

**FINANCING OF SUSTAINABLE FOREST MANAGEMENT IN AFRICA: AN OVERVIEW OF
THE CURRENT SITUATION AND EXPERIENCES***

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* The views conveyed in this study are meant to spur discussion during the first meeting of the ad hoc expert group on forest financing (13-17 September 2010- Nairobi, Kenya) and do not necessarily reflect the views of the UN Forum on Forests Secretariat, the UN Forum on Forests, or its member States.

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ACRONYMS AND ABBREVIATIONS

ADMADE	Administrative Management Design Programme
AfDB	African Development Bank
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBD	Convention on Biodiversity
CBFF	Congo Basin Forest Fund
CBFP	Congo Basin Forest Partnership
CBNRM	Community-based Natural Resources Management
CBO	Community Based Organisation
CDM	Clean Development Mechanism
CITES	Convention on Trade in Endangered Species
COMESA	Common Market for Eastern and Southern Africa
COMIFAC	Central African Forests Commission
CSO	Civil Society Organisation
CTF	Clean Technology Fund
DAC	Development Assistance Committee
DRC	Democratic Republic Of Congo
EAC	East Africa Commission
ECOPAS	Ecosystems Proteges d’Afrique Soudano-Saheli
ECOWAS	Economic Community of West African States
ETS	European Union Emission Trading Scheme
FAO	Food and Agriculture Organisation of the United Nations
FCPF	Forest Carbon Partnership Facility
FDI	Foreign Direct Investment

ACRONYMS AND ABBREVIATIONS

FLEG	Forest Law Enforcement and Governance
FIP	Forest Investment Programme
FSP	Full size projects
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEPRE-NAF	Gestion Participative des Ressources Naturelles et de la Faune
GGWSSI	Great Green Wall for the Sahara and the Sahel Initiative
GOF	Global Objectives on Forests
GM	Global Mechanism
IBRD	International Bank for Reconstruction
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
ITTO	International Tropical Timber Organisation
IUCN	International Union for Conservation of Nature
LULUCF	land use, land-use change, and forestry
NFFS	national forest financing strategy
NFP	national forest programme
NLBI	Non-Legally Binding Instrument on All Types of Forests
NGO	Non-Governmental Organisation
NTFP	Non-Timber Forest Product
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development

ACRONYMS AND ABBREVIATIONS

OTC	Over-The-Counter
PFI	Public Forest Institution
PFE	Permanent Forest Estate
PES	Payment for Environmental Services
PROFOR	Programme on Forests
RAF	Resource Allocation Framework
REDD	Reduced emissions from deforestation and forest degradation
SADC	Southern Africa Development Community
SCF	Strategic Climate Fund
SFM	Sustainable forest management
SSA	Sub-Saharan Africa
TFA	Tropical Forest Account
TIST	International Small Group and Tree Planting Program
UN	United Nations
UNCCD	United Nations Convention On Combating Desertification
UNFCCC	United Nations Framework Convention on Climate Change
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Programme on Development
UNEP	United Nations Environment Programme
UNFF	United Nations Forum on Forests
USD	United States Dollar
VAT	Value Added Tax

WB	World Bank
WFP	World Food Programme
WWF	World Wide Fund for Nature
ZAWA	Zambia Wildlife Authority
ZICGC	Zones d'Interet Cynegetique a Gestion Communataire in Cameroon

1. INTRODUCTION

Africa's forests cover an estimated 635 million hectares (ha) or 21.4 percent of Africa's land area and account for 16.8 percent of global forest cover. The region's forests can be classified into nine categories including tropical rain forests, tropical moist forests, tropical dry forests, tropical shrubs, tropical mountain forest, sub-tropical humid forests, sub-tropical dry forests, sub-tropical mountain forests and plantations. The distribution of these forests varies from one sub-region to another, with the southern extremes of the Sahara desert having the least forest cover while Central Africa has the densest cover (See Figure 1 below).

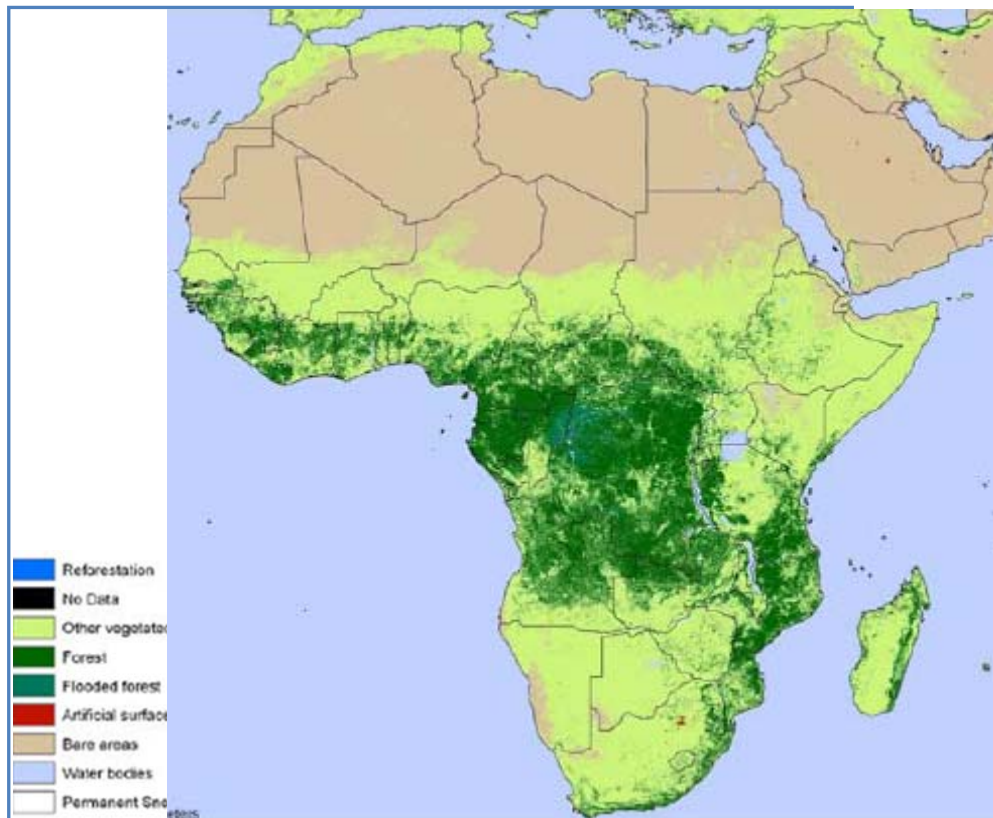


Figure 1: Forests and Woodlands of Africa

Source: ESA / ESA GlobCover Project

Four sub-regions, each based on specific forest ecosystems can be delineated and these are central, eastern, southern and western Africa. These sub-regions are not mutually exclusive as plant species are found across phytoregions (White 1983).

Seventeen African countries are “mega-biodiversity” countries and two of its forested areas, the Upper Guinea forest of West Africa and Eastern Arc mountain forests in East Africa are recognized as

biodiversity hotspots. The Congo Basin, the second largest contiguous expanse of tropical rainforest in the world, accounts for 65% of sub-Saharan Africa's biodiversity. Further, Central African forests store 25-30 billion tonnes of carbon and can sequester up to 630 kg of carbon per ha per year thereby providing a critical buffer against global climate change (Katerere *et al*, 2009).

It is widely recognized that forests and trees are at the centre of socio-economic development and environmental protection of the continent. They provide a wide range of forest products and services upon which rural communities and the urban poor depend for their livelihoods and subsistence. The forest products include wild foods such as honey, mushrooms and fruits, medicines, woodfuel, construction poles, and browse and fodder for livestock. Over 90% of the people in Africa rely on forests and trees for their energy needs, mostly as fuelwood and charcoal. In some countries forests also provide an important economic resource with tropical wood trade making up an average 6% of GDP and 10% of foreign trade in the Congo Basin countries (FAO, 2009). In recent years there has been significant growth in the production and trade in non-wood forest products. This has been driven by the growing popularity of ethnic foods, traditional medicines, natural and organic foods. However, the majority small-scale forest-based enterprises in Africa operate in the informal sector and are therefore not reflected in national accounts (Gondo, 2009, Kasentry, 2007). Forests and woodlands also provide important global environmental services that include watershed protection, wildlife habitats, bio-diversity, carbon sequestration and maintenance of ecosystem functions.

Although the local, national and global importance of forests and other ecosystems for human well-being, socio-economic development, poverty reduction, biodiversity and environmental conservation, and achievement of the Millennium Development Goals is widely acknowledged, the forests in Africa are expected to continue to decline at high rates due to deforestation and forest degradation. The FAO estimates that 9% of Africa's forests were lost between 1990 and 2005 at an average rate of 4 million ha (40,000 km²) annually (FAO, 2009). Analysis shows that Africa accounts for over half of global deforestation and most of this is coming from the tropical dry forests of eastern and southern Africa (Appendix 1). Whilst the need for sustainable forest management to halt and reverse the loss of forests has been recognised and accepted in Africa, the management efforts to-date have not yielded the desired results. For example less than 6% of the permanent forest estate in ITTO African member states is under sustainable management (ITTO, 2005). Only about 3 million ha of forests have been certified and the bulk of these are planted forests in South Africa (FAO, 2009). Reasons for deforestation include agricultural expansion, population growth and increasing demand for forest products, poverty, and high dependence on natural resources for subsistence and income, and economic pressures to increase exports of agricultural produce, timber and minerals. In addition, accelerating urbanization (3.5% per annum) is increasing energy demand and will invariably lead to more expanses of forest and woodlands being cut. Thus, there is a need to adopt measures that will address this downward spiral by engaging governments, individuals, communities, private sector, and NGOs managing, protecting, and forest management to adopt sustainable forest management.

Sustainable forest management is aimed at maintaining and enhancing the economic, social and environmental values of all types of forests, for the benefit of present and future generations (Prabhu et

al., 1996; ITTO, 1998; Tainter, 2001). The FAO (2005) defines SFM as the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and potential to fulfill, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and does not cause damage to other ecosystems. But for this to be realized SSA must address the weak policy, legal, and institutional frameworks that have inadvertently promoted deforestation and degradation in the region over the years. Further, forests are not highly prioritized in most SSA countries and consequently, receive limited resources from central governments (Kufakwandi, 2000; Tomaseli 2006). From a technical perspective, inadequate or non-existent inventories, lack of data and information on forests and poor monitoring have over the years collectively hindered effective management and deployment of the economic opportunities offered by forests.

Africa is undergoing rapid political, economic and social change, some of which is negative and, consequently, society-forest relationships will be redefined and dependencies bolstered. Thus, the embracing of a concept such as sustainable forestry management (SFM) will have far reaching impacts on forests, trade, economies, people and institutions in the region. Improved forest management that may be realized through SFM will lead to healthier forests that will benefit present and future generations. In this way, the potential contribution of forest resources to poverty reduction, socio-economic development and ecological and hydrological stability in SSA would be guaranteed. Yet, for this concept to be adopted increased financial flows to this sector are needed. It is noted that, the dual nature of forest management – generating global, national, and local public goods as well as private profit- poses a challenge and an opportunity which Africa must address. As already indicated, forests provide services such as biodiversity or climate change mitigation while at the same time timber and non-timber forest products can also be obtained from the same forests.

Since the start of the 1990s, sustainable forest management (SFM) has been promoted as a fundamental element in the protection of environmental services of major ecological value and as a viable approach in the pursuit of international, national and local development objectives. Notably, the notion of putting sustainable forest management to work has occupied centre stage since UNCED 1992, with the mobilization of finances for the deployment of the concept being at the core of these deliberations. Over the last decade the question of how to broaden and diversify financial resources for supporting sustainable forest management especially in developing countries has dominated both national and international forest policy dialogue and agendas. At the special session of the ninth session of the UN Forum on Forests (UNFF9), held on 30 October 2009, a resolution addressing the need to identify the means of implementation for sustainable forest management was adopted. This followed closely on the UNFF's Non Legally Binding Instrument (NLBI) on All Types of Forests whose text provides a set of comprehensive actions to be taken by governments in order to achieve the Global Objectives on Forests

(GOF). Concern is specifically centred on GOF 4, which calls for reversing the decline in official development assistance for SFM as well as mobilizing new and significantly increased additional financial resources for its implementation.¹ The resolution basically consists of two sets of actions: establishment of an open ended intergovernmental *ad hoc* expert group, and a facilitative process. In the first operative paragraph of this resolution (OP1), the UNFF decided to establish the open ended intergovernmental *ad hoc* expert group with a view to:

“... making proposals on strategies to mobilize resources from all sources to support the implementation of sustainable forest management, the achievement of the global objectives on forests and the implementation of the non-legally binding instrument on all types of forests, including, inter alia, strengthening and improving access to funds and establishing a voluntary global forest fund, taking into account, inter alia, the results of the Forum’s review of the performance of the facilitative process, views of Member States, and review of sustainable forest management-related financing instruments and processes...”

The purpose of this study is to conduct an analysis of sustainable forest management financing in Africa with a view to identifying and recommending issues that should be addressed and actions to be taken by countries and other stakeholders in the region to improve financing to the forest sector. It provides some examples of innovative ways of funding SFM and some thoughts on how the region can generate funding for SFM. In doing this, the extent to which the adoption of SFM in SSA can contribute to global environmental benefits as well as the degree of alignment with other strategic programmes such as biodiversity, climate change and land degradation are examined.

2. OBJECTIVES, METHODOLOGY AND SCOPE

2.1 Objectives

The general objective of the study is to conduct an analysis of forest financing in Africa. The specific objectives are:

- To assess the current forest financing needs and gaps in Africa for SFM and in the context of the implementation of ,the implementation of the Non-legally Binding Instrument on All Types of Forests (forest instrument);
- Conduct analysis of current funding sources/mechanisms on forests in selected countries including lessons learned and constraints, if any;

¹ Adopted by the seventh session of UNFF and by the United Nations General Assembly in 2007 (A/RES/62/98)
<http://www.un.org/esa/forests/nlbi-GA.html>

- To document experiences, lessons-learned, challenges, opportunities and success stories on forest financing in Africa including
 - The institutional and governance structures for SFM and its financing
 - The extend of the flows and effectiveness of financial resources for SFM (public, private, philanthropic, domestic and external resources)
- To document experiences of state ministries/agencies responsible for forest management, planning and finance on the flows and effectiveness of the international financial resources (public, private and philanthropic).
- To identify areas, issues and actions that countries of the region consider crucial for forest financing strategies.

2.2 Methodology

This study is based on the review of available literature; case studies, documents and workshop reports addressing existing and emerging financing mechanisms for sustainable forest management. Lessons and experiences were also obtained from selected country studies. The study also used earlier work carried out on the subject of financing sustainable forest management by the World Bank and FAO (e.g. Simula, 2008, Tomaseli 2006, and FOA, 2009). Most of the materials were obtained through an internet search. The documents identified using this method were used to compile an initial list of issues to be reviewed as well as relevant case studies from Africa and other regions that were then reviewed. The study is by no means exhaustive but is meant to provide indicative information on the current status of sustainable forest management financing in Africa and the issues that still need to be addressed in order to improve mobilisation of adequate financial resources for SFM in the region.

3. SOURCES OF FINANCING

Any strategies aimed at financing SFM in Africa must recognize the three levels at which sustainable forest management (SFM) can be deployed. Firstly, at regional level where SFM may provide a platform for harmonizing national forest polices and would be a common denominator for sub-regional cooperation. In this case SFM is appropriate for countries sharing the same forest ecosystems and that desire to pool their efforts and resources for the management of their forests. The second level, the national, takes into account the fact that for such initiatives to succeed, they must be country-driven, factoring the political and institutional setting, legislation, partnership and participatory mechanisms, inter-sectoral linkages, policy and institutional arrangements and capacity building. This second level encourages countries to develop and adopt national forest programmes (NFP) which are an effective link between strategy and operational planning. The objective of an NFP is the conservation, management and sustainable development of a country's forests so as to cope with the local, national, regional and global imperatives and demands of today's and future generations. The last level is the forestry management unit, where SFM can be used by forest managers to assess and integrate a wide array of sometimes conflicting factors – commercial and non-commercial values, environmental considerations, community needs, and even global impact - to produce sound forest management plans. Under SFM,

forest managers must develop forest plans in consultation with citizens, businesses, organizations and other interested parties in and around the forest unit being managed.

The levels described above have generally directed where forest investment is supposed to go. Generally, sources of forest financing can be classified into public or private and national or international (also known as external) sources (Table 1). However, there is a growing awareness that traditional sources and amounts of forest financing from them are insufficient and therefore ineffective in achieving SFM. In this regard, the innovative financing mechanisms aimed at mobilizing additional financial resources have lately been the subject of growing attention. A range of promising new financing sources, instruments and mechanisms (especially regarding payment for environmental forest services) and capital market instruments has now appeared on the scene and can help to generate additional financial resources for sustainable forest management.

Table 1: Overview of forest financing sources

Financing sources		Domestic	International
Public	Governments	<ul style="list-style-type: none"> • Investments by national and local governments through subsidies, soft loans, non-monetary incentives, and direct investment • Budgetary allocations • Revenue generated from government owned forests 	<ul style="list-style-type: none"> ■ Bilateral ODA (grants, recoverable grants, concessional loans, etc.) ■ Multilateral ODA institutions: IDA, GEF, ITTO, FAO, UNEP, UNDP, GM, and regional development banks grants, investment lending, investment guarantees) ■ Multilateral targeted programmes: PROFOR, FLEG, CGIAR, BPF, and NFP(grants, co-financing) ■ Multilateral financial institutions: IFC, IBRD, and regional development banks
Private	Forest Industry	<ul style="list-style-type: none"> ■ Direct investments (including small and medium-size enterprises) 	<ul style="list-style-type: none"> ■ Foreign direct investment (FDI)
	Financial institutions and institutional investors (including micro-finance institutions)	<p>Short- and long-term credit</p> <ul style="list-style-type: none"> ■ Portfolio investment ■ Targeted credits ■ Insurance and re-insurance 	<ul style="list-style-type: none"> ■ Short- and long-term credit ■ Portfolio investment ■ Export credits ■ Guarantee instruments ■ Insurance and re-insurance
	Philanthropic	<ul style="list-style-type: none"> ■ Financial support to national NGOs and targeted beneficiary groups 	<p>Financial support to international NGOs and targeted beneficiary groups</p>
	Conservation NGOs (self-financing)	<ul style="list-style-type: none"> ■ Financial support to national NGOs and targeted beneficiaries (project funding) 	<ul style="list-style-type: none"> ■ Financial support to international NGOs (programme/project funding) ■ Twinning arrangements
	Other NGOs and CSOs (self-financing)	<ul style="list-style-type: none"> ■ Financial support to national CSOs and targeted beneficiaries (project funding) 	<ul style="list-style-type: none"> ■ Financial support to international CSOs (programme/project funding) ■ Twinning arrangements
Payments for environmental services (PESs)		<ul style="list-style-type: none"> ■ Watershed protection payments ■ Carbon payments ■ Fresh water supply payments ■ Nature-based/eco-tourism ■ Landscape, recreation, and other payments for forest services 	<ul style="list-style-type: none"> ■ Carbon payments (regulatory and voluntary market) ■ Biodiversity ■ Nature-based/eco-tourism ■ Bio-prospecting

Sources: Simula, 2008

3.1 Domestic public funding

Domestic public financing is an important source of financing for forestry activities in many African countries. Domestic public funding generally comes from government budgetary allocations to official forestry institutions/bodies and revenues generated from state- owned forests. Incomes generated from forest use fees and harvesting activities should, but are not always reinvested into forest management. The extent to which this happens however varies greatly from country to country. A review of fiscal policies in the forest and related sectors facilitated by FAO revealed that most African countries have fiscal policies and forest revenue collection guidelines that can be used to generate resources from the forest sector (FAO, 2001). The fiscal policies include a range of charges, fees, and taxes for the use of forest resources and direct expenditure by the government on forest management and policy implementation. Income from the harvesting or use of forest resources comes from a combination of the following:

- harvesting or use licenses
- taxes (VAT, export duties);
- lease fees for the allocation of land, forests and contracts to harvest timber
- fees for forest concessions, payments for felling permits, licenses and stamp duty for the transporting, processing and marketing of wood etc.;
- imposition of fines, confiscation and damages for infringements of the law
- direct sale of plants and plant material and other forest products;
- issuing of tour operators' licenses for ecotourism in protected forest areas and similar permits;
- sale of hunting licenses or licenses

In many countries, for example Zambia, the money does not go directly to the forest sector, but becomes part of the national income and to be allocated to the forestry authorities as part of annual budgetary allocations. The actual allocation to forestry, and the proportion of forestry funding in relation to the national budget, vary from country to country depending on national and political priorities. In Zambia the budgetary allocation to forestry has declined from 13% of total national budget in the 1980s to less than 4% in 2009. The major influencing factors include the type and extent of forests, the level of commercial forestry activities and the relative importance of forestry to the national economy in comparison to other sectors. Examples of public domestic financing/revenue generation systems common in sub-Saharan Africa are given in Box 1.

Box 1: Examples of public domestic financing to the forest sector

Niger: The forestry sector in Niger accounts for about 4% of Gross Domestic Product and has been identified as important because of the role of forests in energy supply and the control of desertification. Niger collects revenue from roundwood production and commercialisation, based on the size and tree species of trees. The fees collected are also according to whether the roundwood is harvested in a controlled, uncontrolled or guided harvesting area (*exploitation contrôlée, incontrôlée or orientée*). The fees that are collected are distributed between the state

treasury, local management structures, communities and the Water and Forest Service. Part of the money retained by local management structures and communities must be used for forestry activities, but the rest can be used for general development purposes. Some of the money sent to the state treasury is also often be put into a forest monitoring fund. There are no charges on the production of non-wood forest products, but fees are collected for the issuing of hunting permits, guide's licenses and for the capture or harvesting of animals. Revenue is also collected from visitor permits for recreation. Import and export levies are collected from international trade in forest products, but these levies are not administered by the forestry administration. Total forest revenue collected by the state since 1992 has remained constant at about 163 million FCFA. In addition, about 16 million FCFA (on average) has been retained each year by local management structures and communities under the arrangements for revenue sharing in rural wood markets. The state budget for operating expenses in the water and environment sectors was about 1 billion FCFA in 2000. This expenditure accounts for just less than one percent of the total state budget for operating expenses. International assistance for investment in forestry during the period 1999 – 2004 was approximately 6 billion FCFA per year.

Lesotho: Lesotho has 12,000 hectares of forest which are directly managed by the government. Forest charges are only levied on the production of roundwood from these forests and there are no other forest charges on any other production or trade in forest products. The relatively small area of natural forest in Lesotho is under the control of traditional authorities and falls outside the revenue system. Lesotho imports forest products from South Africa and VAT is charged on the value of these imports as they enter the country. National Forestry Policy in Lesotho clearly indicates that the primary responsibility for the sustainable and beneficial management of natural resources and the environment lies with individuals and communities. Therefore, the Government allocates very little money to sustainable forest management activities. The recurrent budget for the Forestry Division is a little over M 2.5 million out of which less than 20% is generated through forest revenue collection. The budget for capital investment is funded mainly by foreign assistance.

Source: FAO, 2004,

Public funding is key in addressing development and finance needs that are too large to be addressed by philanthropic sources and yet not financially lucrative enough to attract private-sector investment. In many African countries, domestic public funding is mainly used for:

- Financing operations for public forest administrations/institutions
- Conservation and management of protected areas
- Forest research, education and administration
- Policy reform and institutional development.

Unfortunately many countries, especially the poor low forest cover countries, are unable to raise adequate public funds for the forest sector. This is mainly due to the sector's low contribution to general economic growth, low saving levels, lower priority of the forest sector in national policy (thus smaller budget allocation). This situation is often the result of failure to make a convincing case for the socio-economic importance of the forest sector at national level and its equally important contribution to development and poverty reduction. Kufakwandi (2000) has surmised that "many African countries, in their day-to-day struggle to satisfy the most basic needs of their populations are unable to take a long-term view, which is the timeframe required for the successful implementation of sustainable forestry management programmes." Consequently,

opportunities for funding are often missed because decision-makers are not aware that forests can help address priority concerns that merit preferential allocations, such as poverty reduction and sustainable development.

In some countries with extensive forests with commercial timber (e.g. Cameroon, Gabon and DRC), forests are treated as quick sources of revenue with minimal re-investment in the management of the forests. The situation is confounded by national accounting distortions that do not capture the full contribution of forests to national economic growth (especially as that these are often situated in the informal sector) leading to an undervaluing of forests in favour of other sectors like agriculture and livestock management.

In particular the contribution of forests to the energy sector in most African countries is acknowledged but not quantified and captured in national accounts. Domestic markets for wood fuels (firewood and charcoal) provide an inexpensive source of energy for Africa's poor while creating employment opportunities near urban centres. Reliance on traditional biomass energy is high in rural and urban areas and accounts for between 40 and 90% of total energy consumption in all sub-Saharan African countries outside of South Africa. Even oil-rich sub-Saharan African countries continue to rely on biomass energy to meet the bulk of their household energy requirements. While total consumption of fuel wood seems to be tapering off, use of charcoal is growing and it is estimated that the number of people relying on biomass for cooking and heating will increase from 583 to 823 million between 2000 and 2030. Yet fuelwood and charcoal are important as an inexpensive energy source and as sources of income and safety nets for rural and urban households. For example the charcoal industry in Kenya, in 2008, was estimated at over \$425 million dollars per year employing more than 700 000 people but most of the sector operates in the informal sector and many aspects, such as charcoal production are still considered illegal and therefore do not contribute to the fiscus. It is estimated that the government loses about \$68 million dollars annually as a result of not having any regulatory and VAT collection mechanisms for the charcoal industry. Studies in Tanzania and Zambia indicate a similar magnitude in charcoal trade and in its income earning potential (Lundgren *et al*, 2010).

The non-timber forest sector has grown tremendously in recent years but also largely operates in the informal sector and very little revenue is collected from the sector by governments for re-investment into forest management. Sudan provides more than half the global supplies of gum Arabic, with France the major importer and re-exporter. Ethiopia, Eritrea, Sudan and Kenya are leading exporters in a number of valuable flavours and fragrances (frankincense, opopanax, myrrh). Sudan and Ethiopia are the world's largest producers of olabanum resins. Africa is also a significant exporter of "pygeum" medicinal bark from *Prunus africana*, harvested from montane forests in Madagascar, Kenya, Burundi and DRC (with unmonitored trade starting in Ethiopia) to France and Italy. Several countries especially Kenya and to a lesser extent Uganda, Zambia and Zimbabwe are significant producers of woodcarvings. Until recently, few forestry policymakers were aware of the scale or economic value of this trade, which in Kenya involves 50000-60000 carvers generating around US\$20 million per year (Choge *et al.*, 2005).

In many countries, the government owns the majority of forest resources and this low level of expenditure on forests results in very little investment in sustainable forest management. In recent years there has been an increased recognition of the value of forests and a number of studies to providing quantitative data are now available (Chidumayo, 2008). In this regard there are increasing attempts to improve revenue collection from major non-timber forest products that are traded in the informal sector to improve availability of funds for re-investment into forest resources management. Despite these efforts, financial resources from public domestic financing, in most countries in Africa, remain inadequate for supporting sustainable forest management needs. With low levels of private sector investment, many countries turn to external sources especially official development assistance for support. Table 2 below shows the mix and levels of funding from different sources for selected countries in Africa.

Table 2: Mix of funding arrangements for public forestry institutions

Country	Revenue	Total expenditure (USD '000)			Source of Funds (%)		
		Domestic Financing	External Financing	Total	Forest revenue	Govt (Net)	External
Burkina Faso	780	2201	2328	4530	17	31	51
Burundi	50	193	1198	1391	4	10	86
Central African Republic	5566	1030	n.a.	1030	541	n.a.	n.a.
Chad	601	471	3960	4431	1	9	89
Cot d'Ivoire	41561	32971	7566	40538	103	-21	19
DRC	803	1277	0	1277	63	37	0
Ethiopia	2383	21345	3865	25209	9	76	15
Gambia	225	242	445	686	33	2	65
Ghana	12559	31294	n.a.	31294	<40	n.a.	n.a.
Guinea	902	7362	8551	15913	6	41	54
Kenya	1845	17407	1054	18461	10	84	6
Lesotho	44	521	119	639	7	75	19
Liberia	3100	7317	0	7317	42	58	0
Madagascar	2734	4385	7255	11641	23	14	62
Malawi	110	3992	n.a.	3992	<3	n.a.	n.a.
Mali	321	4830	9896	14726	2	31	67
Mauritius	770	5603	0	5603	44	86	0
Namibia	68	2548	2767	5335	1	46	52
Niger	351	773	6612	7385	5	6	90
Nigeria	2572	12580	8241	20821	12	48	40
Senegal	1579	2835	10578	13413	12	9	9
Tanzania	2763	7567	31773	39,340	7	12	81
Uganda	763	1282	2386	3668	21	14	45
Zimbabwe	908	2132	1254	3386	27	36	87

Source: FAO 2003

In a few countries like Central African Republic, Democratic Republic of the Congo, Côte d'Ivoire and Liberia, a large proportion of public expenditure is derived from forest revenue. These also happen to be forest-rich countries where the forest sector plays a critical role. In other countries, particularly forest-poor countries like Ethiopia, Lesotho, Kenya, Mali, etc., the bulk of the expenditure is sourced from government budgets. The average proportion of the expenditure sourced from international development partners was 41%. However, some countries like Burundi, Madagascar, Chad, Mali, Niger, Senegal and Tanzania remain heavily dependent on external sources for their public expenditure on forestry and this is likely to continue as these countries have limited ability to collect and marshal this revenue into SFM (Eliasch 2008).

3.2 Official Development Assistance (ODA)

One major source of public finance is external/international public funding in the form of official development assistance (ODA). ODA has been a major source of financing for many countries in Africa over the last 30 years. The ODA comes from two sources namely bilateral (official, from country to country in the form of international cooperation) and multilateral (official arrangements between international monetary institutions and countries and in the form of international cooperation from United Nations agencies).

At the Global level bilateral and multilateral ODA to the forest sector has increased significantly in value terms but has declined in terms of its share of total ODA. Between 1973 and 1998 the bilateral donors contributed a total of US\$5 billion whilst multilateral agencies contributed US\$3 billion. During the period 1994-1998 average annual ODA to forestry reached US\$500million. For the period 2000-2002 the average annual contribution rose to \$1.29 billion and reached \$1.9 billion during the period 2005-2007 (Simula, 2009).

The growth in the external financing flows to forests has partly been a result of increasing engagement of the multilateral sources as their share of the total public financing increased from 26% in 2000-2002 to 42% in 2005-2007. However, bilateral ODA has also increased albeit at a slower rate. At the continental level, Africa's share of total ODA to forestry has actually declined from 33% during the period 1973-1988 to 13% between 1994 and 1998. Since 2000, two thirds of the cumulative forestry ODA has been allocated to Asia, only 20 % to Africa and 11% to Latin America.

ODA in the forest sector in Africa has generally been uneven, and tended to be concentrated in a few countries. In Africa nearly 90% of the ODA to the forest sector in the last decade has been directed to 10 countries only. The top African recipient countries during the period 2002-2006 were Cameroon (US\$20 million) and Tanzania (\$14 million). Ghana and Morocco were the highest recipients of forest bio-diversity conservation funds at US\$62 million and US\$56 million, respectively in the same period. The top ten recipients of forestry ODA during the period 1994-98 are shown in table 3. Table 4 shows the level of donor presence providing forestry ODA to African countries during the period 2005-2007 (OECD, 2008).

Table 3: Top ten recipients of forestry ODA in Africa 1994-1998

Country	Amount(\$million)	% of Total
Cameroon	5.2	9
Cote d'Ivoire	4.5	8
Mozambique	4.7	8
Senegal	4.4	7
Guinea	4.4	7
Mali	3.3	5
Uganda	2.5	4
South Africa	2.3	4
Namibia	2.0	3
Malawi	1.9	3
Others	26.6	41
Total	60.2	100

Table 4: Presence of Bilateral and Multilateral Donors Providing Forest ODA in Africa in 2000–2007

Number of donors in the country	Number of recipient countries from Africa	Countries in the group
12	2	Kenya and Ethiopia
11	0	
10	2	Ghana, Tanzania and Uganda
9	0	
8	4	Burkina Faso, Malawi, Mozambique and Rwanda
7	1	Cameroon
6	3	Madagascar, Mali and Senegal
5	5	Cote d'Ivoire, DRC, Gabon, Niger, Zimbabwe
4	5	Benin, Namibia, Nigeria, S. Africa, Zambia
3	7	Cape Verde, Eritrea, Guinea, Liberia, Morocco, Sudan and Swaziland
2	5	Burundi Central African Republic, Republic of Congo, Guinea-Bissau, Sierra Leone
1	8	Angola, Botswana, Egypt, Gambia, Libya Mauritania, Tunisia, Lesotho
0	5	Algeria, Equatorial Guinea, Somalia, Western Sahara, Togo
Total	44	

Bilateral aid to forestry in Africa comes from a few sources with 95% provided by nine donors (European Community, Finland, France, Germany, Japan, Netherlands, Switzerland, UK and USA). The low growth in bilateral ODA to forestry is explained mainly by two factors. Firstly, finance to the forestry sector is being increasingly channelled through multilateral agencies and secondly, forestry financing is now being increasingly treated as part of the climate change and biodiversity agendas rather than as a standalone sector (Simula, 2008). In recent years bilateral ODA in the forest sector has tended to focus on development of national forestry programmes, strengthening national forest institutions, and preventing loss of global environmental and social services. About two-thirds of the ODA resources go to afforestation projects, with the remainder being spent on policy, administration, research, training and fuelwood and charcoal projects.

Whilst ODA plays critical catalytic and supplementary roles, it is arguably a short-term solution, and the volumes fall far short of the estimated costs. The recent increase in forestry-related ODA, to almost USD 2 billion annually (2005–07), represents only a small fraction of the USD 11–19 billion recommended in the Eliasch review. Generally, ODA has accounted for a small but significant proportion (about 1%) of total investment in tropical forestry to date and total bilateral ODA has dropped by more than half since 1990. However, ODA has, and continues to play a valuable role alongside private-sector investors and domestic public financing. In some countries, such as Liberia for example, it has been crucial in providing insurance to mitigate risk and co-investment with private funds. It also has had an important role in supporting the development of policy and regulatory frameworks and institutional capacity-building in most of the countries. These have been the main areas of support from ODA over the last decade and remain priorities in many countries of the region.

3.3 Multilateral ODA

World Bank

The main source of multilateral financing to forestry is the World Bank group, and its share of the total has increased from 51% to 73% during the period 2000–2007 (Simula, 2008). Most (55%) of the funding is from the International Finance Corporation (IFC) which supports at least 14 countries in Africa (Appendix 1). The contributions of the International Development Association (IDA) and the International Bank for Reconstruction and Development (IBRD) have also increased during the study period, albeit less than that of IFC. The World Bank’s Forest Strategy (approved in 2002) targeting an increased role in forests by addressing poverty reduction, integration of forests in sustainable development and enhancement of global environmental services has contributed to the recent upward trend in forest financing. However the bank’s largest investments are confined to SSA’s tropical rain forest countries such as DRC, Gabon and Liberia.

Global Environment Facility (GEF)

The Global Environment Facility (GEF) finances “new and additional grant and concessional funding to meet the agreed incremental costs of measures to achieve agreed global environmental benefits”. The GEF is the only multi-convention financing facility in existence and is now the major source of funding specifically supporting the Convention on Biological Diversity (CBD) and the UNFCCC. Further, the GEF also provides support to the implementation of the UN Convention to Combat Desertification (UNCCD). Since 1991 the scope of GEF’s forest-related activities has gradually expanded from the focus on biodiversity to include integrated ecosystem management, combating land degradation through sustainable land management, and (since 2007) sustainable forest management. The accumulated funding to forest-related projects (236) by 2005 was USD 1,192 million (Table 5).

Table 5: GEF Financing Related to SFM from 1997 to 2005

Project type	No. of projects	US\$ millions	%
Forest conservation (primarily protected areas and buffer zones)	109	623.3	53
Sustainable use of forests outside protected areas	38	143.3	12
SFM in wider production landscapes (mixed land uses) beyond strictly forests	89	416.4	35
Total	236	1,183.0	100

Source: GEF 2005

In November 2007, the GEF Council approved a Sustainable Forest Management Programme to address this area of intervention in a more comprehensive and coordinated way than in the past. The projects falling under this category contribute to the implementation of the forest-related commitments and programmes of work of CBD (Biodiversity conservation), UNFCCC Climate change mitigation), and UNCCD (land degradation). In addition, the Programme will, in particular, support achievement of the Global Biodiversity Target 2010 set by CBD and the Global Objectives of Forests set by UNFF. This means that countries are encouraged to submit projects that cover one or more focal areas (biodiversity, climate change, and land degradation), promoting approaches that are multi-sectoral and ecosystem-based and consider forests within the wider production landscape (GEF 2007). The areas that can be supported by the SFM programme include:

- sustainable financing of protected area systems at the national level;
- strengthening terrestrial protected area networks;
- strengthening the policy and regulatory framework for mainstreaming biodiversity;
- fostering markets for biodiversity goods and services;
- supporting SFM in the wider landscapes;
- promoting sustainable biomass production;
- prevention, control, and management of invasive alien species; and
- management of land use, land-use change, and forestry (LULUCF) as a means to protect carbon stocks and reduce greenhouse gas emissions (GEF 2007).

During the first nine months of the SFM programme implementation, the GEF committed about US\$152 million and leveraged about US\$482 million in co-financing. GEF investments in SFM during the fourth replenishment period may exceed US\$250 million (corresponding to about US\$60 million annually).

Another new GEF instrument is the Tropical Forest Account (TFA), which was established in 2007 to encourage greater investment attention in tropical forest management by forest-rich countries. By investing the resources allocated to them under RAF (Resource Allocation Framework), countries with significant tropical forest resources can leverage additional funds from GEF. The Tropical Forest Account supported the establishment of the GEF Strategic Program for Sustainable Forest Management in the Congo Basin (\$50 million GEF funding, leveraging \$160 million from other sources). The SFM program was established mid-way through the GEF-4 replenishment cycle and thus lacked dedicated funding. In GEF-5 (2010-2014), a separate funding envelope for SFM/REDD+ will become available for countries willing to invest portions of their allocations from biodiversity, climate change and land degradation toward more effective SFM/REDD+ projects. The

estimated value of this envelope is about \$250 million.. This envelope will be operated as an incentive mechanism for developing countries to invest significant fractions of their allocations from biodiversity, climate change and land degradation for more comprehensive SFM/REDD+ projects and programs. Altogether, the GEF may provide up to \$1 billion for SFM/REDD+ funding throughout the course of GEF-5 (GEF 2010). This investment is expected to leverage substantial additional funding from external sources. The ability to leverage additional funds from other sources (bilateral donors and multilateral and regional development banks) is a major strength of the GEF. For example the leverage factor in SFM-related GEF funding between 1996 and 2005 was 2.8 times (GEF 2005).

The SFM/REDD+ programme will focus its activities on the implementation phase of REDD+ by supporting the following activities: developing national systems to measure and monitor carbon stocks and fluxes from forests and peatlands, strengthening forest-related policies and institutions, developing policy frameworks to slow the drivers of carbon emissions from deforestation and forest degradation, establishing innovative financing mechanisms and piloting projects to reduce emissions from deforestation and forest degradation. In addition, the GEF will strongly support work with local communities to develop alternative livelihood methods to reduce emissions and sequester carbon (GEF 2010).

GEF funding contributes to several thematic areas of national measures, particularly to protected areas, but also to forest goods and services, forest health and vitality, research, education and training, and (to a lesser extent) production (mainly in the context of certification). GEF funding can also cover support to policy, governance, and institutions. Because of its focus on global public goods, GEF can be expected to continue to focus on biodiversity, climate change, and land degradation in its forest-related funding.

A total of 28 African countries (Appendix 2) have received GEF financing for forestry activities during the period 2007-2009 (Favada, 2009). Very few low forest cover countries have received funding for forest related activities. Most of the resources received to date have been targeted at forest biodiversity conservation and not sustainable management for production or protection purposes. The levels of funding are far much lower than in the other regions. This is largely due to the complex GEF procedures as well as lack of capacity to prepare proposals to the required standard and lack of co-financing. There is a need to build the institutional capacity in most countries to be able to access GEF funds and to implement the projects to the required standard. However, some countries like Cameroon, have managed to secure substantial support over a relatively long period of time from the GEF (Box 2).

Box 2: Global Environmental Facility support to Cameroon: Cameroon's participation in the Global Environment Facility (GEF) started in the GEF pilot phase in 1992 with the preparation of the World Bank-implemented Biodiversity Conservation and Management project (GEF ID 85). Since then, Cameroon has been involved in an additional nine national projects (valued at a total of \$25.55 million). Close to 71 percent of the GEF funding has gone to support projects in the biodiversity focal area, 25 percent to land degradation, and 1 percent and 2 percent, respectively, to climate change and persistent organic pollutants (POPs). There are 19 regional and global GEF projects in which Cameroon participates, addressing international waters, biodiversity, and climate change.

Source: GEF, 2009

The majority of stakeholders who have accessed GEF funding have expressed concern at the long periods taken for processing projects, associated high transaction costs in terms of financial and human resource inputs, and a lack of clarity

and information relating to delays. For example in Cameroon, between 1992 and 2007, national full size projects (FSPs) took an average of 3.6 years to move from project entry to implementation, but if an FFFA cup and an average of 5.2 years for implementation. This was 1.5 years longer than planned. The costs of project preparation were estimated at around \$1 million for FSPs, which is about three times the amount officially available under the previous Activity Cycle. These issues confirm the findings of the recent Joint evaluation of the GEF Activity Cycle and Modalities (GEF EO 2007b). Fortunately there are measures to simplify and improve the processes.

GEF support has been instrumental in enhancing the generation of global environmental benefits in biodiversity conservation. However, in most countries and project areas, although local level benefits are visible, the levels are still too low to provide substantial incentives for local communities to invest in sustainable natural resources management. In particular, there is need to strengthen and improve community forestry as a tool for enhancing community conservation and ensuring the sharing of the economic and non-economic benefits of conservation at community and household levels. In this regard it is recommended that the GEF should consider a capacity building strategy for Africa to enable the continent to take full advantage of the Facility's support (GEF, 2008).

African Development Bank (AfDB)

The African Development Bank (AfDB) has become a major source of forest funding in Africa and its share has also increased significantly. The African Development Bank (AfDB) forestry portfolio is now around USD 352 million. The AfDB's contribution to forestry rose from US\$35.8 million per year during the period 2000-2002 to US\$72.7 million per year during the period 2005-2007 (AFDB, 2008). The AfDB's new commitments have varied extensively in the range of US\$ 13 to 138 million per year. The AfDB has recorded a growing trend in its forestry financing and it appears the bank's role in the forestry sector will continue to grow with increase in demand. The AfDB's portfolio in the forest sector has benefited 21 countries. The countries with active portfolios are shown in Appendix 2. The projects have covered industrial plantations, conservation, and restoration of degraded forests, agro-forestry and institutional capacity.

In recent years the AfDB has emerged as a major player in financing forest projects related to environmental services especially biodiversity and climate change (World Bank, 2008) . For example the Bank hosts the Congo Basin Forest Fund. The AfDB recently granted USD50 million to the Central African Forests Commission (COMIFAC) for the support programme to preserve the Congo Basin ecosystems to be implemented for five years (2009-2014). The bank is also planning to invest more than \$0.8 billion in 13 natural resources management projects in the near future (AFDB, 2010). One of the key constraints in AfDB's financing has been long project cycles averaging 7.4 years (against IDB's 4 years and WB's 3.5 years). This needs to be addressed to facilitate more players accessing financial resources from the bank.

International Timber Trading Organization (ITTO)

Since 1987, the ITTO has mobilized USD 314 million to finance some 800 projects and activities and since 2000, the yearly allocations are in the region of USD 14-18 million. Funding has remained at this level for the last 10 years but in recent years, significant contributions have been made by other donors. The ITTO's contribution to forestry ODA was 5% of the total multilateral financing in 2001 but it has dropped to 2% due to constraints related to decrease contributions from donors. The average size of ITTO projects is between USD 300,000 to USD 500,000, with duration of two to three years. The number of ITTO recipient member countries has increased and currently includes 33 producer members (10 from Africa) and three developing consumer members. Eight member countries have received more than 50% of the total ITTO funding while the share of 12 developing member countries has been one percent or less of the total for each; indicating a high degree of

concentration. In Africa, the major recipient countries are Cameroon, Congo, Cote d'Ivoire, DRC, Gabon and Ghana. In general low income member countries have not been able to attract adequate project funding. There are two issues arising from this: (i) low income member countries generally have lower capacity to absorb funds effectively and, (ii) they also frequently lack the capacity to prepare and present good proposals. Thus the most disadvantaged member countries have low capacity and higher risk of cross-sectoral failure, implying that projects are relatively less likely to be successfully implemented in these countries. Unless such considerations are properly addressed, these countries are likely to fare badly when their projects are evaluated.

In terms of forest management, the total permanent forest estate (PFE) in the African ITTO member countries is 110,557,000 ha out of which 63.7% are natural production forests, 35.5% are protection forests and 0.8% are planted forests. Only 5.5% of the forests are sustainably managed and 1.3% is certified. Although there is an area of PFE that is managed sustainably, progress is uneven within and across countries. Forest law enforcement is often weak due to the inadequate staffing and limited support from law enforcement agencies, the remoteness of the resource, and confusion created by sometimes-conflicting legislation as well as other political processes. There is an almost universal lack of the resources needed to manage tropical forests properly. The resources allocated by governments and development assistance agencies to forest management are often seriously inadequate, as reflected in chronic shortages of staff, equipment, vehicles, facilities for research and training and all the other necessities for running an efficient enterprise – often accompanied by low staff morale vehicles, equipment and trained and motivated staff (ITTO, 2005).

FAO and the National Forest Programme Facility

FAO is a key provider of technical assistance in forestry. Under its regular programme, the Forestry Department and regional offices programmes amount to \$48million per year. This includes the contributions to the National Forest Programme (NFP) Facility which is housed in FAO. The NFP Facility was established as a funding mechanism to support development or review of national forest programmes (nfps) with active stakeholder participation at the country level. The Facility provides grants directly to stakeholders in partner countries to assist them in developing and implementing nfps. Since its inception in 2002, the Facility has supported stakeholders in 42 countries (35 African) and four sub-regional organizations with grants totalling \$6 million. The activities include facilitation of stakeholder participation in national planning processes, nfp preparation and development of new legal, fiscal and institutional instruments. Currently the demand for assistance far exceeds the Facility's financial endowment. Direct country support is typically in the range of USD 300,000 per country over a period of three years.

The support for preparation or updating of nfps has provided most African beneficiary countries with opportunities to develop or update their forestry programmes (these are variously named e.g., "Forest master plan", "national forest action plan", or "national forest development plan") with the input and participation of all key stakeholders. The nfps represent a process of dialogue, coordination and collaboration between the government and key stakeholders in the forest sector. The main features of nfps include national ownership and leadership, consistency with national sustainable development policies, recognition of the multifunctional nature of forests and multiple actors, participation and responsibility, transparency and accountability the importance of inter-sectoral linkages.

An important component that has received increasing emphasis during the development or updating of most nfps is the development of national forest financing strategies to mobilise resources from different sources, for the implementation of

the programmes. Some countries, for example Tanzania (Box 3) have managed to develop comprehensive national forest financing strategies as an integral part of their nfp.

Box 3: Tanzania National Forest Financing Strategy

Main components of the proposed national forest financing strategy are:

1. Expansion of revenue base
2. Improvement of revenue collection
3. Promotion of stakeholder involvement and domestic private sector investments
4. Increasing foreign direct investment and,
5. Optimising the use of foreign assistance and increasing the ownership: The aim of adopting a sector programme approach (sector-wide programme) is to attract donor assistance for the forest sector through a with clearly defined and well-managed basket funding. In this way, the multitude of administrative rules and requirements (with special reference to the steps in project cycle management, reporting, monitoring, and evaluation) are reduced and a constant inflow of various donor and expert missions demanding a lot of staff time, placing a heavy burden on the Tanzanian forestry staff, particularly the senior management will be streamlined.

Source: Simula, 2008

Unfortunately most countries in the region that have developed and updated their nfps have not developed comprehensive financing strategies. Thus their forest financing needs are not clearly articulated and cannot be fully considered in national development plans and financing priorities. The net result is that most of the nfps have not secured financial resources for implementation and will need to be updated again before they can be implemented. Some of the beneficiary countries have recommended that the NFP facility should establish an implementation support component to help countries implement their programmes. Alternatively this could be funded through the Global Forest Fund, if established.

3.4 Other Multilateral Sources

The Global Mechanism (GM) of the UNCCD was set up to facilitate financing of the Convention but it was allocated no resources for funding support to its developing country members. The GM has developed tools to facilitate UNCCD members accessing funding sources (the FIELD database) and to develop country-level integrated financing strategies for sustainable land management (GM 2008). Forestry interventions form part of the national strategies for sustainable land management supported by GM. Other multilateral sources include the International Fund for Agriculture Development (IFAD) which has financed forestry components in their agriculture and rural development projects; UNEP, UNDP, World Food Programme (WFP) and some other international humanitarian aid programmes have also financed some forestry activities including tree planting for restoration of degraded lands and fuelwood production. These inputs have been locally valuable in several countries in the region, but there is no information on their total amounts which are limited compared to other funding sources.

3.5 Private Financing

Private sector participation is generally an important source of financing forestry and forest industries and has made significant contributions especially in developing countries in other parts of the world (e.g. Indonesia, Chile and Brazil). However, despite the adoption of economic liberalization policies, many countries in Africa have limited formal private sector participation in forestry, particularly in the areas meaningful to sustainable forest management. Private sector investment has been limited to countries that have extensive forests that support conventional extractive industries and export products

(Simula, 2008). Examples include Cameroon, Gabon and South Africa. Africa's level of industrial forestry activities is very low compared to other regions of the world. The result is that the actual contribution of corporate private sector financing to sustainable forest management has been minimal due to limited large scale commercial forestry opportunities. For example in 2006, Africa only produced 19% of global roundwood (658million cubic metres), 90% of which was fuelwood. Production of other forestry products was also very low (Appendices 3and 4). Other constraining factors include lack of infrastructure, insecure tenure, poorly developed domestic markets and lack of access to finance. In fact, many low forest cover countries have limited forest and tree resources that can attract domestic and foreign private sector investment into the commercial forestry sector. North Africa in 2006 only accounted for 6% of the continent's industrial roundwood and therefore depends on imports. Whilst some countries such as Gabon and Cameroon have imposed bans on export of unprocessed logs, this has not had the desired effects. Investments that have been made to-date are mostly in primary processing (Karsenty, 2007).

Table 6: Summary of wood product output in 2006

Product	Global	Africa	Africa's share (%)
Industrial roundwood (million cubic metres)	1635	69	4
Sawnwood million cubic metres	424	8.3	2
Wood-based panels million cubic metres)	262	2.5	1
Pulp for paper (million tonnes)	195	3.9	2
Paper and paper board (million tonnes)	364	2.9	1
Woodfuel (million cubic metres)	1871	589	46

Trade in wood products increased from \$1.6 billion in 1980 to \$4 billion in 2006 in comparison to global trade that exceeded \$200 billion in 2006. To realize the full potential of the continent's industrial forestry potential will require major improvements especially in the enabling environment (policy and institutional frameworks) to attract both domestic and external private and public sector investments.

Foreign direct Investment (FDI)

Foreign direct investment (FDI) flows are new investments by foreign enterprises made during a period given period. Total foreign direct investment (FDI) flows to Africa, in recent years have overtaken ODA, rising from \$29 billion in 2000 to \$53 billion in 2007(AfDB, 2009). At global level, private foreign direct investment (FDI) flows to forest industries in developing countries have grown rapidly (more than two-fold in 1990–2005). The FDI flows to the forest sector increased by 29 % from USD 400 million in 2000–02 to USD 516 million in 2005–07 (Simula, 2008). In fact, the foreign-induced investment is substantially higher because local financing of investment projects in foreign-owned projects is common in the key countries. In Africa, most FDI to forestry is unevenly distributed and has been concentrated in forest rich countries that are stable and low risk.

In recent years there has been an increase in foreign investment in plantation forests and the associated wood processing industries especially in eastern, southern and some countries in West Africa. This has been spurred by the growing demand for industrial timber on the continent and abroad (Box 4).

Box 4: Green Resources Plantation development in Africa

Green Resources AS is a plantation, carbon off-set, forest products and renewable energy company that has invested about US\$55million in Africa, mainly Mozambique, Sudan, Tanzania and Uganda. The company now has 14000ha of plantation and has a

planting target of more than 200 000ha. In 2009 the company signed a framework agreement with the Mozambique government to establish 125000ha of energy/pulp plantation and received title for 179000ha of land in southern Sudan. In Uganda, the company has established a pole treatment plant to supply transmission poles to the Lake Victoria region. Green Resources has integrated carbon sequestration into some of its plantation and natural forests management programmes. The company has carbon offset projects in Mozambique, Tanzania, Sudan and Uganda. The projects have potential to generate 20million tones of carbon offsets by the year 2020. Green Resources' Mapanda/Uchindile forest project was certified under the Voluntary Carbon Standard (VCS) in July 2009.
Source: Green Resources, 2009

An emerging trend in Africa is FDI made by developing-country investors in other developing countries.. Companies from Brazil, Chile, China, Malaysia, Kenya, and South Africa have been active in direct investment in other developing countries. In general, a substantial increase in FDI financing is foreseen in developing countries in plantations and downstream processing industries. The current trends in the plantation activity indicate an annual increase of about 1.8 million hectares (ha) per year in developing countries (FAO 2009). In Africa the total area of plantation forests increased from 14,371,000 ha in 2000 to 14,838,000 ha in 2009 (an increase of 0.6%). The bulk of this is from Sudan (5.4 million ha and South Africa (1.4 million ha.). This can be expected to accelerate, for a variety of reasons (wood demand, bio-energy, carbon investments, etc.). In particular there is growing FDI investment in plantation forests especially in Eastern and southern Africa where policy and environmental conditions are particularly suited to plantation development coupled by lack of natural productive forests.

Whilst systematic information is not available on private sector investment in Africa, there have been significant levels of foreign direct investment in commercial timber logging from natural forests especially in Central and West African countries that have commercially valuable tropical timber. Unfortunately industrial timber production has a poor track record in Africa. Over the past sixty years, there is little evidence that it has lifted rural populations out of poverty or contributed in other meaningful and sustainable ways to local and national development (Debroux et al., 2007). This is attributed to a number of factors that include low pricing of the timber; illegal activities and corruption; weak governance systems; low level of in-country processing or beneficiation; low wages; marginalization of local communities, and little re-investment in the management of the natural forests. Growing global concern about sourcing wood from sustainably managed forests has seen increasing attempts by some private companies to invest in sustainable forest management and forest certification. Unfortunately the natural forest areas that are certified in Africa are still very small (ITTO, 2005).

Domestic private financing

Domestic investments in forest management, plantations, wood industries, and further processing are made by the formal private sector and by communities, landowners, and local farmers. The formal private sector companies are mostly active in processing industries, and plantation forests. Small-holder farmers and land owners are getting increasingly involved in industrial plantation forestry activities through private –community partnerships. In plantation forestry an approach that has gained popularity, especially in southern Africa, is upfront financing through out-grower and contract plantation development schemes (Box 5).

Box 5: Sappi and outgrower schemes

Sappi is an international pulp and paper company, and the second largest private forest owner in South Africa. It was the first company in South Africa to experiment with partnership arrangements with local communities as a way of increasing its access to forest resources. The original scheme, “Project Grow”, was initiated in Kwazulu-Natal in 1982 and has since been managed by the Lima Development Foundation, an NGO with a track record in community development. Under this scheme, local communities sign a contract with Sappi, which entitles them to free expertise, training and seedlings, advanced payment for work, and a guaranteed market for their tree at current market prices. When the trees are finally ready, Sappi pays the participants the value of the produce, deducting any advance payments. This scheme has worked well, despite farmers not owning the land they plant. In general, individuals are granted rights to community-owned land for plots averaging less than one hectare per family. By 1999, 6 800 ha had

been planted by 7 600 farmers, generating 2.4 million rands (R) (US \$545 000) per year. Participants earn about US \$205 per hectare per year, which compares favourably with the alternatives such as ranching or sugar production. In 1990 Sappi introduced a second outgrower scheme for title deed holders called the Management Associated Programme (MAP). MAP offers free seedlings and technical advice, a loan of up to R1 200 (US \$275) per hectare at the prime bank interest rate, and guaranteed market price for timber. Up until 1999, 28 000 ha had been planted. The average income is US \$115 per hectare per year. The grower must follow the harvesting practices prescribed by Sappi and cannot sell the timber grown to anyone else.

Source: Landell-Mills and Ford, 1999 in FAO, 2005

This comes in various forms but may include smallholder farmers receiving loans from established timber companies to establish plantations on their land in return for selling the timber to the supporting private company. In other cases, poor rural households, as individuals or groups access the land in the form of a lease and get loans from the private companies in return for selling to the supporting private companies at market rates. This approach leverages both private companies' investment and the low income communities' own savings and labour. A major advantage of this approach is that the farmers get forest management support from the companies as well. Due to the long gestation period some companies provide percentages of the expected revenue from the sale of the timber on an annual basis to enable the smallholder farmers to meet their financial needs.

In the majority of African countries most forestry activities (over 70%) are undertaken in the informal and/or smallholder sector where forests and trees play a major role in providing livelihoods for rural communities and the urban poor. The informal sector is characterized by numerous small-scale forest-based enterprises that are undertaken at individual or household levels, usually employing family members or neighbours (FAO, 2005). Small enterprises and most of the poor population in Africa have very limited access to deposit and credit facilities and other financial services provided by formal financial institutions. This is because the outreach of the formal banking sector is constrained by the limited number of branches most of which are confined to urban centres. For example, in Ghana and Tanzania, only about 5–6% of the population has access to the banking sector (Basu et al, 2004). This lack of access to financial services from the formal financial system is of major concern, if one considers that in many African countries the poor represent the largest share (over 80%) of the population and that the informal sector is an important part of the economy.

The major sources of financing for forestry activities in the informal sector are in the form of own savings, reinvestment of profits, own labour and remittances. In the last two decades micro-financing has played a major role in providing working capital and other financial needs for small to medium forest- based enterprises in Africa, and in other parts of the developing world (Gondo, 2009). In the Sudan's gum arabic producing areas several traditional group and individual lending schemes have been providing services to gum Arabic farmers who harvest gum from *Acacia senegal* trees. With a total annual gum arabic production of 20 000 to 40 000 tonnes, the Sudan is the global leader in supplying this commodity, and the bulk of it is produced by small-scale producers who depend on accessing individual and group loans. The gum arabic producers need microcredit:

- to buy input supplies such as improved seeds, hand implements, pesticides and sacks and seedlings of *hashab* (*Acacia senegal*) trees;
- to pay for labour to sow, transplant, cultivate and harvest the crops;
- to finance the transportation, storage and marketing and;
- for consumption and livelihood supplies

Given that more than 70% of the forests are under smallholder or community management, most forestry activities are likely to continue to be in the informal sector in the foreseeable future. Implementation of sustainable forest management in Africa will largely depend on the capacity of local communities, rural producers and small-scale forest based enterprises to mobilise resources and invest in forestry activities. It is therefore imperative that any efforts to mobilise financial resources for sustainable forest management in Africa include alternative financing mechanisms, such as micro-financing, that target the financial needs of local communities, small-scale forest-based enterprises and rural producers in Africa.

The provision of microfinance to poor rural communities for forestry activities faces a number of challenges. The long rotation period causes investment uncertainties because of biological and market risks that may negatively affect final returns on the investment. The high start-up costs in forest management and some enterprises do not attract micro-finance support especially when there is no collateral. An important challenge in most developing countries, especially in Africa, is insecure tenure. Most natural forests are communally owned or owned by the state. This does not provide adequate guarantee that the raw materials derived from them will continue to be available to the same forest users making enterprises based on such resources unattractive to microcredit.

In many countries a major limitation is the unavailability of microfinance as most banks and other formal micro-financing institutions still insist on collateral and do not have targeted forestry financing. Some low income rural communities are also discouraged from accessing micro-credit from formal institutions because of low educational levels, slow release of funds and less exposure to paperwork and banking procedures (Peque, 2005). Venn *et al.* (2000) also observed that limited knowledge about accounting, financial analysis and banking procedures inhibits the access of smallholders to credit. In many ways the banking sector is still structured to serve the formal sector although this is now changing.

The development and growth of microfinance in the last three decades offers new opportunities and channels for mobilising and infusing financial resources into sustainable forest management especially in developing countries. This is particularly important in Africa where the majority of forestry resources are under the management of poor local communities. The experiences with microfinance have shown that the latter has a catalytic effect and contributes significantly to the mobilisation of domestic private sector investment in sustainable forest management. Availability of microfinance also leverages financial resources from other financing mechanisms especially domestic public financing and ODA that is channelled through international financing institutions.

The potential for increasing private sector investment in Africa lies in the smallholder sector. This will require improved linkages between the forestry and finance sectors to ensure the development of financing products that are suited to the sector on one hand and the improved understanding of financial opportunities and regulation by the forestry sector on the other. Private sector investment, especially foreign direct investment and domestic corporate private sector is expected to grow in the short to medium term in plantation development, especially in east and southern Africa due to growing demand for industrial and construction timber. In the forest rich countries of Central and West Africa, private sector financing is also expected to grow as political and economic stability continues to prevail and infrastructure improvements begin to bear fruit. However for the low forest cover countries most of the private sector investment will be limited to domestic private sector players and the small-holder sector.

Impact of the global financial crisis

Africa was among the world's fastest growing regions during 2000-mid 2008 with GDP growth rates averaging 6% between 2005 and 2008. However, following the onset of the global financial crisis, the growth rate has declined to 2% in 2009. While

the low integration into global financial markets protected most of the poor African countries from the crisis' immediate impact, the financial sector in some countries has come under strain. Firstly local African banks that have relied on credit lines from the international capital markets have had to scale back operations or turn to alternative sources of financing from regional development banks, such as the African Development Bank. Short-term trade credit has, in particular, almost dried up as international correspondent banks raise thresholds for African banks, effectively disconnecting them off from credit facilities. This situation threatens African trade including trade in forest products. There has also been a decline in commodity prices and this has affected some countries that are dependent on exports of roundwood and other forest products. Thus it is anticipated that in the short term FDI flows to the forest sector in Africa are going to decline sharply.

Secondly, many countries in Africa have experienced a decline in tourist arrivals due to the financial crisis resulting in reduced incomes from biodiversity conservation related activities. Whilst developed countries have pledged increased assistance to Africa during the recently held G20 Summit, they have concentrated on minimizing the contagion effect of the crisis in America and Europe and thus there has been no discernable change in the ODA to Africa. In fact it is anticipated that ODA to Africa is going to decline as the donor countries concentrate on stabilising their own economies. This will adversely affect forest related ODA flows to Africa.

Remittances are an important source of financing for small and medium enterprises. Remittances to sub-Saharan Africa amounted to US\$19 billion in 2007, an equivalent of 2.5 percent of GDP. The World Bank estimated Nigeria to have received US\$ 3.3 billion in 2007, followed by Kenya with US\$ 1.3 billion, and Senegal with US\$ 0.9 billion. Unfortunately, remittances are declining as a result of the crisis. According to the World Bank, remittances to sub-Saharan Africa will decline by between 4.4% and 7.9% in 2009, after a 6.3% increase in 2008 (AfDB, 2010). A fall in remittances will undermine access of small and medium enterprises, including forest based enterprises, to a once reliable source of financing. This leaves the continent with a tremendous challenge of seeking alternative sources of finance in order to help the continent recover from the gloomy economic situation.

3.6 Philanthropic Funding

Philanthropic funding represents a small but significant proportion of the funds available for the forest sector, but it has proved an important means of supporting creative and trail-blazing initiatives. This is because such funds are not driven by commercial choices but environmental and humanitarian concerns. Their general international contribution has increased rapidly. In 2005, their contribution to the environment sector was about \$230 million. Among the 15 largest foundations, 8 specify forest-related issues for their grants, such as protected areas, land rights, and the rights of indigenous peoples (Hoare, 2008). Two new mechanisms that have been successfully used by philanthropic organizations to support tropical forestry projects are programme-related investments and recoverable grants. The latter entail the payment of grants that must be repaid, but at very low interest rates. The former involve an investment of capital on the basis of alignment with the organization's goals (e.g. this could be sustainable forestry or rural development) rather than from purely financial motives. Examples of philanthropic support include the support to forestry conservation in Zambia by the Bill Gates foundation and support to small-scale forest enterprises and community forestry by the Ford Foundation in several countries in east and southern Africa. Philanthropic funding thus plays a valuable catalytic role in Africa, helping to test and develop innovative projects and initiatives that would not be supported by the commercial sector. It also helps lay the foundations for sustainable forest initiatives, facilitating the subsequent entry of commercial organizations such as banks with commercial savings and micro-finance schemes.

3.7 International Non-Governmental Organisations

Complementing official international cooperation is a significant contribution from international environmental and conservation non-governmental organizations that provide funding for various purposes including the sustainability of the forest sector and environmental conservation. This support is generally provided through projects and programmes they implement directly or through partnerships with governments, national and international NGOs – which may in turn be funded by a wide range of sources, including philanthropy, individual contributions and support from international aid agencies. The world's seven largest environmental non-governmental organisations (NGOs) generate an annual income of about US\$1.5 billion from donations, bilateral aid agencies, and own resources. Many NGOs use a significant part of their financing resources for international work, mostly in developing countries. The most notable working in Africa include WWF, IUCN and Conservation International and these have been very instrumental in mobilizing funding for forest conservation and sustainable forest management.

Box 6: Conservation International's Funds

Critical Ecosystem Partnership Fund(CEPF)

CEPF was conceived as a model to demonstrate the effectiveness of mobilising innovative alliances by an internationally credible conservation NGO. CEPF is a joint initiative of Conservation International (CI), the Global Environment Facility (GEF), the government of Japan, the John D. and Catherine T. MacArthur Foundation, and the World Bank. Each partner has committed to a US\$25 million investment over five years. In 2007, the Agence Française de Développement (AFD) from France joined CEPF with a grant of about US\$30 million, and CI cofinanced another US\$25 million. The target is to raise another US\$150 million (CEPF 2007). The objective of CEPF is to provide strategic assistance to NGOs, community groups, and other civil society partners to protect biodiversity hotspots (i.e., the biologically richest—yet most threatened—ecosystems). Each hotspot is characterised by at least 1,500 endemic plants and less than 30 percent of its original natural habitat remaining. Within the hotspots, CEPF investments target action in key biodiversity areas, as well as threats to biodiversity in conservation corridors. CEPF has established active grant-making programmes in 33 countries, and by 2007 it had committed grants of US\$91 million. The annual volume in 2007 was US\$7.9 million (CEPF 2007). International NGOs had received 59 percent of CEPF's grants through 30 June 2005; including the largest grantee's (CI itself) 35 percent share.

Global Conservation Fund(GCF)

GCF was established in 2007 with a grant from the Gordon and Betty Moore Foundation. It provides financial and strategic assistance to enable local communities, NGOs, and governments to protect their biological riches. GCF is designed to target two critical needs: creating and expanding protected areas and ensuring their effective management. The goal for all GCF projects will be a newly created or expanded protected area supported by a financing strategy and well-capitalised mechanism to cover future management costs. Protected areas supported range from national parks to privately owned lands and community-managed reserves that combine conservation with responsible natural resource use and development. GCF will help design and support endowments, trusts, and other special mechanisms that create a steady flow of funds for managing important new protected areas in CI's three priority areas: (i) biodiversity hotspots, (ii) high biodiversity wilderness areas, and (iii) key marine regions.

Source: Simula, 2008

Biodiversity conservation has been the main target, but more recently some support has also been given to SFM. In addition, a large number of development and humanitarian NGOs are working in rural development, and their activities include supporting sustainable management and conservation of natural resources. Most international NGOs also work in collaboration with small national NGOs and community-based organizations. These include a wide array of forest related NGOs and CBOs such as community forestry associations. With regard to the NLBI implementation, the NGO sources of financing make an important contribution to such areas as forest conservation, poverty reduction and livelihoods, stakeholder participation, partnerships, training, awareness raising, etc. With appropriate outreach and strategic alliances, much support from NGOs can be mobilised for NLBI.

4. PAYMENT INSTRUMENTS FOR ENVIRONMENTAL SERVICES

Since UNCED the promotion of the enhanced supply of environmental services through appropriate payment or compensation of forest owners has received considerable attention as a means for encouraging investment in sustainable forest management. Great expectations have been put on the development of payments for environmental services (PESs) as a potential source of revenue from, and funding for, SFM. Unfortunately, these expectations have not materialised in most African countries, for a number of reasons, chief among them lack of capacity and lack of markets. From the international perspective, the PES schemes of global public goods from forests (climate change mitigation and biodiversity) have been seen as the most promising way to raise additional financial flows to SFM in developing countries.

Payment for the services of forest ecosystems entails providing compensation to the owners of a forest (or other ecosystem) in return for the provision or maintenance of certain environmental services (Wunder, 2005). While such payments have long existed for recreational services, they are being adopted for other services such as watershed protection, carbon sequestration, biodiversity conservation and landscape beauty. Various regulatory, market-based, and other voluntary payment mechanisms for these forest environmental services have been introduced over the last decade. Many such schemes have been developed around the world, and in the best cases, these have resulted in improved resource management and economic development (Wunder et al., 2008). Payments for environmental services are already a major source of funding in many developed countries for conservation of watershed areas and biodiversity, but their greatest potential seen as being in developing countries, particularly in climate change mitigation and adaptation.

4.1 Payment for Watershed Services

Watershed protection is one of the most important environmental services provided by forests. There is now growing recognition of the importance of forest management in watersheds/catchments on activities that are dependent on water (e.g. water supply to municipal areas, irrigation and hydro-electricity). Good forest management provides a host of watershed services, including water purification, ground water and surface flow regulation, erosion control, and stream-bank stabilisation. The importance of these watershed services is growing rapidly as fresh water yield and quality become critical issues around the world. The financial value of watershed services is apparent when the costs of protecting an ecosystem for improved water quality are compared with downstream benefits, access to water and water security issues. Innovative market-based mechanisms for watershed services include self-organised private payments, public payments or incentives, and trading schemes.

Various payments for water or watershed protection schemes have been developed in the last decade. Payment for the conservation of watershed areas can be a voluntary arrangement between the parties, promoted and implemented mainly by municipalities, public service companies and local NGOs. In most cases, however, it is a compulsory payment. Potential buyers of watershed services include hydro-electricity companies, municipal water suppliers and irrigation schemes.

Watershed services have received some attention within the broader context of integrated catchment management. However, examples of payments for watershed services in Africa are still very few. The buyer or “the market”, for watershed services, in African countries is still very small and is usually within the specific countries or between neighbouring countries. Studies have found little evidence of the existence of, or demand for, market-based mechanisms, either by governments or potential “buyers” of watershed services (Georgehan 2005). Currently public budgets are the main source of funding for watershed services. An example is the Working-for-Water Programme in South Africa that involves the control of invasive alien species in catchments for the protection of water resources and ensuring water supplies (van Wilgen et al. 2001).

Low income levels, small markets and weak institutional capacity, makes payments for water services difficult and uneconomic. Due to this lack of investment in sectors that might “buy” watershed services in Africa, countries should consider allocating more fiscal resources to public programs. In most countries where the national government still controls

and manages the bulk of the forest resources, the payments for water services could be effected through tax revenues that are specifically collected and allocated to the natural resources management ministries or agencies. In some countries, (e.g. Zimbabwe), state-led systems of protection and regulation of water are giving way to more decentralised ones that emphasise community-based management approaches. The trend is the creation of new institutions for water catchment management variously called water catchment authorities, councils, or boards. These institutions are usually organised with the involvement of state agencies, and others representing new decentralised levels of formal authority, and are taking management action at the local level (Georgehan 2005). These institutions could be the channel through which watershed services are produced and payments collected on behalf local communities who manage the resources.

At regional and international level, the drive to secure shared water supplies has been noted as one of the important political issues in Africa and the UN's global agenda. Examples include the SADC shared watercourses protocol. Water scarcity has heightened the value of watershed services. This is reflected by the increasing development of regional integrated catchment management strategies between countries (e.g. Zambezi River Action Plan and Nile Basin Initiative) to improve water supply and minimise conflicts. The interest in water sharing (and conflict) and valuation of water provision has brought to fore the need to value and market watershed services. It is therefore most likely that the market expansion will continue in the future.

4.2 Ecotourism

National and international eco-tourism depends to a large extent on the quantity and quality of public (and in some cases private) protected areas that exist in a country. Forest ecosystems in Africa are among the most diverse and productive wild lands in the world. Best known are the east and southern Africa savanna systems, which teem with unparalleled populations of large migratory mammals. The trees and grasslands provide forage, browse and habitat to many wildlife animals. Thus, in many countries, wildlife and forests are the main attractions for tourists, which justify the fees the latter pay for their maintenance (an obligatory payment). At the national accounting level, tourism contributes significantly to GDPs of most of countries (17% of GDP in Zimbabwe and 30% in Kenya). A significant portion of the countries' revenues comes from tourism activities which are mainly based on wildlife and forests (mainly as habitats). For example in Kenya and Tanzania, tourism is the highest foreign currency earner.

Whilst ecotourism activities based on forests and wildlife in national parks and forest reserves, and community based natural resource management programmes may not be viewed as environmental services as such, they share the central philosophy behind payments for environmental services. Ecotourism can be seen as a kind of voluntary environmental service payment inasmuch as the resource managers receive benefits (in the form of additional income, training, improvement in health and education services, and steady well-paid jobs), in return for protecting the scenic beauty and biodiversity of the forests where they live. In this case, the purchasers of the service are environmental tourists and organizations that provide funds to be invested in infrastructure in these areas or support the creation of community tourist enterprises.

In the last 25 years, many countries in Africa have adopted and promoted community based natural resources management (CBNRM) as an approach for advancing the objectives natural resources conservation and economic development of those who manage the natural resources based on sustainable utilisation of the natural resources as an economic incentive. This approach has been particularly successful in eastern and southern Africa. Examples of some successful CBNRM programmes in Africa are:

- CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) in Zimbabwe
- ADMAD (Administrative Management Design Programme) in Zambia
- ZICGC (Zones d'Interet Cynegetique a Gestion Communautaire in Cameroon

- GEPRE-NAF (Gestion Participative des Ressources Naturelles et de la Faune) in West Africa and
- ECOPAS (Ecosystems Proteges d’Afrique Soudano-Saheli)

If payment for forest ecosystem services is to be advanced as a significant source of revenue for promoting forest management, then government agencies that manage and regulate forest resources on behalf of government must be allocated a large proportion of tourist revenues. In Zambia, the *Zambian Wildlife Authority (ZAWA)* which manages wildlife resources found in the miombo woodlands, collects revenues from hunting and photographic safaris and distributes it as follows: Ministry of Finance 36%; ZAWA 42% and communities 22% (Chidumayo et al. 2005). However there are no guidelines stipulating how much should be reinvested into forest management. Taxes could effectively be used as payments for environmental services to induce forestry management. Tax allocation systems would require some institutional review. For example, currently the respective roles of wildlife management and tourism and forest management are handled by different agencies. There would be need for institutional rationalisation to improve efficiency and allocation of resources to the forestry sector.

4.3 Conservation conservancies

One mechanism for PES is that of conservation concessions (Ellison 2003). This is an approach pioneered by Conservation International, which has been implemented in a number of countries, and a pilot project is under development for the DRC. The general idea of a conservation concession is modelled on that of a logging concession. Under the latter approach, an area of land is allocated to a logging company which pays the government for the right to extract timber. With conservation concessions, the land is managed for conservation purposes and fees are paid to the government for this right. In addition, payments are made to local communities to provide social and economic benefits. The level of compensation for both the government and local communities is determined on the basis of forgone timber revenues. The funding for this comes from international investors, for example, investors in PES markets (Melham *et al.*, 2008).

4.4 Debt-for-nature swaps

Debt-for-nature swaps are a mechanism that provides bilateral resources, following negotiations and approval by the respective governments (debtor and creditor). The resources created by a debt swap are a way of providing compensation for environmental services (correction of the negative externalities generated by the payment of debt servicing on the environment) and in particular has beneficial effects on biodiversity protection, especially with regard to protected areas.

Box 7: A debt-for-nature swap for the DRC

Negotiations have been under way between the governments of France and the DRC for a contract for debt relief – ‘*Contrat de Désendettement Développement*’ (C2D). A formal agreement has been made on the priorities for bilateral cooperation between the two countries (with the signature in March 2007 of the Partnership Document for

Cooperation – ‘*Document Cadre de Partenariat, DCP*’), completed with the signing of the Bikoro Declaration in March 2008. The C2D could be signed as soon as the DRC has fulfilled all the conditions required under the Highly Indebted Poor Countries Initiative (HIPC). As in the case of Cameroon, part of the funds arising from this agreement could be allocated to the forestry and environment sector. Funding would be given to those areas prioritized under the DRC’s National Programme for Forests and Nature Conservation (*Programme National Forêts et Conservation de la nature – PNFoCo*). These include: building capacity, both within government and civil society; tackling illegal logging; supporting the implementation of a land-use planning scheme; supporting the protected area network; promoting sustainable forest management and certification; and supporting activities related to defining a national strategy for reducing greenhouse gas emissions from deforestation and degradation.

Source: Hoare, 2008

4.5 Bioprospecting

The term *bio-prospecting* covers all activities concerned with the systematic search for sustainable commercial uses of the genetic and biochemical elements of biodiversity. Under the Convention on Biological Diversity (CBD) countries have sovereign rights over their resources, and any benefits arising from the use or commercialization of these resources must be shared with the source country. The wealth of biodiversity in natural tropical forests offers great potential for research and bio-prospecting. This is considered a potential source of additional income for forest management in Africa. There are virtually no documented cases in Africa but there is some experience in Asia and Latin America. For example, in Bolivia, an interesting national sustainable bio-trade programme is being implemented, and this includes some bio-prospecting aspects (REF). Although the potential of bio-prospecting is recognized, there are also major challenges in the fields of policy, sovereignty, rights of access, (intellectual) property, and equity. Furthermore, experience from other parts of the world has shown that the chances of raising significant funds from bio-prospecting are generally very low.

4.6 Carbon Finance

The high level of global concern about climate change has resulted in forests attracting great attention because of their role as sinks of carbon (or as sources of carbon when they are cut down). Payment for carbon sequestration to mitigate climate change is one of the fastest growing environmental services markets. Under the Kyoto protocol, three mechanisms were created, namely the protocol’s Clean Development Mechanism (CDM), joint implementation and emission trading. Carbon markets comprise the mandatory or compliance markets under the Kyoto protocol and voluntary markets. The two major mandatory markets for carbon offsets are the Kyoto Protocol’s Clean Development Mechanism (CDM) and the European Union Emission Trading Scheme (ETS). By 2007 the value of the carbon market was estimated at \$64 billion, more than double the 2006 total (Hamilton, 2008). In 2008, the carbon market’s total value for 2008 was estimated at US\$125 billion, almost double what it was in 2007 (<http://www.environmentalleader.com>). The voluntary carbon markets, where a sizeable share comes from forests, also doubled in terms of emissions traded (65million tonnes of carbon dioxide equivalent in 2007) and tripled in terms of value to \$331million (FAO 2009).

Clean Development Mechanism (CDM)

The CDM allows developed countries to fulfill their commitment to reduce emissions through emission reduction or carbon fixation projects in developing countries. The main aim of CDM forest projects (restricted to afforestation/reforestation projects) is the capture of CO₂ from the atmosphere by establishing forest plantations or regenerating natural vegetation. However, natural forests are not yet included in this mechanism. The CDM regulations require a very high performance level, the application of sophisticated systems to measure and monitor the carbon captured in plantations, the demonstration of additionality and control of possible leaks. These are complicated requirements and procedures that are an obstacle particularly for small producers. Three problems have made CDM financing cumbersome in forestry:

- (i) There is a delay of two or more years in getting CDM projects approved,
- (ii) Transaction costs are so high that smaller projects are not viable, and
- (iii) Particular characteristics of forestry projects related to additionality, leakage, and permanence hinder forest CDM project approval.

By end of 2007 only one forest carbon project, Guangxi Watershed Project in China had been formally endorsed by the CDM Executive Board. This shows that despite a strong potential supply of afforestation/reforestation (A/R) credits, the CDM has been slow in mobilising it.

Without simplification of the application procedures and strengthening the capacity of African countries in how to make use of the mechanism, the level of accessing resources through the CDM is going to remain low. For instance, out of the 13 afforestation and reforestation CDM projects that have either been registered or are in the pipeline, only two are based in Africa while all others are located in Asia or Latin America (UNEP, 2008). Uganda has become the first country in Africa to undertake a reforestation project under the Kyoto Protocol. The Nile Basin Reforestation Project in Uganda is a ground-breaking project being implemented by Uganda's National Forestry Authority (NFA) in association with local community organizations. The growing trees absorb carbon dioxide from the atmosphere, in exchange for revenues from the World Bank BioCarbon Fund paid to NFA and the communities. The Ugandan project is one of only eight reforestation projects worldwide that have been approved to date, seven of which were registered this year. Similarly, many of the voluntary carbon sequestration initiatives are based in Latin America and Asia. In general, fewer forestry based carbon projects have been located in Africa than in other developing regions of the world (Nanasta, 2007).

Voluntary Carbon Markets

Parallel with the CDM, there is an open or voluntary carbon market, which also responds to international agreements and markets, but is not governed by the Kyoto Protocol and its regulations. In the voluntary market, forest projects are promoted that focus on;

- (i) carbon capture and storage by establishing planted forests and enriching and/or managing natural forests, and
- (ii) promotion of the conservation of natural forests to avoid the CO₂ emissions caused by deforestation (avoided deforestation).

Various carbon fixation projects, especially forest plantations, are now being implemented in the voluntary market. By using periodic direct payments, these arrangements work very similarly to traditional incentives that subsidize the establishment of plantations. One difference from subsidies lies in the requirement that the plantations be permanent and in the huge body of rules concerning project formulation and monitoring. On the other hand, payment is usually made in the first years after planting. The payment of carbon fixation certificates is made after the fifth year, and every five years from then on, on the accumulated "stock" or the equivalent of metric tons of CO₂.

The voluntary market for carbon credits grew to US\$331 million in 2007 or more than three-fold the 2006 level. The voluntary over-the-counter (OTC) markets are currently the only source of carbon finance for avoided deforestation, and they

have a higher proportion of forestry-based credits out of total market transactions than the CDM (36% for OTC vs. 1% for CDM). Moreover, the voluntary markets seem to be particularly favourable for smaller off-set projects (Hamilton et al. 2008). This indicates that in spite of small volumes, there is a significant forest carbon offset demand that cannot be channelled through the regulated market and is therefore traded in the voluntary market. However, the high cost of evaluation by certifying bodies and the relatively low price of captured carbon on international markets mean that the possible benefit of these projects remains very low.

Many of the voluntary carbon sequestration initiatives are based in Latin America and Asia. In general, fewer forestry based carbon projects have been located in Africa than in the other developing regions of the world (Nanasta, 2007). For example less than 10% of the US\$629 million worth of global carbon portfolio managed by the World Bank's carbon finance unit is for projects in Africa. During the 2007 climate change negotiations in Bali, the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat expressed serious concern about the relatively low levels of carbon offset investments in Africa and the need to initiate more projects in the region. Even within Africa, the distribution of carbon sequestration projects is skewed, with east Africa receiving the most carbon investments. For example, the International Small Group and Tree Planting Program (TIST) operates in three of these countries (Kenya, Tanzania and Uganda) only, while commercial plantation projects have been carried out in Tanzania and Uganda. Three projects, namely TIST, the Nhambita Community Carbon Project in Mozambique, and the Plan Vivo Project in Uganda, have partially financed their activities by selling carbon offsets to international buyers. For instance, TIST sells carbon offsets to individuals through eBay as well as through its own web portal at the price of US\$8.50 per tCO₂. Similarly, the Nhambita Project has sold carbon offsets to MAN group and to the International Institute for Environment and Development, UK. A portion of these sale revenues are then shared with participating farmers as carbon payments (Camargo, 2008). Community development-oriented carbon sequestration projects can provide significant economic benefits to local communities in the form of cash incomes as well as through access to NTFPs generated through forestry activities. For instance, in the Nhambita Community Carbon Project in Mozambique (Box 8), local households receive a cash payment of US\$242.60 per ha over seven years for carbon sequestered on their farms. This represents a significant increase in cash incomes for most households and addresses their felt need of a regular cash source (<http://onlinelibrary.wiley.com/doi/10.1111/j.1477-8947.2008.00176.x/pdf>)

Box 8: Miombo Community Land Use and Carbon Management – Nhambita Pilot

Project: Nhambita is a small community located near Gorongosa National park in the Sofala province of Mozambique. The Miombo Community Land-Use and Carbon Management aims to develop forestry and land-use practices that promote sustainable rural livelihoods in partnership with rural communities in a way that raises living standards and to assess the potential of these activities to generate verifiable carbon emission reductions. The project was launched in 2003 as collaboration between the environmental company Enviro-trade Ltd. and the University of Edinburgh. The project is supported by the European Commission. The project is a collaborative effort between several different organisations which include, the University of Edinburgh, the Edinburgh Centre for Carbon Management, Envirotrade (UK), International Centre for Research in Agroforestry (Kenya), and the Park Administration of the Gorongosa National Park (Mozambique).

Local farmers and forest communities manage the planting and growth of trees in return for proceeds from the sale of carbon offsets to customers in the developed world using the Plan Vivo methodology developed by the Edinburgh Centre for Carbon Management. The Plan Vivo is a carbon management system that was developed for small farmers under the Scolel Te Project in Mexico in 1996. The Plan Vivo is a Trust Fund, which provides technical and financial assistance to local farmers to take up forestry/agroforestry activities and then on their behalf, sell carbon offsets that are generated.

By May 2007, the project had planted 230,000 trees as a combination of agroforestry and woodland restoration, and has over 500 farmers involved who have benefited from the payments and have been encouraged to become involved in other micro-finance initiatives, such as beekeeping and carpentry using miombo tree species planted by the project. The project will pay US\$ 242.60 per hectare to farmers who agree to undertake carbon sequestration activities on their farms, such as planting of trees, promoting agroforestry etc. The project will also pay US\$ 40.50 per hectare to a community fund on the basis of the number of hectares that are brought under carbon sequestration.

The Mozambique Carbon Livelihoods Trust (MCLT) was launched in 2007 to ensure that the community's and individual farmers' proceeds of carbon offset sales from Carbon Livelihoods projects were safeguarded. Approximately one third of the proceeds of any carbon sale goes directly to this fund and are paid out to individual farmers over seven years and other payments are reserved for forest management and conservation activities.

Source Marunda and Henri-Bouda, 2010 in press

Similarly, under the contract with TIST, local farmers in Tanzania receive Tsh 20 (US\$0.02) per tree per year for a period of 20 years (Scurrah-Ehrhart, 2006). Other benefits to farmers include access to fruits, minor timber, firewood and any other NTFPs. Considering that most carbon sequestration projects have a long gestation period; any investment is liable to be risky unless backed by long-term economic and political stability. In order to attract and sustain international carbon projects, it is essential to have good governance practices and appropriate institutional arrangements to enable benefits to accrue to the right people at national and local levels. Most carbon sequestration projects in SSA are fairly new, with many having been initiated very recently. As a result, there are few studies on the impacts of these projects on host countries or project participants.

Reduced Emissions from Deforestation and Forest Degradation (REDD)

Deforestation and forest degradation are major sources of carbon emissions and are estimated to contribute nearly 20% of global emissions of greenhouse gases (Stern, 2006). Tackling these problems is therefore a critical component of the strategy for addressing climate change. The argument for this has gathered momentum over the last few years and these issues are now the subject of intense international negotiations. One reason why they have attracted so much interest is that it has been estimated that reducing emissions from forests could be highly cost-effective, in comparison with reducing emissions from transport or industry, for example. The Stern report (2006) indicated that avoiding deforestation would be among the lowest-cost mitigation options to avoid increasing CO₂ emissions and possibly also increasing sinks (This argument raises concerns about both the effectiveness and fairness of focusing on emissions reduction from the forest sector in (for developing countries) if this means that the major sources of greenhouse gases (which are in industrial countries) are not also tackled at the same time on the basis of cost). In addition, reducing deforestation could bring other environmental benefits, for example the conservation of biodiversity and maintenance of soils and water quality, as well as having significant benefits for the millions of people who depend on forests for their livelihoods. Through carbon revenue, prospects for the economic viability of SFM in natural tropical forests are expected to substantially improve because at least part of the ecosystem services that these forests provide could be remunerated and this is the essence of REDD+.

Meeting such a broad range of interests will, however, be difficult. Several issues still need clarification. These include both policy and implementation issues:

Policy Issues

- Uncertainty about achieving co-benefits in poverty reduction, livelihoods of the rural people, biodiversity conservation, and other environmental services, as well as sustainable management of forests; there is lack of clarity on how trade-offs between various objectives (climate change mitigation, biodiversity, poverty, etc.) can be addressed in specific situations.
- Risk for violating the rights of indigenous and other local populations concerning the use of forest areas and possible negative impacts of the separate ownership rights of carbon on other rights over forests and trees.
- REDD's impact on land prices, which may adversely affect land ownership and tenure of indigenous and other local people.
- Uncertainties about to what extent and how payments for REDD credits can be distributed to the rural people and what other benefits smallholders, farmers, and communities can obtain from REDD schemes; there is an additional concern about how to avoid the majority of payments being captured by elites or the state.
- REDD may act as a perverse incentive if it leads to an increase in the deforestation rate before a country enters into the system, to have an artificially low reference scenario, based on which improved performance is afterwards rewarded.
- Risk of limiting access to REDD financing to only forest-rich countries has equity implications. Many of these countries belong to the middle income countries, and therefore most of the least developed countries would not benefit from REDD.

- Another related concern is that those countries that have already addressed deforestation are not compensated; rather, they may often be penalized because their reference scenarios may be more demanding than in those countries where deforestation is still rapid. Differences in marginal costs between countries also need consideration because in the former cases, additional reductions are likely to require higher investments in relative terms than in the latter.

Implementation Issues

The level of REDD application (national, sub-national, or project) has not yet been defined.

- There are particular concerns about accountability of national-level REDD credit schemes compared with project-based credits, which in spite of their higher transaction costs can ensure delivery of agreed credits but can also effectively address issues of leakage, permanence and equity.
- Governance arrangements of REDD schemes need to be defined at both national and international levels to ensure transparency and balanced decision making.
- Lack of clarity about appropriate common approaches for stakeholder participation in the elaboration and implementation of national REDD strategies.
- There is lack of clarity on whether a market mechanism or a fund mechanism will be applied; this is associated with the (probably unfounded) concerns about possible flooding of the carbon offset markets with REDD credits, impacting general CO₂ prices and thereby efficiency and effectiveness of all carbon trading instruments.
- Related to this is the issue of possible fungibility of REDD credits with other CO₂ credits.
- In the case of market mechanism, there is an additional concern about how significant upfront costs could be financed from other sources because carbon payments would be made upon performance.
- Transaction costs at both international and in-country levels may prove to be high because of complex implementation modalities. An excessively high share of REDD payments may be captured by the intermediaries of the financial markets where the carbon offsets would be traded.
- Independently from which approach is applied, there are additional needs for co-financing of complementary activities to ensure that REDD benefits are created in practice, particularly building up country capacity to implement necessary measures to reduce deforestation.

Methodological Problems

A number of methodological problems need also to be resolved before REDD can take off on a larger scale:

- Definition of forest degradation
- Data collection methods for required accuracy and frequency at acceptable cost
- Establishment of baselines and reference scenarios

- Measurement of carbon in the absence of reliable research and resource assessment data on carbon density of forests, which varies extensively between countries, bio-geographical zones, forest types, site conditions, etc.
- Monitoring mechanisms and verification standards, including associated standards for SFM to ensure sustainability
- Duration of REDD credits

In addition, REDD credits, like all forest carbon credits, will also be influenced by concerns related to permanence; leakage; temporal variation of the forest carbon cycle; and climatic, social, and economic risks (Putz and Nasi 2009).

UN-REDD

The focus on REDD has resulted in many initiatives that are going to bring with them a range of challenges including coordination and harmonization and demands for upfront financing to build the capacity of developing countries to be able to implement the REDD initiatives. It is in this regard that FAO, UNDP, and UNEP have developed and launched the joint UN-REDD Programme in developing countries, building on their agency-specific comparative strengths (FAO/UNDP/UNEP 2008). The focus of the programme among other issues is to

- Facilitate partnerships and contribute to coordination and mainstreaming of in-country efforts.
- Assist developing countries to prepare and implement national REDD strategies and mechanisms
- Support the development of normative solutions and standardized approaches for a REDD instrument linked with the UNFCCC.

Countries participating in the first phase of the programme include Bolivia, the Democratic Republic of Congo, Indonesia, Panama, Papua New Guinea, Paraguay, Tanzania, Vietnam, and Zambia. Norway has donated US\$35 million to the initiative to assist in initial capacity building. Since October 2009, 13 new partner countries have joined the Programme—and more have formally expressed interest. These new partner countries enjoy observer status on the UN-REDD Policy Board, receive technical assistance, and have access to various activities, information and networks under the UN-REDD Programme. Even if they are not receiving large-scale funding support from the Programme (or other multilateral or bilateral initiatives), the Programme is taking alternative and concrete steps. These include sharing practical knowledge and lessons learned between UN-REDD *pilot* countries and UN-REDD *partner* countries, identifying existing national activities that can serve to advance their REDD+ readiness, as well as helping to identify sources of funding (UNREDD, 2010)

Although some interventions described above are low-cost, few are no-cost. However seed funding can help launch initial REDD+ readiness work. Nigeria for example has started an original two-fold REDD+ readiness process, focusing at the national level and in Cross River State. Catalytic funding from UNDP, coupled with UN-REDD expert advice, are enabling REDD+ in Nigeria, which includes initial stakeholder awareness, training and dialogue activities; setting up technical task forces on REDD+ at the national level and in states interested in REDD+, conducting a preliminary assessment on the REDD+ context in Nigeria to guide future action, UN-REDD support missions, and elaborating and realizing a REDD+ roadmap to move REDD+ readiness forward once financing is available (UN-REDD, 2010). Thus, in addition to joining a UN-REDD community of practice, new partner countries benefit from the strategic policy advice provided by regional teams, as well as key inputs on the initial steps they can make to catalyse national readiness processes, even if they are not receiving large-scale funding support from a multilateral or bilateral initiative (Boyle and Gari, 2010).

Forest Carbon Partnership Facility (World Bank)

The World Bank is spearheading the development of REDD financing through the establishment of the Forest Carbon Partnership Facility (FCPF). The purpose is to assist developing countries in their efforts to reduce emissions from

deforestation and degradation and to build capacity for REDD activities. The FCPF will test a programme of performance-based incentive payments in approximately 20 developing tropical and sub-tropical pilot countries (including DRC, Gabon, Ghana, Kenya, and Liberia). The objective is to create an enabling environment and a body of knowledge and experience that can facilitate the development of a much larger global programme of incentives for REDD over the medium term (5–10 years). The FCPF has two elements:

(1) **The Readiness Fund** will build up specific capacity in participating countries to implement REDD schemes. This will include, inter alia,

- Assessing historical emissions from deforestation and degradation;
- Projecting emissions from deforestation and degradation into the future, using a national reference scenario;
- Preparing a national REDD strategy, with proposals for policy and regulatory changes and specific actions to achieve the planned emission reductions in the form of development programmes or the like, as well as design of mechanisms for distribution of benefits; and
- Establishing a monitoring and verification system for emissions.

(2) **The Carbon Fund** will support a few countries that will have successfully participated in the Readiness Mechanism to finance performance based payments for REDD policies and measures as an incentive to these countries and their various stakeholders to achieve long-term sustainability in financing forest conservation and management efforts. The Carbon Fund will deliver emission reductions based on evidence that the projected volumes have been realized and verified as per methodologies deemed acceptable by the FCPF participants. The FCPF's target capitalisation is at least US\$300 million, consisting of US\$100 million in the Readiness Fund and US\$200 million in the Carbon Fund. By May 2008, the World Bank had received donor pledges of about US\$155 million from nine industrialised countries and an NGO to kick-start this initiative. Several African projects have recently been funded under the Biocarbon Fund, a predecessor of the FCPF (World Bank, 2010). These include:

- Ibi Bateke carbon sink project in the DRC
- Acacia Senegal plantations in Niger and Mali
- The Greenbelt Movement, in Kenya
- The Biodiversity corridor in Madagascar,
- The Humbo assisted regeneration project in Ethiopia (also registered as a CDM project)
- Nile Basin Reforestation project in Uganda (a registered CDM project).

It is still too early to identify impacts of these projects of SFM.

Climate Investment Funds

The World Bank, in consultation with other multilateral development banks and other stakeholders, has developed measures to scale up assistance to developing countries in the mitigation of, and adaptation to, climate change by creating two large climate investment funds (CIFs), which would be new and additional to existing ODA flows. The first is the **Strategic Climate Fund (SCF)**, which will channel new and additional financing for addressing climate change through targeted programmes. The SCF will provide incentives to maintain, restore, and enhance carbon-rich natural ecosystems to prevent these carbon sinks from becoming emission sources and to enhance all the services they provide, including climate resilience

or adaptive capacity. In addition the SCF will finance piloting of new development approaches and scale up activities aimed at a specific climate-change challenge or sectoral response through targeted programmes.

The first programme will pilot national-level actions for climate resilience in a few highly vulnerable countries. Attempts will be made through the SFC to maximise co-benefits of sustainable development, particularly in relation to the conservation of biodiversity, natural resources ecosystems, and ecological processes. The SCF has a holistic approach to climate change mitigation and adaptation that is particularly relevant in the forestry sector because of its diverse opportunities to contribute to the SCF objectives (Climate fundsupdate.org, 2010).

Forest Investment Programme

The World Bank is currently developing a Forest Investment Program (FIP). The main objective of the FIP is to support developing countries with their REDD efforts by providing up-front bridge financing for readiness reforms and investments identified through national REDD readiness strategy building efforts. The FIP will finance efforts to address the underlying causes of deforestation and forest degradation and to overcome barriers that have hindered past efforts to do so (WB, 2008). The FIP is designed to achieve four specific objectives:

1. To initiate and facilitate steps towards transformational change in developing countries forest related policies and practices, through:
 - a. serving as a vehicle to finance investments and related capacity building necessary for the implementation of policies and measures that emerge from inclusive multi-stakeholder REDD planning processes at the national level;
 - b. strengthening cross-sectoral ownership to scale up implementation of REDD strategies at the national and local levels;
 - c. addressing key direct and underlying drivers of deforestation and forest degradation;
 - d. supporting change of a nature and scope necessary to help significantly shift national forest and land use development paths;
 - e. linking the sustainable management of forests and low carbon development;
 - f. facilitating scaled-up private investment in alternative livelihoods for forest dependent communities that over time generate their own value;
 - g. reinforcing ongoing efforts towards conservation and sustainable use of forests; and
 - h. improving forest law enforcement and governance, including forest laws and policy, land tenure administration, monitoring and verification capability, and transparency and accountability.
2. To facilitate the leveraging of additional and sustained financial resources for REDD, through a possible UNFCCC forest mechanism, leading to an effective and sustained reduction of deforestation and forest degradation, thereby enhancing the sustainable management of forests.
3. To pilot replicable models to generate understanding and learning of the links between the implementation of forest-related investments, policies and measures and long-term emission reductions and conservation, sustainable management of forests and the enhancement of forest carbon stocks in developing countries. By committing to apply a priori and ex post impact assessment of programs and projects, the FIP will ensure that the outcomes and effectiveness of FIP-supported interventions in reducing deforestation and forest degradation can be measured; and
4. To provide valuable experience and feedback in the context of the UNFCCC deliberations on REDD.

Since September, 2009, ten countries have pledged US\$6.1 billion into the World Banks CIF funds. While no funds have yet been disbursed, the FIP sub-committee has approved eight countries, that include three from the African region (Burkina Faso, DRC and Ghana), to become pilots under the FIP. In addition, the FIP could be a financing channel for countries that

cannot have access to REDD mechanisms, but have substantial potential for generating combined mitigation and adaptation benefits through restoration and sustainable management of degraded lands, forests, and watersheds

Clean Technology Fund

The Clean Technology Fund (CTF), which is targeted at, *inter alia*, providing positive incentives for the demonstration of low carbon development and GHG mitigation; promoting scaled-up deployment, diffusion, and transfer of clean technologies; and promoting realisation of environmental and social co-benefits of low-carbon technologies. The CTF's country-specific programmes will involve both the private and public sectors, and they will complement GEF and link with the capacity-building programmes of the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP). The CTF's grant financing can cover additional costs necessary to make projects viable and will be supplemented by concessional loans and risk mitigation instruments, such as guarantees. In regard to the forestry sector, investments in bio-energy and improvement of the forest industry's energy efficiency and management will fall under the CTF.

4.7 Other Emerging Instruments for Forest Financing

A range of new instruments is being developed to complement the menu of traditional lending and equity investment in the forest sector. Some of the promising ones are:

- eco-securitisation and forest-backed bonds and
- endowment funds
- regional initiatives

These address some of the constraints related to forest financing in general, such as upfront financing of long-term forest investments (particularly plantations) and risk management against natural disasters.

Eco-securitisation

Eco-securitisation and forest-backed bonds are important strategic instruments that would greatly facilitate private sector investment in forestry, but (with few exceptions) they are still at development stage and often need external support (Van Dijk, and Savenije, 2009). Eco-securitization is a means of financing sustainable natural resource projects, including forestry. Finance is generated through the issuing of tradable bonds to investors. These bonds are supported (or securitized) by the cash flow from separate assets; these could include revenues from timber production in natural forests or plantations and also from ecosystem services. Bonds require lower returns on investment over longer investment periods than equity-type investments, and so they could be more appropriate for sustainably managed forests. They are distinguished from other forms of lending because security for the lender is provided solely by the cash flows from underlying assets and not by the credit-worthiness of the borrower. The concept of forest securitization is that of converting physical assets (land or growing stock) into liquid assets (cash), which are linked to shares that are placed on the (primary) public stock market, following the establishment of an autonomous capital fund administered by a trust company in whose name the securities (share or stock certificates) are issued. This instrument allows reforestation projects, which are conditioned by unproductive cycles lasting several years, to gain access to capital resources that will generate a cash flow.

This instrument is relatively new in the forest sector and there are virtually no experiences with its application in Africa, but the potential is immense especially in countries that have commercial forest products and stable economies.

Endowment funds

Endowment funds in the forest sector are devices resulting from the concern to make grants sustainable. Usually part of a fund is set aside as capital or “endowment”, which is placed in low-risk investments (fixed-term deposits etc.) in order to produce a steady annual income. The interest earned on this capital fund is generally used for the running expenses of programmes and projects. The advantages of endowment funds spring from the fact that they allow a stable long-term flow of financing to cover recurring running expenses and maintain basic programme activities that are not usually covered by international cooperation. This instrument has been applied, albeit to a limited extent in Africa. An example is the Bwindi trust fund (Box 9) in Uganda.

Box 9: Mgahinga and Bwindi Impenetrable Forest Trust Fund:

The Bwindi forest is an important biodiversity hotspot in Uganda which is a habitat to 50% of the world's mountain gorilla (*Gorilla gorilla beringei*). In 1991, the Government of Uganda established a national park after noting that the nearby communal swampland had been converted to farmland thus reducing the livelihood options of the majority of local farmers who started to carry out illegal logging and hunting activities in the forest. Consultations with local communities, supported CARE International, led to the creation of a Trust Fund whose objective is to protect prime mountain gorilla habitats by funding park protection, research and community conservation activities in a priority conservation area. The estimated capital needs for the endowment were US\$ 10 million. An initial GEF-funded endowment of US\$ 4.3 million in 1994 was granted as the basis of the Trust endowment.

A USAID 900.000 US\$ grant in 1994 and a further DGIS US\$ 2.7 million in 1997, given on a sinking fund basis, covered all administrative and project costs for a period of 7 years, allowing the Trust to reinvest 100% of its interest income into the initial endowment. It is estimated that by the end of 2002, the Trust will have amassed an endowment of about US\$ 8 million, close to its original target of 10 million.

With these long-term secured resources, the Bwindi Trust Fund created a grant programme with the long-term aim of protecting two national parks: the Bwindi and the Mgahinga. The majority of funds were allocated for community development activities, but it also strongly involved the community in its management by establishing community representation within both the governance structure and the organisation's programme management regime. To further develop the participatory and democratic management of the Fund, a Local Community Steering Committee (LCSC) was established. The responsibility of the LCSC is to review and approve all community projects, subject to final technical review and Board approval for projects above US\$ 1,000.

Source: Victurine, 2001

In summary, payment for environmental services is an evolving practice in the region. Most of the initiatives are still at the pilot or experimental stage. Even the rate of piloting itself is low, mainly due to lack of capacity within most of the countries departments. The adoption of payment for watershed services is particularly hampered by the lack of markets for these services as a result of the general poverty of the potential buyers. Furthermore, the existing legislation and national political and institutional arrangements are insufficient to facilitate the adoption of the new instruments at a wider scale. For example, the institutional arrangements for ensuring REDD benefits accrue to local levels require that most countries review and reform their legislation and institutional frameworks. There is therefore an urgent need for the creation of legal and institutional conditions to ensure payment for environmental services can be operational and sustainability is assured, while avoiding the creation of more bureaucracy.

Voluntary markets carbon projects are growing in number in Africa although they remain few in comparison to other regions. Most of them are still at pilot stage. One of the most frequently cited constraints to their expansion is the low price of carbon. The issue of carbon prices is likely to have a more impact on the rate of adoption of the various carbon sequestration based projects.

4.8 Regional forest management initiatives

Following the recognition of the multiple functions and roles of forests especially in biodiversity and climate change adaptation and mitigation, a number of regional forest management and conservation initiatives have been initiated in Africa. These are either organised through the sub-regional organisations such as East Africa Commission, COMIFAC, ECOWAS and SADC or along important forest ecosystems such as the Congo Basin rainforests, the miombo eco-region or the sahelian region. Examples of the major initiatives are described below.

The Congo Basin has seen the establishment of a number of initiatives to support conservation and management of the rainforest for purposes. Notable examples include the Congo Basin Forest Fund, the Congo Basin Forest Partnership (for the implementation of COMIFAC's convergence plan) and the Prince's rainforest project. As part of the Congo Basin Forest Partnership (CBFP), the Congo Basin Forest Fund (CBFF) was launched in June 2008 to complement existing initiatives. The purpose is (i) to support transformative and innovative proposals that will develop the capacity of the people and institutions of the Congo Basin to enable them to manage their forests, (ii) to help local communities find livelihoods that are consistent with the conservation of forests, and (iii) to reduce the rate of deforestation. The Fund will provide a source of accessible funding and encourage governments, civil society, NGOs, and the private sector to work together. The CBFF is initially being financed by a grant of US\$100 million from the British government and about US\$116 million by the Norwegian government. Examples of projects that are being supported under the CBFF are given in Box 10.

Box 10: Examples of some projects to receive funding from the Congo Basin Forest Fund**Stabilizing carbon emissions in the Sangha Tri-National forest complex through sustainable financing and improved livelihoods**

The Sangha Tri-national Foundation has been awarded a 2-year grant to provide operational support to implement a grant-making program in the Sangha Tri-National Park, which straddles Cameroon, Republic of Congo, and CAR. The Park was created in 2000 to protect forests rich in biodiversity. Since then an integrated land-use strategy has been developed that seeks to stabilize forest carbon while generating economic revenue to reduce poverty in the region. The TNS Foundation was created in 2007 as a long-term funding mechanism to support TNS priorities, which includes community-based activities.

Phasing out slash-and-burn farming with biochar

ADAPEL has been awarded a 2-year grant to implement a pilot project in 10 villages in Equateur Province in DRC, which seeks to phase out slash-and-burn farming, by transitioning to a system that improves soil fertility by enriching them with 'bio-char'; a carbon-rich product that is derived from biomass. When biochar is sequestered in soils, it not only maintains soil fertility, but also constitutes a stable, easily measurable carbon sink. The production of biochar from crop residues also generates renewable energy in a low-cost manner, which reduces local dependency on firewood.

Promoting Community Land Tenure Rights in the Congo Basin

The Rainforest Foundation UK in partnership with the Centre for Environment and Development (CED) in Cameroon has been awarded a 2-year grant that seeks to work with regional NGOs to develop recommendations to support the development of legislation which will ensure improved security of land tenure for forest dependant peoples. This legislation will provide a sound basis for community-based approaches to forest management, small forest enterprise, and mechanisms for Payment of Ecosystem Services. The countries covered by the project are Cameroon, CAR, Gabon, RoC and DRC.

Quantifying carbon stocks and emissions in the forests of Cameroon and the Republic of Congo

The World Resources Institute (WRI) in collaboration with a number of partners (international and regional) have been awarded a 3-year grant to implement a project in Cameroon and the Republic of Congo that aims to quantify forest carbon emissions from forest loss and degradation in these two countries using carbon accounting methodologies that follow IPCC good practice guidelines. The goal is to assist Cameroon and the Republic of Congo in improving their readiness to join any potential payment schemes for forest carbon by developing national carbon accounting strategies. The work will include an update of forest cover change from 2005-2010 and will add missing years going back to the 1990s. The project also seeks to build the capacity of local institutions and government agencies to conduct this monitoring on a regular and consistent basis.

Building the foundations for success; ensuring community participation is at the heart of REDD

FERN has been awarded a 3-year grant from the CBFF to strengthen the capacity of NGOs in Cameroon, CAR, RoC, DRC, and Gabon to be able to ensure that community rights are incorporated into national and international REDD policies and to develop and advocate for transparent mechanisms to ensure that REDD revenues are transferred from national to local level. The project also seeks to create NGO coalitions to work at different levels on REDD-related issues.

Source: [http://www.afdb.org/eng/topics-sectors/initiatives-partnerships/congo-basin-forest fund/](http://www.afdb.org/eng/topics-sectors/initiatives-partnerships/congo-basin-forest-fund/)

In the SADC region a number of transboundary forest management and conservation initiatives have been launched. The most recent one is the SADC Fire management programme. The initiative aims to promote integrated fire management in the sub-region including the establishment of a fire management coordination centre. The sub-region has also initiated a SADC

REDD programme to improve the capacity of SADC member states to manage and benefit from national REDD programmes.

The African Union in Partnership with the European Commission launched (in 2009) the Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI), an African regional framework to address desertification/land degradation, avoided deforestation and other pressing environmental issues in the Sahara and Sahel zones. In terms of its geographical scope, GGWSSI targets the area of the Sahel-Saharan zone with average rainfall below 400mm per year in 20 target countries.

These initiatives demonstrate the existence of the willingness and commitment to mobilise financial resources for forest management and related activities. However they bring with them the issues and challenges of coordination between member countries and between countries and the various donor partners. The actual distribution of the initiatives and the level of funding are also skewed in favour of forest rich countries, reflecting the current interest and focus of donors. A key concern with regional initiatives as a result of experience in the past is that they are largely donor driven and usually collapse as soon as initial donor funding ends. The challenge is how regional organisations can mobilise adequate financial resources from within their membership to provide support to regional activities on a sustained basis.

5. FINANCING NEEDS AND GAP ANALYSIS

5.1 Financing needs

Sustainable forest management requires substantial financial resources but so far the financial resources mobilised remain insufficient particularly in developing countries. Many attempts have been made since the UNCED conference in 1992 to estimate the financial needs for forest management in a bid to boost financial resources mobilisation efforts at global level. It has been estimated that globally, the required funding for sustainable forest management is between \$70 - \$160 billion per year (Chandrasekharan 1997, Simula, 2008, WWF, 2009). The most comprehensive effort to assess financing needs for the forestry sector in recent years has probably been carried out by UNFCCC (2007) which concluded with the indicative estimates for developing countries shown in table 7.

Table 7: Financing needs for the forest sector

Financing area	US\$ billions/year
Opportunity costs for REDD	12.2
Sustainable forest management	8.2
Afforestation/reforestation	0.1-0.4
Total	21

The estimates were targeted at identifying opportunity costs of the main mitigation options:

- reduced deforestation,
- better management of productive forest, and
- afforestation and reforestation as a means to increase forest area.

UNFCCC presented the opportunity costs to reduce deforestation and forest degradation based on regional estimates of the key drivers (commercial agriculture, subsistence farming, and wood extraction), relating them to regional/sub-regional current deforestation rates (Appendices 2 and 3).

Table 8: Lowest investment cost required to compensate deforestation/ degradation opportunity costs (USD million/year)

Deforestation source	Africa	Asia-Pacific	Latin America	Other countries	Total
Commercial agriculture					
Commercial crops	1372.2	1926.0	2144.5	322.5	5765.2
Cattle ranching	175.5	10.6	576.5	38.7	801.3
<i>Subtotal</i>	<i>1547.7</i>	<i>1936.6</i>	<i>2721.0</i>	<i>361.2</i>	<i>6566.5</i>
Subsistence farming					
Small-scale shifting cultivation	706.4	674.1	681.6	86.0	2148.1
Fuelwood and non-timber forest products	71.1	48.2	66.9	10.8	197.0
<i>Subtotal</i>	<i>777.5</i>	<i>722.3</i>	<i>748.5</i>	<i>96.8</i>	<i>2345.1</i>
Wood extraction					
Commercial harvest	311.0	2194.8	552.6	129.0	3187.4
Fuelwood/charcoal	40.4	16.0	16.6	12.9	85.9
<i>Subtotal</i>	<i>351.4</i>	<i>2210.8</i>	<i>569.2</i>	<i>141.9</i>	<i>3273.3</i>
Total	2676.6	4869.7	4038.7	599.9	12184.9

Source: World Bank (2008)

Africa's financing needs are estimated at 16%, or \$2 billion per year. These estimates have several limitations, that include inherent weaknesses of the opportunity costs method such as failure to capture other decision criteria of land owners and communities (e.g., food security, financial and natural risk mitigation), assessment of opportunity costs of forest degradation, and apparent underestimation of afforestation/reforestation (based on CDM eligibility) as a mitigation option.

These estimates are no more than indicative by nature. They are however useful in illustrating and highlighting the order of magnitude of what is required for the achievement of SFM. What is clear is that the actual funding available in the forest sector, from all sources falls far short of even the most conservative estimates. For example the current global bilateral flows are estimated at \$1.1 billion per year whilst multilateral flows are \$0.8 billion per year and foreign private sector investments are estimated at \$0.5 billion per year. The targeted amount for tropical forests management from ITTO is only US\$1 million per year whilst the Bio-carbon Fund is providing US\$10 million/year and voluntary carbon markets are providing \$50 million per year (Simula, 2008).

Several estimates for financing needs for SFM in tropical forests have also been made through ITTO surveys of national needs estimated by governments and by expert assessments based on different assumptions (Tomaselli 2006). Because of great variation in local conditions in African countries, estimating financing needs for implementing sustainable forest

management is difficult and has not been attempted in this study. Suffice to say most of the African countries are experiencing major difficulties in raising adequate financial resources for sustainable forest management from all sources. The majority of the countries in Africa do not have the capacity to mobilise sufficient domestic public funds for the forest sector due to social and economic constraints. This problem is compounded by the low levels of general economic growth and poverty which result in the forest sector receiving low priority in national policy.

5.2 Thematic Gaps

The successful implementation of sustainable forest management requires the mobilization of adequate financial resources for all key aspects or thematic areas of SFM. Table 7 provides a summary of the main thematic areas that need to be financed to achieve SFM. A review of the financial resources mobilized by African countries shows that almost all of them are not able to raise adequate resources for the forest sector from both domestic and external resources.

Table 9: SFM Thematic areas requiring finance

Initial upfront investment	Mainstreamed upfront investment	Sustained forest management financing
<ol style="list-style-type: none"> 1. Analytical work (DD drivers, barriers to SFM, PES market potential, etc.) 2. Stakeholder participation and engagement 3. Planning (nfp, specific national strategies such as REDD, bio-energy, forest biodiversity) 4. Information base (resource assessment, baselines, reference scenarios) 5. Monitoring and verification system design 6. Safeguards and SFM guidelines development 7. Initial capacity building 8. Programme and project design 	<ol style="list-style-type: none"> 1. Implementation of policy reforms (incl. Cross-sectoral impacts on forests) 2. Restructuring of institutions 3. Land-use zoning, planning, and monitoring of land-use change 4. Strengthening of forest land tenure (demarcation, titling) 5. Strengthening of law enforcement 6. Restoration of degraded lands and forests 7. Strengthening of stakeholder constituencies (smallholders, forest communities, civil society, private sector) 8. Infrastructure development 9. Forest protection (fire, pests, diseases, etc.) 10. Education, training, and extension <ul style="list-style-type: none"> - smallholders, communities, SMEs - forest managers 11. Research and innovation (silviculture, harvesting, utilisation) 12. Market-based and other voluntary instruments 13. Implementation of SFM by smallholders, community forests, SMEs, 14. Company-community/smallholder partnerships 15. Implementation of monitoring and verification systems 	<p>Forest products and services</p> <ol style="list-style-type: none"> 1. Timber production 2. Non-timber forest products production 3. Ecotourism 4. Other services <p>PES schemes</p> <ol style="list-style-type: none"> 1. REDD payments 2. Sink creation payments (afforestation, reforestation, forest management) 3. Biodiversity offsets 4. Landscape offsets 5. Watershed conservation offsets

Source: Simula, 2008

Most of the domestic public financing is directed towards supporting the public forest administrations especially the salaries and other administrative costs. Many countries also invest in the management of protected areas. However protected areas in Africa are among the lowest staffed in the world and also have poorly developed infrastructure. The thematic areas that are least covered by domestic public financing vary from country to country. However the most common are the following:

- Initial upfront investments such as policy reform, stakeholder engagement and organization

- Analytical work such as baselines for PES schemes, land use planning
- Sustainable forest management guidelines and the associated monitoring and verification systems

Most governments provide funding to the other thematic areas but the main challenge is that the funding levels are well below the funding needs. An analysis of the financing gaps from external bilateral and multilateral financing sources is summarized in table 10 below.

Table 10: Summary of main external financing sources and their financing gaps

Source	Main focal areas in forestry	Gaps
Bilateral donors	Capacity building, catalytic investments	Mainstream investments (production forests, certification, forest restoration etc)
World Bank group	Poverty reduction, sustainable development, global environmental services	Mainstream investment
African Development Bank	Forestry for sustainable economic development, environmental conservation	Mainstream investment
GEF	Agreed incremental global benefits from biodiversity, land degradation, and climate change	Investment in SFM in production forests
ITTO	Capacity building for SFM from sustainably managed forests	Mainstream investment
BioCarbon Fund (BioCF)	Afforestation and reforestation pilot projects, avoided deforestation	Mainstreaming to meet the demand in developing countries
Forest Carbon Partnership Fund (FCPF)	REDD readiness building REDD carbon emission reduction offsets	Broader capacity building beyond REDD mechanisms Upstream investment for achieving emission reduction
Strategic Climate Fund (SCF)—PPCR	Improve climate resilience Incentives for maintaining carbon-rich ecosystems	Forest Investment Program Under planning
Clean Technology Fund (CTF)	Incentives for clear technologies (biodiversity utilisation and industry efficiency)	Forests not covered
FAO and NFP Facility	Technical assistance, support to national forest programmes	Mainstream investment
Adaptation Fund	Adaptation measures in countries that are particularly vulnerable to the adverse effects of climate	Coverage will possibly include ecosystem services
CDM	Afforestation/reforestation offsets	Only one forest project approved 27 in the pipeline
Conservation funds	Biodiversity hotspots and other protected and conservation areas	Poverty, forests outside protected areas

The analysis shows that a considerable share of forest ODA is allocated to forest conservation, in line with the principle of supporting enhanced production of global public goods. In relative terms, sustainable forest management outside protected areas is one of the thematic areas least supported by external funding. Only a few donors are supporting forest management activities in natural tropical production forests, and their funding is clearly insufficient. This is major gap as these forests generate important public goods. Very little ODA is directed at plantation forest development and management for production purposes. This has tended to be left to the private sector and domestic public financing. However external ODA has been important in funding the establishment of protection plantations especially in the sahelian region. The adoption of sector wide support in some countries has led to the use of ODA in a more catalytic way in most thematic areas especially initial upfront financing.

New PES mechanisms, particularly REDD, have potential to provide financing for forest conservation, but there is still uncertainty about the funding flows, and extend to which they can support other forest management activities is still unclear. In general PES schemes do not cover the requisite upstream investments in capacity building, implementation of policy reform, strengthening of governance, market creation for environmental services, etc., and their potential is also constrained by the principle of payment upon performance. In fact, the general observation is that upstream investment in policy reforms, capacity building, and other national measures necessary for the successful implementation of the NLBI are grossly insufficient.

Although numerous sources exist for forest education, research and training, and forest conservation, accessing them is often constrained by eligibility criteria and procedural issues, which act as barriers, particularly for forest communities, smallholders, and local NGOs and community-based organisations.

Private sector financing is very important especially in areas that are suited to plantation forest development and areas with commercially valuable natural forests. Unfortunately not many countries in Africa have been able to attract private sector investment in plantation forest development due to unfavourable investment conditions and natural conditions (especially in countries with low forest cover). Where private sector investment has been secured it rarely covers upfront investments, management of protected areas, forest education, policy and legislative reforms. In most of the countries, the domestic private sector in the form of small-scale enterprises is the main source of private sector funding. Most of the enterprises rely on self financing and microfinance.

An analysis of the sustainable forest management thematic areas that benefit from access to microfinance services in the forest sector reveals that the following thematic areas are covered albeit not to the required levels:

- Afforestation and reforestation especially in plantation forestry development (e.g. out-grower schemes and plantation development funds).
- Forest restoration in arid and semi-arid areas (e.g. for charcoal production and production of NWFPs)
- Management of forest plantations under out-grower and forest development schemes such as joint forest management
- Management of productive natural forests (where there are commercial products such as timber and NWFPs) but this is very limited areas where there are community forests with secure tenure rights and high value products.
- Forest conservation is financed through community-based initiatives that contribute to community livelihoods and local economies such as ecotourism under programmes such as CAMPFIRE
- Small scale enterprises for processing timber and non-timber forest products including acquisition of appropriate technology
- Sustainable production of non-timber forest products albeit to a limited extend
- Protection of forest against fires and invasive alien species is limited to where these are direct threats to commercially valuable forest resources
- Strengthening local institutions
- Tree growing and management for voluntary carbon markets
- Stakeholder participation and engagement in forest governance,
- Participation in community/ private sector partnerships
- Certification of production forest areas e.g. certification of honey producing areas in Western Zambia
- Technology transfer
- Management for some environmental services (e.g. carbon)

From the foregoing it is clear that microfinance has immense potential to contribute to financing of sustainable forest management through stimulating private investments from low income communities. However there are key thematic areas that are not covered and require financing from other sources. These include;

- Forest research and education

- Land use planning and forest zoning
- Forest monitoring and assessments
- Capacity building
- Policy and legislative reforms
- Biodiversity conservation in protected areas
- Securing tenure for local communities and small-holder farmers
- Creation of markets
- Development of information systems
- Management of forests for some environmental services (e.g. watershed protection)
- Analytical work and stakeholder organisation for new initiatives e.g. REDD

It is important to note that microfinance can contribute to some thematic areas that have been identified as major gaps in external financing through ODA. Examples include SFM outside protected areas; SFM in tropical production forests and forest restoration especially in arid and semi arid areas with low potential for commercial timber. In this regard the development of micro-financing in sustainable forest management should be undertaken in conjunction with the development of other sources of SFM financing especially public domestic and private sector financing.

6. TOWARDS STRENGTHENING FINANCING FOR SUSTAINABLE FOREST MANAGEMENT IN AFRICA

During the last two decades the multiple values and functions of trees and forests have received increasing recognition. This has also seen the growing realization that there are multiple stakeholders/ actors who can, and are, contributing to forest management and forest management decisions. In this regard it is widely agreed that SFM is not, and should not, be the sole responsibility of the government, but of society in general, and that new approaches, institutional arrangements and financing mechanisms are needed to bring about this reality. The new financing systems that are required must address the financial needs of the different actors, and for the different management objectives taking into account the special condition of different forest ecosystems and socio-economic conditions of each country. Current forest financing systems in the countries in Africa are still insufficient to provide the conditions for halting deforestation and forest degradation processes, promoting rehabilitation and afforestation/reforestation, and expanding the areas of forest under sustainable management.

At a country level, enhanced coordination would require integrating instruments such as national forest financing strategies and exchange of information, which could be arranged through appropriate arrangements led by governments. In addition, adequate country capacity should be built up to make full use of the increasingly diversified and complex external and internal funding instruments for forests (Simula, 2008). The recent development and/or updating of national forest programmes in most (35) African countries has resulted in the creation or development of a broad national framework within which national forest financing strategies can be anchored.

6.1 National forest financing strategies for Africa

The study has shown that there is a wide range of financing mechanisms and instruments that a country can draw from, to mobilise financial resources for the forest sector in general and sustainable forest management in particular. However to properly take advantage of these opportunities, countries need to develop national forest strategies. National forest strategies are defined as the combination of measures and arrangements for the creation of an institutional, political, legal, socio-economic and financial framework (the enabling environment) agreed upon with those most closely involved within and outside the forest sector (Djik and Savenije, 2009). It establishes the criteria and guidelines for obtaining and channelling financial resources. Financing mechanisms are identified, coordinated and implemented with a view to promoting investments in, and payments for, forest goods and services. The strategy encompasses the public and private sectors and the

local, regional, national and international levels, and measures that are pursuant to the attainment of the objectives of the national forest programme and forest management of the various target groups in a sustainable manner. The purpose of an NFFS is to create the mechanisms and conditions for expanding and diversifying the financial basis of SFM, making the existing financing system more efficient, and complementing it with new and/or innovative opportunities. Thus the NFFS provides an overall framework comprising agreed guidelines, specific elements such as legislation, policies, resources and mechanisms. There is need to underpin financing strategies with robust, equitable and enforceable regional policies, strategies, laws and regulations. These must be implemented and enforced by competent national and regional institutions. If not, the much sought after additional financing may lead to increased deforestation, forest degradation and forest conversion for short-term profit, and further marginalization of forest-dependent communities.

6.2 Enabling environment

Essentially, financing mechanisms work better when they are set within an enabling environment of political, institutional and socio-economic conditions, and also form part of a set of complementary political and/or legal measures to foster SFM. In this regard national financing strategies must be integrated within the nfp and other national development strategies and programmes. The key elements of an enabling environment for the financing of both investments and payments are:

- Up-to-date policies and the political context
- Clear legislation
- Existence of appropriate and effective institutions and governance
- The overall national economic and financial environment
- Social, cultural and environmental aspects
- The international environment.

Most of the African countries have reviewed and updated their forest policies and legislation to take into account the multiple values and functions of forests, in the last two decades. However there are challenges of conflicting policies and legislation arising largely from separate government agencies dealing with, forests, tourism, wildlife and the environment. Furthermore due to major challenges of poverty, food insecurity and other socio-economic challenges forests and forest management are relegated to low priority issues. The result is the lack of State investment to promote and develop sustainable forest management and policies that favour agricultural and livestock activities. There is also limited alignment with other national development programmes and other sectoral policies especially financing and policies. There are conflicts between forest policies and policies regarding infrastructure, macroeconomic development, agricultural expansion and, more recently, bio-energy projects. These conditions do not foster confidence in the region and in the forest sector in particular

Many parts of the continent have been ravaged by the scourge of political instability and conflict which do not attract investment in the forest sector especially given the long term nature of forestry. Thus there is need for governments to create a stable economic and political climate for encouraging investment (note that this is generally beyond the control of the forestry sector).

Legislation may need to be adjusted to ensure it enables, rather than constrains, investment in forestry, particularly in plantations. Legislative constraints are often related to specific controls, designed to govern aspects of land-use or forestry, but are inappropriate for forestry development activities. The governments must sufficiently differentiate between natural and plantation forest management requirements and practices; address land use planning regulations that specifically favour

agriculture over forestry; review levies and bans timeously; and put in place a good incentive package for forestry development.

There is also urgent need to apply existing legislation and consolidate the legal framework concerning land tenure and allocation. Insecurity of land tenure, is a key factor hampering the obtaining of finance and the application of financing instruments in many countries in Africa. Thus there is need for national governments to clearly define forest-land tenure and rights and ensure they are applied and are functioning so that some of the major impediments to investment in the forestry sector are addressed. Good governance measures, based on the principles of enhanced law enforcement, transparency, accountability and integrity also need to be promoted and practiced not only in the forest sector but in all aspects of national governance as a whole to attract investment and instil investor confidence. The governance system should be kept free of the bad influence of short-term politics and vested interests.

A major problem is that forestry staff have little knowledge of financial legislation as well as opportunities in the financing sector (while those in the financial sector know little about forest legislation), so that they lack instruments that would enable them to promote forest activities. The insufficient dissemination of information on financial legislation among actors in the forest sector results in extensive ignorance about its existence and application of various financial products. For example there are many micro-financing products such as leasing and out-grower schemes that have just been introduced to the forest sector but have been widely applied for a long time in other sectors such as agriculture.

The existence of strong, transparent and effective institutions is also critical as they encourage broad participation and coordination among the institutions of the sector and with other sectors, so that their practices can be directed towards sustainable forest management. Strong institutions are not only limited to public forest agencies but include the existence and functioning of private and civic institutions within and outside the forest sector as well, and whether these institutions are efficient and well organized at both central and local levels. Whilst in many countries these institutions exist, their level of organization and coordination is quite low (Owino, 2008). Other weaknesses, including excessive bureaucracy, corruption, lack of transparency and participation, low legitimacy and lack of public confidence, increase the risk and uncertainty in the forestry sector and the associated financing requirements.

A major issue of concern is that public forest agencies (PFAs) are generally hierarchically poorly positioned in the system of government. There are many countries where PFAs are at such low levels they do not contribute to the strategic direction of their ministries. An example is the location of the institution responsible for forestry in Ethiopia at the federal level which is a section under the watershed and natural resources department. In addition, they are negatively affected by inefficient internal bureaucracy, lack of sufficient human, technical and financial resources. Governments must therefore strive to ensure that the respective public forestry institutions are strong and provide the necessary leadership required to drive SFM forward.

Devolution and decentralization processes have been launched in almost all the countries in Africa. This has been driven in the last two decades by the growing promotion and adoption of decentralized approaches to natural resources management. This has seen a growth and proliferation of various forms of community-based forest management. Unfortunately decentralization and devolution have not been accompanied by systems for the mobilization and provision of the requisite and resources (especially human and financial) to facilitate the efficient and effective functioning of the local institutions. Where revenue sharing schemes, between the central government and local institutions, have been put in place, the sharing is not based on the level of responsibilities but determined by the central government. There is need for equitable resource sharing mechanisms based on the level of effort and investment in forest resources management between government, local

institutions and local forest managers. This is going to be critical especially for the several carbon finance schemes and instruments such as REDD.

At the international level, globalization is creating a new environment for the forest sector that cannot be ignored in the analysis and development of an enabling environment for forest financing. The requirement of SFM is increasingly determined by international agreements and processes (UNFF, CBD, UNFCCC, ITTO, CITES, WTO, FLEGT etc.), and there is also a growing trend towards sub-regional forest coordination and cooperation, for example within the framework of ECOWAS forestry programme , SADC Protocol on Forests and Great Green wall (Box) the COMIFAC convergence plan. International markets in Europe and North America for example, which are important consumers of processed wood products and services such as tourism, require a high quality for both wood and the production processes as reflected through certification. International financial markets are also increasingly including environmental aspects in their activities. Governments and other stakeholders in Africa will have to continuously monitor these international developments and their impact on investment in sustainable forest management to ensure they adapt and respond to the market needs.

6.3 Financing the NLBI

While climate change funding presents new financing opportunities, these mechanisms are unlikely to address the full scope of financing for sustainable forest management. None of them has the capacity to finance all the activities implicit in the implementation of the NLBI. Instead, the available funding from the existing portfolios is inadequate for SFM because of limitations in focus/scope, availability, accessibility, and volume of finance. This is what gave rise to the consideration of the so-called ‘portfolio approach’ and adoption of the Facilitative Mechanism for forest financing (EI Lakany, Jerkins, and Richards 2007; Hoogeven et al. 2008) because various funding needs for SFM are being financed from a variety of sources. The “facilitative process” on forest financing is therefore aimed at assisting countries to mobilize funding from all available sources.

Trends in bilateral ODA show a decline in Africa’s share of forest-related finance and a move away from sectoral to budgetary support and broader development strategies that respond to the MDGs. Many activities related to the implementation of the NLBI are expected to be executed by national forestry sectors and relevant agencies (UNFF, 2007), but these tend to be accorded low priority by most developing countries and are not likely to get adequate resources through this mechanism. Furthermore many governments in Africa continue to decentralize forest management responsibilities to the private sector and local communities, among other stakeholders. However, many issues identified in the NLBI are related to the sustained provision of international public goods and services, which cannot be adequately financed through these two sectors.

More effort is required to improve optimal utilization of the existing funding sources and mechanisms and to mobilise additional funding by creating new financial instruments to fill the existing gaps. Because the available funding sources can only address part of the funding needs of SFM and NLBI implementation, the international community should consider the establishment of a specific SFM/NLBI-targeted instrument or mechanism to increase financial resources in a systematic and predictable manner. In this regard it is imperative to establish a targeted Global Forest Fund that will provide dedicated resources, over and above those from existing and other innovative funding mechanisms, to ensure that sufficient resources are available to all types of forests for achieving sustainable forest management and the Global Objectives on Forests. Such a mechanism or fund could

give priority to the thematic and geographical areas that have been identified as having major financing gaps as well as to important upfront financing required for creating an enabling environment for attracting funds from other sources.

7. EXPERIENCES AND LESSONS LEARNT

7.1 Financing sources and financial flows

Most of the countries in Africa have a variety of financing mechanisms for funding forest activities. Although every country has some type of financing system, the levels of advancement of these systems vary widely in terms of scope, focus and how they actually operate. In spite of the availability of a wide range of financing sources, funding for sustainable forest management remains inadequate in almost all the countries due to a variety of reasons. However it is increasingly recognized that stand-alone financing mechanisms are likely to be less effective and sustainable than those that are integrated and set within a broader and more reliable institutional and policy framework.

Domestic public financing is a major source of forest financing in many countries in Africa. Almost all the governments allocate funding from the treasury to forest management even though in the majority of cases these allocations are well below the requirements. Public budgetary allocations to the forest sector are almost always at the barest minimum needed to maintain public forest institutions (PFIs) and do not provide for forest development, conservation and management. In general there is little reinvestment of these resources in forests because of the many other pressing needs. In forest rich countries such as Cameroon and Gabon, revenues collected from commercial harvesting of timber and tourism are the major sources of funds that are then re-invested in forestry by the government through budget allocations. The major challenge is that the revenue collection from commercial harvesting of natural timber is still inefficient resulting in revenue collections that are well below potential. However in the last decade many countries have reviewed their fiscal policies and revenue collection systems to improve revenue collection. For example Cameroon, Gabon and Ghana introduced competitive bidding for concessions and this has significantly increased the revenues collected from commercial harvesting from natural forests.

The second challenge is that revenue allocation through government to forestry is generally lower than desired due to other more pressing needs such as food, health and education. In most of the countries, the main focus of land use planning and resource allocation is agriculture, not forestry. Even when forests are the main source of revenue, forest land or land with forest cover is settled, its holding is justified by the agricultural activities and not by forest management, a situation with negative consequences on the importance given to forests in state budget allocations. Generally, when compared with other government agencies, PFIs are often lowly placed in government hierarchy even in countries where they obtain substantial forest incomes e.g., Central African Republic, Cote d'Ivoire, Gabon, (Owino and Ndinga, 2004).

The third challenge is the low priority given to forests due to the undervaluing of the contribution of forests to the national and household economies. In particular the contribution of forests to the energy sector in most African countries is acknowledged but not quantified and captured in national accounts because most of the activities are in the informal sector and many aspects, such as charcoal production are still considered illegal. The non-timber forest sector has

grown tremendously in recent years but also largely operates in the informal sector and very little revenue is collected from the sector by governments for re-investment into forest management.

Where decentralization has taken place and some attempts have been made to adopt fiscal decentralization which would allow lower levels to generate and make decisions on revenue use and investment to address plans formulated at that level. Few examples can be drawn from sub-Saharan Africa on this, but Niger (Box 1) and Tanzania provide good examples. In other SSA countries PFIs have been turned into business entities e.g., Zimbabwe, Ghana, Uganda, and Cote D'Ivoire where the production and commercialisation functions were excised from the PFI and are now run on a commercial basis (Owino 2006) in a bid to increase revenues generated and re-investment into forest management.

Insufficient information on, and failure to appreciate, the whole range of forest functions prevent a proper appreciation of the real contribution of forest activities and forests to the national economy (in terms of GDP) and society as a whole. This has generally affected the political standing of forestry and therefore the level of priority accorded to the sector. There is need to capture the full range of contributions from forest goods and services beyond timber to capture such values as energy (fuelwood and charcoal). Whilst this view has been acknowledge for decades the challenge is that this is not being done due to lack of appropriate methodology, perception of environmental services and some forest products as free commodities and failure to convince policymakers. There is also an urgent need to develop forestry information systems across Africa and the capacity to collect the information on a sustained basis.

Private sector financing is growing very fast and has potential to become a major source of SFM financing in many African countries especially the forest rich countries and countries that are suited for plantation development. The financial resources from the sector tend to be directed at large-scale market-oriented production of timber (pulp and paper conglomerates and large companies harvesting timber from natural forests). For example there is rapid expansion in forest plantation in eastern and southern Africa, parts of West Africa (especially in Ghana). In Central Africa, particularly in the COMIFAC countries, private financing is being driven by the expansion of natural production forests that are being brought under managed concessions and the new drive by some of the countries, such as Gabon and Cameroon, to reduce export of logs and increase processing and export of processed forest products. Unfortunately information on the actual levels of investment from the private sector in Africa is difficult to obtain and is not readily available. However there are predictions that private sector foreign direct investment is poised to be the major source of SFM financing in forest rich countries if they can establish an enabling environment for such investment. Furthermore, there is evidence that the financial sector has the capacity and creativity to develop new products and services to take advantage of the opportunities if there are adequate risk mitigation measures and an enabling policy and legal framework.

There are risks associated with private sector investment in SFM and most of these centre on exchange rate fluctuations inflation, inventory costs and price fluctuations, and political conditions. The longer time periods involved in SFM cause even greater private sector attention to risk. In many instances the private sector is reluctant to invest in management of natural forests as they consider Africa a risky region. In general, long-term sustainable forest management is often financially unattractive compared with unsustainable practices, and private investors are not inclined to make the kind of large investment that is needed to "mainstream" SFM. The difficulty in achieving acceptable levels of profitability of SFM in the relatively short periods in which private forestry companies operate is a stumbling block to private capital. Furthermore a reluctance to invest in natural forests (other than for logging) also arises from perceived complexity, high costs, and contentious social and policy issues (such as community or indigenous people's rights and environmental objections to

harvesting of primary forests). This calls for national governments to invest in establishing an enabling policy and macro-economic environment to reduce the risks and attract private investment, especially FDI.

Private sector investment in low forest cover countries in West and North Africa and parts of southern Africa is however expected to remain low due to absence of resources that can support large private sector investments. In most of these countries the private sector is dominated by small-scale forest enterprises that are based on non-timber forest products. This sector has potential to grow if access to finance is improved. However, little attention has so far, been paid to the informal sector, even though this sector accounts for over 70% of the enterprises in Africa. In the analysis of most national forest programmes, no reference is made to an important private source of financing, namely informal micro-credit. Experience shows that most forest owners and small and medium-sized forest-based enterprises use this source.

Although it is estimated that informal sources of microfinance are perhaps the most common source in rural forest finance in Africa, very little information is available on them. There is inadequate attention to the potential role of micro-finance in SFM and better linkages with the financing sector in general to enable development of financial products and services suited to the forest sector. The growth in the micro-finance sector in most African countries provides a great opportunity for increased finance to the small-scale forest sector enterprises and leveraging of investments from local communities and other stakeholders. For example the out-grower schemes in South Africa Uganda and Zimbabwe have demonstrated how access to finance can mobilise small-scale producers' investment in plantation forests development. Under special conditions, micro-credit can offer an opportunity for financing forest activities (planting, forest management, harvesting etc.) for small-scale enterprises and smallholder farmers. What is needed is to improve linkages between the forest and financial sectors to facilitate the development of financial products and services suited to the forestry sector.

A number of countries have implemented cost and benefit sharing arrangements to encourage local communities' engagement and investment in forest management and protection. For example, in Mali and Niger, part of the money raised from forest charges is used to support local development, with larger shares going to local communities if harvesting in their areas is controlled in some way (up to 90 percent in Niger and 45 percent in Mali). Furthermore, a proportion of the revenue shared with communities is reserved for expenditure on forest management. Gambia has a similar arrangement, where local communities enter into Community Forestry Management Agreements with the Forestry Department that allows them to retain 85 percent of any revenue from forestry activities in their designated areas so long as they demonstrate an ability to manage the forest and 40 percent of revenue is reinvested in the forest.

Funding through the multilateral institutions is likely to become even more prominent in the future as a result of the development of financing mechanisms for improving sustainable forest management for mitigating the climate change. This is demonstrated by the growing number of new funding initiatives such as the World Banks Forest Investment Programme and Forest Carbon Partnership Facility, the African Development Bank hosted Congo Basin Forest Fund, The UN-REDD programme and the recently established GEF sustainable forest management and REDD+ programme funding envelope. Unfortunately the distribution of these resources is currently much skewed, with most of the resources being directed at the forest rich countries of the Congo Basin. In particular, the support of multilateral agencies, through regional programmes such as the Congo Basin Forest Fund and the GEF's Tropical Forest Account has accentuated this disparity. Given the increasing focus on the role of tropical forests in mitigating climate and provision of other environmental services, this trend is likely to continue.

The provision of bilateral ODA has largely remained project or programme based and therefore short term in nature. This has meant that bilateral ODA has also tended to be influenced by changes and shifts in donor policies and priorities. There are few instances of sector-wide and budgetary support approaches to the delivery of forest related ODA in Africa. Where the latter has been used forests have tended to be allocated a lower priority than other sectors such as agriculture and health.

Experience to-date indicates that ODA will continue to play a crucial role in SFM in Africa especially in providing additional resources for SFM; providing better linkages with markets and private sector companies financing the generation and maintenance of global environmental services of forests especially where markets are still poorly developed; the development of a fair market for forest goods and services; the creation and boosting of a national and international environment of equitable competition (with differentiated prices); promoting the legality and certification of SFM; and the design and application of international payment mechanisms for global services (such as carbon sequestration and biodiversity conservation). Promotion of better coordination, consistency and collaboration among donors contributing to forest development and conservation and the implementation of an NFFS will be important to ensure synergy and improved coordination with other funding mechanisms, and will need to be encouraged in each country.

International and local environmental NGOs play a significant role in mobilizing financial resources, from a variety of sources, for many aspects of SFM in Africa. The large NGOs have created special funds for forest related activities such as Conservation International's conservation funds. In some cases they have helped establish endowment and trust funds such as the Bwindi Trust Fund. The NGO funds have been instrumental in developing and piloting innovative approaches to sustainable forest management in Africa. Although the development of trust funds took off well during the 1990s, their development has slowed down and there are still only a few in place. The disadvantage of small, especially local NGOs is that they are dependent on grants from donors and large NGOs, and therefore tend to operate on a project or short term basis.

Philanthropic funds have also contributed significantly to the funds available to the forest sector in all countries in Africa. These have been driven by both environmental and humanitarian concerns and have thus helped finance forest management activities of the very poor. They have also been instrumental in supporting the development of innovative approaches for empowering local communities and diversifying livelihood options based on sustainable management of forests and other natural resources. An example is SAFIRE's benefit-driven forest resources management programme in Zimbabwe.

7.2 Payment for environmental services

The development and adoption of innovative instruments and schemes on payment for environmental services in Africa has been very slow. While such payments have long existed for recreational services, their extension to other services such as watershed protection, carbon sequestration, biodiversity conservation and landscape beauty is relatively more recent. In Africa PES schemes have so far tended to be implemented on an experimental or pilot scale. The PES based instruments and schemes that have been adopted on a relatively wider scale are payments for biodiversity mainly through financing from tourism activities and through such instruments as debt-for nature swaps, conservation concessions or conservation agreements. However, in Africa, these are still few and far between.

The high level of global concern about climate change has resulted in forests attracting great attention because of their role in carbon sequestration. Payment for carbon sequestration to mitigate climate change is one of the fastest growing environmental services markets in the world. The potential of generating additional forest financing from payments for carbon sequestration services has brought great expectations and excitement in the forest sector, but the adoption of such

schemes in Africa has been very slow to take off and limited in geographic scope. In general, fewer forestry based carbon projects have been located in Africa than in other developing regions of the world (Nanasta, 2007). For example, out of the 13 afforestation and reforestation CDM projects that have either been registered or are in the pipeline, only two are based in Africa while all others are located in Asia or Latin America (UNEP, 2008). Similarly, many of the voluntary carbon sequestration initiatives are based in Latin America and Asia.

More progress has however been registered in the development of carbon sequestration initiatives for voluntary markets. The bulk of these have been developed in east Africa. Unfortunately most of the initiatives are still in their infancy and therefore it's too early to assess their impacts. Experience to-date indicates that payment for environmental services is a financial instrument with the potential to bring in additional income and increase the value of forests. It is still too early to have a clear indication of the income that such payment can generate for producers at forest management unit level. Experience so far shows that it should not be overestimated and that it is not generally enough on its own to cover the costs of sustainable management. For example the farmers involved in voluntary carbon credits in Nhambita, Mozambique are getting about \$42 per hectare annually which, though significant, is fairly low. Therefore the issue of fair pricing of environmental services to ensure they provide adequate incentives for investing in sustainable forest management still needs to be addressed. The current prices of carbon are still seen as being very low. This suggests that for increased forest value payments or environmental services need to be combined or "bundled" with other forest products from the same forest management unit to increase returns on investment in sustainable forest management. This brings with it the challenges of determining activities that are compatible (to ensure compliance with such requirements as permanence and prevention of leakage in carbon projects).

7.3 Enabling environment

In Africa, the major constraints to the development of payment for environmental services initiatives include lack of human capacity; weak national public forest institutions; lack of clarity and security of tenure and forest user rights; lack of a reliable legal, political and institutional framework; and lack of political stability and transparency to guarantee long term security of investments in the forest sector. In this regard national governments must play a leading role in creating the enabling environment for facilitating investment in sustainable forest management. Already most of the countries now have updated forest policies and legislation that provide a good basis and framework for implementing SFM. The challenge is that in some countries, implementation of the policies is weak due to lack of political will. Very few of the existing forest policies have incorporated clear and comprehensive forest financing strategies. Furthermore, security of tenure is vital for long term investment in sustainable forest management especially investment in the management of production forests and in forests managed primarily for enhancement of environmental services. In most African countries forests are communally owned, and require collective decision making by the entire community. This is a very challenging situation that requires strong and effective institutions to mobilise, coordinate and secure consensus on forest management decisions given the importance of forests to the livelihoods of the communities. Thus the existence of strong, effective, well-resourced and transparent institutions at national and local levels that allow for effective participation of all stakeholders, and control of forest resources management and use, is fundamental for effective implementation of the new mechanisms for SFM financing. Such institutions also have a critical role of coordinating the activities within the sector and with other sectors especially agriculture and energy that impact on forests.

Given the emphasis on, and prioritization of, agriculture as the main engine of economic growth in most countries, land use planning is vital to ensure that forest land is not considered as land in reserve that can be converted to agriculture or other

uses at any time. This will help provide long term guarantees for investment in sustainable forest management. In this regard national governments are encouraged to prepare national forest programmes which encompass the objectives and strategies for the development of the forestry sector and clearly articulate the place and contribution of the sector to the broader national development objectives and programmes. A favourable national macro-economic environment that provides efficient financial services, stable currency, access to credit, favourable tax environment and fiscal policies that support long term investments, such as forestry, is also vital for attracting investment into SFM. This should be complemented by the development of infrastructure, especially transport, electricity, and communication as these remain a major constraint to forestry development and SFM in many parts of the continent.

7.4 Financing needs and gaps

The foregoing sections clearly highlight the challenges that African countries need to overcome before they are able to mobilise adequate funds for sustainable forest management from both traditional and new financing instruments and mechanisms. The major financing needs to achieve SFM in most countries is upfront financing for policy and institutional reform and strengthening in order to create an enabling environment for SFM. Other areas also needing support especially to facilitate adoption and application of new financing instruments and mechanisms such as PES and REDD include: forest inventories, land use planning and zoning; building the capacity of PFIs and technical capacity (at government and community levels), development of effective and secure tenure arrangements; infrastructure development especially communication and transport systems; institutional strengthening for good governance; management of natural forests and research and development especially related to carbon markets. A major concern is that traditional ODA and initiatives designed to pilot application of the new financing mechanisms related to PES and REDD are concentrated in the forest rich areas. These are the areas where private sector investment especially in natural wood production and processing is concentrated. Financing arrangements for improving support to low forest cover countries are therefore required.

7.5 Forest financing strategies

Whilst many African countries have developed national forest programmes, very few have clearly articulated national forest financing strategies. The result is that forest financing is not fully incorporated or prioritized in national budget resources allocations. Comprehensive forest financing strategies that are an integral part of national forest programmes, encompassing the financing of investments (including incentives), payment for goods and services, and risk-mitigation mechanisms will need to be developed in most of the countries. The national forest financing strategies must take into account the multiple functions and multiple levels at which SFM needs to be implemented and the roles of the multiple stakeholders involved in the sector as well as establishing clear linkages with national development frameworks.

8. CONCLUSION

Although forests are vital for economic growth and sustainable development of many countries in Africa, they continue to be lost at an alarming rate. The major causes of forest loss remain the conversion of forest land to agriculture, rapid population increase, over-exploitation of forest products, over-grazing, high dependence on natural resources for subsistence and income generation and poverty in general. Efforts to implement sustainable forest management have not yielded any significant results to-date as only a small area (6%) of natural forests and woodlands that are the major source of wood and other forest products and services, are under sustainable management in the region. Sustainable forest management requires substantial financial resources but so far the financial resources mobilised from all available sources remain insufficient in most

countries. Making forest management more competitive as well as making the sector more economically attractive is so far proving elusive in most countries.

Public domestic financing in most countries is low due to inefficient revenue collection systems, low prioritization of the forestry sector in budgetary allocations and general socio-economic constraints that make governments focus on health, food security and other pressing areas. The under-representation of the forest sector's contribution to GDP also contributes to low prioritization of forests in the allocation of public funds. The domination of the forest sector by informal activities, which are not integrated into the mainstream economy, and do not contribute to the fiscus, is also a major constraint in sub-Saharan Africa. Insufficient attention has so far been paid to the development of small-scale enterprises and financing systems to support investments in forest management from this sector. The growth of micro-financing in Africa however has the potential of stimulating development and integration of the informal sector into the mainstream economy and stimulating domestic private sector investment through mobilisation of own savings, labour and other contributions by smallholder farmers and other low income communities and community private sector partnerships.

One of the main problems that are common to many of the countries, is that revenue from the use and/or conservation of existing forests is not a sufficient incentive to bring about SFM that is competitive with other uses and attractive to investors, mainly because of a failure to capitalize on all the goods and services produced by forests. Furthermore, the lack of effective forest information systems in many African countries is a serious obstacle to producing consistent analyses that would support policy-makers in the administration and sustainable management of forest resources. The lack of data and information on the contribution of forests to national economies, livelihoods, and poverty alleviation means that the sector will always be out-competed for funds by sectors such as agriculture and mining. It is therefore recommended that greater effort be put into raising the profile of the forest sector through developing and strengthening forestry information systems, at national and regional levels that demonstrate the contribution of the sector to GDP and poverty reduction.

Foreign direct investment and corporate private sector investment has a major role to play in Africa although its contribution has been limited to countries with commercially valuable natural forests and plantation forestry development. In many countries in Africa, attracting private sector investment has been hampered by several factors, chief among them being political instability and poor infrastructure. Other risks associated with investment in SFM in Africa include exchange rate fluctuations, inflation, lack of inventories, pricing and lack of security of tenure. The long time periods involved in SFM compared with unsustainable timber extraction cause even greater private sector attention to risk. In addition, the private sector is reluctant to invest in management of natural forests as they consider the most African countries to be risky.

Official development assistance continues to play a significant catalytic role in forest management and development in many countries in Africa. In several countries ODA is actually the major source of financing for forestry development. Unfortunately Africa's share of forest related ODA has been declining. The distribution of the ODA has also been skewed with a concentration in a few countries mainly in forest rich areas and in countries that have potential for commercial production. There is need to ensure synergies, complementarities, coherence and effective coordination among donors and multilateral organizations to improve ODA effectiveness and avoid duplication. The rapid growth in multilateral financing in recent years has seen some growth in financing volumes to the region. However the potential from these sources is not being fully realized due to low technical capacity in many countries to develop proposals that meet the sometimes difficult conditions and rigorous requirements of some of the sources especially the GEF. Efforts are under way to simplify some of the procedures and to build the capacity of developing countries to be able to access these funds.

The growing demand for environmental services, especially biodiversity conservation and carbon sequestration provides an important opportunity for Africa. The new financing mechanisms and instruments that are being developed in these areas have the potential to significantly increase forest values and the economic benefits to forest owners including local communities and national economies in general. These sources have the potential to generate substantial financial resources for investment in sustainable forest management. Significant progress has been made in accessing financing related to biodiversity on the back of growing tourism. A number of African countries have also managed to access a range of conservation funds for the management and protection of biodiversity rich areas. The growth of global tourism has also helped mobilise investments in natural resources management through private sector -community partnerships (such as the CAMPFIRE programme) in many countries especially in eastern and southern Africa.

Unfortunately tapping into the new financing mechanisms and instruments related to carbon sequestration has been slow in Africa. Some significant progress has been made in the area of voluntary carbon projects although these are still few and concentrated in east Africa. Very little progress has been made in accessing other financing mechanisms such as the CDM. It is also clear that accessing financing from emerging mechanisms such as REDD is likely to be a challenge due to the absence of an enabling environment in many countries. The major limiting factors include:

- Weak institutions with fragmented responsibilities
- Unstable political and macro-economic conditions
- Poor infrastructure
- Lack of financial and technical capacity
- High transaction costs especially upfront financing
- Unclear land and forest tenure and
- Poverty which limits markets and in-country resource mobilization.

All these issues need to be addressed to create an enabling environment for attracting investment in sustainable forest management in Africa.

Fortunately there are opportunities for improving the situation. Most of the countries have developed or up-dated their national forest programmes which provide clear national priorities and institutional frameworks. There is also a growing awareness of the need to harness the full potential of the multiple functions and values of forests to improve their economic value and make forestry a competitive land use. This is reflected in some of the financing strategies that have been developed as part of the nfps, which clearly articulate the need and strategies for mobilizing financial resources for forest management from multiple sources. However many of the countries are yet to develop comprehensive forest financing strategies. This should be given priority to enable these countries to have a basis for creating an enabling environment for investment in sustainable forest management; facilitating integration of the forest sector within national development frameworks and strategies and mobilizing financial resources from all available sources.

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Annex 1a: Central Africa forest area and area change, 2005

Country/Area	Extent of forest,2005		Annual change rate	
	Forest area	% of land area	2000- 2005	
	(1000ha)	(%)	(1000ha)	(%)
Burundi	152	5.9	-9	-5.2
Cameroon	21245	45.6	-220	-1.0
Central African Republic	22755	36.5	-30	-0.1
Chad	11921	9.5	-79	-0.7
Congo	22471	65.8	-17	-0.1
Democratic Republic of the Congo	133610	58.9	-532	-0.2
Equatorial Guinea	1632	58.2	-15	-0.9
Gabon	21775	84.5	-10	0.0
Rwanda	480	19.5	3	6.9
Saint Helena	2	6.5	0	0.0
Sao Tome and Principe	27	28.4	0	0.0
Total Central Africa	236070	44.6	-910	-028

Annex 1b: East Africa forest area and area change, 2005

Country/Area	Extent of forest,2005		Annual change rate	
	Forest area	% of land area	2000- 2005	
	(1000ha)	(%)	(1000ha)	(%)
British Indian Ocean Territory	3	32.50	0	0.0
Comoros	5	2.9	0	-7.4
Djibouti	6	0.2	0	0.0
Eritrea	1554	15.4	-5	0.3
Ethiopia	13000	11.9	-141	-1.1
Kenya	3522	6.2	-13	-0.3
Madagascar	12838	22.1	-167	-0.3
Mauritius	37	18.2	0	-0.5
Mayotte	5	14.7	0	-0.4
Reunion	84	33.6	0	-0.7
Seychelles	40	88.9	0	0.0
Somalia	7131	11.4	-77	-0.1
Uganda	3627	18.4	-87	-2.2
United Republic of Tanzania	35257	39.9	-142	-1.1
Total East Africa	77109	18.9	-801	0.97

Annex 1c: Northern Africa forest area and area change, 2005

Country/Area	Extent of forest,2005		Annual change rate	
	Forest area	% of land area	2000- 2005	
	(1000ha)	(%)	(1000ha)	(%)
Algeria	2277	1.0	35	1.2
Egypt	67	0.1	2	2.6
Libyan Arab Jamahiriya	217	0.1	0	0.0
Mauritania	267	0.3	-10	-3.4
Morocco	4364	9.8	4	0.2
Sudan	67546	28.4	-589	-0.8
Tunisia	1056	6.8	32	1.9
Western Sahara	1011	3.8	0	0.0
Total Northern Africa	76805	18.9	-526	0.69

Annex 1d: Southern Africa forest area and area change, 2005

Country/Area	Extent of forest,2005		Annual change rate	
	Forest area	% of land area	2000- 2005	
	(1000ha)	(%)	(1000ha)	(%)
Angola	59104	47.4	-125	0.2
Botswana	11934	21.1	-118	-1.0
Lesotho	8	0.3	0	2.7
Malawi	3402	36.2	-33	-0.9
Mozambique	19262	24.6	-50	-0.3
Namibia	7661	9.3	-74	--0.9
South Africa	9203	7.6	0	0.0
Swaziland	541	31.5	5	0.9
Zambia	42452	57.1	-445	-1.0
Zimbabwe	17540	45.3	-313	-1.7
Total Southern Africa	171116	29.0	-1154	-0.66

Annex 1e: West Africa forest area and area change, 2005

Country/Area	Extent of forest,2005		Annual change rate	
	Forest area	% of land area	2000- 2005	
	(1000ha)	(%)	(1000ha)	(%)
Benin	2351	21.3	-65	--2.5
Burkina Faso	674	29.0	-24	-0.3
Cape Verde	84	20.	0	0.4
Cote d Ivoire	10405	32.7	15	0.1
Gambia	471	41.7	2	0.4
Ghana	5517	24.2	-115	--2.0
Guinea	6724	27.4	-36	0.5
Guinea Bissau	2072	73.7	-10	0.5
Liberia	3154	32.7	-60	-1.8
Mali	12572	10.3	-100	0.8
Niger	1266	1.0	-12	-1.0
Nigeria	11089	12.2	-410	-3.3
Senegal	8673	45.0	-45	-0.5
Sierra Leone	2754	38.5	-19	-0.7
Togo	386	7.1	-20	-4.5

Total Western Africa	74312	14.9	-899	-1.17
Total Africa	635412	21.4	-4040	-0.62

Annex 2: Summary of presence of external Government financing sources in Africa (2005 – 2007)

Country	No. of Bilateral Donors	No. of Multilateral Donors	AfD B	GE F	IFC	WB	ITT O	Total No. of Donors
Algeria	0	0						0
Angola	1	0						4
Benin	2	2	X	X				4
Botswana	0	1		X				1
Burkina Faso	6	2	X	X				8
Burundi	0	2	X	X				2
Cameroon	3	4	X	X		x	x	7
Central African Republic	1	1		X				2
Chad	1	1		X				2
Congo	1	1			x		x	2
Coted'Ivoire	3	2		X			x	5
DRC	3	2		X			x	5
Egypt	0	1			x			1
Equatorial Guinea	0	0						0
Eritrea	3	0						3
Ethiopia	10	2		X	x			12
Gabon	1	4		X	x	x	x	5
Gambia	1	0						1
Ghana	6	4	X	X	x		x	10
Guinea	3	0						3
Guinea-Bissau	2	0						2
Kenya	8	4	X	X	x	x		12
Lesotho	2	0						2
Liberia	1	2		X	x			3
Libya	1	0						1
Madagascar	4	2		X		x		6
Malawi	7	1			x			8
Mali	5	1			x			6
Mauritania	1	0						1
Mauritius	0	1		X				1
Morocco	2	1				x		3
Mozambique	7	1		X				8
Namibia	3	1		X				4
Niger	3	2	X	X				5
Nigeria	2	2		X	x			4
Rwanda	5	3	X	X	x			8
Senegal	5	1		X				6
Sierra Leone	2	0						2
Somalia	0	0						0
South Africa	2	2		X	x			4

Sudan	3	0						3
Swaziland	1	2		X	x			3
Tanzania	8	2		X		x		10
Togo	0	1						1
Tunisia	1	0						1
Uganda	7	3	X	X	x			
Zambia	3	1		X				4
Zimbabwe	4	1		X				5
Total			9	28	14	6	6	

Source: Ibrahim Favana, 2009

Annex 3: Production, trade and consumption of wood based panels, pulp and paper, in Africa, 2009.

Country/area	Wood based panels				Paper for pulp			
	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption
Burundi	0	1	0	0	0	0	0	0
Cameroon	88	0	51	37	0	0	0	0
Central African Republic	2	0	0	2	0	0	0	0
Chad	0	1	0	1	0	0	0	0
Congo	20	0	6	14	0	0	0	0
Democratic Republic of the Congo	3	1	1	2	0	0	0	0
Equatorial Guinea	30	1	26	5	0	0	0	0
Gabon	292	0	277	15	0	0	0	0
Rwanda	0	1	0	1	0	0	0	0
Saint Helen	0	0	0	0	0	0	0	0
Sao Tome and Principe	0	0	0	0	0	0	0	0
Total Central Africa	434	5	361	78	0	2	0	1
Country/area	Wood based panels				Paper for pulp			

	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption
British Indian Ocean Territory	0	0	0	0	0	0	0	0
Comoros	0	0	0	0	0	0	0	0
Djibouti	0	11	0	11	0	3	0	3
Eritrea	0	0	0	0	0	0	0	0
Ethiopia	83	2	0	85	9	2	0	12
Kenya	83	13	5	91	113	2	0	115
Madagascar	5	5	0	9	0	3	0	3
Mauritius	0	61	3	57	0	2	0	2
Mayotte								
Reunion	0	24	0	23	0	0	0	0
Seychelles	0	1	0	1	0	0	0	0
Somalia	0	0	0	0	0	0	0	0
Uganda	24	8	4	28	0	0	0	0
United Republic of Tanzania	5	24	1	28	56	0	0	56
Total East Africa	199	148	14	333	178	13	0	192
Country/area			Wood based panels		Paper for pulp			
	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption
Algeria	48	49	0	97	2	4	0	6
Egypt	56	364	1	419	120	105	0	225

Libyan Arab Jamahiriya	0	26	0	26	0	4	0	4
Mauritania	2	0	0	2	0	0	0	0
Morocco	35	117	27	126	112	23	123	12
Sudan	2	47	0	49	0	0	0	0
Tunisia	104	84	22	165	10	97	12	95
Western Sahara								
Total Northern Africa	247	688	50	885	244	233	135	342

Country/area			Wood based panels		Paper for pulp			
	Production	Imports	Exports	Consumption	Production	Imports	Exports	Consumption
Angola	11	4	0	15	15	0	0	
Botswana	0	0	0	0	0	0	0	0
Lesotho	0	0	0	0	0	0	0	0
Malawi	18	3	6	15	0	0	0	0
Mozambique	3	5	2	7	0	0	1	0
Namibia	-	-	-	-	-	-	-	-
South Africa	726	355	75	1007	2915	515	972	2457
Swaziland	8	0	0	8	167	0	167	0
Zambia	18	4	4	18	0	0	0	0
Zimbabwe	80	15	19	76	49	10	0	59
Total Southern Africa	864	386	105	1146	3146	525	1140	2531

Country/area			Wood based panels		Paper for pulp		
	Production	Imports	Exports	Consumption	Production	Imports	Exports

Benin	0	2	0	2	0	0	0
Burkina Faso	0	2	0	2	0	0	0
Cape Verde	0	1	0	0	0	0	0
Cote d Ivoire	301	0	232	69	0	0	0
Gambia	0	2	1	1	0	0	0
Ghana	335	1	175	161	0	0	0
Guinea	42	2	3	41	0	0	0
Guinea -Bissau	0	0	0	0	0	0	0
Liberia	0	5	0	4	0	0	0
Mali	0	0	0	0	0	0	0
Niger	0	0	0	0	0	8	0
Nigeria	95	42	0	136	23	17	0
Senegal	0	11	0	11	0	0	0
Sierra Leone	0	3	1	3	0	0	0
Togo	0	1	0	1	0	0	0
<i>Total West Africa</i>	<i>773</i>	<i>73</i>	<i>413</i>	<i>433</i>	<i>23</i>	<i>26</i>	<i>0</i>
Total Africa	2517	1300	943	2874	3591	801	1276

Country/Area	Paper and paperboard			
	Production	Imports	Exports	Consumption
Burundi	0	1	0	1
Cameroon	0	39	0	39
Central Africa Republic	0	1	1	0
Chad	0	0	0	0
Congo	0	5	0	5
Democratic Republic of the Congo	0	10	1	10
Equatorial Guinea	0	0	0	0
Gabon	0	5	0	5
Rwanda	0	4	0	3
Saint Helen	-	-	-	-
Sao Tome and Principle	-	-	-	-
<i>Total Central Africa</i>	<i>0</i>	<i>65</i>	<i>2</i>	<i>63</i>

Country/Area	Paper and paperboard			
	Production	Imports	Exports	Consumption
British Indian Ocean Territory	0	0	0	0
Comoros	-	-	-	-
Djibouti	0	9	0	8
Eritrea	0	2	0	2
Ethiopia	16	17	0	33
Kenya	234	124	15	343
Madagascar	10	20	0	29
Mauritius	0	48	3	44
Mayotte	-	-	-	-
Reunion	0	15	0	15
Seychelles	-	-	-	-
Somalia	-	-	-	-
Uganda	3	44	1	46
United Republic of Tanzania	25	102	4	123
<i>Total East Africa</i>	<i>288</i>	<i>380</i>	<i>24</i>	<i>644</i>
Country/Area	Paper and paperboard			
	Production	Imports	Exports	Consumption
Algeria	35	236	0	270
Egypt	460	748	47	1161
Libyan Arab	0	35	0	35

Jamahiriya				
Mauritania	0	3	0	3
Morocco	129	255	11	373
Sudan	3	39	0	41
Tunisia	106	215	52	268
Western Sahara	-	-	-	-
<i>Total Northern Africa</i>	<i>732</i>	<i>1530</i>	<i>111</i>	<i>2151</i>

Country/Area	Paper and paperboard			
	Production	Imports	Exports	Consumption
Angola	0	12	0	11
Botswana	0	10	0	10
Lesotho	-	-	-	-
Malawi	0	19	0	19
Mozambique	0	12	0	12
Namibia	-	-	-	-
South Africa	1793	59	210	1642
Swaziland	-	-	-	-
Zambia	4	27	0	31
Zimbabwe	115	45	13	146
Total Southern Africa	1912	183	224	1871

Country/Area	Paper and paperboard			
	Production	Imports	Exports	Consumption
Benin	0	6	0	6
Burkina Faso	0	11	0	11
Cape Verde	0	2	0	2
Cote d Ivoire	0	71	2	69
Gambia	-	-	-	-
Ghana	0	65	0	65
Guinea	0	3	0	3
Guinea-Bissau	0	0	0	0
Liberia	0	2	0	2
Mali	0	5	0	5
Niger	0	1	0	1
Nigeria	19	297	2	315
Senegal	0	31	2	29
Sierra Leona	0	1	1	0
Togo	0	5	0	5
Total West Africa	19	500	8	511
Total Africa	2951	2658	369	5240

Annex 4: Total Value of African forest products exports in 2007

Country/Area	Export value of pulp & paper 2007	Export value of wooden furniture 2007	Export value of forest products 2007	Total
	(million USD)	(million USD)	(million USD)	(million USD)
Algeria	5	0	14	19
Angola	0	0	3	3
Benin	1	0	23	24
Botswana	11	1	11	23
Burkina Faso	0	1	8	9
Burundi	0	0	6	6
Cameroon	1	0	450	451
Cape Verde	0	0	1	1
Central African Republic	0	0	59	59
Chad	0	-	2	2
Comoros	0	0	0	
Congo	0	0	269	269
Cote d Ivoire	44	0	456	500

Annex 4: Total Value of African forest products exports in 2007

Country/Area	Export value of pulp & paper 2007	Export value of wooden furniture 2007	Export value of forest products 2007	Total
	(million USD)	(million USD)	(million USD)	(million USD)
Democratic Republic of the Congo	0	0	137	137
Djibouti	0	0	0	0
Egypt	52	191	101	344
Equatorial Guinea	0	-	171	171
Eritrea	1	0	1	2
Ethiopia	0	1	10	11
Gabon	0	0	983	983
Gambia	0	0	0	0
Ghana	1	0	229	230
Guinea	0	0	14	14
Guinea-Bissau	0	-	1	1
Kenya	55	3	79	137
Lesotho	0	0	0	0
Liberia	0	0	0	0
Libyan Arab Jamahiriya	2	0	3	5

Annex 4: Total Value of African forest products exports in 2007

Country/Area	Export value of pulp & paper 2007	Export value of wooden furniture 2007	Export value of forest products 2007	Total
	(million USD)	(million USD)	(million USD)	(million USD)
Madagascar	0	1	21	22
Malawi	1	1	9	11
Mali	1	0	1	2
Mauritania	1	-	2	3
Mauritius	11	1	13	25
Mayotte	0	0	0	0
Morocco	122	13	240	375
Mozambique	2	0	38	40
Namibia	4	16	11	31
Niger	0	0	0	0
Nigeria	1	0	52	53
Reunion	1	0	2	3
Rwanda	0	0	2	2

Annex 4: Total Value of African forest products exports in 2007

Country/Area	Export value of pulp & paper 2007	Export value of wooden furniture 2007	Export value of forest products 2007	Total
	(million USD)	(million USD)	(million USD)	(million USD)
Saint Helen	0	-	0	0
Sao Tome and Principe	0	0	0	0
Senegal	15	1	24	40
Seychelles	0	0	0	0
Sierra Leona	2	-	8	10
Somalia	0	-	7	7
South Africa	1.277	41	1.781	44.058
Sudan	1	0	70	71
Swaziland	46	3	72	121
Togo	0	0	3	3
Tunisia	161	14	188	363
Uganda	5	1	10	16
United Republic of Tanzania	13	0	48	61
Western Sahara	0	-	0	0
Zambia	2	0	8	10
Zimbabwe	24	18	49	91
Total Africa	1.862	313	5.691	320.553

Annex 5: Potential of Climate-Change Mitigation Measures of Forestry Activities in Non-Annex I Countries

	Million t CO2 per year in 2030				
Region	Reduced Deforestation	Forest Management	Afforestation	Total	Share %
Africa	1160	100	665	1925	17
Central and S.America	1845	550	750	3145	28
Asia	780	2160	1350	4290	38
Middle East	30	45	60	135	1
Countries in Transition	85	1055	545	1685	16
Total	3900	3910	3370	11 180	100
Share %	35	35	30	100	

.Source: IPCC 2007 in Simula, 2008.

Annex 6: Lowest Investment cost required to compensate opportunity costs of deforestation and forest degradation

Deforestation source	East and Southern Africa	North Africa	West and Central Africa	Total
<i>Commercial agric</i>				
Commercial crops	567.8	226.4	578.0	1372.2
Cattle ranching	56.1	97.0	22.4	175.5
Sub-total	623	323.4	600.4	1547.7
<i>Subsistence farming</i>				
Shifting agric	297.5	102.9	306.0	706.4
Fuelwood and NTFPs	21.2	32.9	17.0	71.1
Sub total	318.7	135.8	323.0	777.5
<i>Wood extraction</i>				
Commercial crops	54.4	11.8	244.8	311.0
Fuelwood/charcoal	27.2	6.4	6.8	40.4
Sub-total	81.6	18.2	251.6	351.4
Total	1024.2	477.4	1175.0	2676.6

Source: adapted from Blaser and Robeldo, 2008