Water towers of eastern Africa

Policy, issues and vision for community-based protection and management of montane forests

Programme Report No. 1/07

WWF Eastern Africa Regional Programme Office

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WWF Eastern Africa Regional Programme Office
Nairobi, Kenya

Published May 2007

Front cover photos: (l-r): WWF-Norway / Svein Erik HAARKLAU, WWF-Norway / Svein Erik HAARKLAU, WWF-EARPO / IGCP, WWF-Norway / Svein Erik HAARKLAU

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ACRONYMS AND ABBREVIATIONS

CIDA	Canadian International Development Agency
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species
DfID	United Kingdom Department for International Development
EAC	East Africa Community
EAWLS	East Africa Wildlife Society
ECOSOC	United Nations Economic and Social Council
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
FAN	Forests Action Network
IFF	Intergovernmental Forum on Forests
IGAD	Intergovernmental Authority on Development
IGADD	Intergovernmental Authority on Drought and Development
IPF	Intergovernmental Panel on Forests
JPoI	Johannesburg Plan of Implementation
KFWG	Kenya Forests Working Group
KIFCON	Kenya Indigenous Forests Conservation Programme
KNEAP	Kenya National Environment Action Plan
KWS	Kenya Wildlife Service
NBI	Nile Basin Initiative
NEMA	National Environment Management Authority
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organizations
Nile-COM	Council of Ministers of Water Affairs of the Nile Basin States
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
USAID	United States Agency for International Development
UWA	Uganda Wildlife Authority
WSSD	World Summit on Sustainable Development
WWF	The Global Conservation Organization

FOREWORD

The eastern Africa region's mountain ecosystems and associated river basins are a haven of biodiversity. As the region's water towers, they have a major influence on human well-being as well as on local, regional and global climatic cycles. Their importance in sustaining ecological processes and meeting diverse human needs throughout the region cannot be overstated.

This report is one outcome of a project to support the preservation of two key mountain ecosystems within the eastern Africa region implemented by WWF, the global conservation organization, with financial support from the United Nations Environment Program. The Rwenzori Mountains in Uganda, also known as the 'Mountains of the Moon', and the Mau Forest Complex in Kenya contribute substantially to the socio-economic development of the countries of eastern Africa.

Unfortunately, both these mountain ecosystems are under enormous pressure from human activities. To some extent, weak local, national and international policy and legislative frameworks are to blame. Therefore, moves by the governments of Kenya and Uganda to devolve and decentralize the management of natural resources in the forestry sector are long overdue and should be applauded. However, it is important to hasten this process, however, it must also be appreciated that tangible results will be incremental and can achieved only in the longer-term, and that capacity building, such as is being conducted by this project, is essential.

Given the political and economic changes in the region, addressing environmental issues in montane ecosystems needs to take cognizance of their trans-boundary nature. This report aims to shed some light on the biodiversity status of the Rwenzori and Mau montane ecosystems, as well as their ability to meet the needs of the people that depend on their resources. it also aims to support the definition of policies and vision for managing these ecosystems, especially as water towers.

Meeting the challenges of safeguarding these vital ecosystems should not be based on a lone ranger approach. Rather, it should be involve developing long-term partnerships, synergies and mutual trust among government agencies–including between countries–local communities, non-governmental organizations, the private sector and the donor community.

The eastern Africa mountain ecosystem strategy development process that was initiated through this project is designed to benefit people and nature within the region and beyond. Hopefully this publication will generate further discussion and creative solutions towards achieving this goal.

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ACKNOWLEDGEMENTS

This report is an outcome of the project *"Capacity building for biodiversity conservation in mountain ecosystems and river basins in East Africa".*

WWF EARPO would like to thank the donor agencies, United Nations Environment Programme (UNEP) and the Government of Ireland under the UNEP/Irish Fund.

This report benefited from the valuable inputs of Messrs George Wamukoya and Musa Cheruiyot both of WWF-EARPO, Mr David Duli of WWF Uganda Projects Coordination Office and Mr. Philip Bubb of the UNEP World Conservation Monitoring Centre, Cambridge. Thanks to Mr. Nehemiah Rotich of the UNEP Regional Office for Africa (ROA), Kenya's Chief Conservator of Forests, Mr. David K. Mbugua and Dr. Kipyas Kipkore of the East Africa Community (EAC) Secretariat for their support.

Finally, we acknowledge the support of Dr. Sam Kanyamibwa (Deputy Director, WWF Africa and Madagascar Programme), Dr. Kwame Koranteng (WWF-EARPO Regional Representative), and Dr. Taye Teferi (WWF-EARPO Conservation Programme Director). Special thanks to all partners and the following staff of WWF-EARPO for support in various ways: David Maingi, Alex Obara, Kiunga Kareko, Mohammed Awer, John Salehe, and Doris Ombara.

EXECUTIVE SUMMARY

It is no doubt that the mountain ecosystems of eastern Africa are important areas for the conservation of biodiversity. They have multiple roles ranging from climate modification to that of meeting human needs such as water supply and income generation. While recognising these roles, their conservation and sustainable use present enormous challenges attributed to among others the harsh climatic conditions, fragile soils and threats associated with fragmentation and subsequent degradation. They come with opportunities, including the understanding of linkages between their development and ecological relationship to outlying lowland areas.

Montane forest ecosystems provide a wide range of goods and services to society. These are classified into provisional, regulatory, cultural and supportive services. In order to ensure that these services are sustained, the participation of key stakeholders in the management of natural resources is paramount. Gone are days when the state managed these resources without the involvement of local people and communities. To certain extent, poor biodiversity conservation policy is to blame for the failure to genuinely engage local communities in the conservation and management of natural resources.

However, the last two decades witnessed policy and legislative transformation to some extent has created an enabling environment for community based conservation of natural resources. Arguably, the concept of community conservation can best operate within a wider context of policies and political processes, international forces and market trends.

WWF, the global conservation organization, is engaged in montane forest conservation in East Africa. The Rwenzori Mountains found in the western rift valley, Uganda and Democratic Republic of Congo; and Mau Forest Complex in eastern rift valley, Kenya were the focal areas in this montane biodiversity initiative. The Albertine Rift, a series of high mountain chains, and an area of exceptional faunal endemism, is one of the priority areas of the global hotspots, and the WWF One Global Programme. The Mau Forest Complex, one of the most threatened montane forests of eastern Africa is an important catchment area. It is also rich in avifauna and mammals of international conservation importance.

WWF Eastern Africa Regional Programme Office (WWF EARPO) through the financial support of United Nations Environment Programme (UNEP) - Irish Fund implemented a project on capacity building for biodiversity conservation in the water towers through best practices in land management. The project aimed at promoting the establishment of trade-offs in biodiversity protection and conservation; and sustainable benefits to local communities.

The project purposed to contribute to the analyses of key biodiversity related instruments at international, regional and national levels. One of the expected deliveries of this project was biodiversity review, analyses and production of a report on the policy, legal and institutional framework for the conservation of biodiversity in these ecosystems.

The Rwenzori Mountains also called the ‘Mountains of the Moon’ is a National Park and World Heritage Site. Its highest reaches are covered with snow fields and glaciers, although they have receded over the years. It is an area of exceptional floral biodiversity, with many species endemic to the higher altitude zones. It has aesthetic and scientific values, a permanent source of the Nile River and home to at least three globally threatened mammals. It is home to

mountain gorillas (*Gorilla beringei beringei* and *G. b. graueri*) and chimpanzee (*Pan troglodytes schweinfirthii*). Rwenzori has a large number of invertebrates and plants, many of which are probably not documented.

Apart from the receding glaciers, there are other threats to this mountain. These include population pressure, increased agriculture, and tourism growth.

The Mau Forest is a gazetted forest. It is rich in plant diversity and birdlife. It is home to a number of large mammals, including elephant. The forest is threatened with demographic pressure, conversion and land use change and the activities of forest dwellers. It lacks a clear strategy on its conservation and management.

The conservation and management of natural resources is guided by policy and legislative frameworks that are formulated at international, regional, sub-regional and national levels. Some of these policy and legislative frameworks relevant to the montane ecosystems in the region are briefly highlighted later in this text.

Notwithstanding the existence of these policy and legislative frameworks, the lack of shared vision in the management of natural resources, including mountain ecosystems remains a big issue in East Africa. Based on a regional workshop held in Kenya in 2005, a strategic framework was developed. The framework defined the shared vision, goal and objectives for the conservation of mountain ecosystem in east Africa.

From the analyses of montane biodiversity in the two focal areas, the policy and legal frameworks at all levels and field level experiences, it is clear that there is need for a new approach to the protection and conservation of mountain ecosystems. Failures of the traditional approach, characterised by state control and management of natural resources, has necessitated a shift in this paradigm in favour of community based protection and management of the montane forests of east Africa. Aimed at poverty alleviation, among other targets, this shift should be combined with support to the wider user of forest biodiversity. However, this approach should be implemented with caution, to minimize risks, especially in the case of poorly developed multiple community forestry systems.

Overall, this report puts forward a number of recommendations in the conservation and management of montane ecosystems in eastern Africa. These include: the promotion of the protection and management of montane forests as water towers; building partnership; making improvements on governance structures–policies, institutions and practices; strengthening and coordinating decision-making across sectors; developing a multiple-use management strategy for the montane forests; strengthening community organizations/institutions; and, using champions.

INTRODUCTION

Background

The mountains of East Africa are especially important for biodiversity conservation since many harbour unique assemblages of plants and animals, including endemic species. Montane biodiversity and natural habitats bestow multiple ecosystem, soil conservation, and watershed benefits. Mountains are often centres of endemism–where species are prevalent in or peculiar to a particular region–and Pleistocene refuges, which are hypothesized to have high levels of diversity where patches of tropical forest persisted during periods of climate change 1.6 million years ago. Mountains are also sources for re-populating more low-lying habitats. Mountain ecosystems play an important role in influencing rainfall regimes and climate at local, regional and international levels, helping to contain global warming through carbon sequestration and storage in soils and plant biomass.

Conservation and sustainable use in mountain ecosystems present special challenges because of the harsh climatic conditions, fragility of mountain soils and increasing threat of habitat fragmentation and degradation. Equally, mountain systems present special conservation opportunities, including increasing understanding of the inter-linkages between mountain development and neighbouring lowlands. Better conservation and management of mountain habitats can help secure river sheds, migratory pathways and other critical ecosystem services that provide downstream benefits. Water is the most crucial of all the montane resources. Mountains should be harnessed to contribute to human welfare especially as water towers. The aim of conservation lies not in preventing utilization of these natural resources, but in ensuring that whatever form development takes, it recognizes the essential fragility of montane ecosystems and adheres to the principles of sustainable development.

Protected montane forest areas such as the Rwenzori Mountain and Mau Forest Complex provide a wide range of goods and services to people living around them, and to the society as at large. The services may be divided into four categories. The first category, *provision services*, includes the services that yield natural products such as food, freshwater, fuel wood and herbal medicines that have direct use value to rural communities and society. The other three categories of ecosystem services are *regulatory services,* that is, benefits from ecosystem services including climate regulation, watershed protection, water purification and carbon sequestration; *cultural services* such as religious values, tourism, education and cultural heritage; and *support services,* which include soil formation, nutrient cycling and primary production.

Community-based conservation

Biodiversity conservation policy has traditionally focused on state-managed protected areas, often with the exclusion of local people and communities. Over the past two decades, trends towards decentralization coupled with limited state resources for conservation, have led to the introduction of new policies and laws that provide enabling environment for citizen participation in natural resource management. These policy reforms have created the ‘space’ for governments, non-governmental organizations (NGOs) and development partners to support community-based approaches and have accelerated their evolution. Thus, community-based conservation cannot exist in a vacuum, but rather within the wider context of political processes, national policies, international forces and market trends. These are critical factors in determining the viability and sustainability of conservation.

WWF montane forest conservation work in eastern Africa

Montane biodiversity conservation of Albertine Rift is one of the priority areas of the global hotspots, and that of WWF's One Global Programme. The Albertine Rift, a series of high mountain chains that separates the Guineo-Congolian rainforest of Central Africa from the forest-savannah mosaic habitats of East Africa, is an area of exceptional faunal endemism. The Albertine Rift contains the famous 'Mountains of the Moon' or Rwenzori Massif, and is home to mountain gorillas with Mt. Margherita standing at 5,109 m above sea level– Africa's third highest peak.

The Mau forest complex in Kenya is one of the most threatened montane forests of eastern Africa. It is distinct in the sense that it is perhaps the largest remaining near continuous block of indigenous highland forests in eastern Africa. It is an important watershed, being source to several rivers and streams draining into water bodies in Kenya and Tanzania. An Important Bird Area, the Mau Forest Complex contains rich bird fauna, with forty nine of Kenya's 67 Afro-tropical highland bird species. Also, the forest is especially important for mammal conservation, including five mammal species of international conservation concern.

The scope of the study

This study was part of the Irish Government support to Africa through United Nations Environment Programme (UNEP) designed to support the capacity building for biodiversity conservation in mountain ecosystems and river basins in East Africa. The project aimed at supporting capacity building for the promotion of community-based biodiversity protection and conservation in mountain ecosystems in East Africa—including major river basins—through best practices in land management. This is based on the premise that sustainable developments in mountain ecosystems, including conservation of mountain biodiversity, are key elements of the respective government's strategy to promote poverty alleviation. In this regard, the project aimed at promoting establishment of balance between biodiversity protection and conservation; and sustainable benefits to local communities. The project, therefore, worked towards building capacity of local communities in a bid to empower them. In realising this capacity, it would enable them effectively engage and work with government, local authorities and other partners in managing forest biodiversity hotspots in mountain and hilly ecosystems in East Africa; that are threatened by poor land management practices. The project was designed to develop a working model for replication in other degraded watershed areas in the region. Also in mind was how this would contribute to the implementation of the New Partnership for Africa's Development (NEPAD) Environment Initiative, Convention on Biological Diversity's Programme of Work, and other biodiversity related instruments at the international, regional and national levels.

The main tasks under the project were to:

- Review, analyze and produce a status report on the policy, legal and institutional framework for the conservation of biodiversity in mountain ecosystems (and river basins) in East Africa;
- Organize and facilitate a regional workshop and prepare guidelines to promote community involvement in good land management practices;
- Develop materials and undertake advocacy initiatives for the promotion of a regional strategy on the management of mountain ecosystems ('water towers') geared towards achieving a commitment from Governments to manage and conserve their water towers in a participatory way; and,
- Implement pilot community-based initiatives in Kenya and Uganda, building on on-going conservation initiatives.

REVIEW OF MONTANE BIODIVERSITY

Rwenzori Mountains

Biodiversity status

Margherita Peak, Mt Rwenzori (WWF-Norway / Svein Erik HAARKLAU)

The Rwenzori Mountains comprise an extremely steep and rugged mountain range which includes Africa's third highest peak, Mt. Margherita standing at 5,109 m above sea level. The highest reaches of the mountains are covered by snow fields and glaciers. Although not as high as Mt. Kilimanjaro, and slightly lower than Mt. Kenya, the Rwenzori support a significantly larger alpine area than either of the two mountains. The mountains consist of ancient basement complex rocks which were extruded from the surrounding plains during the formation of the western rift valley. These Precambrian rocks have produced soils of low fertility, except on parts of the northern ridge where volcanic ash from the Fort Portal plateau were deposited. Climatic conditions are dependent on altitude, but are also influenced by prevailing winds from the east and an annual two-peaked precipitation pattern. In Rwenzori, the wettest months are March to May and August to November. The Rwenzori are extremely wet, with rain falling on most days, including during the dryer months.

The Rwenzori are well known for their unusual flora which includes many species endemic to the Albertine Rift in the higher altitude zones. Most stunning are the giant heathers, ground-sells, ericas and lobelias of the tree heath and alpine zones. Vegetation depends largely on altitude, with five zones being distinguishable. Below 2,400 m above sea level, the vegetation is broken montane forest consisting of species such as *Symphonia globulifera, Prunus africana, Albizia spp. and Dombeya spp*. Few large trees occur and the canopy is consequently broken except in valley-bottoms and ridge tops where the gradient is slight. The montane forest zone merges into a bamboo forest zone, *Wundinaria alpine,* which occurs in pure stands in many places up to an altitude of 3,000 m. Up to 3,800 m, the bamboo zone is replaced on poorer soils by tree heath vegetation consisting of dense thickets of giant heathers, *Philippia trimera and P. kingaensis*.

Mountain gorilla (WWF-EARPO / IGCP)

The Rwenzori Mountains, which are internationally known as 'The Mountains of the Moon', are a site of world-renowned aesthetic and scientific value, the most permanent sources of the River Nile. Indeed, it is the region's most vital water catchment that directly supports more than 500,000 people. Due to their immense altitudinal range, the mountains support an outstanding range of species, many of which are endemic to the Albertine Rift region, especially in the higher altitude zones. Also present are at least three globally threatened mammals, mountain gorillas (*Gorilla beringei beringei* and *G. b. graueri*) and chimpanzee (*Pan troglodytes schweinfirthii*) including a potentially large number of undocumented invertebrates and plants. Since the park constitutes a small but significant element of one of the most extensive conservation zones in Africa (the trans-national system of protected areas in the Albertine Rift region), conservation of the Rwenzori offers a unique opportunity to maintain a sensitive and extensive natural habitat intact.

Protection status

Rwenzori is one of some 70 protected areas found in the Afromontane biogeographical unit. Along with Cape Fynbos, Afromontane forests are the rarest vegetation type on the continent. The unit can be subdivided into five regional clusters with the Albertine montane rift group being the one that incorporates Rwenzori. The small remnant forests in this cluster extend from the Itombwe Mountains in East Democratic Republic of Congo, 500 km north of the Rwenzori Mountains. The entire unit is of exceptional biological value for its particularly distinct flora, and to a lesser extent, fauna. Rwenzori Mountains National Park was listed as a World Heritage Site in 1994. Three other National Parks that are also World Heritage Sites—Kahuzi-Biega (1981), Virunga (1994) and Bwindi Impenetrable (1994)—are found in this region. The main distinction of the Rwenzori is the spectacular nature of its high peaks and the presence of snow fields and glaciers.

The existing World Heritage Site at Kilimanjaro has many similarities but Rwenzori is a range of mountains (Kilimanjaro is one volcano) with an

alpine area of greater extent as well with higher species diversity. Due to higher precipitation (2,500 mm per year), the Rwenzori Mountains also have the most extensive area of tropical montane cloud forest in the region. The mountains surpass Mt Kenya and the other eastern African mountains in biological and geological variety, in addition to being a centre of endemism in the region.

All terrain above 2,200 m (7,000 feet) was gazetted as a forest reserve in 1941 (Forest Act, 1947 amended 1964), although from the onset there were calls for it to be gazetted as a national park. This occurred in 1991 (Statutory Instrument No.3, 1992, National Parks Act, 1952) along with the creation of two other mountain national parks in Uganda: Bwindi Impenetrable and Mgahinga Gorilla. Thus, active protective measures began in 1941 when a forest reserve was created on all land above 2,200 m. After many years of debate, the area was given natural park status in 1991 and its conservation has much improved since then. The 1980's saw much civil strife in Uganda. The Rwenzori, like other parks in the country, were negatively affected by poaching and encroachment. Most of the Rwenzori range, however, has remained undisturbed due to steep slopes, soil infertility and inhospitable climate. Currently the Rwenzori is under threat from population pressure, agricultural expanse and tourism growth. The latter is limited to a narrow strip around the central peaks, which some 1,700 trekkers walked in 1993. These 'eco-tourists' have relatively low impact to the ecosystem, although management is trying to reduce these impacts even further. The main threat from human population pressures around the park is the subject of a major WWF/USAID regional conservation project and the success of this is critical to the long-term integrity of the range.

Until 1991, the Rwenzori Forest Reserve was managed by the District Forest Offices of Bundibugyo, Kabarole and Kasese Districts. However, lack of departmental infrastructure and vehicular access points into the reserve meant that management consisted only of sporadic foot patrols into the forest by small numbers of forest rangers. The most recent working plan covered the period 1961 to 1971. This outdated plan was also never fully implemented. For example, the recommended nature reserve was never demarcated. More recently, Rwenzori Mountaineering Services (RMS) have taken on some management duties such as the development of visitor facilities and training of mountain people as guides.

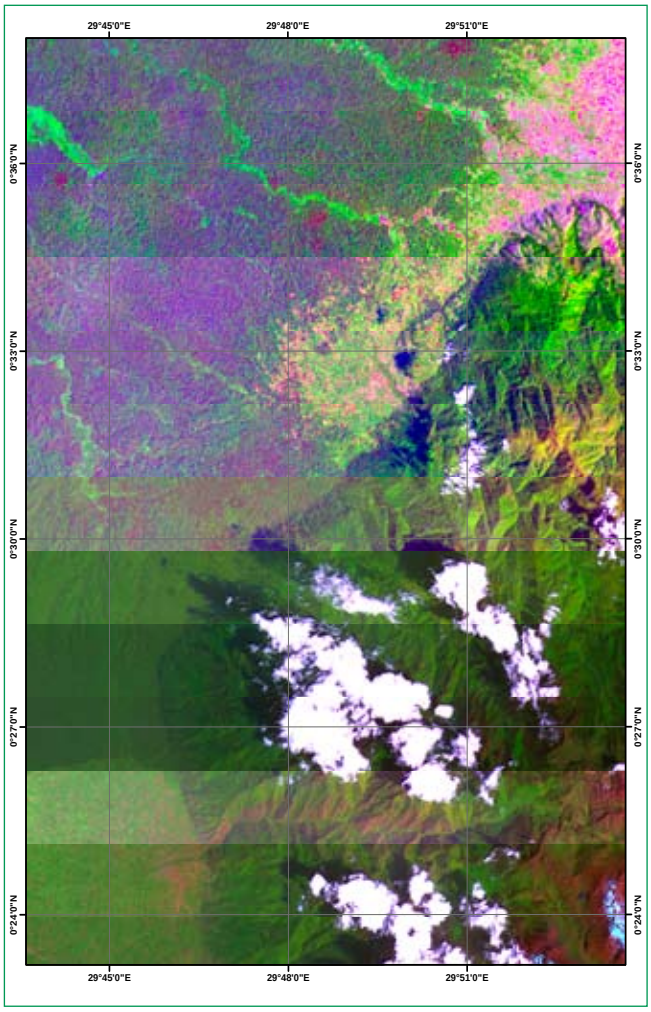

Fig 1: Forest degradation—red coloured areas—in Rwenzori Mountains. (WWF-EARPO)

Threats

Conversion into settlement and agricultural production

The land pressure in the Rwenzori is caused by population increase, with the current density ranging between 150 and 430 persons per km^2. Local communities cultivate right to the park boundaries leaving no buffer zone. Under the traditional slash and burn method, the land was cultivated for a few seasons before its fertility diminished, and then it was abandoned to revert back to forest.

But demographic pressure is resulting in land remaining under permanent cultivation, and clearance of forested areas is spreading higher into the mountains. Probably the only alternatives available to the peasant farmers are to cultivate marginal land—low rainfall areas characterized by low yields and crop—or to abandon the land and drift to the urban centres to join the thousands of landless people living in the shanty towns that have mushroomed throughout Uganda.

Poor land management outside Mt. Rwenzori National Park. (WWF-EARPO / David DULI)

Wildlife quite often raid and destroy crops on farms neighbouring the protected area. As a consequence, there is persistent food insecurity among the people bordering the park. This has caused an outrage from the community leading to wildlife/community conflicts. The communities' hostility towards wildlife presents a great challenge to the conservation of the park. Consequently, the communities in the front line parishes spend much of their time guarding crops and scaring away the animals. Children of school going age become permanent crop guards during the day, while the parents guard the crops at night.

Fortunately, the damage caused by the extraction of other resources has been less severe, although denudation, burning and erosion of the foothills outside the park boundary stand as a reminder of what could all too easily occur as the human population density around the forest grows. The agricultural extension system in the greater part of the Rwenzori ecosystem collapsed years ago leading to a high level of ignorance in the farming community on appropriate farming methods. The poor farming methods include cultivation on steep hill slopes, cultivation along river banks and encroachment of wetlands. The consequences of these poor farming practices have led to soil erosion, soil exhaustion, land slides and low crop yields. Poor watershed management has also undermined the quality of the watersheds due to loss of vegetation resulting in siltation of water bodies and shortage of water in the low lands.

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Insecurity and civil strife

Insecurity and civil strife in Uganda and the Great Lakes Region has led to the degradation and loss of biodiversity. Militia groups have taken refuge in protected areas and used them to launch attacks on the nearby inhabitants. Thus, protected areas have not been viewed favourably by the local communities living adjacent to them. On the other hand, forests have been places that the local people could flee to during conflict. It has been clear that the forests in Uganda suffered most as the economy started to grow after the wars and the demand for timber for reconstruction grew with it. In addition, there are large areas of forests on community land outside the Rwenzori Mountains National Park. These not only provide a buffer zone to the park, but also provide valuable resources for construction, firewood and charcoal.

There is evidence that these forests and woodlands are currently facing serious threats of deforestation leading to bare hills, soil erosion, flooding from mountain streams and rivers, and climate variation affecting water balance in swamps. The impacts are in form of biodiversity loss with potential for reduced populations of target species, loss of wetlands and catchment basins, low yields and small re-charge of rivers and streams, shallow well and spring potential, and down-stream siltation that could eventually lead to drought and desertification. Management of these forest patches and woodlands are presently not clear and yet they play important roles in maintaining the ecosystem and watershed functions of the Rwenzori Mountains National Park.

Pit sawing

Pit sawing is a rampant illegal activity in the areas neighbouring the park. It has many negative impacts on timber resources in the park. Young trees are cut unnecessarily by pit-sawyers for the construction of pit-sawing platforms and temporary shelters. Such a harvesting method is therefore not sustainable. Pit-sawyers are usually very selective in the species they will cut which leads to the genetic impoverishment of the forest and a decline in the numbers of target trees such as *Podocarpus spp.* and mahogany. Tree

recovery rates in the gaps created by pit-sawing can also be very slow. Moreover, such gaps may be easily colonized by alien invasive species.

Poor management

Rwenzori Mountains in Uganda provides an example of ecotourism in a cloud forest. In 1992, there were 1,500 visitors to this forest. The number of visitors is unlimited since Uganda Wildlife Authority which is in charge of the park, is more concerned with profit-making rather than conservation. The visitors use the same paths all the time, which become degraded over time. Also, money from the tourism was supposed to go toward local social welfare projects but did not. To properly manage this cloud forest, the management need to limit the number of visitors, maintain the trails, and spread the effect of tourists over a wider area by creating more trails.

A more successful example of ecotourism is the Monteverde Cloud Forest Preserve in Costa Rica. Entrance fees are lower for students and locals than for foreign tourists, so that the Preserve does not exclude local residents. Profits from tourism activities in the forest area cover the maintenance costs of the conserved area—10,000 hectares—making the operation self-sustaining. Although the Preserve receives donations, it also supports educational programmes. In 1993, the net revenue was US $ 68,813. Also, only 100 people are allowed on the trails any one time, and if the trails become degraded, they are closed and repaired right away. However, this Preserve may be unique since it gets cheap labour in exchange for room and board to visitors and since the area was settled by Americans in the 1950's.

The examples of Rwenzori and Monteverde show that ecotourism can either be destructive or beneficial to cloud forests, depending on the situation and how it is managed. The effects of tourism also need to be monitored closely due to the risk that improper management could result into. These include path erosion, the build up of litter and other mountaineering detritus, and unsanitary conditions over many of the central tourist circuit routes.

Fires

Deliberate bush burning is a common practice among the Bankonjo people who form the majority around Rwenzori National Park. Fires are used to clear land for cultivation, hunt and search for honey. Fires caused by illegal charcoal burning are common in the park. They have the potential to destroy valuable biodiversity from the park as well as accelerate soil erosion, land slides and flooding outside the park.

Gap from effects of bush burning in Mt. Rwenzori National Park (WWF-EARPO / David DULI)

Bushmeat trade

The Bankonjo tribe are traditional hunters. Hunting is a sport that attracts cultural pride and prestige. Bush meat also supplements animal protein to the population bordering the park. Bush meat trade has become a lucrative business as well as a source of income for the Bakonjo people. Excessive hunting and trapping has

meant that the population of large mammals and ground-living birds have drastically been reduced.

Mau Forest

Physio-geography

The Mau Escarpment has a modified tropical wet climate according to Koeppen system of climatic classification. The area is affected by three air masses: dry north-easterlies, moisture-laden south-easterlies and unstable south-westerlies from the Congo. The dry winds of the Harmattan dominate western Kenya between November and March. The impact of Harmattan decreases southward and also with increasing elevation as strong moisture-laden easterly winds at 2,100 m interferes with the dry north-easterlies. By April, moisture-laden maritime south-westerly winds are better established bringing rains to the whole region. Rainfall reliability is high with an annual mean ranging from 1,300 to 2,200 mm. Night frosts are very common above 3,050 m above sea level.

Biodiversity status

The variety of vegetation types which are frequently intermixed offers a diverse array of habitats for fauna and flora. Furthermore, within the forest there are three separate forest formations. These are: *Aningeria-strombosia-Drypetes, Albizia-Neoboutonia-Polyscias,* and mixed podo (*Podocarpus falcatus),* of which one, *Aningeria-Strombosia-Drypetes* is restricted to forests west of the Rift valley and only occupies a substantial area in Mau. Mau forest is home to a number of species endemic to the region. These include *Psychotria, Eugenia, Rinorea and Premna* and only one, *Polyscias*, features amongst the 90 species of woody plants considered rare in Kenya.

The Mau forests are a very important area for large mammal conservation partly because of the inclusion of Guineo-Congolian species (Yellow-backed Duiker and Golden Cat), but also because the large area provides the opportunity of conserving viable populations of bongos and giant forest hogs.

Mau Forest (WWF-EARPO / Alex OBARA)

The full compliment of afromontane 'West-of-Rift' birds and all but two of the forest formations are also present. A further 36 mammalian species have been recorded. In addition to the high diversity, there is substantial population of elephants (*Loxodonta africana*) in the Mau. These elephants range through and exploit most if not all of the forest area, including the moist montane forest and bamboo thickets. In doing so, they contribute immensely to the changes in forest structure and composition over extensive areas. For example, groups of elephants can destroy a substantial portion of the small trees, shrubs, bamboo and tall herbs and grasses. They feed on particular species, perhaps because they are softer, sweeter or more nutritious. The preferred species include timber tree seedling such as *Polyscias kikuyuensis* and *Albizia gummifera.* Some species such as *Neoboutonia macrocalyx* and *Tabernaemontana stapfiana* are not eaten, which may account for the high density of these

species in the small tree/shrub layers.

At least more than 220 butterfly species and over 120 species of avifauna have been identified in the Mau. Amongst these, 8 are of special conservation concern because of their rarity, and in two cases, their rarity combined with the fact that they are regional endemics–restricted to afromontane forests. Nonetheless, Mau is one of the few areas in East Africa with a truly montane avifauna, largely in good health, and it warrants special conservation attention.

Protection status

Parts of Mau Forest Complex were first gazetted in 1932. These include Eastern and Western Mau. Fig 2 shows the forest blocks in the Mau Forest Complex.

Threats

Demographic pressure

Over the past 20 years, the human population around the Mau Forest has increased tremendously because of rapid migration and high soil fertility. Under unrelenting population pressure, subsistence farmers have stripped the area's much of the forest cover in favour of agricultural and livestock production. This has been made worse by the desire of the farmers to become food secure. Achieving food security requires more food production that calls for increased pressure on the environment. Figure 3 and 4 shows the forest cover in the Mau Forest in 1986 and by 2003 respectively.

Conversion and land use change

The pressure for agriculture and high human population densities has largely contributed to conversion of forest areas. The Maasai traditional land use pattern allowed for rangeland regeneration, and was compatible with maintenance of the forests as wildlife habitats. Compatibility of land use with wildlife is particularly important in Maasai Mau and Transmara forests which border the Maasai Mara National Reserve and has historically been important dry season forage areas for wildlife during drought in the Serengeti. Unfortunately, complete conversion of forests to another form of land use leaves no opportunity for forest species to survive and very little option for re-colonization of the land by forest ecosystems. Furthermore, under the traditional slash and burn method, the land was used for a few seasons before its fertility diminished and abandoned to revert back to forest. However, population pressure has resulted in land remaining under permanent cultivation and in clearance spreading higher into the forest areas.

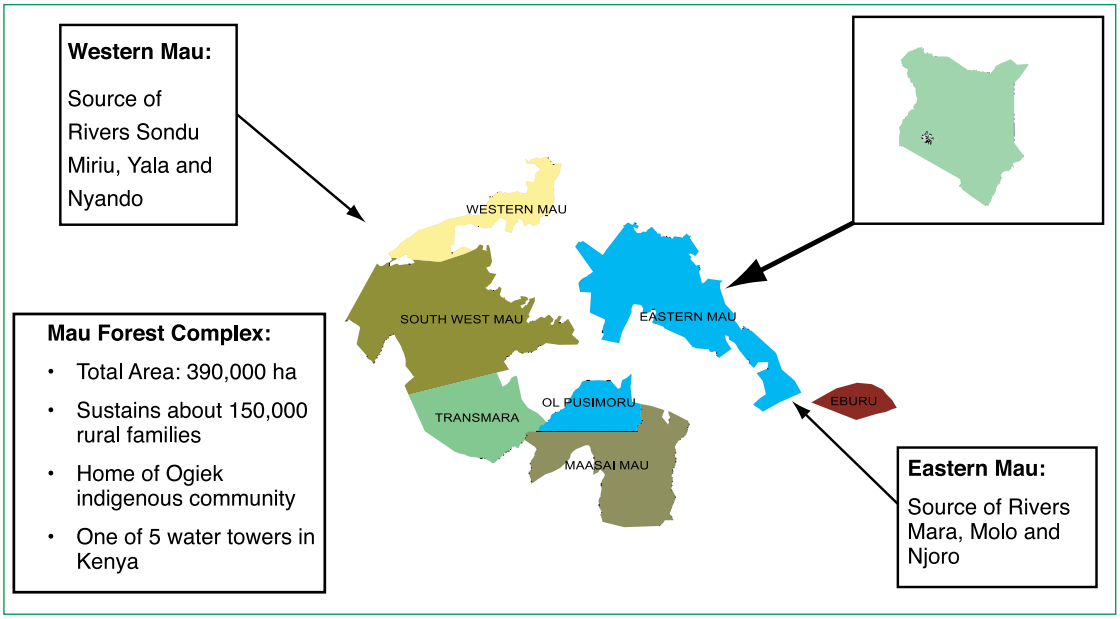

Fig 2: Forest block in the Mau Forest Complex (WWF-EARPO)

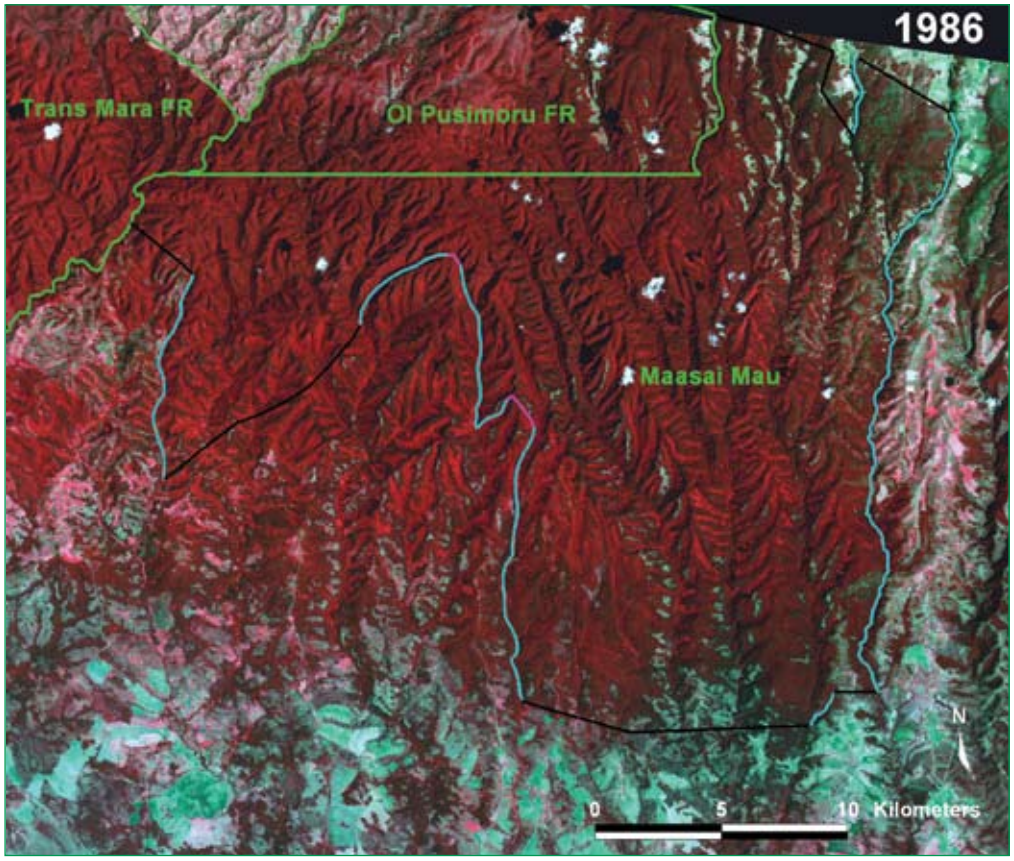

Fig 3: Mau Forest cover in 1986 (Satellite images: EAWLS / KFWG)

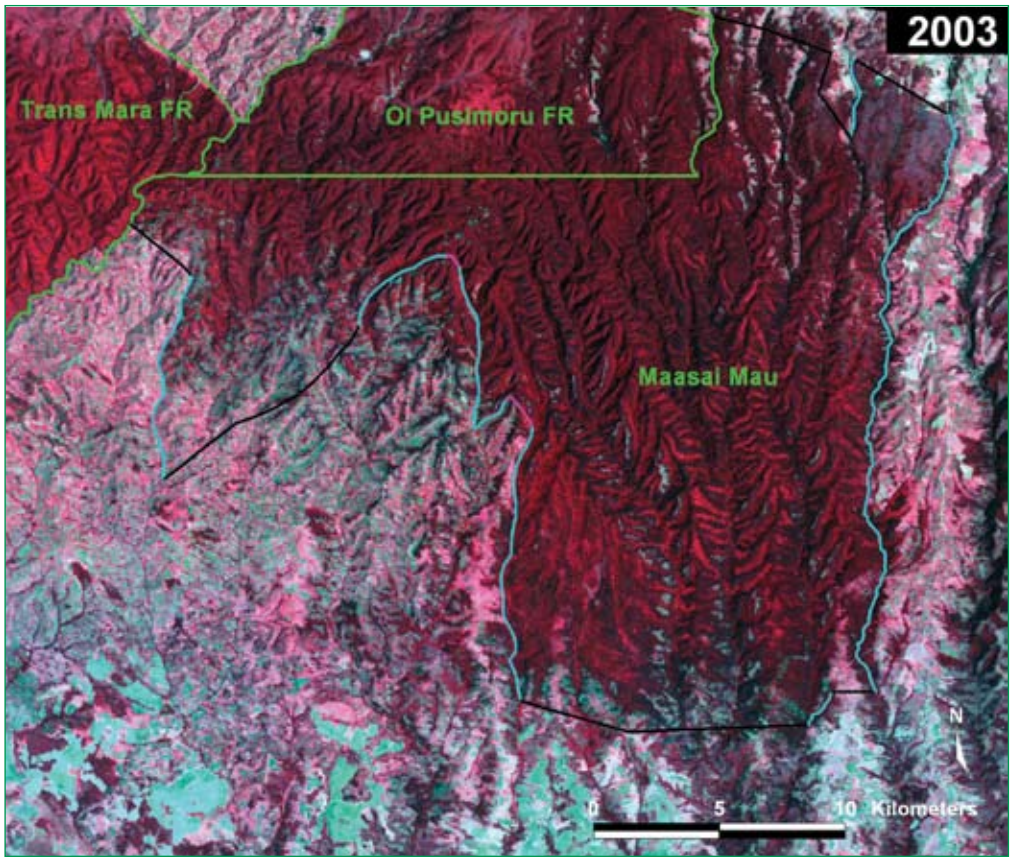

Fig 4: Mau Forest cover in 2003 (Satellite images: EAWLS / KFWG)

Habitation within the forest and associated activities

The most serious threat to the Mau forests is considered to be the continued presence of scattered communities throughout the forest. These communities include the Ogiek, who traditionally are hunters and gatherers, are changing their lifestyle to that of subsistence agriculture within the forest areas. Such lifestyle is not compatible with sustainable forest conservation. Besides the Ogiek, encroachment into forest areas within the Mau Forest Complex is an issue of common concern. A large group of emigrants from other communities have moved into the forest and converted those areas in favour of agricultural production. It is against this backdrop that the Government of Kenya is evicting communities in Mau Forest Complex in order to save it from further destruction.

Bushmeat trade

The bushmeat and wildlife trade is a growing threat to biodiversity in the eastern African countries. Unsustainable harvesting of wild animals to provide bushmeat for food or as a source of income has been identified as one of the most serious and immediate threats to conservation of biodiversity. Wildlife is an important source of animal protein for many rural people. Biodiversity is clearly of enormous value to human development. However, in many of the eastern Africa countries, the focus has been on the formulation and implementation of *in situ* and *ex situ* conservation policies. Whilst maintaining some of the indirect and non-use values of biodiversity, these policies have not been able to deal with the direct uses of biodiversity for livelihood and development.

There is a strong correlation between sound natural resource management and poverty alleviation. The poor—particularly those living in rural areas—often rely on a variety of natural resources and ecosystem services as a direct source of livelihood. Increasingly, the rural poor live in areas of high ecological vulnerability and relatively low levels of biological or resource productivity. Limited access to land and other natural resources is another aspect of rural poverty – more than half of the people in eastern Africa countries live below the poverty line and have land holdings too small to provide an adequate income. Thus, both environmental conditions and access to a variety of natural resources such as wildlife are crucial for these poor people to sustain their livelihoods. They are affected by natural resource degradation and biodiversity loss much more than the better off because of their limited assets and their greater dependence on common property resources for their livelihoods.

Fires

An important threat to the forest is the many fires started by people. The enhanced burning regime is believed to have contributed to the changes observed in the afromontane forests paving for establishment of grassland and scrub-grassland across large areas. Frequent fires envelope the ridges and plains, suppressing tree growth and progressively pushing back the forest edge.

Lack of clear strategy

The Mau Forest Complex falls under two different regimes of management, namely, Forest Department, pursuant to the Forests Act, Cap 385 and County Councils of Narok and Transmara, pursuant to the provisions of the Local Government Act, Cap 265. Both Forest Department and County Councils are under-resourced, with little financial, technical or political support for indigenous forest conservation. As a consequence, policing of Mau Forest Complex remains inadequate. If the Mau Forest Complex is to be conserved, then a clear strategy that brings together the relevant County Councils and Forest Department need to be developed and implemented.

Forest conversion for settlement in the Mau Forest (WWF-EARPO)

POLICY AND LEGAL FRAMEWORKS

Various policies and laws have been promulgated at international, regional and national levels to guide the conservation and management of natural resources. Some of the international instruments include the Convention on Biodiversity, the United Nations Framework Convention on Climate Change, and the World Heritage Convention. At the regional level are institutional, policy and legal frameworks that include the East Africa Community Treaty, the Lake Victoria Protocol and the Nile Basin Initiative. The government of Uganda and Kenya have formulated macroeconomic policies and also enacted national legislations that have a bearing on the conservation of natural resources, including montane ecosystems. Notable are the National Environmental Policy and Statute and the Poverty Eradication Action Plans in the case of Uganda; and the Environmental Management and Coordination Act (1999) as well as the Economic Recovery Strategy for Wealth and Employment Creation (2003-2007) in the Kenya situation. These policy and legal frameworks that relates to environmental management are summarised in Box 1, and further discussed in subsequent text.

International instruments

The Convention on Biological Diversity (1992)

The Convention on Biological Diversity (CBD) was signed in 1992, and came into force in 1993. The concept of biological diversity covers both the variety of plants, animals and micro-organisms, as well as genetic differences within each species. The variety between and within different ecosystems is yet another aspect of biodiversity, the subject of the Convention.

The Convention combines the twin concerns for biodiversity conservation and human development, recognizing that biological diversity is largely seen as a resource for humanity and that it therefore needs to be conserved and used in a sustainable manner.

The Convention has three main objectives: the conservation of biodiversity; sustainable use of its components; and fair and equitable sharing of benefits arising from commercial and other forms of utilization of genetic resources. It recognizes that states have sovereign rights over their own biological resources, and states that have access to such resources shall only be granted on mutually agreed terms and subject to prior informed consent of the country providing the resources. This is of particular importance for developing countries having diverse biological resources and rich indigenous knowledge of how to conserve and use biodiversity in a sustainable way.

Under the Convention, all Parties agree to develop National Biodiversity Strategies or Action Plans, identify and monitor components of biological diversity, and implement measures and incentives for their conservation and sustainable use; cooperate in technical and scientific research and information dissemination; enhance education and public awareness; and prepare national reports on efforts to implement the commitments of the Convention.

Many provisions defining the commitments of the Convention are of relevance to forests. These are to: develop national strategies; undertake identification and monitoring of components of biological diversity; establish systems of protected areas; facilitate access to genetic resources; provide access to technology and biotechnology; protect the knowledge of traditional and indigenous communities; and, provide financial resources for developing countries

However, the Convention does not address forestry issues in the terms set out by Chapter 11 of Agenda 21; and by the Forest Principles by taking into account the multiple roles and values of forests, and in particular their productive development potential as renewable resources. On the other hand, sustainable

forestry practices and a multi-pronged approach in forest management combining different use intensities and preservation has a considerable potential for contributing to the implementation of the objectives of the Biodiversity Convention.

This requires a comprehensive understanding of biodiversity in natural habitats—and in particular forest ecosystems—as well as in intensively managed production forests.

Box 1: International, Regional, Sub-Regional and National Legislative & Policy Frameworks

International	Regional and Sub-Regional
• Convention on Biological Diversity (1992) • The United Nations Framework Convention on Climate Change (1992) • The World Heritage Convention (1972) • The United Nations Convention to Combat Desertification (UNCCD) (1994) • The Convention on International Trade in Endangered Species (CITES, 1973) • The United Nations Convention to Combat Desertification (UNCCD) (1994) • International Tropical Timber Agreement (1983, revised 1994) • United Nations Forum on Forests • Johannesburg Plan of Implementation of the World Summit on Sustainable Development (WSSD) • Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention, 1971)	• Africa Convention for the Conservation of Nature and Natural Resources (1968, revised 2003) • East Africa Community Treaty (1999) • Lake Victoria Protocol (2003) • Protocol for Environment and Natural Resources Management under the East Africa Community Treaty • Intergovernmental Authority on Development (IGAD) • The Nile Basin Initiative (NBI)

Box 2: National Policy and Legal Framework in Uganda and Kenya

Uganda macro-economic policies	Kenya macro-economic policies
• The Constitution of Uganda (1995) • Poverty Eradication Action Plan (PEAP), 2001 • National Environment Policy and Statute **Sectoral policies and laws** • Uganda Forest Policy • Forestry and Tree Planting Act • Uganda Wildlife Policy, 1999 • Uganda Wildlife Statute	• The Constitution of Kenya (1963) • The Economic Recovery Strategy for Wealth and Employment Creation (2003-2007) • The Environment Management and Coordination Act, 1999 **Sectoral policies and laws** • Forest Policy (Sessional Paper No. 1 of 1968) • Forests Act (Chapter 385) • The New Forests Act, 2005 • Draft Forests Bill, 2000; Forests Bill, 2003; Forests Bill, 2004; Forests Bill, 2005 • Trust Land Act, Cap 288 & Chapter IX of the Constitution • Wildlife Policy-The Sessional Paper No. 3 of 1975 • Wildlife Act • Water Policy • Water Act ,2002

This shortcoming was realized during the 6th Conference of Parties of the CBD held in The Hague in 2002, whereby an Action Plan was adopted. The adopted action-oriented and comprehensive Expanded Work Programme on Forest Biological Diversity has an ambitious goal of halting and reversing the loss of forest biological diversity. The Work Programme includes specific prioritised goals, objectives and activities required for the conservation, sustainable use and equitable sharing of forest biodiversity. It also addresses the institutional and socio-economic enabling environment required for sustainable forest management, as well as knowledge, assessment and monitoring. An ad hoc technical expert group has been set up to review implementation of the Work Programme and there can be little doubt that meetings of the CBD will continue to give prominence to forests especially in developing countries.

The United Nations Framework Convention on Climate Change (1992)

The United Nations Framework Convention on Climate Change (UNFCCC) was signed in 1992, and came into effect on 21st March 1994. Its ultimate objective is the “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”

Under the Convention, both developed and developing countries agree to develop and submit inventories on greenhouse gas emissions by sources; and removals by “sinks” (such as

forests which absorb carbon dioxide) and report on measures taken to implement the Convention. Parties should adopt national climate change mitigation programmes and adaptation strategies; promote technology transfer; cooperate on scientific and technical research; and promote public awareness, education and training.

The Convention makes several references to the special situation of developing countries, especially because they are the most vulnerable to the adverse impacts of climate change. Beyond the guiding principle of common but differentiated responsibilities and capabilities (requiring developed countries to take the lead in combating climate change), other principles set out in the Convention deal with the special needs of developing countries in their aspirations for economic development and the importance of encouraging sustainable development. Furthermore, the Convention calls for the application of the precautionary principle, meaning that, if the possible damage is serious or irreversible, Parties should not abstain from implementing measures to prevent, mitigate or adapt to climate change simply because of an absence of full scientific certainty.

This Convention acknowledges that human activities have substantially increased the atmospheric concentrations of greenhouse gases; and that these increases enhance the natural greenhouse effect. This will result in elevated warming of the earth's surface and atmosphere and may adversely affect natural ecosystems and humankind. The Convention explicitly recognizes the role of forests as carbon sinks. For example, forests are an important source of carbon dioxide emissions to the atmosphere when their biomass is reduced from degradation and deforestation. In their efforts to lower greenhouse gas concentrations in the atmosphere, countries are therefore encouraged to conserve and enhance forests. The Kyoto Protocol allows within certain limits and under strict conditions to offset greenhouse-gas emissions by enhancing carbon removal through afforestation, reforestation, forest management and some practices on non-forest lands. The Kyoto Protocol and decisions related to it, therefore, will have important consequences for forests and forestry.

The World Heritage Convention (1972)

The United Nations Educational, Scientific and Cultural Organization (UNESCO) seek to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. This is embodied in an international treaty called the Convention Concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972. The enabling mechanisms of this instrument facilitate the establishment of 'recognized sites' and provide support under the Convention. By protecting sites of universal value, the international community has to protect important forests such as those in the Rwenzori Mountains.

The United Nations Convention to Combat Desertification (UNCCD) (1994)

This Convention was drawn at the 1992 Rio Earth Summit, opened for signature in October 1994, and came into effect in December 1996. Parties to the Convention are required to undertake activities that contribute to the sustainable use of arid or semi-arid areas so that those habitats do not lead to further desertification. The Convention emphasizes on land uses, with special provisions for the problems of African countries. It refers in particular to the protection of traditional knowledge, and to trade practices that may cause desertification.

The Convention develops a bottom up approach, especially in its provisions for the National Action Programmes (NAPs), in which it seeks to combine traditional and innovative methods to combat desertification while involving all relevant stakeholders in the formulation, decision-

making, implementation and review process. Successive Conferences of Parties of the UNCCD have increasingly recognized the need to integrate NAPs into broader national strategies for sustainable development, and to ensure enhanced coordination and synergies with other relevant Multilateral Environmental Agreements (MEAs) and processes such as CBD, UNFCCC and United Nations Forum on Forests (UNFF).

The two main objectives of the UNCCD are to: combat desertification and mitigate the effects of drought; and achieve sustainable development in affected areas. This is to be achieved by way of an integrated approach which addresses the physical, biological and socio-economic aspects of desertification as well as strategies for poverty eradication. The general obligations of all Parties to the Convention include promoting and strengthening cooperation at all levels; promoting the integrated approach and the integration of poverty eradication objectives into efforts to combat desertification; as well as efforts to mitigate the effects of drought, giving due attention to the situation of affected developing countries. It also includes promoting the use of existing multi- and bi-lateral financing mechanisms that mobilize and channel significant financial resources to affected developing countries Parties in combating desertification.

As in the case of other Conventions, forests are implicitly addressed by several provisions of the Convention, but there is no systematic consideration. With regard to conserving and restoring vegetation cover, forestry and more integrative land-use and forest policies can play a significant role in reaching the objectives of the Convention.

The Convention on International Trade in Endangered Species (CITES) (1973)

The international trade in endangered species generates annual revenues worth billions of dollars. It has caused drastic declines in the numbers of many plant and animal species. The scale of over-exploitation for trade aroused such concern for the survival of species that an international treaty was drawn up in 1973 to protect wildlife against such over-exploitation; and to prevent international trade from threatening species with extinction.

The aim of the Convention on International Trade in Endangered Species (CITES) is to protect endangered plant and animal species from over-exploitation and illegal trade. International trade in such species and/or their products and derivatives is regulated through a system of import and export permits. Species are categorized in the Appendices to the Convention according to the level of protection needed, and thus indicating the extent of regulation to be exercised. The Appendices are periodically updated. Appendix 1 lists all species that are threatened with extinction, and in which commercial international trade is banned (unless in exceptional cases). Appendix II lists species which are currently not threatened with extinction but may become so unless restrictions are applied. Trade in such species is to be regulated and monitored. Finally, Appendix III lists those native species any Party to the Convention wishes to protect from over-exploitation, and in which it seeks the assistance of other parties.

In the case of non-compliance with its trade obligations, CITES provides for countries to "penalize trade in, or possession of, such specimens, or both; and to provide for the confiscation or return to the State of export of such specimens." The return of specimens shall be done at the expense of the state of export.

Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) (1971)

The Convention on Wetlands of International Importance Especially as Waterfowl Habitat **(**Ramsar Convention), which was adopted in 1971, imposes on contracting parties the obligation to formulate and implement planning

in a way that ensures conservation and wise use of wetlands within their boundaries. There is an ecological relation between wetlands and forestry ecosystems. The Convention's original emphasis on wetland preservation, primarily as a habitat for waterbirds, has over the years been broadened to cover all aspects of wetland conservation and wise use. Wetlands are transitional zones between permanently wet and generally dry environments and consist of ecosystems that are of extreme ecological importance for biodiversity conservation in general, as well as for the social and economic well-being of people.

Under the Convention, Parties are required to designate suitable wetland areas for inclusion in the List of Wetlands of International Importance and promote their conservation and wise use. They should also include wetland conservation considerations in their national land-use planning so as to promote the wise use of wetlands in their territory. Moreover, Parties undertake to establish nature reserves in wetlands, and promote education and training in the field. Parties also agree to consult with other Parties concerning implementation of the Convention, particularly with respect to shared systems.

Following a decision of the Parties to create a financial mechanism to help developing countries meet their obligations under the Convention, a Wetlands Conservation Fund was established in 1990. The Fund provides small grants to improve the management of designated areas, promote the wise use of wetlands, and support regional activities. In 1996, the secretariats of the Ramsar Convention, CITES and the Bonn Convention on Migratory Species signed a Memorandum of Cooperation with the executive secretary of the Convention on Biological Diversity in order to strengthen their coordination on issues of common concern.

By protecting wetlands, some forestry ecosystems will also be protected. But for practical purposes, this link is only implicit, and there is nothing in this legal instrument that addresses forestry issues specifically.

International Tropical Timber Agreement (1983, revised 1994)

This Agreement covers industrial tropical timber reforestation, forest management, sustainable use, and forest conservation policies. The 1994 revision incorporates sustainable development principles from the Forest Principles agreed at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. It contains broader provisions for information sharing, including non-tropical timber trade data and allows for consideration of non-tropical timber issues as they relate to tropical timber. Furthermore, it enshrines the year 2000 objective and establishes the Bali Partnership Fund to assist producing member countries to manage their tropical timber producing forests in a sustainable manner.

United Nations Forum on Forests (UNFF)

Due to political sensitivity surrounding issues such as national sovereignty and land tenure, as well as the fact that sustainable forest management has to be adapted to local circumstances, there is, as yet, no global Convention on forests. Instead, the international consensus on the protection and sustainable management of forests was first set out in the context of the United Nations Conference on Environment and Development, notably in Agenda 21 (Chapter 11), and the 'Forest Principles', as well as in the forest elements of CBD and UNFCCC.

These soft law instruments recognize the environmental, economic and social importance of forests and forestry and suggest a comprehensive approach in dealing with all types of forests. The text of both instruments shows that the significance given by the international community to forests has changed in qualitative and quantitative terms. They express the political will to approach forestry issues in an integral manner, recognizing the many uses and multiple values

associated with forests. The principal limitation is lack of mutually agreed on framework and mechanisms to implement these good intentions.

In 1995, the United Nations Commission on Sustainable Development established the Intergovernmental Panel on Forests (IPF), which by the end of its two-year mandate had negotiated over 100 proposals for Action on issues related to sustainable forest management. The IPF was succeeded in 1997 by a further two-year process, the Intergovernmental Forum on Forests (IFF). This was to promote and facilitate the implementation of the IPF proposals, consider matters pending from the IPF process (issues related to finance and technology transfer, trade and environment), and debate the question of institutions and legal instruments.

The United Nations Forum on Forests (UNFF) was established at the fourth session of the IFF in 2000 as a subsidiary body to the United Nations Economic and Social Council (ECOSOC). It is very much an international environmental process designed to build confidence and consensus rather than as a legally binding MEA. Its objective is to promote the management, conservation and sustainable development of all types of forests, and to strengthen long term political commitment to this end. To achieve this aim, the UNFF is to promote and facilitate the implementation of the IPF/IFF Proposals for Action; and mobilize the financial, technical and scientific resources needed to implement them. Through its role as an arena for continued policy development and dialogue, the UNFF is also expected to enhance and foster cooperation efforts; monitor and assess progress in implementing the Proposals, and strengthen political commitment to sustainable forest management.

Johannesburg Plan of Implementation of the World Summit on Sustainable Development (WSSD)

The political declaration and the Johannesburg Plan of Implementation (JPoI) adopted at WSSD in 2002, confirm the fundamental principles of the Rio Declaration and reaffirm the need for the full implementation of Agenda 21. They contain a firm commitment to the achievement of the internationally agreed development goals including those contained in the United Nations Millennium Declaration, and in the outcomes of the major United Nations conferences and international agreements since 1992. The JPoI determines specific commitments and temporal and/or quantitative achievement criteria that relate to poverty eradication, access to clean drinking water, regeneration of fishery resources, biodiversity preservation, use of chemical substances, and, an increase in development aid. Other commitments that are of a more general nature, address for instance, the necessary change of unsustainable patterns of consumption and production, the protection and management of the natural resource base of economic and social development, the need to implement the internationally agreed measures to combat climate change and desertification, and the importance of sustainable development for human health. A significant aspect of the JPoI is that forests and forestry be put into the broad comprehensive, coherent and largely cross-sectoral context that relates to the overall issues of economic and social development. At the same time, the broad contributions of Sustainable Forest Management (SFM) are specifically acknowledged.

Regional and sub-regional instruments

Africa Convention for the Conservation of Nature and Natural Resources (1968, revised 2003)

The Convention focuses on sustainable use and conservation of soil, water, flora and fauna, and cooperation over the management of trans-boundary natural resources. Its secretariat is the

African Union. By this Convention, the various independent African states, including Kenya, undertook:

To adopt the measures to ensure conservation, utilization and development of soil, water, flora and faunal resources, in accordance with scientific principles and with due regard to the best interests of the people.

The Convention also underscores the importance of conservation areas such as forest reserves and obligates Contracting States to:

Maintain and extend where appropriate, within their territory, the conservation areas existing and preferably within the framework of land use planning programmes in order to protect those ecosystems which are most representative and for conservation of indigenous flora and fauna.

The Convention further obligates Contracting States to ensure that conservation and management of natural resources are treated as an integral part of national and/or regional development plans, taking full consideration of their ecological as well as their economic and social factors.

East Africa Community (EAC) Treaty

The East Africa Community Treaty was signed on 30 November 1999. Chapter 19 of the treaty, among other aspects, calls for cooperation of Partner States in the management of environment and natural resources. Some of the salient provisions are calling on Partner States to:

- Agree to take concerted measures to foster cooperation in the joint and efficient management and sustainable utilization of natural resources within the Community;
- Undertake, through environmental management strategy, to cooperate and coordinate their policies and actions for the protection and conservation of the natural resources and environment against all forms of degradation and pollution arising from developmental activities;
- Develop and promote capacity building programmes for sustainable management of natural resources; and,
- Adopt community environmental management programmes.

It is noteworthy that WWF-EARPO has a Memorandum of Understanding with the East Africa Community (EAC) to work on joint activities that contribute towards the sustainability of the environment in the Partner States.

The Lake Victoria Protocol

The Lake Victoria Protocol signed on 29 November 2003, aims at sustainable development of Lake Victoria Basin. It is an instrument under the EAC Treaty that provides a framework to govern the Partner States Cooperation in the Sustainable Development of Lake Victoria Basin. Under the Protocol, the Partner States have designated the Lake Victoria Basin as an economic growth zone, and establishes the Lake Victoria Basin Commission as a body responsible for the management of the Lake Victoria Basin. The broad function of the Commission is to promote, facilitate and coordinate activities of different actors towards sustainable development and poverty eradication of the Lake Basin.

The scope of cooperation under the Protocol geared towards conservation and sustainable utilization of the resources of the basin, among other areas, include:

- Sustainable development, management and equitable utilization of water resources;
- Promotion of sustainable agricultural and land use practices including irrigation;
- Promotion of sustainable development and management of forestry resources;
- Promotion of research, capacity building and information exchange;
- Environmental protection and management of the Basin; and,
- Promotion of public participation in planning and decision-making.

Article 6 of the Protocol calls on Partner States to take all appropriate measures, individually or jointly and where appropriate with participation of all stakeholders to protect, conserve and where necessary rehabilitate the Basin and its ecosystems. In particular, these measures include identifying the components of, and developing strategies for protecting and conserving biological diversity within the Basin; conserving endangered species of wild fauna and flora; conservation of forests and their resources; and restoring and rehabilitating degraded natural resources. Further, Article 27 requires each Partner State, among others, to develop national strategies, plans or programmes for conservation and sustainable use of the resources of the Basin or adapt for this purpose existing strategies, plans or programmes.

Protocol for Environment and Natural Resources Management

Under the EAC Treaty, a Protocol for Environment and Natural Resources Management has been prepared. The purpose for the Protocol is to govern the Partner States in their cooperation in the management of environment and natural resources over areas within their jurisdiction, including trans-boundary environment and natural resources. The scope of the Protocol, *inter alia,* includes: sustainable environment and natural resources management; conservation of biological diversity; management of forestry resources; management of wildlife resources; management of mountain ecosystems; environmental education and capacity building; and, public participation, access to information and justice

In doing so, the Partner States are required to cooperate in among other areas, the development of a common policy on sound management of the environment and natural resources; implementation of sound practices of environmental management and sustainable utilization of natural resources; protecting critical ecosystems of flora and fauna in the Community; and, development and promotion of capacity building programmes for sustainable management of the environment and natural resources.

Article 10 of the Protocol addresses the management of forestry resources. Under this article, the partner States are obligated to cooperate in all activities relating to development, conservation, sustainable management and utilization of all types of forests, trees and trade in forest products throughout the Community. These activities include to:

- Develop, publish, review and evaluate regularly the effectiveness of national forest policies, laws, programmes and plans;
- Develop common criteria and indicators for sustainable forest management;
- Undertake regular assessment of forests encompassing all forest resources and all forested lands, regardless of ownership, protect ecologically viable forests and forests that have cultural, traditional, aesthetic, historic, spiritual or religious value and also to protect endangered or threatened forests species;
- Encourage local communities to grow and conserve trees and to integrate the growing of trees into farming systems;
- Recognize, respect and protect the rights of individuals and communities over their traditional forest-related knowledge and their right to benefit from the utilization of this knowledge; and,
- Promote education, training, public awareness, research and capacity building activities relating to tree planting, forests, forestry and forest-related activities and products.

The Protocol also has provision on the management of mountain ecosystems. Under Article 20, the partner states are obligated to develop and harmonize common policies, laws and strategies for ensuring sustainable development of mountain ecosystems. In this regard, the partner states are obligated to protect and conserve mountain ecosystems; in particular critical water catchments and areas

of common strategic interest at local, national, regional and international levels. Thus, the partner states shall, *inter alia*, promote integrated watershed development and alternative livelihood opportunities; establish or strengthen institutions and a knowledge base on land and water for sustainable development of mountain ecosystems; and, promote policies which provide incentives to local people for the use and transfer of environment-friendly technologies, and farming and conservation practices.

Intergovernmental Authority on Development (IGAD)

The Intergovernmental Authority on Development (IGAD) was founded in 1986 as an Intergovernmental Authority on Drought and Development (IGADD), which was revitalized on 25 November 1996 and changed to its present name. The IGAD countries are Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan and Uganda. The mandate of the Authority is to coordinate the efforts of member states to advance their development goals in the priority areas of economic cooperation, political and humanitarian affairs, food security, natural resources and environmental protection.

The Nile Basin Initiative (NBI)

While there have been several attempts among different countries to cooperate on the use of the resources of the Nile, the first to focus on a longer-term development agenda was created in 1993. This initiative was called the Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin (TECCONILE). Under the auspices of TECCONILE and with the support of the Canadian International Development Agency (CIDA), a series of 10 Nile 2002 Conferences were launched in 1993 to provide an informal mechanism for dialogue among the Nile Basin countries, and with the international community. As a result, TECCONILE prepared a Nile River Basin Action Plan in 1995.

In 1997, the Council of Ministers of Water Affairs of the Nile Basin States (Nile-COM) asked the World Bank to lead and coordinate donor support for their activities. Thus, the World Bank, the United Nations Development Programme (UNDP), and CIDA became cooperating partners to facilitate dialogue and cooperation among the Basin countries, and establish a mechanism through which the countries could work together for their mutual benefit and for the sustainable use of the river and its resources. Recognizing that sustained cooperation on the Nile requires a permanent institution with a development focus and agreement on core legal principles, the Nile basin countries established a forum for a process of legal and institutional dialogue in 1997.

In 1998, recognizing that cooperative development holds the greatest prospects of bringing mutual benefits to the region, all Nile Basin countries, except Eritrea, joined in a dialogue to create a regional partnership to facilitate the common pursuit of sustainable development and management of Nile resources. In an historic step, they jointly established an inclusive transitional mechanism for cooperation until a permanent cooperative framework is established. The transitional mechanism was officially launched in February 1999 in Dar es Salaam by the Nile-COM. In May 1999, the overall process was officially named the Nile Basin Initiative (NBI).

The Nile Basin Initiative's Shared Vision Program (SVP) is designed to help realize the shared vision of the Nile basin countries: that of harnessing the resources of the river to create a better life for the 300 million people who depend on it. This means developing the river's resources to reduce their vulnerability to droughts; better manage floods, to ensure more water, food, and electricity; and to do so in a way that respects the needs of the river system itself so that it can continue to nurture generations to come. The SVP project portfolio is comprised of eight

projects designed by the NBI countries to build a strong foundation for cooperative action and for future investment projects. Together, these projects are designed to establish an integrated and comprehensive approach to developing and managing water resources that are so essential to the well-being of millions of people in the region. These projects focus on building the institutions, sharing the information and data, providing training; and, creating avenues for dialogue as well as networks needed for joint problem-solving, collaborative development, and developing multi-sector and multi-country programs of investment to develop water resources. One of the project focuses on the Mara River Basin, of which Mau Forest Complex is the water head.

Enabling policy and legal framework in Uganda

Macroeconomic policies

Poverty Eradication Action Plan (PEAP) (2001)

Employment

In 2001, Uganda developed the Poverty Eradication Action Plan (PEAP), a comprehensive macroeconomic development framework that has a bearing on the conservation of biodiversity. Within PEAP is a Plan for the Modernization of Agriculture (PMA) that provides a holistic framework for eradicating poverty through multi-sectoral interventions that enable people to improve their livelihoods in a sustainable manner. The PMA includes forestry as one of the main sectors that contribute to the livelihoods of the poor people, along with agriculture, fisheries and livestock.

National Environment Policy and Statute

Uganda's National Environment Management Policy identifies conservation of biological diversity as important for national socio-economic growth. In this regard, the policy identifies guiding principles, and proposes a number of strategies to enhance the conservation of biodiversity in Uganda. The guiding principles are as follows:

- Biodiversity should be considered at the genetic, species and ecosystem levels;
- Protected Areas (PAs) are the cornerstone of national efforts to protect biological diversity;
- Conservation of biological diversity outside the protected area system is critical to policy success;
- Some specific habitats both within and outside the PA system may require special protection to ensure the long term survival of critical species;
- Tourism, ecotourism and non-consumptive biodiversity uses should be promoted as both a means of conserving biodiversity and earning income; and,
- Protected areas should include a wide range of ecosystem and habitats as possible and be linked by corridors of suitable habitat, along which species can disperse and survive.

The policy identifies the following as strategies for conservation of biodiversity in Uganda:

- Develop comprehensive and coordinated policies, strategies and actions for biodiversity conservation;
- Bring sectoral institutions concerned with biodiversity conservation particularly forestry, game reserves, Uganda National Parks, together under a common management authority;
- Identify valuable areas of terrestrial biodiversity outside protected areas and explore means of protecting such areas; and,
- Strengthen links to international biodiversity conventions e.g. CITES, Ramsar and The World Heritage.

The National Environment Statute was enacted in 1995 as a framework law to govern the protection and management of the environment in Uganda. The Statute establishes the National Environment Management Authority (NEMA) as the implementing agency. Some of the functions of NEMA include to:

- Coordinate the implementation of Government policy and the decisions of the Policy Committee;
- Ensure the integration of environmental concerns in overall national planning through coordination with the relevant ministries, departments and agencies of Government;
- Liaise with the private sector, intergovernmental organizations, non-governmental agencies, governmental agencies of other states on issues related to the environment;
- Propose environmental policies and strategies to the Policy Committee; and,
- Review and approve environmental impact assessments and environmental impact statements submitted in accordance with the statute or any other law.

The Statute further obligates NEMA in consultation with the relevant lead agencies to issue guidelines and prescribe measures for the conservation of biological diversity. In doing so it has to:

- Specify national strategies, plans and programmes for the conservation and sustainable use of biological diversity;
- Integrate the conservation and sustainable utilization ethic in relation to biological diversity in existing government activities and those of private persons;
- Identify, prepare and maintain inventory of biological diversity of Uganda;
- Determine which components of biological diversity are threatened with extinction; and,
- Prescribe measures to ensure the conservation of biological resources *in situ.*

In addition, the guidelines would cover such areas as:

- Land use methods that are compatible with the conservation of biological diversity;
- Selection and management of protected areas so as to promote the conservation of the various terrestrial and aquatic ecosystems of Uganda;
- Selection and management of buffer zones near protected areas;
- Special measures for protection of species, ecosystems and habitats faced with extinction;
- Prohibiting or controlling of the introduction of alien species; and,
- Integrating traditional knowledge for the conservation of biological diversity with mainstream scientific knowledge.

Sectoral Policies and Laws

Uganda Forest Policy

There is a vision on Uganda's Forest of the future which indicates that there will be sustainable management of the forests, woodlands and trees, providing ecological and social services, producing economic goods for present and future generations of Ugandans, and making a contribution to the global community. This guides Uganda's Forest Policy whose main objectives, *inter alia,* include:

- Ensuring that forests and trees are conserved and managed in a manner that meets the needs of present generation without compromising the rights of future generations by safeguarding forest biodiversity and the environmental benefits that accrue from the forests and trees;
- Promote the improvement of livelihoods through strategies and actions that contribute to poverty eradication;
- Encourage public participation in the management and conservation of forests and trees;
- Facilitate public awareness of the cultural, economic and social benefits for conserving and increasing sustainable forest cover; and,
- Create an integrated forest cover sector that will facilitate the achievement of sustainable increases of economic, social and environmental benefits from the forests and trees by all the people of Uganda.

Forestry and Tree Planting Act

The Forestry and Tree Planting Act provides a legal framework for the conservation, sustainable management and development of forests for the benefit of the people of Uganda. The Act also establishes the National Forestry Authority as the institution responsible for developing and managing all central reserves, and provides input into the development and management of other forested areas in Uganda.

Uganda Wildlife Policy (1999)

The Uganda Wildlife Policy was adopted in 1999. The policy's vision is:

To conserve in perpetuity the rich biological diversity and natural habitats of Uganda in a manner that accommodates the development needs of the nation and the well-being of its people and the global community.

As a result of this vision, the policy recognizes the important role of local communities in the protection and management of wildlife and their habitats. In this regard, the policy categorizes wildlife conservation in Uganda into two broad areas, namely: wildlife protected areas, that is, national parks and wildlife reserves; and wildlife management areas - wildlife sanctuaries, community wildlife areas and wildlife use rights areas.

The effect of this categorization is that it identifies the responsibilities of the different actors. For example, on the one hand, wildlife protected areas which are legally gazetted areas are managed by the central government, that is, Uganda Wildlife Authority (UWA), and to some extent district authorities. On the other hand, wildlife management areas are primarily the responsibility of the communities, local councils and private land owners; with central government playing supervisory role. Although PAs such the Rwenzori National Park is controlled and managed by UWA, the policy proposes several strategies to ensure that local communities are involved in the protection and management of such areas. These strategies are:

- Promote protected areas as a focus of local community involvement, pride, ownership and commitment, and where appropriate, a source of socio-economic benefit;
- In collaboration with local authorities, define and implement clear guidelines on protected area management and local community relationships;
- Where appropriate, allow people from the neighbouring communities control and access for the sustainable harvest of products of traditional value such as medicinal plants, bamboo, thatch and honey;
- Identify, in collaboration with local communities and government authorities, suitable areas for collaborative management initiatives;
- Assess the various options for collaborative management, and determine the most appropriate interventions;
- Develop guidelines, agreements and specify optimum quotas for extractive resource utilization, based on rigorous environmental assessment and ecological sustainability; and,
- Involve local communities in monitoring wildlife resource use and off-take in protected areas as part of the collaborative management responsibilities.

Uganda Wildlife Statute (1996)

The Uganda Wildlife Statute is an Act of Parliament enacted in 1996, whose object is threefold, to: provide for sustainable management of wildlife; consolidate the law relating to wildlife management; and, establish a coordinating, monitoring and supervisory body for that purpose, and for other matters incidental to or connected with wildlife matters.

In this regard, the Act establishes the Uganda Wildlife Authority, a body corporate whose functions, among other, include to:

- Ensure the sustainable management of wildlife conservation areas;

- Develop and recommend policies on wildlife management to Government;
- Coordinate the implementation of Government policies in the field of wildlife management;
- Identify and recommend areas for declaration as wildlife conservation areas and their revocation;
- Develop, implement and monitor collaborative arrangements for the management of wildlife;
- Establish management plans for wildlife conservation areas and for wildlife populations outside wildlife conservation areas;
- Establish policies and procedures for the sustainable utilization of wildlife by and for the benefit of the communities living in proximity to wildlife; and,
- Promote the conservation of biological diversity *ex-situ,* and to contribute to the establishment of standards and regulations for that purpose.

Rwenzori Mountain National Park, a World Heritage Site, is an important conservation area of international importance managed by UWA pursuant to the provisions of the Uganda Wildlife Statute.

Enabling policy and legal framework in Kenya

Macroeconomic policies

The Economic Recovery Strategy for Wealth and Employment Creation (2003-2007).

The Economic Recovery Strategy for Wealth and Wealth and Empowerment Creation (2003-2007) is a road map for Kenya's path to raising the levels of economic development and improving the population's standards of living. The Strategy aims at empowering Kenyans and providing them with a democratic political atmosphere under which all citizens can be free to work hard and engage in productive activities to improve their standards of living. This is founded on the premise that the government is committed to the decentralization and devolution of power to ensure that communities participate in environment and natural resources management. Under Article 8.4 that deals with forestry and mining, the Government recognizes the importance of forests as source of products, as well as the impacts that may arise as a result of the unsustainable forestry exploitation practices on the environment and productivity of other sectors, in particular agricultural productivity. The Strategy further recognizes inadequacy of community participation in the management of environment and natural resources, and commits itself to 'promote development of agroforestry and encourage community participation in efficient management of forests'. In this regard, the macroeconomic policies encourage the empowerment of communities to manage and conserve the environment and natural resources through community-based approaches.

The Environment Management and Coordination Act (1999).

The Environment Management and Coordination Act (No. 8 of 1999) is a framework legislation that provides for the establishment of an appropriate framework for: the management of the environment and sustainable development; improved legal and administrative coordination of the diverse sectoral initiatives on the management of the environment; and, forming the principal instrument of Government in the implementation of all policies relating to the environment.

The implementing agency of the Act is the National Environment Management Authority (NEMA) working in close consultation with sectoral lead agencies such as Forest Department and Ministry of Water Development and Irrigation.

The Environment Management and Coordination Act (EMCA), 1999 define sustainable development as 'development that meets the needs of the present generation without compromising the ability of future generations to meet their needs by maintaining the carrying capacity of the supporting ecosystems'.

Essentially, sustainable development is a process of change that will allow the satisfaction of human needs without compromising the very base of development – the environment. The objectives of this kind of development are to obtain: an equitable economy; a fair and participatory social system; a reoriented and efficient technology base; and, the optimal use and conservation of the environment.

As a consequence, Section 3 (3) of the Act identifies the principles embodied in the Act as the:

- Principle of public participation in the development of policies, plans and processes for the management of the environment;
- Cultural and social principles traditionally applied by any community in Kenya for the management of the environment or natural resources (subject to their being relevant and not repugnant to justice and morality or inconsistent with any written law);
- Principle of international cooperation in the management of environmental resources shared by two or more states;
- Principles on intergenerational and intra-generational equity;
- Polluter pays principle; and,
- Precautionary principle.

It is interesting to note that besides the Act internalizing the concept of sustainable development in the decision making process, it proceeds to require the High Court in exercising her jurisdiction to be guided by these principles.

The Act, besides establishing NEMA to exercise general supervision and coordination over all matters relating to the environment, and to be the principal instrument of Government in the implementation of all policies relating to the environment, states that NEMA is required every five years to prepare a National Environment Action Plan (NEAP).

The National Environment Action Plan shall among others:

- Contain an analysis of the natural resources of Kenya with an indication as to any pattern of change in their distribution and quantity over time;
- Contain an analytical profile of the various uses and value of the natural resources incorporating considerations of intergenerational and intra-generational equity;
- Recommend appropriate legal and fiscal incentives that may be used to encourage the business community to incorporate environmental requirements into their planning and operational processes; and,
- Set out operational guidelines for the planning and management of the environment and natural resources.

The NEAP shall be submitted to the National Assembly for adoption. Once adopted by the National Assembly, the National Environment Action Plan “shall be binding on all persons and all government departments, agencies, state corporations or other organs of Government.” The import of this provision is that the National Environment Action Plan shall provide a regulatory framework for environmental management in Kenya especially in such areas as land use, natural resource management, and research among others.

Local communities are expected to participate in the development of the District Environment Action Plans through their representation in the District Environment Committee (DEC). The District Environment Committee draws its membership from not only the government officials but also from the local community. Local community representatives are to be drawn from: farmers, pastoralists, youth and women; community-based organizations; and non-governmental organizations.

This brings the number of local community representatives to the District Environment Committee to eight (8). Local community representatives are also to be found on the Provincial Environment Committees.

The Act provides a framework for the Minister responsible for environment to declare a lakeshore, wetland, coastal zone or river bank to be a protected area and impose such restrictions as may be necessary to protect the lakeshore, wetland, coastal zone and river bank from environmental degradation. In doing so the Minister is obligated to take into consideration the following factors: geographical size of the lakeshore, wetland, coastal zone or river bank; and, interests of resident communities around the lakeshore, wetland, coastal zone or river bank concerned.

Furthermore, under section 43, the Act provides a framework for the protection of traditional interests. This provision may be used to enhance the protection of coastal and marine resources by incorporating local communities in their management and conservation. However, to do so, local communities in a specified area will need to identify those traditional rights, upon which they will need to submit them to the relevant District Environment Committee. Once DEC has approved them, they may be forwarded to the Director General, NEMA to ensure harmony before preparing an appropriate Gazette Notice for the Minister responsible for environment to sign. Once gazetted the affected local community working with the relevant DEC and lead agency, will develop operational guidelines specifying the mechanisms of realizing those rights without infringing on the rights of others. The guidelines so developed will have to be gazetted to give them legal effect and binding to all members of that community and any other player.

The Act has provisions to support the protection of any area of land, sea, lake or river for the purpose of promoting and preserving specific ecological processes, natural environment systems, natural beauty or species of indigenous wildlife or the preservation of biological diversity in general. This provision is useful in the instant case if it can be established that the area is environmentally significant which does not require to be declared a protected area in the traditional manner. This will allow for the establishment of a management regime that is community-based to ensure that their interests, needs and aspirations are incorporated in the decision making process.

The Act requires NEMA to prescribe measures necessary to ensure the conservation of biological diversity in Kenya. In so doing, NEMA shall:

- Identify, prepare and maintain an inventory of biological diversity in Kenya;
- Determine which components of biological diversity are endangered, rare or threatened with extinction;
- Identify potential threats to biological diversity, and devise measures to remove or arrest their effects;
- Undertake measures intended to integrate the conservation and sustainable utilization ethic in relation to biological diversity in existing government activities and activities by private persons;
- Specify national strategies, plans and government programmes for conservation and sustainable use of biological diversity;
- Protect indigenous property rights of local communities in respect of biological diversity; and,
- Measure the value of unexploited natural resources in terms of watershed protection, influences on climate, cultural and aesthetic value, as well as actual and potential value.

The Act obligates NEMA, in consultation with lead agencies, to prescribe measures that promote conservation of biological diversity *in situ.* Additionally, in instances where there are

species which are threatened with extinction the Act obligates NEMA, in consultation with lead agencies to prescribe measures and issue guidelines for the conservation and management of threatened species *ex situ.* The Act also has provisions for Environmental Conservation Orders. The purpose for an Environmental Conservation Order is to enhance the principles of environmental management. An Environmental Conservation Order may be imposed in order to *inter alia* preserve: flora and fauna; the quality and flow of water in a dam, lake, river or aquifer; any outstanding geological, physiographical, ecological, archaeological, or historical features of the burdened land; scenic view; open space, among others.

A person or a group of persons or the Government may apply to the court for the grant of the Environmental Conservation Order. The court may require the applicant for the Environmental Conservation Order to bear the cost of compensation. However, where the court is satisfied that the Environmental Conservation Order is of national importance, it may order the government to compensate the applicant or affected individuals subject to the relevant provisions of the Constitution, and the laws relating to compulsory acquisition of land. Finally, the Act recognizes the rights of local communities in sharing of benefits and obligates NEMA to issue guidelines and prescribe measures for the sustainable management and utilization of genetic resources in Kenya for the benefit of the people of Kenya.

The Act requires NEMA, in consultation with the relevant lead agencies (i.e. Forest Department), to develop, issue and implement regulations, procedures, guidelines and measures for the sustainable use of hill sides, hill tops, mountain areas and forests. The prescribed measures shall control the harvesting of forests and any natural resources so as to protect water catchment areas, prevent soil erosion and regulate human settlement.

The Act obligates the District Environment Committee to identify the hilly and mountainous areas in their area of jurisdiction, which are at risk from forms of environmental degradation. Such areas could be: prone to soil erosion; areas where landslides have occurred; places where vegetation cover has been removed or is likely to be removed from the area at a rate faster than it is being replaced; and where there is any other land use activity likely to lead to environmental degradation.

The Act requires such areas as identified by DEC to be targeted for afforestation or reforestation through voluntary self-help activities by the local communities. The District Environment Committee has powers to cause whomever property owner to implement prescribed measures, including measures to plant trees and other vegetation. To ensure compliance to the DEC's directions, the Act criminalizes non-compliance to measures prescribed by NEMA or DEC by imposing upon conviction an imprisonment for a term not exceeding eighteen (18) months or to a fine not exceeding Kshs. 350,000 or both such fine and imprisonment.

To ensure that forests under private land are afforded protection, the Act confers discretionary powers to the NEMA Director General after consultation with the Chief Conservator of Forests (Director of Forests, in the new policy/ legislation/institutional set up) to enter into contractual arrangement with a private owner of any land for purposes of being regarded as forestland. However, there is a caveat to this arrangement in that it must not be prejudicial to the traditional interests of the local communities customarily resident within or around such a forest. It is important to note that the Act protects declared traditional interests of local communities customarily resident within or around a forest. This provision may be used to theadvantage for the protection of the forests by incorporating local communities living adjacent to a particular forest

into the overall management of that particular forest. This provision supports collaborative management of forests as exhibited by the current practice in Arabuko Sokoke. However, to do so, local communities in a specified area will need to identify those traditional rights, upon which they will need to submit them to the relevant District Environment Committee (DEC). Once DEC has approved them they may be forwarded to the Director General to ensure harmony before preparing an appropriate Gazette Notice for the Minister responsible for environment to sign. Once gazetted the affected local community working with the relevant DEC and lead agency (in the instant case Forest Department) will develop operational guidelines specifying the mechanisms of realizing those rights without infringing on the rights of others. The guidelines so developed will have to be gazetted to give them legal effect and binding to all members of that community and any other player.

Furthermore, the Act also recognizes the importance of forests as sources of fuel wood. In order to promote diversification of sources of energy, the Act promotes the use of renewable sources of energy by: promoting research in appropriate renewable sources of energy; creating incentives for the promotion of renewable sources of energy; promoting measures for the conservation of non-renewable sources of energy; and, taking measures to encourage the planting of trees and woodlots by individual land users, institutions and community groups.

Incentives are provided for those who adopt sound environmental practices that induce or promote proper management of the environment and natural resources. These include using other energy resources and water harvesting and conservation among others. At the same time, the Act imposes disincentives to deter bad environmental behaviour that leads to depletion of environmental resources.

To ensure that decisions made in the development arena are sustainable, the Act provides for mandatory Environmental Impact Assessment (EIA) for all project activities listed in the Second Schedule of the Act. Some of the activities which must undergo mandatory EIA, *inter alia,* include:

- Natural conservation areas including creation of national parks, game reserves and buffer zones;
- Establishment of wilderness areas;
- Formulation of policies for the management of ecosystems, especially by use of fire; commercial exploitation of natural fauna and flora; and introduction of alien species of fauna and flora into ecosystems; and,
- Major changes in land use including any activity out of character with its surrounding and any structure of a scale not in keeping with its surrounding.

The Act defines EIA as 'a systematic examination conducted to determine whether or not a programme, activity or project will have any adverse impacts on the environment'. The import of this definition is that it is a process for identifying the likely consequences for the environment and for human health and welfare of implementing particular activities and for conveying this information, at a stage when it can materially affect their decision, to those responsible for sanctioning the proposals. Thus, the function of EIA in the decision making process is to ensure that decisions on proposed actions take the environment into account.

The EIA process entails public participation in the decision-making. Under section 59, of the Act the Act provides for public participation in the review of the EIA study report of a given project activity before a decision is made. Section 59 (1) states:

"Upon receipt of an environmental impact assessment study report from any proponent under section 58(2), the Authority shall cause to be published for two successive weeks in the

Gazette and in a newspaper circulating in the area or proposed area of the project a notice which shall state:

(a) A summary description of the project;

(b) The place where the project is to be carried out;

(c) The place where the environmental impact assessment study, evaluation or review report may be inspected; and

(d) A time limit not exceeding sixty days for the submission of oral or written comments on the environmental impact assessment study, evaluation or review report.

The Authority may, on application by any person extend the period stipulated in sub-paragraph (d) so as to afford reasonable opportunity for such person to submit oral or written comments on the environmental impact assessment report."

In addition to the provisions under the Act, the EIA Guidelines, Procedures and Regulations promulgated under section 58(7) has an elaborate framework for public participation beginning with the reviewing of the project report through to the implementation, monitoring and audits.

The effect of these EIA provisions is that they confer certain rights to the local communities to participate in the decision making process. First, they can be involved during the scoping phase of the project. Upon submission of the project report by the project proponent, if the project is to undergo an EIA, a scoping study is instituted to determine the environmental aspects that must be considered during the EIA study stage. At this stage the interested and affected parties are expected to participate in the scoping, with a view of ensuring that all their concerns and uncertainties are incorporated for further investigation. Secondly, the interested and affected parties may participate during the EIA study phase.

During that stage, interviews with the affected parties are of paramount importance, and it is again at this stage that any uncertainties may be investigated and provision of any available information is important. Thirdly, the interested and affected parties may be involved in reviewing the EIA study report to establish whether all their concerns have been addressed, and to what extent the proposed mitigation measures could be implemented. Finally, interested and affected parties may be involved in the continuous monitoring and audits to ensure that the environmental management plan is being implemented, and to look for any emerging issues that could not be predicted during the EIA study stage.

Sectoral Policies and Laws

The Forest Policy

Sessional Paper No. 1 of 1968 sets out a Forest Policy for Kenya. The aim of the Paper was to demarcate and increase the total forested area as far as possible. The policy expresses an intention that all major forests be managed by central government, because a forest in one district/or province may affect the water and/or timber supplies in another. However, it encourages local authorities to establish forests, and to manage forests on trust lands within their respective jurisdictions. Further, the policy emphasizes the need to encourage agroforestry and farm forestry, but no specific measures are suggested.

There is also the forthcoming Forest Policy (Sessional Paper No. 9 of 2005), which was published for debate and passing by parliament in 2005, but was not. It is likely to be passed in 2006 in the current form.

The Forests Act, Cap 385

The Forests Act, Chapter 385 of the Laws of Kenya, is the principal legislation for the protection and management of forests in Kenya. Through gazettement, the Forests Act vests exclusive control of forest areas and nature reserves into the Government. The Act utilizes prohibitions and licenses to secure rational management and conservation of forests through controlled grazing,

logging, removal of forest produce or disturbance of flora. To this extent, no person shall, without a license, fell, cut or remove any forest produce from a forest area; clear, cultivate or break up land for cultivation; or capture or kill any animal in a forest area; or de-pasture cattle to be in a forest area. A presumption is established that any cattle found in a forest area shall be deemed to be there under the authority of the owner, unless the owner proves the contrary. This exclusive principle is not appropriate as a long-term policy, especially with increasing political pressure to convert portions of forest into agricultural and settlement areas. Worst still, the Forests Act makes no distinction between, say, indigenous forests and plantation forests or farm forests. The Act's conception of forests is purely in the category of being legal and formal, with no provision for local community participation.

It is in that respect that the term 'forest area' means an area of land declared to be a forest area by the Minister responsible for matters relating to forests. The effect of this provision is that there may be many forests in the country, which for purposes of the Act are not forests because the Minister has not yet declared them so to be. It is through such shortcomings in the statute, especially on criteria of their establishment, which have failed to provide a holistic view to forests management thus leading to their decimation. As to degazettement of a protected forest area, the Act gives powers to the Minister to degazette a forest after giving a notice of 28 days. Unfortunately, the Act does not say what happens to objections lodged within 28 days of the notice. Because of that lacuna, the Minister has continued to degazette forests without due regard to the objections raised.

Overall, the Forests Act, Cap 385 was inadequate as it does not provide enabling framework for participatory forest management. Indeed, the Act does not embody any management principles upon which forests are to be managed in Kenya.

This Act was actually based on sustained yield basis, on which forest plantations were managed. Sustained yield basis is where consideration is given to ensuring that what can be harvested in each succeeding year can be replaced in a planting programme, i.e. the planting and cutting programmes or cycles are well intimately related to ensure there is continued supply of products, with contingencies factored in. These provisions are purely legalistic. As a result of this, many local communities have tended to treat forests as government property, which should be decimated for their produce and land for settlement and speculation. The Act has little control over forests on private and trust land.

Realizing that forests are assets to the local community living adjacent to those forests, the Forest Department, using administrative powers, has attempted to remedy the situation by initiating collaborative management with the Kenya Wildlife Service and the local communities. Such initiatives are evident in Arabuko Sokoke, Shimba Hills and Kakamega forests. The dependency of local communities living adjacent to forests on forest resources must be alleviated to sustain such a control. It is against this background that the Kenya Forestry Master Plan (1994) addresses the question of traditional rights and states that:

"when not in conflict with the principle of sound and sustainable resource utilization and management or national development priorities, the traditional ways of life of people living within and adjacent to designated forest areas and the forest related cultural values and religious practices of these people will be respected"

The Plan further notes that local people will be viewed as development partners and will be encouraged to participate in the management, utilization and conservation activities of various forestry programmes such as indigenous forests, plantations, farm forestry and plantation forestry. The strategy to recognize traditional rights is in tandem with the provision under EMCA.

The Forests Act, 2005

The genesis of the Forests Act, No 7 of 2005 can be traced back to 1979, when the Beijer Institute report was published. The key feature of this report was its alarming forecast, that by the year 2000, there would be no tree left in Kenya, based on the then rate of felling of trees. The report compelled such dramatic actions to be taken that were to later change the scenario in forest management in Kenya.

Following the report, the Government initiated the formulation of Kenya Forestry Master Plan (KFMP) in 1992, which would guide the development of forestry sector in the next 25 years. The KFMP was adopted in 1994. Some of the salient issues identified for special attention, *inter alia,* include the need to overhaul the then existing Forest Policy and Forests Act (Cap 385). At the same time, the Kenya National Environment Action Plan (KNEAP) was adopted in 1994 which also identified, among other issues, the need for new policy and legal framework for sustainable forest management.

Initial efforts to formulate a new forest legal and institutional framework began in 1996. The Draft Forest Policy which was developed with input from Price WaterHouse Coopers was a departure from the conventional centralized authority, thus, among others, proposing a shift in the management of plantation state forests as well as the indigenous forests. It proposed the establishment of a semi-autonomous institution to be responsible for the protection and management of indigenous forests. A major shortcoming in the said draft policy was its insufficiency in proposing an inclusive framework for community participation in the protection, conservation and utilization of forests.

Unfortunately, the period between 1996 and 2001 was the worst period when Kenya lost much of its forests through political patronage. A number of forests such as Mt Elgon, Mau forest and others were opened for settlement schemes.

In the process, there was rush by foresters to make the most out of the forests, and indeed, a number of them carved out big chunks of land for themselves and friends. The politicians were not exempted, and many of them would collude with the Forest Department and Commissioner of Lands for personal benefit at the expense of forests. In addition, corruption became rampant during this period as exhibited by loss of revenue generated from forest royalties and sale of timber that never reached the Treasury. Because of lack of political will, the Kenya Indigenous Forests Conservation Programme (KIFCON) that had the support from development partners and which championed stoppage of forest excisions for political expediency was discontinued in 1995.

Following concerted efforts by civil society and development partners, the Forest Bill, 1999 was developed. In order to sensitize communities on the effect of the proposed law on their lives, civil societies such as Kenya Forests Working Group (KFWG) and Forest Action Network (FAN), with financial support from the United Kingdom Department for International Development (DfID) undertook the process of community sensitization on the Bill. Arising from the community consultative meetings, the Forests Bill, 1999 was revised giving rise to Forests Bill, 2000. The Forests Bill, 2000 had a specific chapter dealing with community participation.

At the same time, in November 1999, the Government declared a 90 day suspension on timber harvesting in all 120,000 hectares of plantation state forests in the country. The aim was to allow auditing of the industrial forest plantations following concerns that harvesting and management practices were unsustainable, and a threat to sustainable forest management and environmental conservation in general. Immediately after the suspension was lifted, an indefinite presidential ban on timber harvesting was imposed in March 2000 and remains in force to date.

Most of the stakeholders felt that to a great extent, the Draft Forests Bill, 2000 had accommodated their views. However, it was felt that the fines proposed in the Bill were too high. In spite of this contentious issue, many stakeholders were eager to have the Bill enacted into law without further delays, having taken long enough time already to have it the way it was. The civil society vigorously campaigned for the Bill to be tabled in Parliament. Due to lack of political will, the Forests Bill, 2000 was never presented to Parliament.

It was not until 2003 that work on the Bill resumed and given due attention by the government, presumably because the new government elected on the platform of performance, wanted to act on the standing issues as per its promises to the electorate. In 2003, Forests Bill, 2000 was republished as Forests Bill, 2003, and presented to the Cabinet for approval. The Cabinet recommended further revision of the Forests Bill, 2003 and formulation of Forest Policy. In particular, the Cabinet sought the policy and Bill to address issues relating to riverine forests, charcoal and capacity building. At the same time, during the 2003, UNEP-Ministerial meeting in Nairobi, some delegates was flown over various forests. During these excursions, they flew over Chinga Forest, Nyeri District, and observed widespread cultivation in and around forests, attributed to failure in the *shamba* system. This led to the banning of *shamba* system as a way of stopping further forest degradation. In addition, all forestry technical staff were sent on annual leave for eight months.

In January 2004, the Ministry of Environment and Natural Resources, in collaboration with the National Assembly with support from conservation non-governmental organisations (NGOs) and development partners held a consultative meeting with the Members of Parliament in Mombasa. The aim of the meeting was to sensitize Members of Parliament on the salient provisions of the proposed Forest Policy and Forests Bill, and solicit their support to pass the Bill when presented to Parliament. Members of Parliament raised a number of issues for consideration. Some of the issues include recognition of the *shamba* system, leasing of plantation state forests, and an effective framework for community participation in forest management.

In June 2004, a new version of the Bill, the Forests Bill, 2004 was taken to Parliament. It had minimal changes compared with the Forests Bill, 2003. Among other features, it provided for concession as a viable option in the management of plantation forests. It was not, however, clear with regard to Non-Residential Cultivation (NRC)/ *shamba* system. Unfortunately, the Members of Parliament, ostensibly for political reasons, voted against the Bill. This necessitated a fresh look at the Bill with the aim of incorporating as much as possible the issues raised by Members of Parliament when they rejected the Bill. This gave rise to the Forests Bill, 2005, which was finally presented to Parliament for enactment in July 2005. Parliament subsequently approved the Bill.Although the Act has been assented by the President, it is yet to become law since the Minister has not gazetted it. This follows the need to put in place institutional and management structures, as well as subsidiary legislation needed to support implementation of the new law.

The Trust Land Act, Cap 288

The term Trust Land refers to what was previously known as native reserves or special areas (s. 114 of the Constitution). Today, trust lands are regulated by Trust Land Act, Cap 288 of the Laws of Kenya, and Chapter IX of the Constitution. The title to all Trust Land is vested in the County Council within whose area of jurisdiction it is situated. Each County Council holds the trust land vested in it for the benefit of the persons ordinarily resident on that land, and is required to give effect to such rights, interests or other benefits in respect of the land as may, under African customary law for the time being in force and

applicable thereto, be vested in any tribe, group, family or individual. However, this is subject to the right of the Government to set apart and alienate any land required for public purposes or for such other purpose as the County Council shall think beneficial. For purposes of setting apart and alienating any trust land, the Commissioner of Lands acts as the agent of the County Council. When title to any parcel of land within the Trust Land area is registered otherwise than in the name of the County Council, it ceases to be Trust Land.

The Wildlife Policy

The Sessional Paper No. 3 of 1975 entitled, "*Statement on the Future of Wildlife Management Policy in Kenya*" forms the basis of wildlife management in Kenya to date. The key elements of the Sessional Paper may be summarized as follows: called for integrated management of wildlife resources in Kenya; emphasized the need for community and private participation in the management of wildlife resources in Kenya; called for a centralized administrative structure for the management of wildlife resources in Kenya; and, called for the maximization of the economic value of wildlife resources in Kenya.

The Wildlife Act, Cap 376

After independence, the National Parks Ordinance of 1945 together with the Wild Animals Protection (Amendment) Ordinance (No. 23 of 1953), as amended from time to time, continued to apply until 1976, when they were both repealed by the Wildlife (Conservation and Management) Act. Due to the dwindling nature of wildlife resources in Kenya, the need for certain policy changes began to emerge. In 1976, the Sessional Paper was translated into the current Wildlife Act. The Wildlife Act, Cap 376 consolidates and amends the laws relating to the protection, conservation and management of wildlife in Kenya. The Act vests wildlife in the state, with the Kenya Wildlife Service as the public agency responsible for wildlife conservation and management on behalf of the Kenya Government. Unfortunately, the Act dwells more on the Protected Areas than the incorporation of local communities in the overall management of wildlife resources. Thus, although the aim of wildlife conservation is the sustainable management of the resource in the public interest, due to exclusive public tenure and management of wildlife by the state, the local population have been denied access to, and benefits from wildlife living on their land.

In 1989, an Amendment was made to the Wildlife Act, which resulted in the establishment of the Kenya Wildlife Service (KWS). KWS is a parastatal corporation, and is responsible for the management of marine and terrestrial protected areas. The principal goals of KWS are to:

- Conserve the natural environments of Kenya and their flora and fauna, for the benefit of present and future generations and as a world heritage:
- Use the wildlife resources of Kenya sustainably for the economic development of the nation and for the benefit of people living in wildlife areas:
- Protect people and property from injury or damage caused by wildlife.

Unfortunately this framework does not provide adequate space for community-based wildlife conservation.

Over the years, KWS has made attempts to integrate communities in the conservation of wildlife with limited success. The main challenge has been the question of benefit sharing and the overall community involvement in the decision-making process. The matter is even made worse in the marine sector, as the Act assumes that what obtains in terrestrial protected areas would work in the marine protected areas.

The Water Policy

The vision for the Kenya water sector is that of achieving sustainable development and management of the country's water resource as a basis for poverty reduction, and promotion of

socio-economic development. Key national water policy objectives are to:

- Conserve and protect available water resources;
- Apportion water resources in sustainable, rational and economical way;
- Supply adequate and quality water to meet various needs;
- Ensure safe disposal of waste water to safeguard ecological and environmental processes;
- Establish an efficient and effective institutional, policy and legal framework to achieve systematic development and management of water resources; and,
- Develop a sound and sustainable financing mechanism for effective water resources management, supply and sanitation systems.

The country's strategy on integrated water resources management provides a foundation for the establishment of the Water Resources Management Authority and the Water Services Regulatory Board. The strategy therefore, acknowledges the need to manage water resources for sustainable development and poverty reduction; and proposes to deal with various resource management aspects, including: protection of both water catchments and resources; increasing water wisdom by looking at hydrological functions and status, impacts of climate change, wetlands, and status; water quality and quantity assessment; water apportionment and management; basin-wide management, and capacity building.

The Water Act (2002)

The Water Act No. 8 of 2002 is the principal legislation whose main objectives are threefold; namely the: management, conservation, use and control of water resources; acquisition and regulation of rights to use water; and regulation and management of water supply and sewerage services.

In this regard, the Act therefore repeals the Water Act, Chapter 372 of the Laws of Kenya, and certain provisions of the Local Government Act, Chapter 265 of the Laws of Kenya. The Act therefore, provides for the protection of the quality of water resources, and for the integrated management of water resources with delegation of powers to institutions at catchment level, within defined water management areas. In addition, it provides a developmental framework for water services by clearly defining the different roles and responsibilities of different actors. In this regard, the Act seeks to provide for the protection, use, development, conservation, management and control of the nation's water resources, taking into account a number of needs. These needs, among others, include: meeting the basic human needs of present and future generations; promoting equitable access to water; the efficient, sustainable and beneficial use of water in the public interest; and promoting effective water resources management plans and strategies.

VISION

Background

The regional vision on conservation of montane ecosystems developed is an outcome of a WWF/ UNEP/Irish Government initiative to build capacity for the promotion of community based biodiversity conservation in mountain ecosystems in east Africa. The focus of this project was on major catchment and river basins in East Africa, through best practices in land management.

The broad objectives of the project were to: (i) review, analyze and produce a status report on the policy, legal and institutional framework for the conservation of biodiversity in mountain ecosystems; (ii) facilitate a regional workshop and develop a regional strategy/ guidelines to promote community involvement in good land management; (iii) develop materials and advocacy for the promotion of a regional strategy on water towers; and (iv) implement pilot community-based initiatives building on the on-going conservation initiatives.

The project focused on two sites: the Mau Forest Complex and Rwenzori Mountains in Kenya and Uganda respectively. These forests play important roles: the Mau Complex (Kenya) supports seven rivers; while Rwenzori (Uganda and DRC) is an important area for biodiversity. WWF-EARPO supports projects in both sites. For example, the Mau Forest Restoration Project aims at restoring the degraded areas of the Mau Forest. In its approach, WWF-EARPO has opened up scope to include the involvement of schools in the tree planting and forest restoration efforts. Within the Mau, the Forest Department and a local community, the Ogiek are engaged in forest protection, where focus is on indigenous tree planting.

Participants of the eastern Africa mountain ecosystem workshop, Nakuru, Kenya (WWF-EARPO)

WWF-EARPO organised and held a regional workshop on the conservation of eastern Africa mountain ecosystems as water towers from 2-5 August 2005 at Merica Hotel, Nakuru, Kenya. The participants were drawn from Kenya and Uganda representing government agencies, non-governmental organizations and local communities.

The workshop's purpose was to: increase the knowledge base through sharing experiences on the current trends and challenges in the conservation of biodiversity in mountain ecosystems in east Africa, with a case study of the Rwenzori and Mau montane areas; build capacity of stakeholders in mountain ecosystems; identify and review emerging opportunities with a view to using them in enhancing sustainable management of mountain ecosystems; developing a strategy to address the challenges on the management of mountain ecosystems at local, national and international levels; and mainstreaming of the strategy through identification of champions to promote its implementation at various levels.

One of the key outputs of the regional workshop was the development of a strategic framework that defines the shared vision, goal and objectives for the conservation of mountain ecosystem in east Africa. The strategy also respectively defines the vision and objectives of the Mau Forest Complex and the Rwenzori Mountains Ecosystems.

Regional shared vision

"Healthy and productive mountain ecosystems contributing to sustainable economic growth, peace and stability for the well being of the people of Eastern Africa and beyond."

Goal and objectives

Goal

"A regional strategic framework for managing Eastern Africa Mountain ecosystems as water towers developed and implemented by 2011."

Objectives

- Establish baseline data and information for managing mountain ecosystems: inventories of the status and trends of the ecosystems and their services, and how they are part of local and regional livelihoods and economies; and inventories of community organizations, government agencies, non-governmental organisations and research work relevant to management of mountain ecosystems.
- Harmonize existing national and regional policy instruments: e.g. environmental framework laws, East Africa Community Treaty, NEPAD and MEAs), protocol on environment and natural resource management; and regional EIA guidelines.
- Develop capacity for planning and management for mountain ecosystem: e.g. joint transboundary management plans.
- Establish regional network for mountain ecosystems: mechanism for information sharing; and, education and awareness.
- Develop criteria and indicators for sustainable development: certification of products and services (wood and non-wood); economic indicators; and ecosystem status indicators.
- Develop conflict resolution mechanism for mountain ecosystem management.

Rwenzori Mountains, Uganda

Vision

"The Rwenzori Mountains ecosystem with its water catchment values, unique natural and scenic beauty sustainably managed and providing equitable benefits for local, national, regional and international communities."

Objectives

- Develop institutional framework for collaborative management and conflict resolution.
- Develop and support implementation of Ecosystem Management Plans as integral elements of the district development plans.

- Identify and promote local enterprises for improved livelihoods and ecosystems conservation.
- Develop capacity and carry out information gathering, management and dissemination.
- Carry out education and advocacy for sustainable ecosystem management.
- Strengthen managerial and infrastructural capacities at community, local governments and national levels.

Mau Forest Complex, Kenya

Vision

"A well managed Mau Complex ecosystem providing goods and services for sustainable livelihoods to the local communities and contributing to local, national and regional economic growth."

Objectives

- Develop a framework for a multi-stakeholder forum.
- Secure boundaries of the catchment areas and resolve conflicts.
- Develop an Ecosystem Management Plan and institutional arrangements for its implementation.
- Enhance capacity for integrated and participatory ecosystem management.
- Restore the degraded ecosystem.
- Identify and promote activities for improved (and sustainable) livelihoods.
- Enhance knowledge on the ecosystem functioning for planning and management: ecosystem assessments, research, monitoring and evaluation.
- Undertake socio-economic surveys.

Rwenzori Mountains and Mau Complex are critical water towers in eastern Africa.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Taken together, the opportunities for community-based protection and management of montane forests of eastern Africa as water towers, and support to the wider user of forest biodiversity to reduce poverty imply that a new approach to the protection and conservation is needed. The traditional approach of setting aside of forest areas as protected areas under exclusive management by the Government and with no involvement of the local community have been largely unsuccessful. Instead of excluding communities, multiple-use community management regimes ought to be adopted. If implemented in this way, this could help reverse the decline in community access to forests and increase forest productivity. This approach would enhance the development and implementation of sustainable forest management systems appropriate for community needs. This is besides ensuring involvement of local communities, and indeed, the whole array of civil society organizations and other stakeholders at local, national and regional levels. However, it is also important to remember that poorly developed multiple-use community forestry could pose a risk to conservation of the forest ecosystem. It could jeopardize harnessing of the multiple goods and services provided by the forest ecosystem.

Recommendations

Promote the protection and management of montane forests as water towers

Water catchment offers benefits to people living downstream including millions of city dwellers who rely on water from forested watersheds. This will require involvement of people in watershed management. Under this framework, every effort should be made to embed biodiversity conservation and livelihood benefits into forest protection. Multiple-use community forestry can provide local income. Communities and landowners can be paid to conserve resources and monitor water quality using such tools such as payment for environmental services. It is important to note that forest diversity is not just about setting aside protected national parks; it is about landscape management. Different degrees of land management provide 'forest diversity'. There are three main elements of forest management which contribute to biodiversity conservation: protecting forests; sustainable use of forests; and agroforestry. The last assumes many guises, from partial conversion of forest to mixed tree-based systems, to creation of tree-based systems from cleared land. In many of them, food production is pivotal and food security goals will need to be integrated with biodiversity goals. Therefore, both livelihood and bio-quality perspectives are required. Successful management of biodiversity depends crucially on the landscape scale matrix, degree of interconnectedness and overall balance among different components. For example, protected areas are subject to many influences from the surrounding agro-ecosystem or buffer zone. These may be mitigated by having larger reserves which minimize edge effects, by more sensitive management in the surrounding buffer zone (sustainable use), and by the creation of 'corridors' between protected areas or forest fragments.

Work with relevant partners

It is important to work with relevant partners to develop a vision of a regional ecological network of montane forests of East Africa in the framework of the CBD. Generally, the larger protected areas are, the better the ecology can function. Promoting the setting up of ecologically connected network of nature areas in which biological hotspots and protected areas are incorporated is an important instrument to help achieve the policy goal of strengthening the sustainable use of biodiversity. To link these areas with each other, 'robust links' should be created which serve to increase the exchange, and thereby the survival

chance of species. There are several possibilities to enlarge existing areas or to strengthen their ecological functions, for example selected acquisition of natural areas or other forms geared to area preservation.

Networks can also arise through nature development, recovery of degraded areas, and sustainably managed natural and semi-natural areas connected to each other. When developing the necessary instruments, the aim is to protect hotspot and wilderness areas effectively, in a judicial sense as well as from a practical and social viewpoint. The creation of national parks and nature reserves is an important means to this end. The generation of support by local communities and officials and the involvement of these groups in the management processes constitute critical success factors. In addition, sustainable use of buffer zones around protected areas must help develop the regions ecologically, economically and socially.

The local people must be empowered to participate in the planning and decision making process. It is precisely in these areas that the relationship with poverty reduction must be further developed in view of the many opportunities that integrated development offers.

Improve governance structures–policies, institutions and practices

Adopting a more sustainable and participatory approach to protection, conservation and management of forests requires change in many areas and at many levels. Such change can only be effective if it is within a defined enabling environment adaptive to the social, political and economic situation. A proper enabling environment ensures the rights of community and all stakeholders—women as well as men, the poor as well as the better off—and protect public assets such as intrinsic environmental values. Basically, the enabling environment is determined by national, regional and local policies and legislation that constitute the 'rules of the game' and enable all stakeholders to play their respective roles in protection, conservation and management of biological diversity. It also includes the forums and mechanisms, including information and capacity building, created to establish these 'rules of the game' and to facilitate and exercise stakeholder participation.

Decision-making should be governed by the principle of subsidiary, which drives down action to the lowest appropriate level. For example, institutional development is critical to the effective implementation of participatory forest management. Institutional capacity for conservation at local government level such as Narok County Council must be improved.

Strengthen coordinated decision-making across sectors

Many government departments and institutions whose primary function is not forest conservation and management are responsible for sectors where the impact of, and on forests can be enormous–agriculture, wildlife and energy are examples. Similarly, forest resources organizations need to consider issues, such as environment, wildlife or tourism, that lie within the domain of other agencies. A key issue is the creation of effective coordination mechanisms between different agencies to ensure some measure of integration. A balance has to be met between providing a fully integrated approach where specific issues may get lost due to lack of expertise or interest, and a sectoral approach where different policies are followed without any heed to needs and impacts in other sectors. This affirms the importance of developing a strategy. It is important that the strategy formulate clear links between decision-making processes in forest-related sectors.

Develop a multiple-use management strategy for the montane forests

A key goal of community forestry is the long term conservation of forest resources. Nevertheless, conservation goals must be integrated with efforts to generate a steady flow of products that meet the needs of the local people. Increases in the productivity of forest lands are necessary to meet the twin objectives of conservation and rural development. The need to provide benefits to all those involved in forest management requires the establishment of a multiple use management strategy. The movement toward a multiple use management strategy is a paradigm shift from the traditional technical orthodoxies practiced by forest departments. For a century or more, forest department has sought to keep local communities off forest lands, often using forest guards to patrol protected areas, or by levying fines against 'violators' to discourage illegal logging and encroachment. Not surprisingly, these efforts that have provided impetus to policies that exclude local people have been largely unsuccessful.

A multiple use management strategy required is one that increases both the productivity of forests and the diversity of forest products. Because many forest-dependent people have developed forestry practices that encourage product diversity for their own needs, one approach is to study traditional community-based forestry management models and to pursue the possibility of incorporating them into regional land use planning. Such deep changes in management and ownership practices have widespread implications for the institutions charged with forest management. Securing the support of the private sector is a key challenge.

Strengthening community organizations/ institutions

Effective community participation in forest management is a long term process that can only be achieved through an incremental approach. The decentralization and devolution over the control and management of forests to the various organizations at the local level requires strengthening of community institutions, local skills and entrepreneurial spirit. Thus, building viable participatory management structures requires continuity in effort and resources. It is through such well established structures that we will be able to enhance the bargaining position of local communities as well as overcoming the problem of forest rent being captured by local elite.

Use champions

Experience has demonstrated that committed individuals are important in ensuring the successful mainstreaming of environmental issues at local, national, regional and international levels. This championing role can have immense influence over institutional policy development and decision-making. Champions are vital as they provide continuity when interest wanes amongst other stakeholders, help brand processes and are often instrumental in unblocking stalled processes. Mainstreaming water towers into local and national planning processes would depend on 'the right person being in the right place at the right time', where such a person has the right connections and has influence that can make things happen. At the same time, there are potential pitfalls associated with strong reliance on champions. There is the danger that when a champion moves on, the programme will lose momentum or collapse entirely. This does not mean that champions are irreplaceable, but rather that water towers need more than one champion. To champion conservation of water towers requires identification of a range of champions amongst all stakeholder groups and sectors to help build capacity and ensure the continuity and sustainability. Only this way will water towers receive acceptance at various levels.

FURTHER READING

Barrow, E., I. Grundy., K-R. Jones., & Y. Tessema (2002). Analysis of Stakeholder Power and Responsibilities in Community Involvement in Forest Management in Eastern and Southern Africa. Forest and Social Perspectives in Conservation No. 9. IUCN, Nairobi.

CITES and UNEP. Convention on International Trade in Endangered Species of Wild Fauna and Flora. Text of the Convention at http://www.cites.org/eng/disc/text/

EASD. Empowerment for Sustainable Development. Legal, Policy and Institutional Framework and Environment Information at http://easd.org.za/Soe/Uganda/

Ethiopian Wildlife Conservation Organization. (1998). Forest Conservation in High Priority Areas, Bale Mountain and Harenna Forest 1998-2002. A project supported by DGIS and implemented by WWF.

FAO. Protocol for Sustainable Development of Lake Victoria Basin (Arusha, 29 November 2003). Accessed at http://www.fao.org

IGAD. Intergovernmental Authority on Development: The Founding of IGAD. Accessed at http://www.igad.org/about/

Institute of Security Studies. The Treaty Establishing the East African Community, 1999. Accessed at http://www.iss.co.za/af/

ITTO. International Tropical Timber Agreement. Accessed at http://www.itto.or.jp

IUCN (2004). An Introduction to the Africa Convention on the Conservation of Nature and Natural Resources. IUCN, Gland, Switzerland and Cambridge, UK. Xii + 66pp. Accessed at http://www.iucn.org/theme/law

Kenya Forestry Working Group (2001). Excision and Settlement in the Mau Forest. Report of a Fact-Finding Mission on the Status of Eastern Mau Forest.

Mathook, J.M & S.T. Kariuki (2000). Disturbances and Species Distribution of the Riparian Vegetation of a Rift Valley Stream. Africa Journal of Ecology, **38**,123-129.

Metccalfe, S. (1996). Whose resources are at stake? Community-based Conservation and Community self-governance. Rural Extension Bulletin, Reading University **10**: 14-15.

Murphree, M.W. (ed.) (1996). Approaches to Community participation in Overseas Development Administration. African Policy Wildlife Policy Consultation. Final Report of the consultation. ODA, 153-188.

NBI. Nile Basin Initiative. Accessed at http://www.nilebasin.org/about/

Ramsar Secretariat . Convention on Wetlands of International Importance Especially as Waterfowl Habitat. Accessed at http://www.ramsar.org

Regassa, F (2001). Forest Resources Ownership and Use Rights and the Role of Communities in Forest Management.

Republic of Kenya. Act No. 8 of 1999 - Environmental Management and Co-ordination Act, Laws of Kenya.

Republic of Kenya. Chapter 280 - Government Lands Act, Laws of Kenya.

Republic of Kenya. Chapter 288 - Trust Land Act, Laws of Kenya.

Republic of Kenya. Chapter 376 - Wildlife (Conservation and Management) Act, Laws of Kenya.

Republic of Kenya. Chapter 385 - Forest Act, Laws of Kenya.

Republic of Kenya. Constitution of Kenya Act, Laws of Kenya.

Republic of Kenya. Economic Recovery Strategy for Wealth and Employment Creation, 2003 - 2007. Ministry of Planning and National Development. Accessed at http://www.planning.go.ke

UNCCD. Convention to Combat Desertification. Text of the United Nations Convention to Combat Desertification. Accessed at http://www.unccd.int/convention/text/

UNEP and CBD. The Convention on Biological Diversity. Text of the Convention. Accessed at http://www.biodiv.org/

UNESCO. Convention Concerning the Protection of the World Cultural and Natural Heritage. Accessed at http://whc.unesco.org/en/175

UNFF. United Nations Forum on Forests. Accessed at http://www.un.org/esa/forests/

United Nations Department of Social Affairs. Plan of Implementation of the World Summit on Sustainable Development. Accessed at http://www.un.org/esa/susdev/

WWF-EARPO (2005). Proceedings of a Regional Workshop on the Biodiversity Conservation of East Africa Mountain Ecosystems as Water Towers, 2-5 August 2005, Merica Hotel, Nakuru, Kenya.

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WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption

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