)
(iv) to initiate and engage in dialogue with key decision-makers within the region
(v) to recommend regional pilot activities using the FLR

2.3 Scope of the study

This study covered several aspects. First, it looked at the government's policies and strategies that are or would be relevant to FLR and how FLR would also enhance their implementation. Secondly, the study also looked at the forest policies, forest laws and institutional framework for forest management in the country. Thirdly, the past and on-going initiatives in FLR were analysed to capture the evolution in the implementation of FLR.

2.4 Methodology

This report on Uganda case study is one of the regional reports under the same study. Other countries are Kenya, Tanzania and Ethiopia. To lend themselves to some uniformity and consistency, and to bring out country variations, the studies proceeded using agreed upon frameworks. Data and information was collected from project reports and transferred to the relevant parameters in the framework. This was complemented by interviews and visits.

[*] An externality is

CHAPTER THREE: NATIONAL OVERVIEW OF FORESTRY SECTOR

3.1 Uganda's general profile

Uganda is a land locked country measuring 241,500 km^2. It is located in the eastern region of Africa and lies between latitude $1^0$30 South and 4^0North and Longitude $29^0$30 East and 35^0 West. It is bordered by the Republic of Kenya in the east, Tanzania and Rwanda in the south, Democratic Republic of Congo in the west and Sudan in the north.

Most of Uganda forms part of the interior plateau of the African Continent. It is characterized by flat-topped hills in the central, western and eastern parts of the country. The rise of the plateau in the eastern and western parts of the country is represented by mountainous topography found along the borders; for example the Rwenzori mountains and Mufumbira volcanoes in the west and Mt.Elgon and Mt.Kadaru in the east.

The climate of Uganda is influenced by the Inter-Tropical Convergence Zone (ITCZ) . In most parts of the country, the seasons are fairly well marked as rainy and dry seasons. The mean temperatures over the whole country show great variations depending on elevation and landscape.

The vegetation classification and description used in Uganda are still based on concepts/studies of Langdale-Brown and Osmanson [1967]. There are 11 main categories of vegetation types, namely: High Mountane Moorland and Heath; Medium Altitude Forest /Savanna Mosaic; Moist Thicket; Woodland; Wooded Savanna; Grass Savanna; Steppe; Bushland and Dry Thicket; Swamp (Wetlands) and Cultivation Communities (NEMA, 1996).

The socio-economic indicators of the country are given in Box 3.1. Basically, Uganda is an agrarian country, dominated by peasant (subsistence) farmers. It is on this basis that the government has formulated the Plan for Modernisation Agriculture to transform the economy.

Box 3.1: Basic socio-economic data

Total population	22 m
Percent population rural	85.6%
Percent population urban	14.4%
Annual population growth	2.8%
Life expectancy at birth	40%
Infant mortality	103 per 1000 live births
Access to health services	49%
Access to safe water	46%
Adult literacy rate	46%
Percentage population in absolute poverty	35%
Total GDP in 2001 (at constant 1991 prices)	shs.3,725,835m
Per capita GDP (at constant 1991 prices)	shs.164,597
GDP growth rates (2000/01)	5.0%
Agriculture as % of GDP (2000/01)	42%
Total value of exports (2000/01)	$407 m
Total value of imports (2000/01)	$1503 m
Trade balance (2000/01)	-$796 m
Per Capita GNP	$330
Currency	Ug.Shillings (shs. 1720=1$)

3.2 National land use structure

In Uganda, land area is estimated at 241,500 km^2, categorized under different land use systems as shown in Table 3.1.

Table 3.1: Breakdown of total area of Uganda

	Land use		Area of Uganda's forest		
	Km^2	%	Gazetted forest	Non-gazetted forest	National Parks
Plantations	345	0.14	306	19	20
(Broadleaved)	189	(0.08)	186	3	
(Conifer)	156	(0.06)	120	16	20
Tropical High Forests	8,847	3.66	4,170	1,467	3,210
(Fully stocked)	(6,039)	(2.50)			
(Degraded)	(2,808)	(1.16)			
Woodland	40,278	16.67	7,200	33,078	
Bushland	14,199	5.88			
Grassland	51,119	21.16			
Swamps	4,831	2.00			
Farmland	84,617	35.03			
(Small-scale subsistence)	(83,931)	(34.75)			
(Large scale)	(686)	(0.28)			
Built-up areas	364	0.15			
Open water	36,909	15.28			
Impediments	39	0.02			
Total area	**241,548**	**100**	**11,676**	**34,564**	**3,230**
			23.6%	69.9%	6.5%

Source: Unpublished Database: National Biomass Study, Forest Department, 1999

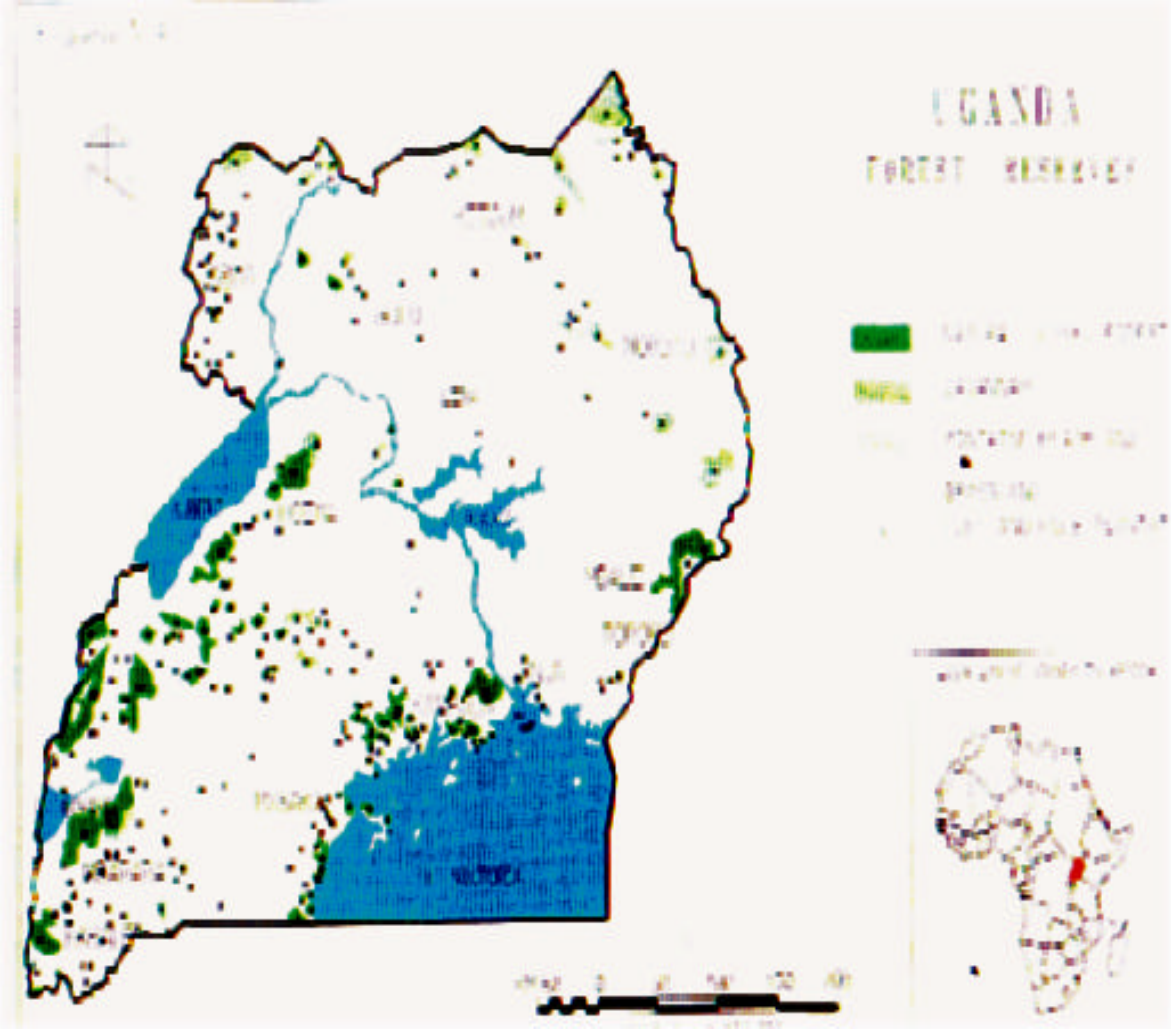
The largest proportion of the country is under woodland; bushland and grassland, constituting 43% of the total land use. This is followed by small-scale farming (subsistence) which accounts for 34.7% of the total area. Arable land takes up about 49% of the total land area. A significant area under tropical high forests, however, has been degraded; and this has serious implications on sustainability of tropical forests, which constitute a small percentage (2.5%) of total land-use area of the country. The country is also well endowed with water resources (open water and wetlands), which account for about 17% of total area; and these resources are an important component of the fisheries resources. Wildlife resources (in protected areas) account for about 30% of land-use forms, and are a great support to the tourism industry. Perhaps the most important resource in the country is its soils, which support the various land – use systems described above.

3.3 Structure and distribution of forests in Uganda

Uganda has nearly 5 million hectares of forest, which constitutes 24% of Uganda's land area. Of the total forest are, 80% is woodland, 19% is tropical high forest and less than 1% is plantation. (Table 3.2). Further, of the total forest area, 70% is on private land while 30% is on the permanent forest estate in the form of some protected areas. The 30% is equally shared between Forest Department and Uganda Wildlife Authority (UWA) for its management. There is a very negligible portion (0.3%) controlled by local governments as local forest reserves. Generally, the percentage under protected status is not evenly distributed among different sizes of

forests. As high as 60% of the forest reserves is accounted for by only 28 forest reserves of more than 10,000 ha each. On the contrary, 10% of the reserves is accounted for by 555 reserves of less than 1000ha each. The remaining 30% is equally shared by 98 reserves of between 1000 and 1500 ha and 31 reserves of between 5000 and 10000 ha. Map 3.1 shows the distribution of the reserves countrywide. As already mentioned, most of the reserve are very small.

Figure 3.1: Map showing forest reserves in Uganda



Irrespective of size, all reserves were managed under the Forest Act 1964 predominantly using command and control approach. Forests management under private land were generally ignored except for declaring some trees as 'reserves species' and thereby open to harvesting only after securing a forest permit or authorization. However, the Forest Act 1964 is under review.

Table 3.2: Approximate areas (in hectares) of forest and woodland under different categories of ownership and management

	Government land		Private land	Total
	Central and local forest reserves (FD & local authority)	National Parks and Wildlife Reserves (UWA)	Private & customary land	
Tropical High Forest	306,000	267,000	351,000	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: National Biomass Study (Forestry Department, 1999)

The current distortion of government forest reserves a fundamental question, that is: ***what considerations were taken into account when determining the forest reserves?*** The first consideration was meeting the main objective of forest preservation, that is, protection of water catchments and of agricultural lands. Next was forests for production-provision of forest based goods, timber, non-timber wood products and fuelwood.

However, it was also found necessary and important to create enough forest land in each district then (at that time)[*] , for forestry. That is why some grassland areas and wooded savannas with very little or no tree are reserves up to today. They were meant to be areas where forest plantations could be established in the future – as it happened in Katugo wooded savannas.

At that time, biodiversity was not a priority and even tropical high forest was conserved mainly for its assumed productive role. If biodiversity had been a priority, more areas would perhaps have been reserved than today. This does not mean in area but in variety.

The focus on each district having enough forest estate to meet the reservation objective does not obtain now because of the division of original districts in smaller units. From 10 districts in 1960s to 45 in 2000s. For example, Iganga now has no forest to talk about. It has a few degraded reserves, mainly eucalyptus of less than 1000 ha.

Given the assessment in above (and a look at Figure 3.1), one would be inclined to state that the current forest reserves are not adequate both in the provision of goods and environmental services. Owing to increased population and other completing land uses, it is not possible to derive the forest functions and values that the country got 100 years ago. In view of that, there are three options that the country can take. The first one is to encourage those still having forest on their land to conserve it or such a portion that would continue to give values to the owners. Of course, this would only be possible of there is such incentive to make people conserve forest patches, since the use of regulatory measures (without effective enforcement) would not yield the desired results.

The second approach is to promote afforestation, reforestation and agroforestry. Indeed, this has been widespread nationally, and is in response to the declining of forest function.

Thirdly, if there are areas that are still considered as public lands and could be reserved, they should be gazetted with local community consent and particularly management plans put in place. Other compatible uses should be permitted unlike current reservation.

3.4 Historical profile of forest resource management in Uganda

Like many countries within the region, Uganda's first forest reserves were gazetted in 1930s and were facilitated by policies and laws formulated by the colonial government. The main objectives of creating an elaborate network of forest reserves was to ensure that there was adequate supply of country's needs particularly for industrial purposes. By then the increasing forest frontier population was perceived as a serious threat to forest conservation.

Until 1940, authority related to forest management was concentrated in the Forest Department through the process of command and control. The Department's focus was on the establishment of industrial forest plantation and maintenance of watershed protection areas. This system lacked any traces of incentives that could encourage the local communities to perceive forest resources being managed for the *common good of all*. Instead, the approach was marked with constant conflicts between the conservation agency and the communities. One then may conclude that over the long-range the command and control approach to forest conservation did not adequately achieve the objectives it was set up for.

Over the years, therefore, advocacy of incentive-based approaches have been intensified. The precursor to this has been the promotion of local community involvement in management of forest resources which in some cases led to the creation of Village Forest Reserves (declared and controlled by the local authorities),Local Forest Reserves (declared by the Central Government but managed and controlled by Local Authorities) and Central Forest Reserves (declared and managed by the Central Government). However, after independence, Village and Local Forest Reserves were abolished and put in the hands of the Central Government, with all the revenues going to the Central Treasury. This over-centralisation of forest resources management, which was in place until early 1990s had an adverse effect on the relationship between the communities and the conservation agencies.

[*] The number of districts has more than quadrupled since then.

However, since early 1990s, the Uganda Government has realized the need of using incentive-based approaches to forest conservation. The need to involve the local communities has fully been recognized. Several initiatives have therefore been put in place to enhance long-run forest conservation and they include, re-institutionalisation of village forests, local forest reserves, and revenue-sharing.

The policy framework for Uganda has gradually shifted to that which is supportive of community involvement in forest management and the use of incentive-based measures. For example the country's Constitution 1995 explicitly recognizes for the first time the significance of the environment's sector in promoting communities livelihoods and health. Similarly, the National Environment Statute 1995 which established the National Environment Management Authority (NEMA) emphasizes the importance of involving and the empowering local councils and local communities in environmental management. In addition, the Wildlife Statute 1996 which formed the Uganda Wildlife Authority has fronted a policy and legislation that recognizes the need to collaborate with and consult a wider variety of possible stakeholders including local authority and communities.

3.5 General classification of forest functions

The starting point to appreciate the importance of forests to Uganda's economic development is to define the broad functions or values of forests. There are good reasons for that. It has continued to be argued and correctly so, that failure by resource users, policy makers and other decision-makers to comprehend the economic concepts partly explains the continued degradation of natural resources, and prescription of shortsighted policies. Secondly, the concept is a good starting point to identify which forest functions and values have been undermined by human impacts.

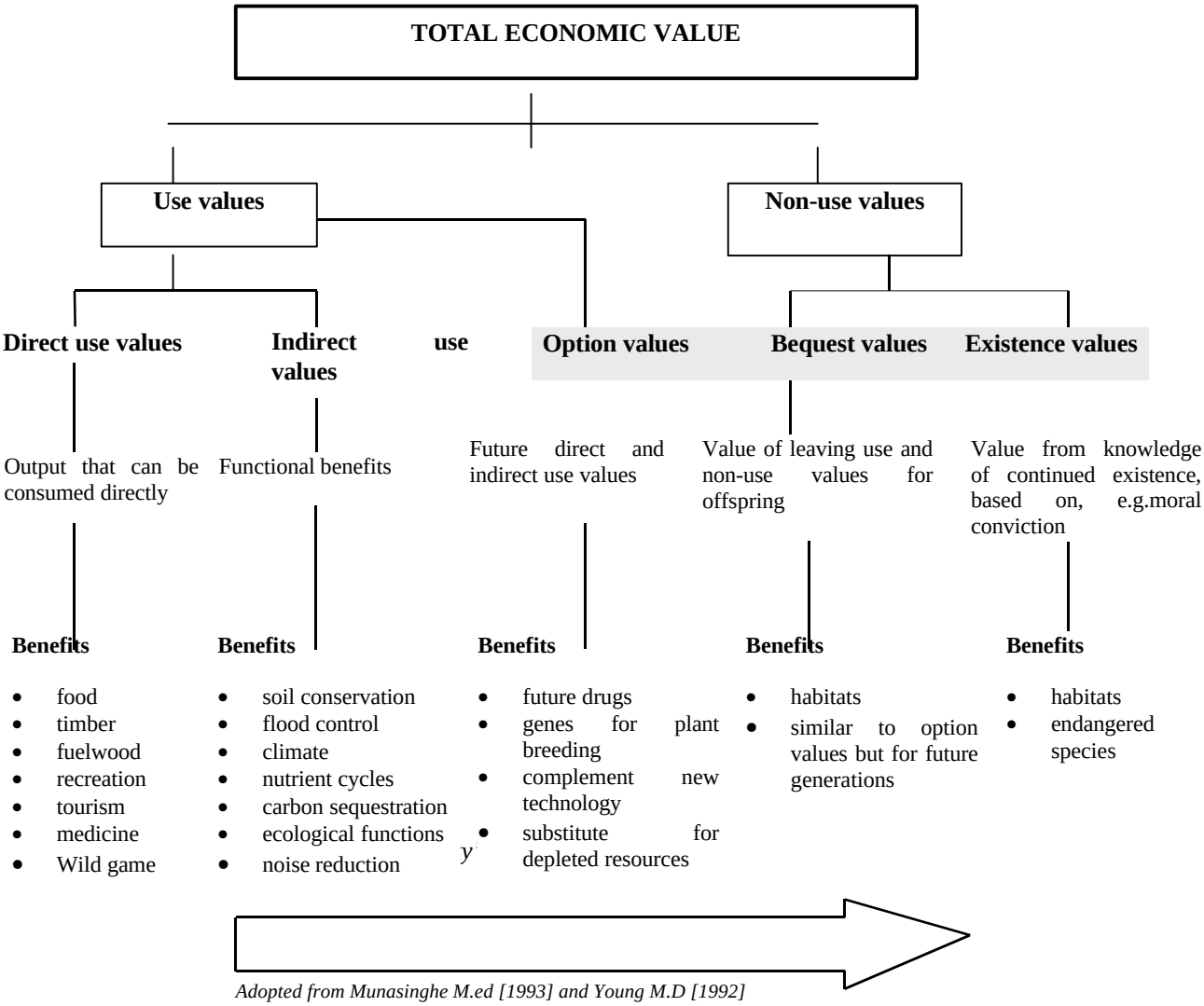
Figure 3.2 shows the above desegregation of total economic value in a schematic form, with a short description of value and a few typical examples of benefits.

To be observed is that Figure 3.2 only shows the **primary** level benefits, those directly attributed to forest resources. However, there are also secondary and tertiary level benefits, which are important but are not captured in the figure. They include employment, and backward and forward linkages to trade, industry, construction, and agriculture and service industry.

We also need to observe in Figure 3.2 that 'tangibility' of values to individuals diminishes from left to the right; this is a very important factor to recognise when
prescribing policy instruments. Usually, the poor, with short-planning horizons would have high propensity to ignore the functions progressively as one moves to the right of the figure.

Nonetheless, Figure 3.2 helps us to describe in specific details the importance of forestry to economic development of the country and its potential to contribute to the government's program for poverty eradication.

Figure 3.2: Total economic value of forest resources



Adopted from Munasinghe M.ed [1993] and Young M.D [1992]

3.6 Contribution of forests to socio-economic development

3.6.1 Forests' contribution to GDP

The forest sector accounts for less than 2% of the national income in official statistics, with slightly declining tendency. However, a significant part of the income generated from forests is in informal sector that is non-traded products and services. Fuelwood collected and used by the households is an important example. GDP and other standard economic calculations refer only to traded outputs. Hence, the real value of forestry is insufficient reflected in GDP calculations. If GDP was to be adjusted by the unvalued goods and services, it would rise to at least 6% of GDP (see Table 3.3)

Table 3.3: Adjusted Forestry Contribution to GDP, 1998.

Item	Non –adjusted GDP % GDP		Adjusted GDP	
	U. shs. Billion	**% GDP**	**U. shs. billion**	**% GDP**
Formal Sector / Monetary Sector				
• Sawn timber			40.0	0.5
• Poles			5.4	0.225
• Firewood			21.0	0.26
• Charcoal			57.0	0.7
• Tourism			2.7	0.33
• Other (NFWPs)			20.0	0.25
Total Formal Sector	**61.2**	**0.8**	**146.1**	**19**
Informal Sector / Non – Monetary Sector				
• Poles			6.0	
• Firewood			160.0	
• Other (NFWPs)			40.0	
• Fodder			4.0	
Total Informal Sector	**55.9**	**0.7**	**210.0**	**2.75**
Non – Marketable Outputs				
• Watershed Benefits			20	
• Carbon Sequestration			26.1	
• Biodiversity Option Value			3.5	
• Erosion Control			60.0	
• Groundwater			2.0	
Total Non – Marketable Options	**N/A**		**112.3**	**1.45**
D. Total Sector	**117.1**	**1.5**	**468.4**	**6.1**

Source: Background to the Budget 2001/ 02, Innovation, Volume 8 No. 2. July 2001 page 12.

3.6.2 Forests' contribution to energy use and rural livelihoods

Woody biomass contributes almost 90% of the value of energy used in the country. Generally, the woodfuel demand is growing faster than the demand for any other fuel. In a recent study[1], it was estimated that aggregate consumption of solid woody biomass is 30 million m^3 (about 17.2 million metric tonnes) per year on account of household consumption, beer brewing, fish drying, tobacco and tea curing, lime, tiles and bricks production and heating in eating houses, bakeries and educational, prison, medical and military institutions.

Some of this biomass is used to produce 400, 000 tonnes (80 million bags) of charcoal per annum, used mainly in urban centres. Per capita (unweighted) consumption is estimated at 157kg per year.

Besides, communities depend on forests for medicinal plants, building poles, fruits and honey, and in some places game meat.

3.6.3 Forests' contribution to industry and construction

The volume of sawlogs cut annually is today estimated at 100,000m^3, 75,000m^3 and 50,000m^3 from forest reserves (natural forest), plantations (mainly conifers), and private/public land respectively.

These estimates are based on timber that was cleared for movement from districts in 1997 and was captured by the Natural Forest Management and Conservation Project database. An allowance of about 50% has been added to cater for timber that is used within the districts and which is illegally transported outside.

[1] A Study of Woody Bioamss Derived Energy Supplies in Uganda, 1996

3.6.4 Ecological functions of forest

Forests provide a wide range of environmental services, which unfortunately are not monetised in the estimation of GDP. Such services include protection of watersheds and soil, carbon sequestration, micro-climate regulation and acting as habitat for wildlife and biodiversity (Table 3.4).

Table 3.4:Overview of Uganda's forest biodiversity

Classification	Specific examples
General composition	427 species of trees, 329 species of birds, 12 species of diurnal primates and 7 butterfly species
Globally threatened with extinction	4 primates species, 2 other mammal species, 6 bird species and 2 butterfly species
Endangered	Mountain Gorilla
Vulnerable	Chimpanzee, l'Hoest monkey, elephant, leopard, Grauer's rush, warbler and cream-babded shallow butterfly
Rare	Nahan's francolin, African green braodbill, flycatcher and forest ground thrush
Intermediate	The Uganda red colubus monkey and Kibaale ground thrush species

Source: National Biodiversity Strategy and Action Plan

3.7 Status of Uganda's forests

There has been drastic change in the forest cover during the past century. FAO estimated the forest cover had been as much as 10,800,000 ha in 1890, which was 52% of Uganda's, surface area. This has now shrunk to only 5 million ha or 24% of the land surface area. The share of the land area of Tropical High Forest declined from 12.7% in 1990 to about 3.6% in 1994 (NEMA, 1994). Deforestation has a regional pattern, which is likely to be more intense in areas with high population densities and with no conservation status (gazettement). For example, there has been a lot of forest destruction in the Lake Victoria Crescent and the remaining small patches of forests are likely to give way to competing alternative uses.

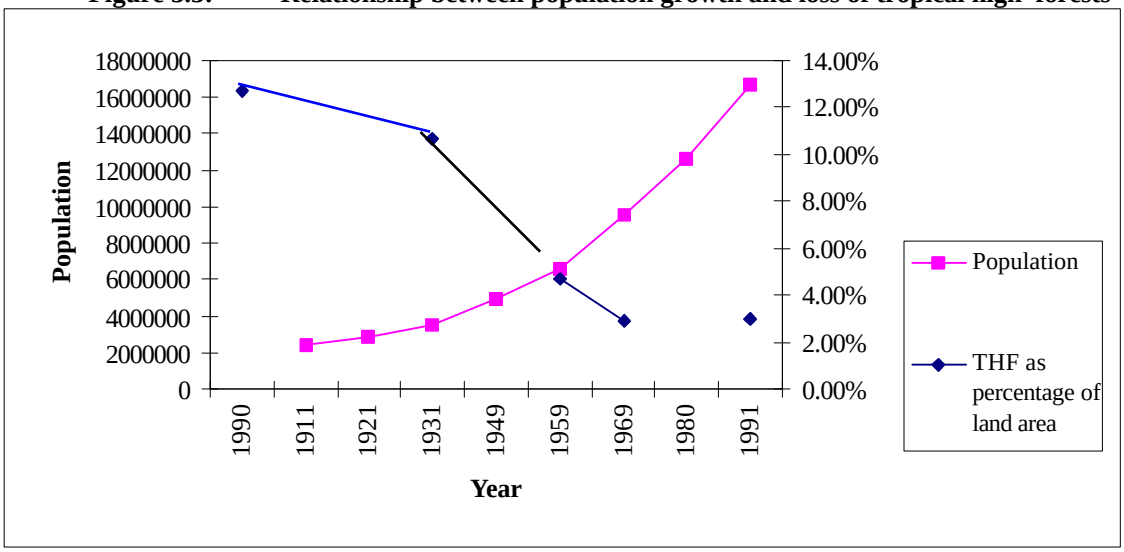
3.8 Causes of forest degradation

Agricultural expansion

Evidence strongly suggests that there have been high rates of forest clearance due to opening up new land for agriculture and search for firewood. Much of the forest loss has occurred on private land. There is very limited regulation on use of forest resources on private land.

Further evidence also suggests that as population continues to grow at an estimated rate of 2.5% per annum, more destruction may be inflicted on forest resources. That evidence is given in Figure 3.3. As a percentage of total land area, Tropical High Forest (THF) has declined from 12.7% as of 1900 to only 3.0% in 1991.

Figure 3.3: Relationship between population growth and loss of tropical high forests



Source: Ministry of Natural Resources [1994]

The current trend jeopardizes the chances of future generations in accessing at least equal productive potential or value. With globalization of the market, the above trend must become the focus of high level policy makers.

Weak capacity of Forest Department

The problem of deforestation is however, not restricted only to private lands. There was much forest clearance by illegal settlement in Forest Reserves in the turbulent years of 1970s and 1980s. According to MISR-LTC [1988], settlement in Mabira Forest Reserve between 1975 and 1983 was mainly on account of abuse of the permit system that had been used to allow farmers access ~~of use. En~~croachment on similar grounds took place in Kibale Forest Reserve.

In Uganda, Forest Department has faced several problems that explain its inability to meet the challenges of today. Low budgetary allocations undermine its ability to monitor illegal activities and to ensure compliance. Political interference has also undermined the technical authority of the staff.

Policy failures

The main source of policy failure has been the Forest Act 1964 and its related forest rules. According to Kamugisha [1993] forest policy has evolved since 1929. However, three weaknesses have continued to exist, namely: failure to institutionalise sustainable community participation, neglect of forests outside the gazette system and absence of detailed and adequately responsive guidelines on interpretation of the policy, especially from a legal point of view.

- *Market failures*

Much of the forest degradation is also traceable to the malfunctioning, distorted or totally absent markets. This is what is meant by market failure. For example, because some forests' services are not traded on the market (e.g. watershed protection, soil erosion control, etc). Because of that, individuals do not have incentives to protect forests for these services because they do not privately benefit. Such tendencies, once spread among several people in a landscape continue to cause forest degradation.

3.9 Drives of forest regeneration

In response to forest degradation, the government and the private sector alike have responded, and taken on some regeneration initiatives. There are four main 'drivers' of such initiatives. They are discussed below:

- *Scarcity value of forest functions is a catalyst for FLR*

Successful forest regeneration initiatives outside government forest reserves strongly suggest that their success increases with increase in scarcity value of forest functions. The positive response to agroforestry in the populated southern western Uganda is in response to declining soil fertility. Likewise, the response to eucalyptus planting in the same area and other parts of the country by households is a reflection of energy crisis. This is true in case of tea factories. Up until the energy crisis of the 1970s, most tea factories used oil as their

energy source. When the industry was rehabilitated in the mid 1990s, the rocketing prices for oil prompted a dramatic switch to using wood. Increasingly, the companies have realized that depending on private individuals to supply them with fuelwood is not sustainable, and was in some places, leading to deforestation. So, some companies have resorted to planting their own woodlots, particularly of *E.grandis*.(See Box 3.2).

Box 3.2: Scarcity in the market encourage commercial tree planting

- On farms near urban centres or in communities where wood products are scarce enough to a create willingness to pay, small-scale commercial woodlots have mushroomed to meet the demands. In Mpigi District, being near Kampala, the demand for wood products by the growing numbers of institutions has provided substantial incentive for farmers to invest in pure wood stands, especially of fast-growing tree species.
- In Soroti and Kumi Districts, a ready market exists for poles and fire wood for the brewing industry and for the construction of homesteads and granaries. Here more and more farmers are setting aside land for tree planting. One lady has been in the business of tree planting for over seven years. Her poles are in such high demand that a three-year – old eucalyptus pole fetches up to Ushs 4,000. (In Masaka such a pole would fetch Ushs. 1,000)
- Kalangala District has extensive areas covered by natural forests, on both Forest Reserves and private land. The population density is low and access to forest products is not a limiting factor. As a result there are no commercial tree growers in Kalangala District.

Source: Paul Jacovelli and John Carvallo [1999]

- *Market integration is also a stimulus for forest regeneration*

The demand for forest products and services (forest functionality) is increasingly being observed to sustain forestry initiatives, and to dictate the choice of trees planted. For example, the multiple functions eucalyptus provides (energy, construction poles, timber, etc) have promoted its growth by the private sector, and Forest Department. Likewise, the projected shortfall in sawn timber is refocusing FD's efforts on the plantation forests in its own reserves.

Species preferred are *pinus spp* and *Cyprus*. In agroforestry, initiatives, the species that have been preferred for their multi-purposes are *Calliandra, Glyriadia and Sesbarina*. In Kabale, the scarcity of fruits among homesteads has refocused AFRENA's activities to include raising orchard seedlings.

Of recent, we have also witnessed growth of a special market, that is, a market for carbon. This is particularly true under FACE project. The FACE Foundation was set up in the 1990 by the Netherlands Electricity Board to compensate for some of the CO_2 emissions from coal-fired Dutch power stations by means of reforestation and / or afforestation. Given that the Netherlands has very limited areas for tree planting, FACE then uses large deforested areas in other countries. Among other areas in Uganda, FACE Foundation chose Uganda. It targets to establish 25,000 hectares in Mr.Elgon National Park and 10,000 hectares in Kibale National Park. Some 20 different indigeneous species are being planted to rehabilitate the original forests. Over 7,500 hectares have been planted to date.

Uganda will remain the owner of land and forest products from FACE project, except for the CO_2 which is bought by FACE. The owner undertakes to maintain the forest for 99 years.

- *Incentives can be powerful instruments for FLR*

To date, incentives have been responsible for forest restoration in eight peri-urban areas. The incentives given were property rights (in form of access to government forest reserves), and minimal charge for the use of the same land.

Likewise, subsidized inputs have promoted agroforestry practices and tree planting by several communities with support from NGOs like CARE, AFRENA, UWTPM, Vi, IUCN, WWF. However, despite these efforts, the Government needs to go a step further, and commit resources or forego resources in the short-run as incentives for FLR. The success under the FACE project is due to an international economic instrument (joint implementation) under the Kyoto Protocol. Examples from elsewhere strongly depict the power of incentives and disincentives in influencing voluntary efforts for forest regeneration. (See Box 3.3 and 3.4)

Box 3.3: Economic instruments in forestry sector for Costa Rica

Since 1979, Costa Rica has had progress in reforestation and afforestation because of a focused programme to use economic instruments in the sector. Incentives have taken on many forms, including income tax deductions, exemption of capital inputs from import taxes, forestry credit, donations and credit. In addition, a bank for the forest sector, FONAFIFO was formed. The benefits from these incentives is accumulated acreage of 290,000 hectares of forests.

Type of incentive	Amount US$m	Area (ha)
Deduction from income	40.4	35,597
CAF (Certificate of Forest Payment)		38,086
CAFA (Certificate of Forest Payment in Advance)	45.6	33,818
CAFMA (Certificate of Forest Management)	4.8	22,120
FDF (Forestry Development Fund)	6.8	12,789
Credit (Granted by FONAFIFO)	2.2	2,800
CPB (Forest Protection Certificate)	1.2	22,199
Article 87	32.8	16,072
PSA (Payment for Environmental Services)	14.0	95,546
Total	**146.8**	**297,017**

Source: Ronnie de Camino et al [2000]: Costa Rica Forestry Strategy and the Evolution of Land Use

Box 3.3: New Forest Law, Incentives and Afforestation in Uruguay

In an attempt to deal with problems of deforestation, soil erosion and declining water quality, Uruguay passed a new forest law in 1987 after two years of consultation. The law was aimed at promoting so-called "artificial aforestation", in those areas not well suited for agriculture, the conservation of soils, water, animals and indigenous vegetation. The most important aspects of the new legislation were that it provided tax reductions and financial incentives for afforestation to be provided by the government. According to the law, the state should support **protective** and **production** as long as they are planted on "forest land". Forestland was defined as "that land which has no other permanent productive use or land declared of forest priority by the Forest Authority for soil erosion consideration. Thus, the state restricts incentives to forestation to these priority areas, but allows forestation all over the country.

The economic instruments included in the Forest Law are mainly tax exemptions, which in some cases can extend to 12 years, and 'tax reinvestment mechanism'. The latter is extended to encourage farmers to invest in afforestation of unproductive land. This mechanism allows a part of the investment in forest plantation to be tax deductible. Other instruments are special tax subsidies and credits for different stages of forest growth.

The results (after four years) were encouraging (see below). Under the scheme, it was planned that Uruguay should attain 100,000ha. in five years.

Indicator	"Before" situation	"After" situation	
1) Projects submitted to Forestry Authority	n/a	26	(1989)
		41	(1990)
		114	(1991)
2) New Forest area planted per annum (ha)	2000	4000	(1988)
		5000	(1989)
		8000	(1990)
		20,000	(1991)

Source: Thomas Sterner [1996] pg 174-175

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		5000 (1989)
		8000 (1990)
		20,000 (1991)

Source: Thomas Sterner [1996] pg 174-175

- *Privatisation policy*

The government has decided as a policy to involve the private sector and communities in forest regeneration initiatives and no doubt the response has been very positive from communities using either permits or collaborative forest management agreements.

3.10 Evolution and landmarks of forest policy

Forest policy in Uganda has a long history dating back to 1929. Four revisions were made in 1948, 1970, 1987 and 2001. The revisions reflected the distinct changes in the perceived role of forestry in Uganda as the country has developed.

The first policy of 1929 was developed at a time when the colonial state was seeking to gain formal control over much of the land. The main justification for scheduling forest reserves was to ensure important water catchments were protected. This was a far-sighted policy in that it looked a head of a time when those water-catchments might be threatened by increasing agriculture. Timber production forests were also gazetted.

By the time of the first formal revision of the policy in 1948, Uganda was beginning to change more rapidly: there was growth in population and more awareness of the importance of national economic development in the post-war era. In addition to emphasis on retaining forests for their climatic and other indirect values, the 1948 policy stressed the need "to foster among the people of Uganda a real understanding of the value of forests," the need for an effective extension and the need to acquire more land for planting new forests.

Under this policy, some national forest reserves were converted to plantation, in others logging intensified, sawmills flourished and above all original refinement and other technical approaches to silviculture were encouraged. Indeed, this was a reflection of the realization of forests for economic development. Other national

forests were cleared for agriculture, in the belief that this was a higher priority land-use than forestry in some well-wooded areas.

The size of the forest estate was to be limited to the minimum area necessary for the achievement of the primary objective of management for purposes of availing 'enough' land for agriculture.[Kamugisha J. 1993]

Although there was no scientifically objective method of determining the size of a 'minimum area', a minimum area was calculated for each administrative district at the time. In practice, when the area of gazetted forest reached or exceeded an amount calculated on the basis of wood consumption per head, the size of the population, production capacity and land pressure in a given district, then the district would be declared 'adequately forested' irrespective of whether there were ungazetted forests in the district or not. [Ibid pg.17]

Although some people argue that the 1948 policy gave relatively little emphasis to value conservation [Grove S. 1998], one could argue that by placing emphasis on the value of forests, even those conservation values were embedded in the policy. What could have lacked is a clear interpretation of forest values, and translating them in forest management options.

A second revision of the forest policy was made in 1970. However, it maintained the main provisions of the 1948 policy except that it added a provision for efficient conversion of wood and wood products.

A third revision came in 1988. With it came new dimensions. For the first time, the policy emphasized the need to conserve biodiversity and rare species, and also emphasized the need for more active protection of forest resources, for research in silviculture and tourism, for promotion of agro forestry, and an overall emphasis on environmentally sustainable forestry.

The policy was used by Forest Department to arrive at the basis for managing forests. Twenty percent of all natural forests were to be turned into 'strict nature reserves' in which no human activity was permitted except walking and scientific studies. Thirty percent was to be become 'buffer zone' with 'limited' forest harvesting being permitted, and the remaining 50% was to be left for management for sustainable utilization. These proportions however, applied only to forests that were managed by Forest Department and the management options did not consider forests on private landholdings.

In 2001, the government approved a new forest policy that was made in a participatory manner than the previous ones. Its goal is 'an integrated forest sector that activities sustainable increases in the economic, social and environmental benefits from forests and trees by all the people of Uganda, especially the poor and vulnerable. Policy statements are made along the following headings, which in turn are followed by specific strategies.

Box 3.5 Pillars of Uganda's Forest Policy of 2001

- Forestry on government land
- Forest on private land
- Commercial forest plantations
- Forest products processing industries
- Collaborative forest management
- Farm forestry
- Forest biodiversity conservation
- Watershed management
- Urban forestry
- Education, training and research, and
- Supply of tree seed and planting material

Visibly, the new policy institutionalizes community forestry and addresses the concern of forests on private land.

At this juncture, it should be noted that policies are formulated to keep management in line with perceived long-term objective of the state. To give effect, a policy should be translated into a legal instrument. In Uganda, forest legislation dates as far back as 1900. What is important in this study is to assess the extent to which legislation gave policy provisions a legal basis.

3.11 Institutional set up for Forest Management

The lead agency for forest management in Uganda is the Forest Department, currently within the Ministry of Water, Lands and Environment. It was created in 1898. By the 1960s, Forest Department had established a worldwide reputation, particularly for its research into tropical high forest management. The political and economic upheavals of the 1980s and early 1980s, however, precipitated a general decline in all its aspects of work.

Hamilton [1984] stated:

"Until recently, forest planning was far-sighted and the Forest Department was an effective organization with high degree of control over its land. All this has changed during the last 10 to 15 years, forest policy has become short-term and restricted in its aims, all forest working plans are out of date, and many management systems designed to control activities in Forest Reserves has become ineffective"

In 1991, the Government transferred the Bwindi Mgahinga, Elgon, Kibale and Semliki Forest reserves to the then Uganda National Park. In 1996, the Government merged the then Uganda National Park and Game Department to create the Uganda Wildlife Authority. The transfer of some reserves to UWA was not well received by some staff from Forest Department as it meant reduced sources of earning and control.

There has been institutional restructuring in Uganda since the promulgation of the Constitution of Uganda in 1995. Forest Department was earmarked for restructuring as a semi-autonomous body (Uganda Forest Authority- UFA) under the Ministry of Water, Lands and Environment. The restructuring process is still going on under the auspices of the Forest Sector Umbrella Programme. UFA will have to strive to be financially viable and to operate in business-like manner, while leaving forest sector policy, planning and legislation to the relevant Ministry and its cross-sectoral coordination structures.

According to Draft National Forest Plan (2001), UFA will be mandated:

> *"to manage the Central Forest Reserves on a sustainable basis to optimize the economic, environmental and social functions of the forest estate and to reduce poverty through the active involvement of the private sector and local communities".*
> *"to supply high quality forestry-related products and services to government and the private sector on a contractual basis."*

However, within the Ministry of Water, Lands and Environment, there exists a Forestry Inspection Division. The Division is likely to remain even after the formulation of NFA. The Division is responsible for:

- Formulating national policies standards, legislation and plans for the management of forests
- Mobilizing support and resources for forest management nationally
- Coordinating and supervising national projects of forestry management
- Monitoring the performance of NFA
- Inspecting, monitoring and coordinating the activities of the Local Government in forestry management

CHAPTER FOUR: ANALYSIS OF POLICY AND LEGAL FRAMEWORK RELATED TO FOREST REGENERATION

4.1 Introduction

Over the last fifteen years, the Government has been preoccupied with providing an enabling environment to stimulate and sustain socio-economic development. To that end, it has formulated policies, laws, strategies all of which have been used as basis to marshal the necessary resources to implement them. To a great extent, it is the same policies, laws and strategies that will offer the short run opportunity for the implementation of FLR. However, in the long-run, some of them will have to be revisited with a view of overcoming those constraints to FLR. Box 4.1 provides a list of those laws, policies and strategies that have been assessed for their relevance to future FLR. A pre-prepared analytical framework was used to analyze them. Appendix 1 gives the summary from those frameworks.

Two questions have been used in the analysis of the policies, namely:

(i) How relevant and compatible is FLR with national development strategies (and therefore a good candidate for attracting financial resources for its implementation)?
(ii) Do existing policies and laws create an enabling environment for the implementation of FLR?

Box 4. 1: Laws, policies and strategies relevant for FLR in future

- The Constitution of Uganda 1995
- Uganda Vision 2025
- Poverty Eradication Action Plan (PEAP)
- National Environment Management Policy
- Uganda Wildlife Policy
- Uganda Forest Policy 2001
- National Environment Statute 1995
- The Forest Act 1964
- Uganda Wildlife Statute 1996
- Local Government Act 1997
- Plan for Modernisation of Agriculture
- National Forest Plan
- National Biodiversity Strategy and Action Plan
- The Treaty for the Establishment of the East African Community

4.2 Relevance of FLR to National Development Frameworks

4.2.1 Relevance of FLR to Poverty Eradication Action Plan

In mid 1990s, the Government became concerned that despite its impressive economic growth rates, many people remained poor. Consequently, it commissioned studies to make situational analysis on poverty. Thereafter, it refocused all its programmes to eradicate poverty, and to do so, it formulated the first Poverty Eradication Action Plan((PEAP)[*]. The plan has also become instrumental in mobilizing donor funding. Accordingly, this Section critically reviews the extent to which FLR could be relevant to the current government's development philosophy.

PEAP recognizes that for poverty to be eradicated certain conditions must be fulfilled. One of them is that economic growth must be sustainable, that is, renewable natural resource assets should be conserved and not "mined" in pursuit of short-term growth. Therefore, judicious management of land, forests, wetlands, rangelands, rivers and lakes are seen as essential for sustaining any gains in poverty eradication.

PEAP also recognizes that environmental degradation is both a cause and a consequence of poverty [pg 115]. It accordingly advocates for actions, which need to be taken at a community level to protect the natural resource base. It is concerned among others about encroachment of forest reserves, deforestation and local loss of trees. It equally advocates for environmental planning, and land use plans [pg 118].

In review of the above, the introduction of FLR in Uganda would be timely in contributing to the goals of PEAP because of several reasons. The landscape approach would reinforce the land use planning being proposed under PEAP and the Plan for the Modernisation of Agricultural (PMA). Besides, FLR looks at the multiple

[*] In other countries, PEAP is called Poverty Reduction Strategies

functions of forests (ecological, economic and social), the view that PEAP has also proposed. Finally, FLR would help the Government address one of the concerns under PEAP, namely; 'the need to strengthen national policy and legislative capacity and community institutional capacity to ensure that biodiversity resources are utilized to meet national poverty eradication and sustainable development goals".

4.2.2 Relevance of FLR to the Plan for Modernisation of Agriculture

The Plan for Modernisation of Agriculture is a holistic, strategic framework for eradicating poverty through multi-sectoral interventions enabling the people to improve their livelihoods in a sustainable manner. The PMA is an instrument to implement some of objectives under PEAP, particularly those aimed at raising the incomes of the poor. It will be implemented though decentralized planning processes. The objectives of PMA are to: increase incomes and improve the quality of life of poor subsistence farmers, improve household food security, provide gainful employment, and promote sustainable use and management of natural resources. The PMA was concerned about past government failure to recognize forests outside protected areas in its investment programmes.

In light of the above, FLR would be supportive of PMA because it will take the landscape approach, and not merely government forest reserves as have been the case. It will also strengthen farm and agroforestry. The fact that FLR focuses so heavily on finding the right balance between environmental and socio-economic outcomes is greatly in support of the PMA. The multi-sectoral approach of FLR is also in harmony with PMA which uses a multi-sectoral approach to poverty eradication and agricultural transformation involving several stakeholders. The focus of PMA, just as it is for FLR, is not simply planting trees.
Rather instead, it is their contribution to socio-economic well being through poverty eradication. The consensus building that was necessary to develop a shared vision for PMA is equally cherished by FLR. It will be maintained during the PMA implementation.

4.2.3 FLR and forest policy and national forest plan

The government formulated a new forest policy in March 2001, and thereafter, made a national forest plan as one of the instruments to translate the implementation of policy into practice. The policy has strong focus on rehabilitation of degraded forests in water catchment areas and bare hills [pg 20]. Although it does not make reference to landscape approach, it does for first time, recognizes the need to take into account forests on private landholdings (which actually constitute 70%) and which are under human pressure). The multiplicities of functions (environmental, economic and social) are emphasized [pg 13]. Devolution in decision making, consensus building, strategic partnerships and a wide range of instruments for sustainable forest management are embedded in the policy.

The National Forest Plan, which goes a step further to make a framework for the implementation of the policy has embedded the FLR principles. Besides the plan is linked to other development strategies (PEAP, PMA Land Sector Strategic plan). Needless to mention, the marketing of FLR in Uganda now would go a long way in building synergies among the very many government development strategies and sectoral policies (especially agriculture and forestry).

4.3 Relevance of FLR for the implementation of International Conventions

Uganda is a party to several international Conventions. The United Nations Conference on Environment and Development (UNCED) alone is associated with the Convention on Biological Diversity (CBD), the Framework Convention on Climate Change (UNFCCD), the United Nations to Combat Desertification (UNCCD) and Forest Principles. In addition to these, there are other multi-lateral environmental agreements like RAMSAR, CITES, the Convention for the Protection of World Cultural and Natural Heritage (1972) and the Bonn Convention on Migratory Species, 1979.

Key among the overlaps and synergies relate to sustainable management or wise use of natural resources, exchange of information and data, public awareness and participation and integration with national programmes.

Needless to mention, the popularization of FLR, and its subsequent implementation would go a long way to strengthen the government's desire to harmonise the implementation of the Conventions. This is because the FLR would generate two types of benefits namely; ecological and economic benefits. A synergistic approach to the Conventions implementation would yield what one could call "win-win" solutions whereby actions intended to address the issues of one Convention, end up addressing those of another Convention. The second type of benefit to be derived is economic in nature.

The cost-effectiveness, efficiency and economy that would be achieved from a co-ordinated approach would appeal to those with financial resources to support the implementation of the Conventions and FLR. Appendix 2 shows how the conventions overlap in many respects.

4.4 Policies' relevance to FLR

4.4.1 General

Sector policies and strategies were analysed for their relevance to FLR, using a pre-determined analytical framework. Each policy was assessed based on a parameter using different weights, ranging from very supportive (++++) to neutral (0). Overall, the analysis of the degree of relevance of a policy to FLR revealed two things. First, the more recent the policy has been the closer it is to FLR principles. Secondly, the more close, it is to the forestry sector, the more relevant it is.

The other dimension to mention is that some policies may not expressly state the parameters relevant to FLR. However, if given broad interpretation, they may nonetheless remain relevant.

4.4.2 Relevance for forest regeneration

The Vision 2025 expressly states that with regard to the environment, the three elements will be sustainability conservation and regeneration. It goes along to advocate for a fund in support of generation activities as a form of an incentive. Similarly, equally supportive is the new Forest Policy 2001 with its emphasis on the rehabilitation of degraded watershed, hilltops and bare hills. The National Environment Statute 1995 too, had provided for the formulation of guidelines by NEMA for the protection of hilltops, barehills and river banks. At the other extreme, the Forest Act 1964 is very weak with regard to forest regeneration, perhaps because it was formulated at a time when forests and their functions were not yet scarce. It is now being revised and will go along the strength of the new forest policy.

4.4.3 Support to landscape approach

Policies are generally weak with regard to landscape approach. While it is well recognized that a reasonable forest cover must be maintained, no study has ever been made as to what population of land area it should be, and where it should be located in order to match the multiple demands of a growing population. Until the forest policy of 2001 came out, a tendency had been to follow the status quo, that is, sharpening policies for specific designated forest areas, particularly those controlled by the government agencies. In meantime, some functions were lost, particularly on private lands.

4.4.4 Emphasis of forest functions

Several policies, in the recent past, have strongly emphasized the need to maintain multiple functions of forests. Besides, they also advocate for linking those functions to social and economic development. This is particularly true of the Forest Policy 2001, the National Environment Management Policy, and the Wildlife Policy.

Despite the above, the challenge still remains on how to strike a balance among forest functions themselves first. For example, the National Forest Plan observes that current market structures indicate that agricultural production, followed by plantation forestry, is economically more profitable land uses than maintaining natural forests (pg 33). If the market values of some forests do not become apparent to land owners (so that they derive private benefits too), some of the policy statements on multiple forest functions may remain rhetoric.

4.4.5 Balancing trade-offs

The policies do not make express statements on balancing trade-offs. However, several policies have other tools or mechanisms, which if implemented successfully, would ensure balancing trade-offs. For example, the National Environment Statute 1995, the Water Statute 1995 and the Wildlife Statute 1996 make compulsion the use of EIA for projects. Likewise, the Forest Policy 2001 and the National Environment Management Policy stress the importance of public participation in environmental management.

There is growing evidence that despite policies and laws, balancing trade-offs among forest functions is going to be a political-economy question. It is also going to dictate investment in data collection and analysis in order to inform the consensus- building processes on trade-offs (see Box 4.2).

Box 4.2: The problem of balancing trade-offs is real and can be political

Butamira Forest was gazetted as a local Forest Reserve in 1930. In 1949, the Busoga Local Government leased the Reserve to Muljibhai Madhavan and Co. Ltd (MMCL) for 49 years. Under the lease, MMCL was to clear the natural forest in the Reserve and replant it with Eucalyptus trees.

When Local Governments were abolished in 1966, all their assets were taken over by the central government, and therefore, Butamira Local Forest Reserve became part of the Central Forest Estate. However, the MMCL lease remained in effect after this change.

In 1972, the Idi Amini Government expelled Asians and the custodian Board took over the management of Kakira Sugar Works and inherited the lease. This remained so until 1985 when the Madhavani's returned to Uganda, repossessed Kakira Sugar Works, and continued to use the Reserve under the terms of the lease.

When KSW changed its primary source of energy to bagasse in 1995, use of the Reserve as a source of firewood for the factory became less important. It was at this point that KSW envisioned expanding its sugar cane estate via the degazettement of Butamira Forest Reserve.

Therefore, when its lease expired in 1998, Kakira Sugar Works sought and was granted, another 49-year permit. As a result of this and other irregularities in the Forest Department, the permit-issuing Officer, The Commissioner of Forestry, was retired in public interest. The permit issued in 1998 was revoked.

In October 2000, the Government of Uganda through its Forest Department issued permits to 148 groups and 30 individuals from the Buyengo community to plant Eucalyptus trees as well as crops on approximately 700 ha of the Reserve cleared by KSW. Plots managed by the permit holders range between 3.5, 7 and 10 ha. In order to ensure the reforestation of the Reserve and in keeping with the government's obligation to maintain a Permanent Forest Estate (PFE) in accordance with its Forestry Policy, the permit holders were required, inter alia, to plant trees before food and cash crops such as beans, soya and maize.

4.4.6 Balancing between ecological and economic benefits

It has been mentioned above that the first challenge is managing competing uses of forest functions themselves. However, there exists another challenge, namely that of balancing between ecological and economic interests. In theory, the policies and development strategies emphasize the need to maintain a good balance between the two for development to remain sustainable. This tone in the policies is mainly traceable to the post-*Rio* period and to the 1991-1994 NEAP process. Instruments like Environmental Impact Assessment, which became institutionalized in the National Environment Statute 1995 aim to ensure that the balance is maintained.

4.4.7 Devolving decision-making

Policies, which were formulated after 1993, have provisions for devolving decision-making to local governments, and to some extent the private sector. This is because of the decentralization reforms that started around that time, and secondly, because of government's commitment to privatization.

The new Forest Policy 2001 looks to the private sector in developing and managing commercial forest plantations. In addition, it stipulates that the government will promote innovative approaches to community participation in forest management on both government and private forestlands. The development of collaborative forest management will define the rights, role and responsibilities of partners and the basis of sharing benefits from improved forest management.

The Local Government Act 1997 devolved some decision-making to districts so that they can manage local forest reserves. However, it is emerging that districts have little incentives to invest in forests. They are more interested on the revenue aspects than in multi-functions of forests. Others, like Arua have requested degazettement of some forest reserves to give room for settlement.(see Box 4.3)

Box 4.3: There is little incentive in the districts for decentralised forest management

Past attempts at the decentralised management of forest resources ;showed that local governments tended to see forests as sources of revenue rather than resources that require investment and management. Re-centralisation and the creation of Central and Local Forest Reserves has polarised local and central governments, leaving the LFRs are generally small, scattered, and of little value.

The local governments have no role in the management of CFRs, although they do receive 40% of the revenues from CFRs. In Masaka District, for example, the Chief Administrative officer aired the view that management of the forest estate by the District authorities was futile as long as people from outside the district could come with permits issued by FD Headquarters. Such concessionaires are not accountable to the district authorities.

Forestry, according to the district authorities of Kasese, is more of a liability than an investment. The district considers the 40% revenue share with FD to be small compared to what they have to give FD, which has neither established a nursery nor demonstration plots. Moreover, the district finds it difficult to control the forest officers whom they do not hire.

Generally forestry in all districts is marginalised in district planning and given a low priority, partly because it is still centralised and receives little advice and support in the districts. FD has limited resources which it concentrates on Central Forest Reserves, and not on Local Forest Reserves and agro-forestry extension services- leaving NGOs to fill this gap. The districts however find it difficult to contract and control NGOs, because NGOs use their own criteria in selecting their forestry activities and beneficiaries.

4.4.8 Consensus building

To make trade-offs among forest functions and balance between ecological and economic objectives requires a framework for consensus building. Several policies have provisions, which if well implemented, would give a framework for consensus building. For example, consultation and public participation are part and parcel of the EIA process in the National Environment Statute 1995. Likewise, the National Environment Action Plan and National Environment Management Policy emphasize public participation. The new Forest Policy also puts it that a process of regular forest sector reviews will support the National Forest Plan. By and large therefore, mechanisms for consensus building are embedded in the policies.

4.4.9 Building partnerships

FLR concept recognizes that multiple forest functions cannot be restored unless a mechanism for partnership building exists among stakeholders. Several policies provide for partnerships in management of forests. They include Local Government Act 1997, Forest Policy, Wildlife Policy and Act, Water Statute and National Environment Management Policy.

4.4.10 Multi-sectoral linkage

The National Environment Action Plan (PEAP) process from 1991 to 1994 introduced a culture among the central government agencies of broad consultation and participation in formulating public policies. This was well reflected in the policy and institutional reform process in the forest sector since 1999. The policy for example, and the national forest plan that has been formulated to guide have been made with clear understanding of the government's focus to eradicate poverty within PEAP. They have also recognized other on-going reforms and programs that can have a bearing to successful FLR e.g. PMA, Land Act Implementation Plan, etc. Related to all the above, the donor co-ordination in the sector has greatly improved over the last three years, with all of them coming together under the Forestry Sector Umbrella Programme to support government reforms in the sector. The new Forest Policy states that a forest sector co-ordination structure will be developed to provide a forum for sector-wide planning and co-ordination even after the reform is complete. It also states that a national consultative forum will be developed to allow the public, international partners and all interested parties to contribute to a regular debate on the forest sector, to improve co-ordination and inform national priorities.

CHAPTER FIVE: ANALYSIS OF PAST, CURRENT AND PLANNED FOREST RESTORATION INTIATIVES

5.1 Landscape approach

Although there are several initiatives, which have been implemented, one cannot say that they have consciously adopted a landscape approach. Common among them is that they have been site specific. To be observed also is that most of them have been carried out in government-gazetted areas. While that be the case, the Forestry Nature Conservation MasterPlan (March 1999) observes that the Nature Forest Reserves established in Uganda in 1950s and 60s were inadequate in assuring minimum landscape scale for sustaining minimum viable populations. This is even without assessing existing forest reserves for other forest functions. The concentration in government forest reserves for a long time also dictated the scale of the interventions.

Although some initiatives, especially agro-forestry may have started as site-specific activities by AFRENA in Kabale and Vi in Rakai, they have spread out. Further, they have also broadened their focus on functions. Agro-forestry in Kabale initially focused on restoring soil productivity. Of recent, it has also taken on biodiversity.

The other factor that may have caused delay to adopt landscape approach is the postponement by government to make a land use plan. The making of such a plan has recently been proposed in the Plan for the Modernisation of Agriculture.

5.2 Recognition of forest functionality

In 1981, Hamilton, working with his students at Makerere University tried to establish the environmental changes they had observed between 1966 and 1981, particularly with regard to forest. Below is the summary from that survey:

- The climate became more arid
- Crop yields per unit area declined probably mainly because of reduced soil fertility
- The number of trees decreased
- The quantity and quality of grass fodder declined
- Non-piped water supplies became dirtier and less reliable
- Fuel became scarce
- Large wild animals became rare
- The area of cultivated land increased

To sum up all this, Hamilton had this to say:

> *"…….in general, the results of this survey indicate considerable environmental deterioration. This will inevitably have very serious economic and social consequences if allowed to continue unchecked"*

It is not by surprise that since that time, and both within and outside government forest reserves, we have observed the shift in focus of public and private investment to restore some of the lost forest functions, and to flag out the emerging prominence of other functions.

The government's tree planting campaign initiated in 1992 was in response to the above problems. Several NGOs, working with communities also started tree planting, mainly at the time to deal with the looming energy crisis. Soon, the private sector too followed, particularly after it had proved that tree growing was a paying activity.

In southwestern Uganda where soil fertility had declined owing to high population and not giving land fallow period, the introduction of agroforestry was willingly received. Besides, some of the tree species grown for soil fertility improvement are also a source of fodder for the popular zero-grazing.

Around forest resources (and parks) e.g. Mt. Elgon, Bwindi, Kibale and Semliki projects that have been implemented since the late 1980s have taken an ICDP approach. To extent possible, substitutes, which communities hitherto derived from these ecosystems, are being substituted outside them on people's own land. This has been found as a mechanism to reduce pressure on forests. It is also a recognition that forests can no

longer be looked at purely for their environmental values. They must also be looked at for the social and economic values in a broad context of understanding and sustaining sustainable development.

The FACE Project which started off in Kibale and Mt.Elgon National Parks has brought at its forefront, the significance of carbon sequestration function. The Plan for Modernisation of Agriculture, has stressed that agroforestry and farm forestry will be given special attention in recognition of their potential to restore land degradation.

In response to declining water quality, NEMA is putting in place guidelines for the protection of river banks in compliance with National Environment Statute 1995 which reiterated the need to protect hill tops, watersheds and river banks.

To protect biodiversity outside the protected areas, NEMA has formulated a National Biodiveristy Strategy and Action Plan. The eviction of 40,000 Bakiga in Kibale Forest Game Corridor in 1992 was to restore the function of the reserve as a corridor for wildlife and biodiversity between Queen Elizabeth National Park and Kibale Forest.

Several observations can be made from all these types of initiatives. First of all, there is one or two functions which become the basis for the initiatives. Once that function becomes scarce, there is spontaneous response. Other functions are derived incidentally and sometimes gradually. Cases in Box 5.1 illustrate how the government evicted people to restore the biodiversity function. But the government have incurred a net loss of forest functionality in a broader sense, at least from the perspective of the people.

Box 5.1: Eviction of encroachers from Kibale Game Corridor

The history of the removal of communities from conservation areas in Uganda is long. Steps taken by Government in recent years to remove resident populations from conservation areas have met with varied success, both in terms of the degree to which Government's aims were achieved, and degree to which government was able to reduce the effects on those communities affected. Though some removals were arbitrary, others were organized by central Government in pursuit of Government Policy. The degree to which Government recognized the legality of a household residing within a protected area often influenced the decision to evict or relocate.

In 1990s, over 40,000 Bakiga encroached the Kibale Forest Game Corridor which had been gazetted in 1926. Large game animals, particularly the elephant to move between the Queen Elizabeth National Park and the Kibale Forest, used the Corridor. By 1990, 90% of the link and 10% of the forest reserve has been claimed, with much of these areas under cultivation. As a consequence, wildlife greatly declined. For example, elephant's numbers declined from about 3000 in 1973 to 500 by 1990.

In March 1992, following concern over the future of the Game Corridor, the Government directed encroachers to leave and subsequently evicted 30,000 people from the reserve who had refused to leave voluntarily. However, the encroachers detested the manner in which eviction had been managed and argued that they had been given permits to settle. They dragged the Government to court and won the case. The Government was forced to pay a lot of compensation.

Source: Andrew F.Bennett [1999]. Linkages in the Landscape

5.3 Making trade-offs among forest functions

Forestry conservation on one hand competes with other land uses like agricultural production and settlement, and on the other, there may also be competition among forest functions.

The initiatives have generally been weak with regard to taking a deliberate focused approach to balancing the above categories of trade-offs. As a consequence, conflict among uses has taken even political dimensions. People had to be evicted from Kibale Game Corridor in 1992, Mt. Elgon Forest Reserve in early 1990s, and from Mgahinga Forest Reserve. Evictions had been carried out for a range of purposes, conservation of biodiversity being one.

However, realizing the conflict the above approaches were having on community relations, some initiatives adopted an intergrated conservation and development approach (ICDP). Initiatives testifying to this approach are Mt.Elgon Conservation Development Project, Kibale and Semliki Development and Conservation Project. These projects have tried to satisfy the conservation objectives while at the same time enabling communities around those protected areas to use their land for economic development.

FLR offers an opportunity to deal with conflicts, which emerge when one or few functions at a landscape level are over-emphasized at the expense of others. This is clearly illustrated by the Namanve Case in Box 5.2.

Box 5.2: Forest Reserves under pressure from stakeholders with conflicting interests – Uganda

The peri-urban tree farming scheme has been a more successful attempt by Government to involve the private sector, in this case interested individuals and groups, not large forestry companies, in plantation forestry in forest reserves neighbouring large urban centres. The Peri-urban Project was started in 1988 around six urban centres. It prompted and provided technical backstopping to interested individuals and groups to raise eucalyptus trees to meet the growing firewood and pole demand. The Forestry Department issued each participant in the scheme a 5-year renewable permit at a nominal ground rent of US$ 10 per ha per year. The response was overwhelming and so far, over 3500 ha of trees have been planted by about 500 tree farmers. The scheme is now in its second phase, has been extended to two other towns, and re-designed to include timber crops. The underlying principle is that the tree crops belong to the respective participants in the scheme while the land remains the property of the Government.

Namanve Forest Reserve, the first Forest Reserve to be gazetted in Uganda in 1932, and one of those in which the Peri-Urban tree planting scheme is operating has been at the centre of a test case in Uganda's High Court. Its proximity to Kampala City and the fact that a railway line traverses it makes it a convenient location for industries. In 1996 and under suspicious circumstances characterized by intense acrimony, the Forest Department gave long-term permits to private companies to establish factories. Local farmers to raise tree crops under the peri-urban tree-planting scheme were already using the land. As soon as some companies were given the permits, the Forest Department was swamped by requests from others. Belated efforts to stem this met with stiff resistance and accusations of lack of transparency while concurrent attempts by those with permits to get land titles and secure their tenure accentuated the Forest Department's plight. The Government stepped in, and rather hastily degazetted nearly 70% of the Namanve Forest Reserve's total area using the Forests Act. This was done without following the established procedure for degazetting. The tree farmers formed and registered an association and have demanded compensation for their trees. As the Government procrastinated, the farmers dragged it out in court and won their case. The Government had no alternative but to compensate the farmers, otherwise they would have lost the land. Meanwhile the Norwegian government, which supported the scheme, has stepped in and requested the Government to give reassurance that other Forest Reserves in which the scheme is being implemented will not be degazetted.

5.4 Use of the right package of instruments

The main instrument embedded in the Forest Act 1964 is the command and control. Increasingly and over time, Government, conservationists and resource users have realized that it cannot work always. Accordingly, the initiatives that have been reviewed strongly suggest that a wide range of instruments are available and have been tested for Forest Restoration. Public awareness on environmental management has cut across the initiatives. Incentives like subsdized inputs have acted as 'drivers' for several afforestation and agroforestry activities by NGOs. Partnerships too, are becoming a powerful instrument, under collaborative management. Incentives of international nature (joint implementation) are being used to restore degraded areas in Kibale and Mt.Elgon for carbon sequestration.

Because FLR recognizes the need for multi-stakeholder decision-making and participation, there is already evidence that success can be achieved provided the right instruments are used.

5.5 Long-term frame

Some initiatives have been going for relatively a long-time. Agroforestry in Mukono and South-western Uganda dates as far back as 1988. Likewise, Kibale and Semliki Conservation Development Projects go as far back as 1993, while Mt.Elgon Conservation and Development Project started in 1990. On the outlook, one would conclude that these initiatives have had a long-term frame. However, the truth is that the long-term frame was not originally planned. These initiatives have had several extensions building on their evaluations. It is these that rather account for the long-term frame. For this reason, they may have lost the opportunity to deal with these issues from the start which requires long-term e.g. consensus building for dealing with trade-offs and sustainable strategic partnerships. Besides, the long-term may be required to allow those investing in FR to recoup their investment. The case in Box 5.3 illustrates the failure by the government to give investors a long-term perspective in their investments. It is counter productive to FLR which requires long-term planning if certain forest functions have to be achieved.

Box 5.3 Replanting timber crops in gazetted forest reserves

A condition of FD harvesting concessions is that sawmillers replant areas they harvest. In general this policy has failed, as seen, for example, in Katugo plantations.

When Forest Department was giving sawmilling consessions, it demanded that the owners replant where they had harvested. But it did not provide adequate technical support.

By 1999 FD stopped enforcing the condition for replanting by sawmillers. Instead FD started to encourage sawmillers to undertake the maintenance and protection of the crops planted, with a promise that the crop so established would belong to the sawmiller and land use permits would be issued for such replanted areas. This encouraged some of the sawmillers such as Edola and Sons Ltd., Techna Sawmills, Adaga Sawmills and Ishasha Basin Development Ltd. These sawmillers started maintaining and protecting the crops, and some even started pruning and thinning, for example in Kagorra plantations.

However, in March 2000 the Ministry of Water, Lands and Environment reversed this situation by announcing that replanting was still mandatory, and that the crop planted would still become the property of government. As a result, all the replanted areas now have no maintenance or protection and most of the most areas trees are either dying or have already died because the saw millers have no incentive to look after a crop that will belong to the government

5.10 Devolution of forest management

The initiatives in Uganda suggest that there are different scenarios of decision-making in support of FR initiatives. One scenario is where the communities through a negotiated agree on the rights, responsibilities and benefits with Forestry Department or Uganda Wildlife Authority for some forests functions. This is usually under the Collaborative Forest Management Agreements.

The second scenario is where clan leaders lead in decision-making and defining rules, which are compelled with by the rest of the community. This is true in Karamoja where patches of forests have been conserved under stringent rules of *Akiriket*(see Box 5.4)

Box 5.4: Cultural approaches to conserve wildlife and forests in Karamonja

1. Introduction

The *Akiriket* is the traditional "shrine" of the Karamojong elders where they go to hold meetings to discuss the affairs of the communities. The "Akiriket" are usually small woodlots of about ½ acre – 1 acre and are in various places of Karamoja. Each group of elders has got its own designated *Akiriket.* Natural Resource Management with attention to special wildlife tree species has not been part of the local government agenda in Karamoja. Consequently, management of special tree species although of considerable significance in Karamoja, has not received much support from Government departments. The species of concern here are: *Acacia nilotica, Acacia senegal, Acacia seyal, Acacia tortilis, Balanites aegyptiaca* and *Ziziphus abyssinica*. This case study reviews the *Akiriket* as woodlots with wild trees, but emphasises cultural behaviour to using them, and their transboundary aspects.

2. Community Organization to using the resource

Traditionally the Karamajong are governed through the *Akiriket*. The word *Akiriket* in used loosely in daily speech to mean an assembly of elders in Karamoja although strictly it refers to the place where elders hold meetings. In most circumstances the two meanings can be used interchangeably. Elders exercise their power through neighbourhoods, sectional or tribal assemblies usually referred to as the *Akiriket.* Under *Akiriket* or natural woodlots respectable elders take major decisions for the community. For example, the *Akiriket* can declare war or peace on a neighbouring ethnic group, order raids, make sacrifices for rain, return cattle after raids and restore peace.

The *Akiriket* as a place (shrine) where the elders meetings are held are spread in various places in Karamoja. They are usually easily recognised because in many cases they are "islands" of vegetation. They are always left as remnants of woodlands even in places that have had considerable deforestation because they are governed by strict conservation rules. The wood resources in the *Akiriket* are not supposed to be cut by any member of the community. Only dry wood may be used for roasting the meat of bulls sacrificed in the *Akiriket* for various purposes. If a person inadvertently cuts a tree, he/she is required to sacrifice a bull in the *Akiriket* as ordered by the elders or the person may be severely punished.

The rules for accessing the *Akiriket* are defined by the elders when they meet. The rules are based on what they consider to be the best interests of the community. The punishment for breaking the rules range from fines to death.

The *Akiriket* has come to be recognised by the Central Government, Local Government, NGOs and donors. Many organisations now include the *Akiriket* in their programmes although this has been mainly on issues of security and not natural resource management. The government did not recognise the importance of the *Akiriket* for a long time.

3. Transboundary opportunities

There is potential for transboundary benefits. Many of the *Akiriket* that lie within the cross-border area with Kenya are affected by the activities of the Turkana from Kenya who would not respect such an area especially in times of raids. The *Akiriket* that are near the border would benefit the cross border communities if they are conserved.

The third scenario is where households take the decision to conserve or not to conserve trees. (See Box 5.5)

Box 5.5: Indigenous tree management in the butryospermum parklands of Northern Uganda, with particular reference to *Vitellaria paradoxa*

Introduction

Vitellaria paradoxa or shea butter tree is a small to medium tree of 13-20 metres in height restricted to grassed savanna and woodlands. It is found in north tropical Africa within the Sudan and across central Africa into Uganda. In Uganda, it occurs in the wooded savanna, often, it is the dominant tree forming pure stands. It has been proposed that eastern population of *Vitellaria* mainly in Uganda and Sudan form distinct sub-species *Vitellaria paradoxa* subsp. *Nilotica* Kotschy Henry, Chitra, E.T Nair, Com. Nov. It has been recorded in the tribal areas of West Nile, Acholi, Madi, Lango, Karamoja, Teso, Palisa, Bukedea and Buruli. (Kasende et al 1995). The tree occurs in the butryospermum parklands. Evidence suggests that parklands where these wild tree species grow have been degraded in the last few decades, and call for a multi-faceted and integrated conservation and land husbandry strategy. In these areas, FLR could be helpful because of its integrated approach to land use.

Traditional management system of *Vitellaria paradoxa*

In 2000, David Nkuutu studied the indigenous tree management, particularly the shea butter tree (*Vitellaria paradoxa*) in Oluke county in Lira District. The findings were that (i)70% of the farmers interviewed acknowledged some form of selection of the trees during cultivation and clearing of farmland (ii) the tree is sometimes moved from its natural state to the cultivated areas to protect it both from man and fire caused directly or indirectly, (iii) cultural norms are still used in the region for the protection of some tree species, including *Vitellaria paradoxa* from ruthless tree fellers and (iv) some sacred areas called Tekworo are set aside where cutting of tree is strictly prohibited because such areas are for performing cultural ceremonies under them.

CHAPETER SIX: SYSNTHESIS OF FINDINGS

6.1 Opportunities for FLR

Relevance of FLR to national strategies and programmes
The biggest opportunity for the government to population FLR stems from the fact that it supports its strategies and programmes. Top on the list are the PEAP and PMA (this has already been demonstrated in Sections 4.2.1 and 4.2.3. Suffice to add however, that the popularization of FLR would also benefit from the vast financial resources that have been mobilized to implement them.

For example, several donors already pledge over $50m for the National Agricultural Advisory Services (NAADS). NAADS is going to be the extension arm of the PMA, with extension services offered privately on demand but publicly funded. The long-term nature of PEAP and PMA is conducive for FLR because it too, takes a long-term perspective.

Table 6.1: Pledges into NAADS by donors

Funding Source Donor	Amount million $	Duration (years)
World Bank	45.0	7
IFAD	17.5	7
Ireland Aid	2.225	3
DANIDA	0.35	1
Netherlands	1.0	1
DFID	5.2	3
European Union	12.0	4

Source: PMAN SGG page 156

- Widening market for forest functions

The growth in sale and scope of forest products and functions is perhaps the most important opportunity that will pave way for the exploitation of other (subsequent) opportunities. A review of the past, current and future initiatives has clearly shown that the widening market for forest functions is influencing investment in forestry from a diversity of stakeholders.

To realize, is that some of the products are locally marketed (e.g. fuelwood, poles), others are nationally marketed (timber, waterflow regulation) and yet others are globally traded (biodiversity, carbon, etc).

Greater recognition of diversity of forest functions in the market places (e.g. carbon sequestration, biodiversity, medicine, cosmetics, etc) offers the opportunity for people to actually benefit from the provision of such services. This is significant in particular with regard to the opportunity for people to gain financial benefits from enhancing forest functions, which were not previously available. This can then lead to a "win-win' situation whereby through FLR, forest functions are restored, and direct financial and social benefits are accrued to the individual and wider community. The most attractive aspect of this opportunity is that it can also benefit the very poor people in our society, but who have access to the forest products and functions. It is thus going to require investment to trace the growth of the market for forest functions, and to communicate it to communities in various landscapes.

- International economic instruments for FLR

There are several international economic instruments, which Uganda has already benefited from, and continue to do so, in support of forest regeneration initiatives. These instruments have their own *niches* in environmental and natural resource management, but with re-orientation in approach, the same instruments could also benefit the implementation of FLR. For example, GEF is a global grant funding mechanism for biodiversity, climate change among others, targets those problems of global interest. But once implemented national, and international waters. It has recently been proposed to make land degradation as one of the focal areas for GEF. It is therefore important to re-orient planned and future.

GEF initiatives to that they can also benefit from the FLR approach. Some of the initiatives in the pipeline are:

(a) land degradation – Kagera Basin
(b) Albertine Rift Valley Forests
(c) The Community Based Conservation of Wetland Biodiversity in Uganda (Pian –Upe and Bisinia – Opeta Ecosystem)

Another international economic instrument is the Joint Implementation (JI). This instrument is already operational in Kibale and Mt.Elgon National Parks, both forests of high biodiversity in Uganda, and Mt.Elgon also as a regional water catchment area. Joint implementation is a unified effort by industrialized and developing countries to curb global climate change. Through this instrument, industrialized countries have agreed to reduce their greenhouse gas emissions in compliance with the United Nations Framework for Climate Change (UNFCC) and to finance carbon reduction measures (such as reforestation, forest management and forest conservation) in developing countries.

In Uganda, the FACE project, which is being implemented under this instrument, has in additional to its primary focus on carbon dioxide sequestration, provided additional benefits like biodiversity conservation, water catchment protection and employment.

- Institutional failure of Forest Department

The failure by Forest Department to address forestry management issues within its own forest estates, and in the sector in general, is a blessing in disguise for FLR. This is because FLR supports multi-stakeholder involvement, consensus building among them, and using strategic partnerships and these approaches have been emphasized by the new forest policy.

- Re-establishment of the East African Community

The re-establishment of the EAC six years ago, has brought on the arena, a strong institutional framework, particularly for dealing with transboundary forest related problems. The EAC Development Strategy 2001-2005 put emphasis on resources of common interest, with the following being top on the agenda: Lake Victoria and its Basin, shared ecosystems e.g. major watershed/catchment areas of Mt.Elgon, Mt. Kilimanjaro, Ewaso Ngiro and the Pemba Channel. To be harmonized is cross-border trade in forest products, restoration of degraded common forest resources, joint forest/bush fire surveillance and fighting programmes, and joint position as regards international issues including on forests.

- Formulation of a comprehensive land-use policy

Government plans to make a comprehensive land use policy during its implementation of its PMA. It will be developed from the Constitution (1995), the Land Act (1998) and other relevant laws. It will be developed in a participatory manner, a factor that should enhance consensus building on several trade-offs of land use options – factors relevant for the success of FLR. Besides, the land use policy will take into account local land tenure and land use patterns as well as diverse socio-economic circumstances in each district. In so doing, the social, economic and ecological various at a landscape will come to bear on the choice of the most appropriate land use option.

According to the Land Sector Strategic Plan 2001-2011 (Draft) land use policy will proceed in two phases. First, there will be developed a national land use policy and then second, it will be followed by the district land use policies, both will be supported by laws and byelaws respectively. The plan clearly states that the land use policy will give general guidance on optimal and sustainable utilization of land based on suitability, social and demographic factors. Further, through land and land use policy, the competing needs of agriculture, human settlement and conservation will be resolved (pg V).

6.2 Constraints or barriers

- Addressing price distortions

Even incentives are becoming popular, one has also to observe that price distortions can be a source of disincentives and these must also be addressed in FLR. (See Box 6.1)

As already mentioned, there are many institutions owning and managing forests. These institutions can be placed in two broad categories: government agencies and private sector firms. Within the government agencies, particularly FD and UWA, it has been a practice to set the royalties and stumpage fees administratively. The two do not coordinate in forest product pricing. At the same time, private firms or individuals also have some tree species on their land, which enter the same market. One of the biggest problems that has surfaced in the past, and is likely to surface in future if not properly studied and addressed is price distortion – that is setting price for forest products that do not reflect the economic and social scarcity or value of the products. This can kill incentives on the part of those being unfairly undercut by government agencies. (See Box 6.1).

Box 6.1: UWA harvesting fees are much cheaper than FD royalty rates

In Kabarole District both UWA and FD have plantation; UWA in Kabale National Park, FD in Kagorra, Oruha and Kyehara FRs. Although the different plantations are within a few miles of each other, there is a considerable difference in what sawmillers have to pay for the trees.

UWA has invited sawmillers to harvest these plantations, charging a harvesting fee rather than a royalty rates for softwoods by 480% in March 2000, UWA did not follow the increase. As a result sawmillers operating in UWA plantations pay harvesting fees well below the royalty rates of FD, and thus a higher profitability.

Whereas the sawmillers operating under UWA do not have any complaints about markets, sawmillers operating in the FD plantation cannot sell their timber because it is too expensive compared to the timber coming from the UWA areas

- Policy barriers

Lack of access to land is perhaps one of the most critical factors inhibiting a FLR approach. The Land Act 1998 provides four land tenure systems (mailo, lease, freehold and customary). However, individual's chance to access land can still be difficult? Tenants for example, are less secure about tree planting than the landlords. In northern Uganda where much of the land is used communally under customary tenure, there is no incentive on the part of the individual to engage in that level of tree planting that would extend benefits beyond his/her person need. Women, who till much of the land, feel insecure on planting trees because of unfavourable chances for them to inherit or own land.

Beyond land tenure, problems also exist with respect to tree tenure. Forest Department in Uganda has a long list of what it calls "reserved species". It is stated under the Forest Rules that a planted reserved species remains the property of the person who planted it. However, the harvesting of such a tree requires a felling permit from Forest Department and proof that the tree is not natural but planted (even if this was on private land!). In Iganga district, the above requirement has caused two problems, namely hurried harvesting of *mvule* because people claim that they have become "state poverty" while on their hand, there is no more incentive to plant new trees.

Also still missing is slowness in institutionalizing economic instruments (incentives and disincentives) for forest management. Having realized the failure of regulatory instruments in general for environmental management during the NEAP process (1991-1994), the government set out a policy objective to use incentives and disincentives in the National Environment Management Policy. The recently formulated forest policy also has a strong objective on using the same type of instruments for forest management. However, the current initiatives in using incentives are scattered and not fully focused on a wide range of forest management problems.

- Delayed clarification of roles

The government is determined through the decentralization process to involve local government in forest regeneration activities. However, there seems to be lack of proper interpretation between the provisions of the Constitution and the Local Government Act. (see Box 6.2)

Box 6.2: Forests and Decentralization in Uganda

The Uganda Government decentralized Forest management in 1993, but Forest Reserves were then re-centralized in 1995. The rationale behind this change was that forests are national and global assets which cannot be left to localized management, and that District Councils had neither the technical nor the financial capacity to manage them. It was further argued that District Councils are more interested in revenue generation. The Ministry of Local Government re-centralized Forest Reserves, after the Forest Department pledged to re-establish local forest reserves. However, the Forest Department procrastinated on this pledge thereafter and preferred the *status quo* instead.

The management of Forest Reserves was "re-decentralized" by the Constitution of 1995. Article 189 of the Constitution lists in its Sixth Schedule (# 24) "Forest...reserve policy" as being the only responsibility of the central forestry administration. Sub-section (3) of the same article stipulates that District Councils are responsible for functions not specified in the Sixth Schedule and by implication this includes forest management. The Second Schedule of the Local Government Act (# 1 of 1997) includes "forests" as one of the functions and services for which District Councils are responsible (Part 2, Section 5 (xii)). Subsequently, there has been pressure from the District Councils to assume management of Forest Reserves in accordance with the Constitution and the Local Government Act.

The Forest Department decided to share 40% of gross revenue accruing from forestry with the particular district in which it is generated. It revisited the Local Forest Reserve pledge and had Statutory Instrument No. 63 of 1998 issued, re-establishing Local Forest Reserves, citing the Constitutional provision that calls for a local government to hold land "*in trust*" for purposes of forest conservation. Only Forest Reserves that were smaller than 100 ha, were not of high biodiversity value, or were peri-urban or urban forests, catchment mountains and hills, islands or wetlands were listed as Local Forest Reserves. The Statutory Instrument did not address the Constitutional distribution of responsibility between the central administration (forest policy) and the districts (forest management). It was assumed that the two steps provided the answer to the perceived difficulties under decentralization and would appease District Councils.

The re-activation of Local Forest Reserves represents a fundamental shift in the original principles behind Local Forest Reserves. These were to transfer management and control to District Councils, and hence elicit sub-national levels of involvement in forest management, enable them collect and use revenue locally for development activities, and to expand the Permanent Forest Estate without further acquisition of land by the central administration. It was not meant to transfer ownership of land. Now, non-revenue Forest Reserves were re-designated as Local Forest Reserves. It appears that Statutory Instrument No. 63 of 1998 was issued in a rush, and inadvertently transferred ownership of land in Local Forest Reserves to District Councils. District Councils had expected the return of all the original Local Forest Reserves as existed before 1968. Today, they continue to lobby for their constitutional and legal rights and have successfully blocked any staff transfers by Forest Department. This has created a legal and functional stalemate.

Although decentralization is a strong determinant of the extent to which local populations can be involved in resource management, the Forest Department sees it in a negative light, due to poor local capacity for large-scale forest management, and the danger that the land may easily be put to other uses. The attitude is accentuated by the indication by two District Councils that once they assume full management of the Forest Reserves, they will auction the allowable cuts in order to move away from administratively fixed prices and to attract market prices. This has been mis-represented by the Forest Department to the Government as a reflection of excessive interest by the District Councils in revenue-generation at the expense of conservation.

Source: (Kamugisha 2000)

- Investment barriers

Tree planting, namely for restoring ecological functions, soil fertility, watershed management etc is handicapped by investment barriers. To realize is that individuals, who are still poor, would be incurring a high opportunity cost in their use of resources to undertake tree planting for the above functions. Yet the benefits would extend to their neighbours, the nation, and the world at large. To do so would require a set of incentives, which would reduce on their opportunity costs. Credit for example, is neither available nor forthcoming for the planting. Even if it is available, the institutions that provide it are not well disposed to the viability of tree planting. The cost of credit is also too high despite inflation being low. A survey of micro-finance institutions established that rural people were getting credit at 37% while the urban one were getting it at 20%, implying that the issue perhaps is not so much the cost of capital as it is the availability of it.

Many NGOs, which have provided some form of credit as part of their package to farmers (even if it is not directly for the tree planting), have in many ways promoted tree planting (e.g. CARE, Africa 2000, COVOL, Churches). For example, women in the Shea Tree Project in Northern Uganda use credit to buy oil-processing facilities, which in turn encourages them to product Shea seedlings – the future source of their oil. Africa 2000 gives tree seeds to poor farmers (usually organized in village level associations, who repay the seeds once the trees bear fruit.

The limited supply of ecologically viable tree species is emerging as one of the barriers to FLR. Eucalyptus is extremely popular among tree growing farmers in many parts of Uganda because it is fast growing, multi-purpose (firewood, poles, construction timber- hence it spreads market risks) has a good market and nurseries where seedlings can be purchased are many. However, increasingly, farmers are getting frustrated with eucalyptus growing in some parts of the country because of termites and poor soil conditions. Forest Department's National Tree Seed Centre has also failed to cope with market demands for multi-purpose tree seedlings. Although some NGOs, religious organizations, and private firm have come up to fill the gap, their effort is not evenly spread countrywide.

- Cultural barriers

In Uganda, the traditional division of labour between the genders, and particularly gender – based ownership rules regarding land and trees influences tree planting decisions, especially among by women.

Generally, men plant and own commercially valuable trees as well as owing and inheriting land. In some cultures, women cannot own trees, but they nevertheless have access to tree product as part of the traditional divisions of labour, and as a result they may be involved in tree planting especially for firewood production. The consent of the husband is often required if women want to grow trees or want to harvest tree products from trees that are considered the property of men. Generally speaking therefore, cultural beliefs, rules and traditions have inhibited rather than promoted tree planting by women.

- Limited capacity in resource valuation

It has been highlighted how several cases which needed serious weighting of trade-offs where sometimes directed by the political considerations. This is not to underscore the importance political will in FLR, but rather to caution that in the absence of alternative analytical foundations, political decisions may be found, in the long run to have compromised wider forest values and functions. By implication, a critical constraint is lack of capacity in resource valuation, which would contribute to resolving trade-off decisions. It is strongly stated:

> *" A big factor driving the marginalisation of forests in economic decision-making – at private, public and household levels – is that they are often thought to have very little value. As a consequence, there seems to be very little gain from forest conservation and there appears to be very few costs when forests are degraded or lost. Quite simply, East Africa's forests are undervalued, and economic decisions are …… as a result"*

6.3 Critical landscapes where FLR can be applied as a restoration approach

The hot spots for restoration approach are:

- Mountainous areas and step hilly areas
- Riverine and lake shore neighborhoods
- Formerly wooded savanna areas, but now degraded
- Most areas of intensive agriculture like in Central Western Uganda

The main attribute is that these are areas where:

(i) environmental degradation or lack of forest cover has already caused devastating effects, and the scarcity value of forest functions would be catalytic to the acceptance of FLR

(ii) the government has already realized a potential serious situation if no corrective measures are put in place. For example, the planned SW Watershed Management Project is to address the emerging bare hills in that area.

CHAPTER SEVEN: RECOMMENDATIONS

1. Political commitment on the use of economic instruments
One fundamental challenge in FLR is to ensure the internalization of externalities. Individuals, investing in FLR must be compensated for those investments that generate social benefits, and which they would not undertake because of long-term perceived benefits. This can only be possible if the government comes out boldly and makes a financial commitment from public budgetary provisions to support incentives. The command approaches cannot work to restore some functions in hot spots. However, as a necessity, a position paper has to be prepared to justify the FLR.

2. Taking advantage of existing international incentive
In meantime, and as Uganda prepares to put in place its own incentives building on the forest policy 2001, it should take advantage of existing international incentives and financing mechanisms like GEF, Joint Implementation and debt relief for environmental programmes. GEF is also likely to have land degradation as a focal area, thereby broadening scope for using GEF for FLR.

3. Influencing the formulation of land use policy
It is planned, under the Plan for Modernisation of Agriculture to make a land use policy. Once made, that policy will be central in influencing the mobilization of donor funding, and investment in agriculture in the whole country. This is fundamentally because PMA is one of the heavily funded programmes in support of the country's Poverty Eradication Action Plan (PEAP).

It is therefore important to prepare a position paper on FLR, and highlight "hot spots" for FLR, and justify them from environmental, economic and social considerations. The position paper could be shared with the Land Implementation Unit, PMA Steering Committee, made up of 10 Permanent Secretaries, and donor sub-groups on agriculture and environment. The position paper would have to be brief but convincing, and touching on aspects like: the status of forests, the lost forest functions due to degradation, the rationale for FLR approach, and the linkage of FLR to poverty eradication (PEAP and PMA), and the guiding principles for its implementation. The position paper should also guide policy makers as to the hot spots where initial efforts should be targeted.

4. Clear statement on the relationship between local and central governments in FLR.
It has been shown in Box…. that districts have little incentives for decentralized forest management. The reason is clear. It is the responsibilities that were devolved to them, but not authority. In that new relationship, government must articulate the responsibilities, roles, rights and returns to each party –a factor that is missing.
However, after clarification, more effort would need to be made, particularly articulating the district's forest needs, and seeking financial support to invest in FLR.

5. Tying FLR to economic activities that are causing deforestation
A number of activities have been identified to be responsible for high level deforestation e.g. tea and tobacco growing. It is by no surprise that the tea and tobacco companies are having, as part of their corporate responsibility, programmes to raise woodlots and / or support neighbourhood communities in afforestation. However, there are other areas where this is not forthcoming. For example, in Tororo area, deforestation is due to high demand for biomass energy in lime making kilns. Districts could be helped to licence certain activities (brick-making, lime – making) after showing evidence of providing own sources of energy.

In other parts, brick-making is having the same consequences. If therefore, local councils could tie FLR to these activities as it gives trading licences for such activities, it would ensure that only those willing to restore forest functions under FLR would also access economic opportunities.

6. Addressing policy distortions in the forestry sector
The price distortions for forest products in the country, and caused by administrative approaches to price fixing between two different institutions (Forest Department and UWA) are undermining private sector initiatives whose products are subjected to market forces. Open-market based approaches (e.g. competitive bidding) should be used instead to access products produced by the above institutions.

Appendix 1: Policies affecting forest regeneration

Policies	Is it directly or indirectly related to forest regeneration	Landscape approach	Forest functions	Forest function tradeoffs level	Two filters	Devolving decision-making	Consensus building	Strategic partnerships	Halting pressure	Innovation	Multi – sectoral linkage
1. Constitution of Uganda	0	0	X	0	0	++	+	+	0	0	0
2. Vision 2025	++++	0	+	0	0	++	++++	++	++++	+	+
3. National Environment Management Policy	0			++	++	++	++	++		++	++
4. National Environment Statute	+	++	++	+	+	++	++	+++	++	++	+
5. Forest Act 1964	0	0	++	0	0	0	0	0	0	0	0
6. The Uganda Forest Policy (2001)	++	+	+++	0	++	++++	++	++++	++++	++	
7. National Forest Plan	+	+	++++	+++	++++	++++		++++	++++	++++	++++

8. PMA	0		++	++	++	++	++	++	++	++	++
9. PEAP	+	0	++	++	++	+++	+++	++	0	+++	++++
10. Land Sector Strategic Plan (Draft)	+	+++	++	+++	+	++	++	+	+	+	++
11. National Biodiversity Strategy and Action Plan (Draft)											

Appendix 2: Synergies around four Conventions on environment

	UNCCD	***CBD***	***UNFCCD***
A. Issues to be Addressed	Loss of natural vegetation, deterioration of physical, chemical and biological and economic properties of soil,	Reduction or loss of biodiversity by certain human activities.	Negative changes in the physical environment or biota with effect on natural resource resilience or productivity.
B. Purpose	To restore land productivity, rehabilitate, conserve and sustainable manage land and water resources (thereby combat desertification and mitigate its effects)	To conserve and sustainably use biological diversity	To stabilise greenhouse gases…… to allow ecosystems to adapt naturally.
C. Principles	Improve **co – operation** and co-ordination at sub-regional, regional and institutional levels.	Activities of any country do not cause damage to the environment of areas beyond the limits of national jurisdiction.	**Co-operation** necessary so that measures to combat climate change don't act as barriers to trade.
D. Strategies: ⇒ ***Sub-regional and regional action programmes.*** ⇒ ***National level***	These are encouraged for sustainable management of transboundary natural resources and research. National Action Programme.	These are recommended for the conservation and sustainable use of biological diversity. National strategies and / plans.	Encouraged to mitigate climate change National programme
E. Instruments and Measures. • ***Access to and transfer of Technology.***	Technologies should be environmentally, economically and socially viable	Encouraged through concessionary terms to developing countries.	Technologies that reduce or prevent emissions
• ***Traditional and Local Technology.***	Be promoted, and let local populations benefit directly.	Promote traditional lifestyles for conservation and sustainable use of biodiversity, and encourage equitable sharing of benefits therefrom.	
• ***Economic Instruments.***	Market- based instruments, fiscal etc for technology transfer.	Economic and social measures which act as incentives for conservation and sustainable use of biodiversity.	Financial instruments for transfer of technology
• ***Exchange of Information (data)***	Exchange of information with other conventions is seen as a necessity in the achievement of the conventions objectives	From public sources on results of technical, scientific and socio – economic research.	On scientific, technological and legal information

	UNCCD	***CBD***	***UNFCCD***
• ***Legislation and long term policies.***	To be provided to give enabling environment.	To enable private sector access and develop technology and for its transfer.	Cooperation on legal information is seen as a necessity to support response strategies
• ***Capacity Building, training and research***	Capacity recommended for national and local organisations	Capacity building needed in the identification, conservation and sustainable use of biodiversity	Regional cooperation emphasized in capacity building training
• ***Integration.***	Integration into strategies for poverty eradication.	Integrate measures into sectoral plans and programmes	Policies and measures should be integrated with national development programme.

Appendix 3: Past, current and planned initiatives in forest regeneration

Initiatives	Landscape approach	Recognition of forest functionality	Attempt to balance forest function trade- offs within the landscape	Acceptable balance between the two filters	Consensus building with respect to balancing the filters	Use of the right package implementation tools / approaches	Seeking out and development of strategic partnerships	Long-term time framework
1. Forestry Nature Conservation Master Plan (Vol.1)	+	++	++	++	++	++	+	++
2. Mt. Elgon Conservation and Development Project	++	++++		+++	+++	+++	+++	+++
3. Kibale and Semliki Development & Conservation Project	++	++	++	++++	++++	++++	++++	++
4. Peri-Urban Plantation Project	+	+	O	+	O	+++	++++	+++
5. UWA-Face Project	+++	+++	+	+++	++	++++	++++	++++
6. Vi Agroforestry Project	++	+++	+	++	+++	+++	++	++++

7. AFRENA	+++	++++	+	+++	+++	+++	++++	+++
8. SW Watershed Management Project								
9. Shea Butter Project – COVOL	+++	+++	+++	+	+	++	+++	+++
10. Tree Planting by UWTPM	+	++	++	++	++	+++	++	++
11. Reducing biodiversity loss at cross-borders sites	+++	++	++	++	+++	+++	++++	++
12. Fuelwood Plantations by the Tea Industry	0	+	+	++	0	+	+	+
13. Fuelwood plantations by the Tobacco Industry	+	+	+	++	0	+	+	+
14. Uganda Tree Seed Centre								
15. Development through Conservation (Bwindi)	++	++	++	+++	+++	+++	++	++

Appendix 4: List of people interviewed

Name	Title	Organisation
Dr. Gabriele DI MUZIO	Deputy Head of Mission.	Italian Embassy.
Philippa Crosland – Taylor	Economic Development Manager.	CARE International in Uganda.
Carol Kego Laker.	Social Development Specialist.	Plan for Modernisation of Agriculture (PMA) Secretariat.
Tumusiime Rhoda Peace.	Commissioner Planning.	Ministry of Agriculture, Animal Industry and Fisheries.
Damian Akankwasa	Ag.Head	UFSCS
Oluka Akileng	Princ. Forestry Officer	Forestry Department H/Qs
Jossy Byamah	Manager B.F.Co	Busoga Forestry Company
Fiona Driciu	Forestry Officer/CFM	Forestry Department H/Qs
Paul Mafabi	Asst. Commissioner	Wetland Inspection
Edward Mupada	NTO	UNDP/GEF EA Cross Border Project
John Kaboggoza	Dean of Faculty of Forestry	Makerere University
Peter Karani	Consultant	Private Sector
Ali Karatunga	Ass.Gen. Sec. UFA	Uganda Forestry Association
Kateme Kasaijja	Senior Economist	Ministry of Finance
Robert Nabanyumya	NPM	UNDP/GEF EA Cross Border Project
Amadra Ori-okidu	Asst. Project Manager	Forest Department H/Qs
Happy James Tumwebeze	Regional Co-ordinator	ARCOS
R.Wabunoha	Lawyer	NEMA
Patrick Kidiya	Project Manager	KSCDP
Frank Turyatunga	Project Manager	EPED
Jack Busingye	Director	Busingye & Co.

References:

1. Andrew F. Bennett [1999*]. Linkages in the Landscape*- IUCN Publication

2. ESD [1996]. *A study of Woody Biomass Derived Energy Supplies in Uganda* . Energy for Sustainable Development Ltd. A Report for the EU Natural Forest Management & Conservation Project, FD, Kampala; 101 pp + app.

3. FACE [1999]. *FACE Annual Report 1998*. FACE Foundation, Urechtseweg

4. Hezron Mogaka et al [2001]. *Economic Aspects of Community Involvement in Sustainable Forest Management in Eastern and Southern Africa*- IUCN Publication

5. Jones R. Kamugisha [1993]. *Management of Natural Resources and Environment in Uganda* : Policy and Legislation Landmarks 1890-1990

6. Paul Jacovelli and John Carvalho [1999]. *The Private Forest Sector in Uganda - Opportunities for Greater Involvement*

7. Penny Scott [1998]. *From Conflict to Collaboration*, IUCN Publication

8. Thang Hooi Chiew [1993]. *People, The Environment and Forest – Conflict or Harmony. Proceedings of the 14th Commonwealth Forestry Conference*, Kuala Lumpur, Malaysia, 1993

9. *Thomas Sterner Ed, Economic Policies for Sustainable Development, 1999*, Kluwer Academic Publishers.