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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

ACRONYMS AND ABBREVIATIONS

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).

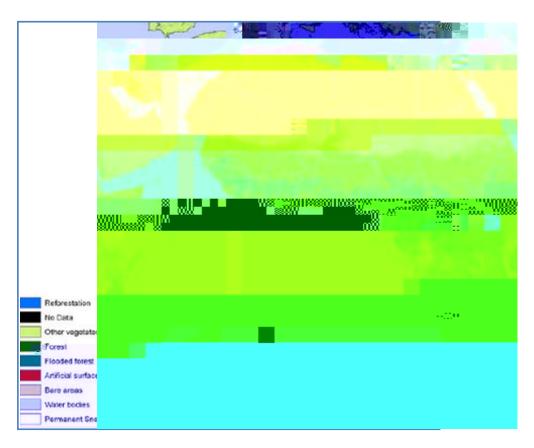


Figure 1: Forests and Woodlands of Africa

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

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

(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, METH

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 lite

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 wh

Table 1: Overview of forest financing sources

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Financing sources	Domestic	International
Public Governments	Investments by national and local governments through subsidies, soft loans, non-monetary incentives, and direct investment Budgetary allocations Revenue generated from government owned forests	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

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

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

Table 2: Mix of funding arrangements for pubic forestry institutions

CountryRevenueTotal expenditure (USD '000)Source of Funds (%)

Country	Amount(\$million)	% of Total
Cameroon	5.2	9
Cote d'Ivore	4.5	8

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

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'Ivore, DRC, Gabon, Niger, Zimbabwe
4	5	Benin, Namibia, Nigeria,S. Sfrica, Zambia
3	7	Cape Verde, Eritrea, Guinea, Liberia, Morrocco 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, Westerr Sahara, Togo

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

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 since1990. However, ODA has, and continues to play a valuable role alongside private-sector investors and domestic public financing. In some countries, such as Liberi

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

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 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 a

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 ap432TD:0007.13.2(c)wanci fo-.003 Ttl thblishon(ap432Ttegics. ThD.0014 Tc-.0059 T011 Tw(Box 3: Tanzani34 r08onal For-6(c

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 been 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 ecestforestry og44 0001 f76eac TDgaa Simexme-1.6(s013 Tc44 nTc -1rygaa Si3

(Simula, 2008). Examples include Cameroon, Gabon and South Africa. Africa's level of industrial forestry activities is very

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

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 a 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

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 foundwood 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 1

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 Cl 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

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

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

Cooperation -

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

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

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),

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 increasi

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 projectbased 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*

deforestation and degradation and to build capacity for REDD activities. The FCPF will test a programme of performancebased 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

A cacia 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.
- 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

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 th

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

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

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 Sahara 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

5.1Financing 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
	binions/ycai
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 so	urce	Africa	Asia- Pacific	Latin America	Other countries	Total
Commercial agric	culture					
Commercial crops	S	1372.2	1926.0	2144.5	322.5	5765.2
Cattle ranching		175.5	10.6	576.5	38.7	801.3
Subtotal		1547.7	1936.6	2721.0	361.2	6566.5
Subsistence farming						
Small-scale cultivation	shifting	706.4	674.1	681.6	86.0	2148.1

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
1. Analytical work (DD drivers,	1. Implementation of policy reforms (incl. Cross-sectoral	l
barriers to SFM, PES market potential, etc.)	impacts on forests)	
2. Stakeholder participation and	2. Restructuring of institutions	
engagement	3. Land-use zoning, planning, and monitoring of land-use change	
3. Planning (nfp, specific	4. Strengthening of forest land tenure (demarcation, titling)	
national strategies such as	5. Strengthening of law enforcement	
REDD, bio-energy, forest	6. Restoration of degraded lands and forests	
biodiversity) 4. Information base (resource	7. Strengthening of stakeholder constituencies (smallholders, forest communities, civil society, private sector)	
assessment, baselines, reference scenarios)	8. Infrastructure development	
5. Monitoring and verification system	9. Forest protection (fire, pests, diseases, etc.)	
design	10. Education, training, and extension	
6. Safeguards and SFM	- smallholders, communities, SMEs	
guidelines development	- forest managers	
7. Initial capacity building	11. Research and innovation (silviculture, harvesting, utilisation)	
8. Programme and project	12. Market-based and other voluntary i instruments	
design	13 Implementation of SFM by smallholders,	
	community forests, SMEs,	
	14 Company, community/emplified for partnershift, 1/40, right (i)4	C(402 Tilb4 antOpro(fp) 4 aT a

14. Company-community/smallholder partnershifTc-.y/12. rlc1-(i)4.6(102 Tlh1ept9ore(fo)-4eTg)4.6(102

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.

•	8	001		
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)-	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 possibl		

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

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

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

institutions and local forest managers. This is going to be critical especially

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 ha

harvesting of primary forests). This calls for national govern

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

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.

The growing demand for environmental services, especially biodiversity conservation and carbon sequestration provides an

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

Extent of forest,2005

Annual change rate

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

Country/Area	Extent of fore	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	

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

Extent of fore	est,2005	Annual change rate		
Forest area	% of land area	2000- 2005		

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

Country/Area	Extent of for	est,2005	Annual ch	ange 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	l area change, 2005
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Country/Area	Extent of for	est,2005	Annual change rate 2000- 2005		
	Forest area	% of land area			
	(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	

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 Bilatera l Donors	No. of Multilater al Donors	AfD B	GE F	IFC	WB	ITT O	Total No. of Donors
Algeria	0	0						0
Angola	1	0						4
Benin	2	2	Х	Х				4
Botswana	0	1		Х				1
Burkina Faso	6	2	Х	Х				8
Burundi	0	2	Х	Х				2
Cameroon	3	4	Х	Х		х	х	7
Central African Republic	1	1		Х				2
Chad	1	1		Х				2
Congo	·		•	•	•			2

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

Source: Ibrahim Favana, 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			

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

	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			

Total Northern Africa	247	688	50	885	244	233	135	342
Western Sahara	247	(99	50		244		125	242
Tunisia	104	84	22	165	10	97	12	95
Sudan	2	47	0	49	0	0	0	0
Morocco	35	117	27	126	112	23	123	12
Mauritania	2	0	0	2	0	0	0	0
Libyan Arab Jamahiriya	0	26	0	26	0	4	0	4

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
Total West Africa	773	73	413	433	23	26	0
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	-	-	-	-		
Total Central Africa	0	65	2	63		

Country/Area	Paper and paperboard					
	Production	Imports	Exports	Consumption		
British Indian Ocean Territory	0	0	0	0		
Comoros	-	-	-	-		
Djibouti	0	9	0	8		

Jamahiriya					
Mauritania	0	3	0	3	
Morocco	129	255	11	3	l

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		
Тодо	0	5	0	5		
Total West Africa	19	500	8	511		
Total Africa	2951	2658	369	5240		

Annex 4: Total Value of African forest	t products exports in 2007
<u>innex 4. i otal value of innean fores</u>	products caports 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	

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
Ghana101	Gam1-8856(in)Tj/.74	0 4859	229 an	230 Arab

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
l	(million USD)	(million USD)	(million USD)	(million

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 Principle	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

	Million t CO2				
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	I

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

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
Commercial agric				
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
Subsist.ence farming				
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
Wood extraction				
Commercial crops	54.4	11.8	244.8	311.0
Fuel wood/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