Indufor

Forest Financing in Least Developed Countries

Second Macro-Level Paper

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<tr>
<td>A/R</td>
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<tr>
<td>ABD</td>
<td>Asian Development Bank</td>
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<tr>
<td>AF</td>
<td>Adaptation Fund</td>
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<tr>
<td>AfDB</td>
<td>African Development Bank</td>
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<tr>
<td>AGF</td>
<td>Advisory Group on Finance</td>
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<tr>
<td>BERSMP</td>
<td>Bale Eco-Region Sustainable Management Programme</td>
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<tr>
<td>BZMR</td>
<td>Buffer Zone Management Regulation</td>
<td></td>
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<tr>
<td>CAS</td>
<td>Country Assistance Strategy</td>
<td></td>
</tr>
<tr>
<td>CECI</td>
<td>Centre for International Studies and Cooperation</td>
<td></td>
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<tr>
<td>CBD</td>
<td>Convention on Biological Diversity</td>
<td></td>
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<tr>
<td>CBO</td>
<td>Community-based organization</td>
<td></td>
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<tr>
<td>CDM</td>
<td>Clean Development Mechanism</td>
<td></td>
</tr>
<tr>
<td>CER</td>
<td>certified emission reduction</td>
<td></td>
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<tr>
<td>CFR</td>
<td>central forest reserve</td>
<td></td>
</tr>
<tr>
<td>CIF</td>
<td>Climate Investment Fund</td>
<td></td>
</tr>
<tr>
<td>COP</td>
<td>UNFCCC Conference of Parties</td>
<td></td>
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<tr>
<td>CRS</td>
<td>Creditor Reporting System</td>
<td></td>
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<tr>
<td>CTF</td>
<td>Clean Technology Fund</td>
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<tr>
<td>DAWASCO</td>
<td>Dar es Salaam Water Supply and Sewerage Corporation</td>
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<tr>
<td>DLG</td>
<td>District local government</td>
<td></td>
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<tr>
<td>DNS</td>
<td>Debt-for-nature swap</td>
<td></td>
</tr>
<tr>
<td>DoF</td>
<td>Department of Forest</td>
<td></td>
</tr>
<tr>
<td>DRC</td>
<td>Democratic Republic of the Congo</td>
<td></td>
</tr>
<tr>
<td>EFI</td>
<td>European Forest Institute</td>
<td></td>
</tr>
<tr>
<td>ENR</td>
<td>Environment and Natural Resources</td>
<td></td>
</tr>
<tr>
<td>ENR-SWG</td>
<td>ENR Sector Working Group</td>
<td></td>
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<tr>
<td>EPWS</td>
<td>Equitable Payments for Watershed Services</td>
<td></td>
</tr>
<tr>
<td>ES</td>
<td>environmental services</td>
<td></td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
<td></td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
<td></td>
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<tr>
<td>FCCC</td>
<td>Framework Convention on Climate Change</td>
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<tr>
<td>FCPF</td>
<td>Forest Carbon Partnership Facility</td>
<td></td>
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<tr>
<td>FDI</td>
<td>Foreign direct investment</td>
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<tr>
<td>FIP</td>
<td>Forest Investment Programme</td>
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</tr>
<tr>
<td>FLEGT</td>
<td>Forest Law Enforcement, Governance and Trade (of EU)</td>
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<tr>
<td>FRA</td>
<td>Forest Resources Assessment (of FAO)</td>
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<tr>
<td>GCF</td>
<td>Green Climate Fund</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
<td></td>
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<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
<td></td>
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<tr>
<td>GM</td>
<td>Global Mechanism</td>
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<tr>
<td>ha</td>
<td>hectare</td>
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</tr>
<tr>
<td>HDI</td>
<td>Human Development Index</td>
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<tr>
<td>IIED</td>
<td>International Institute for Environment and Development</td>
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</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>IRR</td>
<td>Internal rate of return</td>
<td></td>
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<tr>
<td>ITTO</td>
<td>International Tropical Timber Organization</td>
<td></td>
</tr>
<tr>
<td>IUCN</td>
<td>International Union for Conservation of Nature</td>
<td></td>
</tr>
<tr>
<td>IWC</td>
<td>International Woodland Company</td>
<td></td>
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<tr>
<td>LDCF</td>
<td>Least Developed Countries Fund</td>
<td></td>
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<tr>
<td>LDCs</td>
<td>Least developed countries</td>
<td></td>
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<tr>
<td>LFCC</td>
<td>Low Forest Cover Countries</td>
<td></td>
</tr>
<tr>
<td>LMICs</td>
<td>Lower-middle income countries</td>
<td></td>
</tr>
<tr>
<td>m³</td>
<td>cubic meter</td>
<td></td>
</tr>
<tr>
<td>MMtCO₂e</td>
<td>million metric tons of carbon dioxide equivalent</td>
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</table>
PREFACE

This report was prepared at the request of United Nations Forum on Forests Secretariat (UNFFS) by Indufor Oy. The project involved a study on forest financing and investments in Least Developed Countries. This report covers the issues mentioned in Chapter 1.2 (Objectives and scope) and contains the opinions of Indufor and material based on other sources.

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EXECUTIVE SUMMARY

Least Developed Countries (LDCs) contain a significant share, 15 per cent, of the world’s forests, and finding solutions for adequate, timely and sustainable financing of the forest resources in LDCs is crucial. The Simula study (2008) on financial flows and needs detected a long term decline in development cooperation financing for forests and highlighted the gap in the financing in LDCs. To address this gap in financing, a UNFF decision in 2009 launched a ‘facilitative process’ on forest financing, addressing the special needs of countries that have faced decline in forest financing. This study is part of the continued efforts of the United Nation’s Forum on Forests Secretariat on the Facilitative Process and on the Global Objectives on Forest.

The study methodology is a desk review with extensive data mining for available information and country case examples. Various data on forest financing, such as data on ODA and REDD+, is readily available. However, one significant finding related to data is the prevailing limitation of data on private sector financing and investments and on cross-sectoral flows. The ready availability of information only on foreign public financing and the lacking information of cross-sectoral financing flows might skew the image of the financing landscape.

Forest sector formal contribution to the economies in the LDCs is marginal and has been on the decline. Informal activities related to forests and trees contribute significantly to livelihoods, income and employment of millions of people. However, they are not usually accounted for in the calculation of the contribution of forests and trees to the economy, which leads to undervaluation of the sector. Also, the economic value of various cross-sectoral services, such as watershed services for hydropower and irrigation, does not enter into the official calculations. Further, due to the low revenue generation and collection, the forest resource represents a net expenditure from the public financing perspective, and as such does not encourage public investment in forests and trees. It is challenging to convince decision makers at the very top to increase resources when the forest sector contribution to the economy is seemingly small, when only a fraction of the revenue potential is collected and when the cross-sectoral services generated by the forests and trees remain unquantified.

Foreign private sector investments related to forests and trees have not been directed to LDCs on a significant scale, and the countries possess less than 4 per cent of commercial plantations globally. In Africa, where the majority of LDCs are located, less than 40 per cent of the plantation investments have gone to the continent’s LDCs, although two thirds of the continent countries are LDCs. Payment for ecosystem services (PES) schemes are often considered a potential financing source for natural resource management, and provide local income and enhanced conservation outcomes. However, there are only a few examples of PES schemes in LDCs, potentially due to the limited financing for covering the upfront costs to establish the mechanisms. Domestic small-scale growers have much untapped potential in investing into forestry, and public private partnerships are one tool for catalyzing investment in small and medium scale timber plantations. Domestic small-scale investors need support in the context of the key enabling factors, such as secure land tenure, organizational capacity, and access to finance and risk mitigation.

Official Development Assistance (ODA) is a significant source of public financing for forests in LDCs, but the country group has not attracted a significant share of the global forestry ODA. In absolute terms, LDCs’ forestry ODA has remained relatively stable over the past decade, with a modest increase in 2010; however, their share of all forestry ODA is on the decline. Over the past decade, REDD+ financing has become an important financing flow. However, both REDD+ and ODA financing are concentrated to a limited number of countries. Only four countries have received half of all REDD+ financing to LDCs, and the
question for the future is whether there are opportunities for the majority of the LDCs to benefit from REDD+ financing.

LDCs have limited domestic public funding for managing forests and tree resources, and two thirds of expenditure come from external sources. However, the lack of financing is not always the main challenge. Forest institutions are sometimes not able to spend the entire allocated budget due to delayed disbursement, the seasonal nature of forest sector activities, and capacity limitations. Other major challenges are weak institutions and poor governance, inadequate implementation of policies and strategies, and lack of enforcement of laws relevant to forests and trees. Key reasons behind these issues are seen as the lack of sufficient financial and human resources, capacity issues, political interference and instability. In LDCs, capacity building and strengthening require special attention because the low sectoral capacity is often the main bottleneck for development.

Forests and trees have gained some political attention on the LDCs’ development agenda. All LDCs that have developed Poverty Reduction Strategy Papers have mentioned forests in the Strategy. In contrast, in the macro-level economic growth strategies, forestry is not identified as one of the priority sectors of the economy. This calls for the identification of the total value of forest goods and services and the importance of these supporting services for other sectors. The inter- and cross-sectoral approaches are especially important in LDCs due to the importance of forests for broader rural development linking agriculture, forests, energy, livestock, etc. The synergies and negative impacts between the sectors need to be identified, acknowledged and included in the policy level decision making, and then adopted in the implementation of various sectoral activities.

It is evident that country-level strategies for forest financing and investment are needed. However, care should be taken that these be aligned with the macro-level planning and budgeting processes and related strategies. Further, the strategies for financing and investment should be based on a sound analysis of revenue generation potential and related challenges and on cross-sectoral stakeholder participation.
1. INTRODUCTION

1.1 Background

In October 2009, the Member States to the United Nations Forum on Forests (UNFF) adopted a decision on the means of implementing Sustainable Forest Management (SFM) during a special session of the ninth session of UNFF. The decision launched two initiatives to catalyse funding for SFM. The Forum established an intergovernmental Ad Hoc Expert Group, which analyses existing financing strategies for SFM and explores ways to improve access to funds, including the option of establishing a voluntary global forest fund. The second initiative is a “Facilitative Process” on forest financing to assist countries in mobilizing funding from all sources. The Facilitative Process addresses the special needs of countries that have faced a 20-year decline in forest financing. One of these groups is the Least Developed Countries (LDCs), as the Simula (2008) study detected a long-term decline in development cooperation financing for forests and highlighted a gap in financing in LDCs. This study on forest financing in LDCs is part of the continued efforts of the UNFF to systematically continue work related to the Facilitative Process and on Global Objectives on Forest.

The combining factor of LDCs is that all of these countries are economically under-developed. By definition, LDCs have low income (gross national income below USD750 per capita); in addition, most have a low Human Development Index (HDI), a high poverty rate and skewed income distribution. Almost all LDCs also have a tropical climate. However, the LDCs are dispersed in different geographical locations, viz. Africa, Asia, Oceania and the Caribbean. As the LDCs are located in different geographic areas, they are diverse in such aspects as size of land and forest area, culture, languages and economic structure. Africa contains the highest number of LDCs, with 33 countries (out of 48) located mainly in central, western and eastern parts of the continent. Asia has nine countries, which are predominantly located in the southern and south-eastern parts of the region. Oceania hosts five countries, while just one is from the Caribbean.

LDCs contain a significant share, 15 per cent, of the world’s forests, and finding solutions for adequate, timely and sustainable financing of the forest resources in LDCs is crucial. However, LDCs can generally afford only limited funding from government sources for managing forests and tree resources. Also, private sector investments have not been directed to forestry in LDCs on a large scale. ODA is traditionally a significant source of financing forests in LDCs. However, while global forestry ODA is experiencing an increasing trend, the share for LDCs is declining.

1.2 Objectives and scope

This study, “Forest Financing in LDCs”, commissioned by the UNFF Secretariat to Indufor, aims to map sources, trends and emerging modalities of forest financing in LDCs. In subsequent chapters, the study will present 1) current financing flows, 2) demands and gaps, 3) conditions for an enabling environment for forest financing, and 4) strategies for enhancing financing flows for forests and trees.

The study aims to accomplish the following:

i) Improve the understanding of forest-related financing policies, mechanisms and flows in LDCs;

ii) Draw conclusions on how to improve financing for forests and trees;

iii) Highlight gaps, obstacles, new opportunities and the necessary elements for an enabling environment; and
iv) Elucidate cross-sectoral linkages and their corresponding implications for forest financing, as financing relevant to forests and trees can also take place under other sectors.

This study process includes eight papers in total: Four pertaining to LDCs and four to African countries. For each country group, there are two macro-level papers and two country case studies.

The first set of macro-level papers introduce the background by analysing data on physical and geographic features, socio-economic factors, forest resources, institutional and policy framework characteristics and the cross-sectoral linkages of all countries in each group. The second set maps and analyses sources and allocation of forest financing, gaps and enabling conditions for financing forests and trees, and new and innovative financing strategies.

The country case studies present the forest resources, policy and institutional framework characteristics, role of forests in the economy, inter-linkages between forestry and other sectors, the forest financing landscape and key challenges and opportunities for financing forests in each respective country. The country case studies are stand-alone papers but also contribute to the macro-level papers.

The selected case study countries are Nepal (non-African LDC) and Tunisia (African LDCs) and Uganda and Tanzania (African LDCs). These case studies focus on issues common as well as specific to their respective country group, and thus are connected to and consistent with the macro-level papers.

1.3 Methodology and data

The study maps out existing and potential financing sources for forests in LDCs. Financing patterns and modalities are observed in conjunction with different types of financing sources: domestic public budgetary and extra-budgetary financing, domestic and foreign private sector financing, ODA, and monetary flows related to Reducing Emissions from Deforestation and Degradation (REDD+) and PES (payment for ecosystem services) and other potential sources. The studies have been carried out as a desk top review and data has been collected via extensive data mining and review of existing information, as well as through country case studies. Also, Indufor in-house databanks, such as the Plantation Databank, have been used.

Data for this second macro level study have been compiled mainly through various Internet sources, such as those from Governments, the Food and Agriculture Organization of the United Nations (FAO), the World Bank (WB), the Organization for Economic Cooperation and Development (OECD), United Nations organizations and the Global Environment Facility (GEF).

Main quantitative data sources:
- Data on forest revenue and expenditure is gathered from the FAO Forest Resources Assessment (FRA) 2010
- Data on forestry ODA is compiled from the OECD Creditor Reporting System1
- Data on thematic financing for the Rio Conventions is compiled from the GEF project database2
- Data on REDD+ financing is principally gathered from the Voluntary REDD+ Database3 and the Climate Funds Update2

1 http://stats.oecd.org/index.aspx?DataSetCode=CRS1
2 http://www.thegef.org/gef/gef_projects_funding
3 http://reddplusdatabase.org/
- Data on foreign direct investments is derived mainly from the United Nations Conference on Trade and Development (UNCTAD)\(^5\) and from Indufor’s in-house Plantation Databank.

**Data reliability and availability**

Documentation and data on cross-sectoral linkages between forestry and agriculture, energy, transport, extractive, environment, and other relevant sectors have been particularly challenging to obtain. Information available on inter-sectoral linkages is mostly based on country policies and strategies, case studies and Indufor in-house experience. Compiled data on cross-sectoral financing flows or complete data on domestic and foreign private investment and financing are not readily available. In general, data availability exists as detailed below.

Data that is available:

- Domestic expenditure and revenue (not for all countries)
- ODA flows
- GEF financing
- REDD+ financing flows
- FLEGT financing flows
- Plantation investment

Data that is not available:

- Private sector domestic and foreign investment and financing
- Cross-sectoral financing patterns (inflow and outflow)

Readers should note that the greater availability of data on foreign public financing and the lesser availability of data on private sector and cross-sectoral financing might skew the image of the financing landscape.

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\(^4\) [http://www.climatefundsupdate.org/](http://www.climatefundsupdate.org/)

\(^5\) [http://unctadstat.unctad.org](http://unctadstat.unctad.org)
2. PRESENT FINANCIAL FLOWS FOR SFM

2.1 Domestic public financing

Revenue and expenditure\(^6\)

Governments both collect revenue from the forest sector and invest public funds in the sector through the budget allocation process and forest-related funds. Public revenue in the forest sector comes mainly from fiscal sources (taxes and duties), other fees, charges and levies, sales of timber and other forest products from public forests, and service provision by public institutions. Public expenditure can be categorized into operating expenditure, which covers the cost of running the forest administration (e.g. staff salaries), and implementation expenditure, which relates to carrying out planned activities.

According to FAO (2010), Governments collect forest revenue\(^7\) of USD 4.6/ hectare (ha) on average, while the public expenditure\(^8\) on forest is USD 7.3/ ha on average. Consequently, on average, Governments spend more on forestry than they collect in revenue.

To observe country-level forest revenue and expenditure in LDCs, this study has used FAO FRA 2010, as it is the largest available data set on the issue and allows comparisons between the countries. As also noted by the FAO (2010), comparisons are indicative at best, as the data is impacted upon by various items such as a Government’s ability to collect revenue, forest management objectives, forest area and forest tenure.

Globally, there are significant regional differences in forest revenues, see Table 2.1\(^9\). However, those do not apply to the LDCs. In most LDCs\(^10\), irrespective of their geographical location, revenue collected was less than USD 0.5/ ha (see Appendix 1). The LDCs in general represent vast areas and contain approximately 15 per cent of the world’s forests. This implies that forest-rich countries in the LDC group collect limited revenue from their resources.

In the LDC group, but also the case globally, the forest expenditure per hectare was significantly higher than the revenue. The FAO (2003) study revealed that the majority (89 per cent) of the expenditure goes into operating costs, of which staff cost is the largest component. This means that little domestic public financing is usually available for carrying out planned activities.

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\(^6\) The main source is FRA 2010 data, which includes estimates of forest revenue and public expenditure. FRA data provides partial estimates such as “Over 100 countries supplied this information, with countries reporting revenue collection accounting for 79 percent of the global forest area and those reporting expenditure accounting for 64 percent of the area”.

\(^7\) FRA 2010 data includes “all taxes, fees, charges and royalties collected specifically from the domestic production and trade of forest products, but it excludes general taxes collected from all sectors of the economy (e.g. corporation tax and sales tax)”.

\(^8\) FRA (2010) includes “expenditure on forestry activities by all relevant public institutions”. This figure includes domestic and foreign originated funding when not otherwise stated.

\(^9\) These three regions host 47 out of 48 LDCs. One (Haiti) is located in the Caribbean.

\(^10\) Data are available for 23 LDCs.
At the global level, most of the expenditure comes from domestic sources. However, in LDCs, foreign sources contribute the most, on average about two thirds of total expenditure. The LDCs from Africa show a higher foreign contribution to their forestry expenditure than the LDCs from other regions; however, data is available from only a limited number of countries and can be considered indicative at best.

Comparison of forest revenue and expenditure is useful in determining whether the forest sector is a net receiver or net source of public sector financing. In LDCs, as well as globally, Governments spend more on forests than receive revenue that is generated from the resource. When comparing public revenue collection and expenditure of the countries that had data available, just one country made net revenue of any significance: Equatorial Guinea, with just over USD 5 million (see Appendix 1). The rest of the countries showed a net expenditure.

According to a study by the FAO (2003) most African countries included in the study showed an increase in total expenditure, but the increases in most cases had failed to keep up with inflation, and in real terms had fallen in most countries. According to the analysis of 17 African countries by Ajewole (2002), revenue generation had a positive correlation with expenditure, and 53 per cent of marginal revenue will return as expenditure in the sector. Also, gross domestic product (GDP) and population had a positive correlation, but with lesser magnitude. The study concludes that “if domestic expenditure for forestry development in Africa is small, as is being generally believed, then the low forest revenue generation is largely responsible”.

All domestic revenue generation is not necessarily visible in government budget data. Some countries, such as Tanzania and Uganda, have institutions in the forest sector that are autonomous to some degree. These are required to generate part or all of their financing and are allowed to retain all or part of the revenues generated. They can also in some cases obtain some support from the government budget. Examples of such organizations are described in Appendix 1.

Forest funds at the national level are typically established by legislation defining the funds’ governing and administering structures. Forest funds are often set up to deliver a portion of national revenue for a variety of forest-related purposes. The uses of funds can include, for example, management of public lands, market promotion, research, education, insect and disease control, reforestation and afforestation, community forestry projects, or promotion of generation of environmental services (Ajewole 2002). According to a study by Ajewole (2002), the existence of a forest fund increases domestic expenditure only by little. However, it was noted that the funds can significantly help in mobilizing financing from various sources.

### Table 2.1 Public revenue collection and expenditure by region (2005)

<table>
<thead>
<tr>
<th>Region</th>
<th>Revenue (USD/ha)</th>
<th>Revenue (USD/m³)</th>
<th>Expenditure (USD/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDCs</td>
<td>1.28</td>
<td>4.44</td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>1.00</td>
<td>1.24</td>
<td>2.04</td>
</tr>
<tr>
<td>Asia</td>
<td>5.00</td>
<td>4.31</td>
<td>22.46</td>
</tr>
<tr>
<td>Europe</td>
<td>6.00</td>
<td>13.39</td>
<td>5.45 (30.95*)</td>
</tr>
<tr>
<td>North and Central America</td>
<td>4.00</td>
<td>3.40</td>
<td>16.28</td>
</tr>
<tr>
<td>Oceania</td>
<td>4.00</td>
<td>5.33</td>
<td>0.51**</td>
</tr>
<tr>
<td>South America</td>
<td>5.00</td>
<td>10.80</td>
<td>0.26**</td>
</tr>
</tbody>
</table>

Source: FRA 2010 main report

(*) excluding the Russian Federation

(**) Large forest areas in PNG and Brazil lower the estimates for Oceania and South America
More than half of LDCs have funds relevant to forests and trees (see Appendix 2). These funds have a large variety of objectives. Many aim to restore and/or enhance the forest cover. Some funds do have distinct objectives. For example, the fund in Lesotho aims for basic service provision related to forests and trees. Tree planting is supported by a forest fund in the Solomon Islands, while biodiversity conservation is targeted in Mozambique and Madagascar.

**Many forest funds also have clear cross-sectoral linkages in supporting the forest resource so that other sectors can derive benefits.** For example in Mozambique, the forest fund supports wildlife protection and tourism in the Central African Republic. It is unclear if the sectors that benefit from these funds generate financing back into the forest funds.

Funds are also established at the regional and global levels to benefit activities in various countries. LDCs also have a specific fund, the Least Developed Countries Fund (LDCF), see Box 2.1.

**Box 2.1 The Least Developed Countries Fund**

The Least Developed Countries Fund was established to assist the LDCs to carry out, inter alia, the preparation and implementation of national adaptation programs of action (NAPAs). The fund is managed by GEF. The United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) agreed on provisions to operationalize the LDCF at its eleventh session in 2005. The guidance on priority areas of and provisions of full-cost funding and co-financing scale for LDCF were also provided by the UNFCCC COP 11. According to the guidance (Decision 3/CP.11) the LDCF should be:

- A country-driven approach, supporting the implementation of urgent and immediate activities identified in national adaptation programs of action, as a way of enhancing adaptive capacity
- Supporting the implementation of activities identified in NAPA, and of other elements of the LDCs Work Program in order to promote the integration of adaptation measures in national development and poverty reduction strategies, plans or policies, with a view to increasing resilience to the adverse effects of climate change, and
- Supporting a learning-by-doing approach.

The main focus of LDCF is to reduce the vulnerability of sectors and resources that are central to development and livelihoods such as water, agriculture and food security; health; disaster risk management and prevention; infrastructure; and fragile ecosystems, including forests. The fund has so far supported the preparation of 48 NAPAs. Currently it supports 75 projects and programs in 44 countries, with total financial support of USD 334.6 million and leveraging another USD 1.59 billion in co-financing.

Sources: [http://unfccc.int/cooperation_and_support/financial_mechanism/least_developed_country_fund/items/3660.php](http://unfccc.int/cooperation_and_support/financial_mechanism/least_developed_country_fund/items/3660.php)
[http://www.thegef.org/gef/LDCF](http://www.thegef.org/gef/LDCF)
2.2 Foreign public financing: Official development assistance

Globally, the share of the forest sector ODA of total ODA has varied between 0.3 to 0.5 per cent between 2002 and 2009, but as more funds were directed to forestry, the share peaked at 0.8 per cent in 2010 (see Appendix 3, Graph 1). In absolute terms, the global forest ODA has been increasing over the past decade from approximately USD 400 million in 2002 to approximately USD 1.2 billion in 2010. In LDCs, foreign contributions have been an important source of financing, but their relative share of the global forest ODA has been constantly decreasing (Figure 2.1).

During the past decade, forest ODA contributions for LDCs have been relatively stable at USD 100 million/year, slumping in 2008 but recovering in 2009. The spike in global forest ODA in 2010 was also visible in the allocation for LDCs. However, the LDCs have benefitted from the increase in ODA less than other developing country income groups (see Appendix 3, Error! Reference source not found.).

The financing related to REDD+ and other forest carbon-related activities, as agreed under UNFCCC, is to be new and additional. However, some donors require carbon finance to also meet ODA requirements and have possibly reported REDD+ related support in the context of ODA reporting. From the currently available data sources, it is not possible to determine what share of the forestry ODA is actually financing for REDD+ activities. However, like the forestry ODA disbursement trend, the global REDD+ financing trend showed a significant increase in 2010, and the REDD+ support also more than doubled from 2009 to 2010. This increase might result from the disbursements related to the 2009 Copenhagen Accord\(^\text{11}\), where developed countries committed to fast start climate financing, including REDD+, of approximately USD 30 billion for the period 2010-2012. If countries apply ODA criteria to REDD+ financing and include the disbursement in their ODA reporting, the forest ODA increase starting from 2010 can be reflected in the increased REDD+ financing.

**Figure 2.1 Trend of the share of forestry ODA for LDCs of the total global forest ODA**

![Graph showing trend of forestry ODA for LDCs compared to global ODA](source: OECD and Voluntary REDD+ Database)

Forestry ODA expressed in constant 2011 USD value

The distribution of the ODA among recipient countries has been uneven. Just 12 countries account for three quarters of forestry ODA to LDCs (Figure 2.2). Asian LDCs cover almost one

\(^{11}\) In Copenhagen six countries pledged USD 3.5 billion for 2010-2012 for early action on REDD+. A formal Interim REDD+ Partnership was established in 2010 and includes 75 countries (Aug 2012), and the pledged amount for 2010-12 grew to a total of USD 4 billion.
quarter of the support and African countries almost three quarters. The 12 LFCCs received only approximately 4.5 per cent of the forestry ODA directed to LDCs.

**Figure 2.2 Most significant forestry ODA recipients 2002-2010 (%)**

Most forestry ODA in LDCs is channelled through conventional mechanisms via grants for projects and directed to public sector organizations. Budget support has been seldom applied. For detailed information on ODA disbursement modalities, see the tables in Appendix 3.

Thematic financing through GEF related to the Rio Conventions is also analysed because much of the ODA and climate financing is of a cross-sectoral nature and is relevant to forests and trees. Due to the strong cross-sectoral linkages of forests and trees to other land-based sectors, it is likely that some forest-relevant financing is reported under sectors other than forestry and thus is not included in the above analysis. In LDCs, most projects concentrate on biodiversity or climate change. However, although land degradation projects are not plentiful, they account for 44 per cent of GEF for all funded projects of the thematic area. This is logical, given that many LDCs are struggling with issues related to land degradation. GEF financing was also a significant source for some LFCCs, such as Niger, Burundi and Chad, which did not receive significant shares of forest ODA but did receive significant GEF funding. For details, see the tables in Appendix 3.

In November 2012, the Voluntary REDD+ Database\(^{12}\) (VRD) reported a cumulative total of about USD 6 billion of global financing for REDD+. Of this, almost USD 800 million was directed to LDCs. According to the VRD data, **only four countries have attracted half of the REDD+ financing** (Figure 2.3). The biggest recipients were also in the group of countries that received significant shares of Forestry ODA.

\[12\] The database gathers information on REDD+ financing on a continuously updated basis and therefore provides insight into REDD+ financing volumes.
More information on REDD+ financing modalities and other financing such as that related to FLEGT is available in Appendix 3.

2.3 Innovative financing

*Forest carbon*

Some LDCs have tapped into opportunities in the market for forest carbon. LDCs host 18 per cent of all Afforestation/Reforestation (A/R) Clean Development Mechanism (CDM) projects located in only six countries (Table 2.2). Also, at least five countries, Mozambique, Uganda, DRC, Cambodia and Laos, have REDD+ projects.

<table>
<thead>
<tr>
<th>Country</th>
<th>Afforestation projects</th>
<th>Reforestation projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRC</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Ethiopia</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Senegal</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Uganda</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lao PDR</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Source UNEP Risoe CDM/JI Pipeline Analysis and Database, November 1st 2012

In the forest carbon market, major volumes from LDCs have been generated by Uganda, which was the world’s fourth largest offset supplier country in 2011\(^{13}\). Ethiopia has also been a pioneer in project development, as described in Box 2.2. More details are available on the forest carbon market in Appendix 4.

Box 2.2 Bale Eco-Region REDD Project

In the South-Eastern Ethiopian Highlands, the Bale Eco-Region REDD Project covers 700,000 ha of forest. As in other areas of Ethiopia, forest exploitation is largely unregulated, with communities rapidly deforesting to meet their livelihood needs. The Oromia Regional State Forest and Wildlife Enterprise (OFWE), with the aid of the Bale Eco-Region Sustainable Management Programme (BERSMP) are in the process of establishing the first Ethiopian REDD project. Reductions in deforestation, and thus in emissions, are being pursued through the Participatory Forest Management (PFM) approach. By establishing community-based organizations (CBOs), developing forest management plans, introducing sustainable forest management practices, supporting agricultural intensification, establishing woodlots and promoting the uptake of fuel efficient stoves, REDD via PFM will enable local communities to benefit from a sustainable forest resource base as well as to mitigate climate change.


Payment for Ecosystem Services

Forests and trees generate services for other sectors, such as the agriculture, energy, mining and manufacturing sectors. PES schemes are often considered one method for transforming this cross-sectoral service provision into monetary terms, allowing for compensation from the service users to the service providers. This subsequently creates a financing source for the sustainable management of forests and trees and conserves or enhances the related service production.

There is a limited number of active PES schemes in LDCs. According to Stanton et al. (2010), in 2008, there were globally 113 active payment for watershed services (PWS) schemes. However, only two LDCs had an active PWS scheme: two active programs in Tanzania and one in Uganda. Box 2.3 describes a PWS example from Tanzania.

Box 2.3 The Equitable Payments for Watershed Services Program in Tanzania

In 2006, CARE International in Tanzania, in partnership with the World Wildlife Fund (WWF), the International Institute for Environment and Development (IIED), and the Poverty Reduction & Environmental Management Programme (PREM), initiated a new project called ‘Equitable Payment for Water Services (EPWS)’. The Programme is based in two river basins (Ruvu and Sigi River Basins in the Uluguru and East Usambara Mountains), which are the major sources of water to the cities of Dar es Salaam and Tanga. Currently the public water utility, Dar es Salaam Water Supply and Sewerage Corporation (DAWASCO), spends nearly USD 2 million per year on water treatment due to increased sediment load in the Ruvu river.

The Programme aims to compensate upstream farmers so that they can engage in various sustainable land-use practices to control soil erosion, thus improving the quality and flow of water for downstream users. The project aims to establish a compensation mechanism that recognizes the needs and priorities of marginalized and impoverished people, and to improve the quality of life of communities through substantial benefits to the rural populations. As of 2008, more than 450 farmers were enrolled in the program.

Source: Modified from Stanton et al 2010

Regarding biodiversity markets, in 2010 there were 39 active compensatory mitigation programmes globally (Madsen et al. 2010). However, there were no active programmes in LDCs. There have been some cases in LDCs where extractive industries such as oil, mining and logging companies voluntarily compensate for biodiversity impacts (e.g. in Uganda, Guinea and Madagascar), but these are not PES schemes as such. In addition, WWF is also exploring the opportunities for biodiversity offsets in Mozambique. More details on the PES schemes are provided in Appendix 4.
In addition to biodiversity offsetting, there are also other types of innovative schemes to protect biodiversity. For example, **local communities can be encouraged to manage landscapes and produce ecosystem services in return for monetary income through ecotourism or sales of game hunting licenses.** In Lao PDR in Nam Et-Phou Louey, protected area ecotourism is generating income for local communities and conservation, see Box 2.4.

**Box 2.4 Ecotourism and conservation in Nam Et-Phou Louey in Lao PDR**

In the Nam Et-Phou Louey National Protected Area in Houameuang District of Houaphanh Province, the *Nam Nern Night Safari* offers wildlife viewing to tourists. This activity is a part of the Nam Et-Phou Louey National Protected Area (NPA) Management and Tiger Conservation Project. This project is funded by the United States Fish and Wildlife Service and being implement by the Wildlife Conservation Society (WCS) Lao PDR Program. The main objectives of the program include:

- Creating employment and income from tourism for local people, particularly those from low-income families, by developing skills in the service sector such as cooking, hospitality, guiding, boating, foreign languages and safety;
- Creating funds from tourism to support village development activities that encourage conservation in the villages that are located in wildlife viewing area in NPA; and
- Increasing awareness among local people and tourists towards the importance of wildlife conservation.

The wildlife viewing is done through a trip in Nam Nern River that runs in the core zone of the NPA. The trip is operated by guides from local villages and park staff. The tourists have the opportunity to view wildlife at night by spotlight. The tourists pay a fee that goes to a fund that is shared by the 14 villages which surround the wildlife viewing area inside the NPA. An agreement is made with each of these 14 villages stating how the benefits from tourism are to be shared and distributed. Additional fees are paid if the tourists spot certain key species, such as the tiger. A village can get less money than agreed if the inhabitants are caught breaking the laws of the protected area. The gross revenue and the fund for village development totaled USD 12872 in the first two years of operation of the project.


More information on innovative financing modalities, such as forest carbon markets, PES, debt-for nature swaps in LDCs and Green bonds appears in Appendix 4.

### 2.4 Private sector financing and investments

In the context of private sector investments in the forest sector, the main areas of interest in this study are investments in plantations; timber concessions in natural forests; bio-prospecting; raw material sourcing; and processing linking forest resources to other sectors such as bioenergy, food production, the medical industry and the cosmetics industry. However, readily available data on relevant forest investments in LDCs only exist for commercial plantations

Globally, there are 54.3 million ha of forest plantations with commercial species (Figure 2.4). LDCs cover slightly over 2 million ha of these plantations. African LDCs cover about 1.9 million ha of the continent’s commercial tree plantations. The few LDCs outside Africa cover approximately 136,000 ha of commercial plantations. However, the majority of these plantations are under public ownership. In Africa, where the majority of the LDCs are located, only 6 per cent of the plantations are private.

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14 Data on plantation areas is available in the Indufor Plantation Database.

15 Includes intensively managed production plantations established through public and private sector investments. Semi-natural planted forests, protective plantations and scattered woodlots are excluded.
A conservative estimate of the total investment\textsuperscript{16} in commercial plantations in LDCs is approximately USD 1.6 billion. Four African countries have generated almost half of the investments (Figure 2.5). Among LDCs, the most significant investment have been targeted to African countries. In terms of investment volumes per country, the non-African LDCs Lao PDR and Nepal are respectively placed ninth and twelfth and cover three thirds of the investment volume directed to non-African LDCs.

\textsuperscript{16} Investment is estimated based on average cost during the first 3 (y 0-2) years of the rotation, after which a viable stock is assumed to have been established. Cost of land (e.g. to purchase or lease) is not considered. Investments in consecutive cycles have not been considered.
The bulk of the concession investments is typically directed to such activities as road infrastructure, machinery and processing facilities. The data on the amount of the investments and the respective share of investments in forestry and sustainable management is currently not available. Certification could be assumed to be a proxy for sustainable forest management. In LDCs, 0.5 per cent of forests are under certification, but the amount of certified concessions is unknown. The certified areas likely include both private sector concessions and government managed production forests.

Quantitative data on investments related to sourcing forest-based raw materials for sectors such as agriculture, cosmetics or medical industry is not available. However, in some countries, such investments can be notable; for example, cocoa, shea and gum Arabic bring significant investments to the Sahel region in Africa. In South-East Asian LDCs, particularly in Cambodia and Lao PDR, significant investments are made to rubber plantations. Dararath et al. (2011) reported that Cambodia and Lao PDR have over 60,000 ha and approximately 11,000 ha of rubber plantations, respectively. The plantation area is expected to increase significantly in both countries and thus to bring in more investment into the forest sector. The tourism sector also has potential to bring investment into forestry, but currently, quantities of such investments are unknown.
3. DEMAND FOR FINANCING FORESTS AND SFM

Lack of clearly established financing demand

In the LDCs, assessments of the demand for forest financing in terms of volume, thematic areas and potential sources are not commonly available. Typically, quantified financing needs can be tracked for a public institution with a forest mandate through the public sector budget negotiations. However, these are established to meet the public sector institutional financing demands and do not set the sector-wide financing demands. Also, as observed in the country case studies, the institutional priorities for financing might not always align with and reflect the goals and thematic areas of the national forest policy.

In the absence of analysis and quantification of the financing demand, the thematic areas prioritized for financing are observed from the policy and strategy documents relevant to forests and trees. These documents do not commonly establish an analysis on the financing required to meet the priorities and targets established.

The attention and role given to forests and trees in the national development strategy can be observed in the Poverty Reduction Strategy Papers (PRSPs). Indufor (2012b) has revealed that 37 LDCs have developed PRSPs which feature forests and trees. In these PRSPs, the role of forests and trees is defined in the context of biodiversity conservation, biomass energy provision, eco-tourism, restoration of degraded land, soil and watershed protection, gender, employment and income generation for poverty reduction and agroforestry. REDD+ is highlighted in the PRSPs of Lesotho and Mozambique. LFCCs and semi-arid or arid countries such as Yemen, Niger, Togo, Djibouti, Mali, and Mauritania emphasize the role of forests and trees in combating desertification.

Almost all LDCs have thus far developed a NAPA or similar climate strategies. Forests and trees are incorporated in the strategies in three quarters of the countries. Forests and trees have mainly featured in the context of biodiversity conservation through reforestation, restoration, rehabilitation, and sustainable management of forests; poverty reduction and income generation through community-based management of forest resources; and participatory tree growing and reforestation. However, as the study by AGF (2012) points out, “One fundamental weakness in poverty reduction strategy papers (PRSPs), national adaptation programmes of action (NAPAs), national forest programmes (NFPS) and other reporting frameworks, is that they do not require any kind of focus on financing flows to forests”.

The multiple values and ecosystem services of forests and trees are clearly recognized in the forest-relevant strategies. Forests were considered important in the context of other sectors and activities such as land management, energy and tourism. This suggests that in LDCs, there is a demand for financing for an increased service provision from the forest ecosystems benefiting forest and other land-based sectors. Such an increased service provision would benefit various sectors simultaneously and would hence be an impetus for the analysis of the financing demand. The potential solutions to deliver that finance should be established through a robust cross-sectoral process.

Strategies for forest financing are needed to establish a clear analysis of financing demand, including volumes and modalities, and potential sources and strategies to meet that demand. Care should be taken to align these strategies with the macro-level planning and budgeting processes. Further, the financing strategies should be based on sound analysis of revenue generation and related potential and on wide cross-sectoral stakeholder participation. According to the FAO (2009), the development of national financing strategies embedded into national forest policies and programmes would be highly necessary in order to diversify the financial basis of SFM, to guarantee SFM practices and to reduce deforestation and forest degradation.

Some information is available in the context of REDD+. According to Simula (2010), along with the establishment of Forest Carbon Partnership Facility (FCPF) Readiness Preparation Proposals (R-
PPs) and UNREDD National Programme Documents (NPDs), comparative information on financing needs is available for the first time in many developing countries, including in LDCs. The investment in various activities in the different phases of REDD+ also benefits the basic modalities of the forest sector, such as enhanced capacities, policy and legislative framework, monitoring systems and sustainable forest management. Information available for the demand for climate financing in the context of forests is available in Appendix 5.

For a detailed analysis of PRS, Country Assistance Strategy (CAS) and other relevant strategies, and forest policies, see the Background Study for Forest Financing in African Countries (Indufor 2012b).
4. **FINANCING GAPS AND CHALLENGES**

**Financing gaps in terms of volume and thematic areas**

There is no comparable information available at the country level to establish the volumes and thematic areas for the demand and supply or to analyse these from the perspective of different stakeholders. This results also with challenges analysing the financing gaps. The data available for forestry ODA and REDD+ financing is used in this chapter to indicate potential gaps.

Overall, the foreign contributions have been an important source of financing for LDCs. However, **the country group’s relative share of the global forest ODA has been constantly decreasing from almost 25 per cent in early 2000 to approximately 12 per cent in 2011**. The data available on demand and supply of REDD+ financing is detailed in Appendix 5.

**Forestry ODA for the LDCs is focused on a limited number of countries.** Seven LDCs (Ethiopia, Mozambique, Burkina Faso, Nepal, Lao PDR, Haiti, and DRC) together received half of forestry ODA of the group. **Within the country group, the LFCCs receive limited donor support.** One quarter of LDCs are LFCCs, but they only received approximately four per cent of the forestry ODA, which shows that the gap analysed by Indufor (2010a) in financing LFCCs continues to exist. When the two major LDC sub-regions are compared, the Asian LDCs receive on average a higher amount of forestry ODA per country than do the African LDCs. Eight countries did not receive multi- or bilateral ODA in 2010, and four of these were small island developing states (SIDS) (See Appendix 5). As observed by Indufor (2010b), SIDS have shown a declining trend in forestry ODA. It can be assumed that the gap in financing forestry in SIDS still prevails.

Also, **REDD+ financing directed towards the LDC group is concentrated, and only four countries received half of the financing.** Predictably, the REDD+ financing is channelled towards forest-rich countries. The REDD+ relevant funding favoured LDCs with high forest cover, with nine LDCs having high forest cover (over 50 per cent forest cover) receiving almost 40 per cent of the REDD+ financing for LDCs, while 12 LFCCs received 8 per cent.

**The major gap relates to the lack of data on the private sector forest financing and the cross-sectoral financing flows.** Currently, at international or country level, data resulting from systematic efforts to record these financing flows do not exist. However, such flows can be significant, as described in Box 4.1.

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17 Four SIDS: Kiribati, Tuvalu, Comoros and Sao Tome and Principe. Four other countries: Yemen, Sierra Leone, Somalia and Gambia.
Box 4.1  Cross-sectoral forest financing in Malawi

In Malawi, a major consumer of fuelwood is the export-earning tobacco industry. This sector is expanding but faces constraints in securing adequate fuelwood supply. In recent years, to secure the biomass fuel, the industry has become increasingly involved in establishing forest plantations through outgrower schemes. In total, Limbe Leaf has contracted about 40,000 farmers. The scale of these activities already far exceeds what the Department of Forestry is doing in the plantation sector.

One of the biggest tobacco companies in the country, Limbe Leaf Ltd uses more than USD 4 million per year for forestry operations. This is approximately four times more than what the Department of Forestry spends on plantation operations in the country, and is twice the total government budget for the entire forest sector.

The tobacco industry has received financing for forestry activities because forestry investments have been regarded as an integral part of the business and because the debt financing has been attached to existing operations that provide a steady revenue stream to help with paying back the loan under relatively short pay-back periods.

Source: PROFOR, 2013.

Challenges
Various financing-related challenges have emerged from the case studies. The challenges relate to lack of governance, capacity, revenue generation, access to financing, availability of information, and identification of cross-sectoral linkages.

Lack of capacity in implementation of detailed planning and budgeting procedures
In some cases, although good systems are already in place for planning and related budgeting, there are challenges in their implementation. According to Ruhombe (2012), Uganda has decentralized its governance and has detailed planning and budgeting procedures. Despite these, in practise there is a mismatch between the priority targets and the actual finance channelled and disbursed to the sector. At the decentralized, district local government (DLG) level, most of the DLGs lack the necessary financial, logistical and human resources and capacities to collect the needed information to carry out budgeting processes.

Overlapping institutional mandates
According to Ruhombe (2012), in Uganda, the mandate to manage forests is scattered across different government agencies and across different ministries. Although the sector planning and budgeting is coordinated under the environment and natural resources sector working group (ENR-SWG), the overlaps result in agencies competing for resources and wasting time in institutional conflicts and duplication, meanwhile spreading themselves too thin on the ground. Such an environment results in being a poor operational environment and in being unattractive to both donors and private sector investors. According to Ruhombe (2012), the forest administration needs to be streamlined so that the forestry mandates are clarified.

Non-monetary and informal contributions
The non-monetary and informal nature of forest sector activities and benefits is a major challenge. The seemingly low forest sector contribution to the national economy does not encourage decision makers to invest public funds or to pay attention to improving the operational environment in the sector.
In Nepal, Lebedys (2004) estimated that there was a mere 3.5 per cent GDP contribution of the forest sector in the year 2000 (Amatya 2012). This estimation includes formal forest sector activities such as logging and wood industry, but ignores the informal activities. However, a study (2008) conducted by the Nepal Foresters Association (NFA) observed that the forest sector may contribute up to 28 per cent of the total GDP when a wider set of forest values and services and various types of management regimes (community forestry, leasehold forestry) are considered. In Uganda in 2011, over half of the forest sector contribution to the national economy was non-monetary: the percentage share of GDP averaged 3.5 per cent, with 1.4 per cent monetary and 2.1 per cent non-monetary contribution for the financial years 2004/5 – 2008/9 (Ruhombe, 2012).

Much of the forest sector’s activities still take place informally. When the majority of activities are carried out informally, it hinders the Government’s ability to collect revenue from the economic activities related to forests and trees. Low revenue collection further leads to low interest in investing, as the sector is considered unable to generate a public return.

In Uganda, it was estimated in 2001 that the forest sector employs about one million people. However, only 10 per cent are in the formal sector, and the vast majority, 90 per cent, are in the informal sector (GoU in Ruhombe 2012). In Nepal, the forest sector provides employment opportunities to around 1.7 million people, which is 9.23 per cent of the total economically active population in Nepal (ERI, 2011 in Amatya 2012). Of the total number of people employed in the forest sector, the vast majority (91.3 per cent) is in the informal sector, whereas the formal sector employs only 8.7 per cent.

The cross-sectoral nature of forest contributions and the lack of aggregation
As noted in the Uganda case study, there are forestry contributions that could indeed be monetized but are found in the national accounting attributed to other sectors. Examples of this include GDP contributions of ecotourism attributed to tourism, and of timber attributed to construction and manufacturing (UBOS, 2009 in Ruhombe 2012). Recent studies estimated the “total economic value” (TEV) (marketable and non-marketable values) of Uganda's forests to stand at USD 300 million, thus reflecting a contribution to GDP closer to 6 per cent (MWLE, 2001; Bush, et. al, 2004. in Ruhombe 2012). Hence, the total value of the forest sector contributions remains invisible. As a result, the forest sector may be undervalued in national decision-making, such as in the budget allocation process. Governmental financing decisions may be influenced and the forest sector may attract less public funds than it would otherwise be entitled to in light of the goods and services it generates.

Timing of disbursements and the absorption capacity
In some cases, the challenge related to financing does not lie in the lack of funding but rather in the ability to spend the allocated budget in total. One of the main reasons for the low spending level is that disbursements are delayed. The late arrival of funds can result in cancelled activities, because some forestry activities are seasonal and cannot be much delayed. According to Amatya (2012), in Nepal, the lack of capacity by implementing staff and the political instability have hampered both expenditure according to the available budget and the achievement of the set targets. There have been challenges in the transfer of government staff following the dissolution of the Nepal Constituent Assembly in May 2012, and this has also affected the functioning of the government institutions.

Limited access to finance still prevails
Access to finance remains a challenge in the forest sector, especially for small and medium scale operators. As noted in Ruhombe’s Uganda study (2012), the forestry sector is poorly served by the formal financing institutions, and accessing finance from traditional sources such as banks for financing forestry business still proves difficult. Financial institutions grant loans only to enterprises that are legally constituted, can prove their solvency and credit-worthiness, have collateral, and can demonstrate potential income for service loans even in the short term. To be deemed a legally constituted enterprise is often a long, tedious and expensive exercise, and technical capacity to demonstrate solvency is not so readily available, especially for the small and medium size enterprises (SME) that dominate the Ugandan forestry sector. Most financial service providers in Uganda lack experience in serving forestry clientele and hence are unable to design appropriate
financial products, just as many would-be clients lack the experience of working within strict contractual arrangements.

**Imbalanced financing structure and low efficiency in revenue collection**
As demonstrated by the case studies, there is generally limited domestic public financing for the forest sector and SFM, leaving both almost entirely dependent on ODA and private sector investment. Rather than being a major source for financing public sector expenditure, ODA should play a catalytic role to leverage and boost the quality and quantity of public and private sector finance for SFM. According to Akida et al (2012), in Tanzania only 5 - 10 per cent of the revenue due from the forest reserves and general lands is collected. Administration and management of revenue collection is weak, and the revenue collection system inefficient. Much revenue is either lost through illegal activities or uncollected due to staff shortage and inaccessibility.

**Lack of financing for the establishment cost of PES mechanisms**
LDCs have very few active PES mechanisms. One underlying factor is the generally high upfront cost. Various studies are needed to determine the feasibility of the mechanism, to quantify and express the service generation in monetary terms, to establish the necessary institutional structures and to establish capacity among the participants. Often the establishment cost of the mechanism is financed by a donor and the operating cost from payment for the services generation, so that once operational, the mechanism becomes self-financing. It is likely that the LDCs have not been able to raise the necessary financing that is needed for the establishment.

**Incomplete information hinders informed decision-making**
Presently the data on private sector forest financing is scarce and inadequate both at global and national levels. Information on foreign direct investment (FDI) in the international databases is poorly available for the LDCs. This scarcity in addition to the unreliability and inconsistency of the data collecting and reporting systems hinders informed decision making. This affects both country-level preparation of solid investment policies and the planning of bi- and multilateral support.

As observed in the WB Programme on Forests (PROFOR) 2013 (forthcoming), public databases recording forest direct investment (FDI) data typically report forest sector data under manufacturing for “wood and wood products”, which includes FDI in processing of wood, wood products, pulp and paper. Data collection methodologies would allow the collection of FDI on forestry. However, databases typically report aggregate data for an aggregated sector “agriculture, forestry and fisheries”. Under this class, the sub-class “forestry” exists, but likely due to limited country reporting data, is typically not available. Even if data on investments on “forestry” were available, there would be major challenges in separating the investments in sustainable natural forest management from the exploitative, unsustainable investments which unfortunately tend to dominate in many parts of the developing world.

Countries also face difficulties in reporting data on all components of FDI. This is because data is derived from foreign exchange records of the central bank and, hence, is only able to account for capital which crosses borders but does not capture reinvested earnings. This applies also to domestic investments, which are not recorded by these institutions as the capital does not cross a border.

Another major data recording challenge is the common multi-sectoral nature of forest investments. An investment into forest land can be recorded under other sectors, such as financial or real estate ones. Databases generally record the FDI inflow according to the sector of the receiving company. For example, if the company receiving a forest investment is not registered as a forest sector company but is instead registered as a real estate or finance sector company, the investment would then not be recorded under the forest sector.

**Key constraints to private sector investment in sustainable forest management**
PROFOR 2013 has observed the key constraints to private sector investments in SFM in developing countries. These are considered to be the high real and perceived risks and high costs associated
with forest investment coupled with the weak availability of equity and loan financing. These challenges are also applicable to LDCs, as these typically face the biggest development challenges among developing countries.

The high investor risks include political, unsecure land tenure, currency, social, environmental and reputational risks. For example, in mobilizing institutional finance (e.g. pension funds) reputational risks can play a significant deterring role. In terms of high costs, the general lack of forest resource information and investment opportunities information can lead to high upfront costs of preparing investment projects. Also, the transaction costs throughout the investment cycle for small- and medium-sized projects are high. With respect to access to finance, forestry businesses (except those interested in short-term returns irrespective of sustainability impacts) have notable difficulties in raising finance. It is difficult to acquire international equity financing, especially for smaller projects (less than USD 20-25 million). Debt finance is also linked to equity so that the debt is often made available only after sufficient equity is in place, which further hampers access to finance. The low liquidity of the domestic banking sector limits the available debt financing. Typically, if domestic debt financing is available, the loan pay-back period is short and the interest rates are high.
5. ENABLING ENVIRONMENT FOR FINANCING FORESTS AND SFM

Business environment indicators in LDCs
In the discussion of financing sustainable forest management and of the overall forest sector development, the role of the private sector has been receiving increasing attention. As in any sector of the economy, an enabling business climate accelerates investments; in this case, forest investments, and is critical to the development of the forest sector from tree growing to processing and marketing.

Companies evaluating alternative investment options commonly use various tools in assessing the investment and business climate. The WB Doing Business index is one of the most commonly used tools for business climate comparisons. It was launched in 2004 and enables systematic cross-country comparisons between 180 countries. It also allows monitoring over time of the developments in the business environment of individual countries. The tool is widely used by timberland investors and forestry companies although it does not provide forest sector-specific information.

The Ease of Doing Business index ranges from 1 to 185, and the LDCs have generally poor ratings. A third of LDCs have a rating of 160 or over\(^{18}\) (see Appendix 6). This means that in these countries, the regulatory environment is not conducive to the starting and operating of a company. From a regional perspective, the Central African LDCs have the poorest ratings, with an average of 160. The LDCs from Asia and East Africa have quite similar ratings, averaging around 132 and 133 respectively. Based on the Ease of Doing Business rankings, the LDCs do not perform well in comparisons across all countries. An environment which is relatively non-conducive to doing business can partly explain the limited private sector plantation investments and limited processing industry existing in the country group.

Investment environment in the forest sector in LDCs
Besides the business environment, other key factors in the forest sector affect investor decisions. According to PROFOR (2013), the following factors have been identified for the forest sector as important in stimulating domestic and private industrial forestry investments:

- A supportive overall investment environment including political and economic stability, “rule of law”, simple and fair taxation, security of land tenure, and simple bureaucracy;
- Access to arable land, good growing conditions, and suitable climate;
- Strong demand of wood in domestic industries or in areas close by in terms of the size and growth potential of the domestic and export market;
- Access to sea and/or available infrastructure;
- Abundant and skilled workforce;
- Lack of competition from other land uses; and
- Government willing to subsidize investments.

There is currently no readily and publicly available tool for comparing the LDCs in terms of the key factors of the investment environment in the forest sector. Some attempts have been made to compare the forest sector investment attractiveness across countries. For example, in the mid 2000s, The Inter-American Development Bank established a Forest Investment Attractiveness Index, with the aim to measure the business climate for investments in sustainable forest businesses. Development of this tool has since passed on to the non-profit organization Sustainable Forest Business, but it does not include information on LDCs.

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Investment environment in the LDCs – key elements to address

Country examples
Various LDCs have taken steps to improve the general and forest sector-specific investment environment. Some examples from three LDCs are presented below.

Motivating private investors through policy and institutional reforms in Tanzania
In Tanzania, one third of the total country land area is forests and woodlands. Less than one percent of the total forest area, estimated to be a maximum of 230,000 hectares, comprises industrial plantations. The Government, with 83,000 hectares, is the biggest plantation owner, but the most of the public sector plantations are not very productive. Mufindi Paper Mills, TANWAT, Green Resources, Kilombero Valley Teak Company and New Forests Company own the major private sector industrial plantations, totaling 40,000 ha. These plantations are located mostly in the Southern Highlands. There are also small-scale woodlots and medium-sized plantations estimated to cover an area of 50,000-100,000 hectares. These are owned by small holders, business people, communities, districts, tea companies, schools, faith-based organizations, etc.

According to PROFOR (2013), most Tanzanian private forest plantations were developed from 1990 onwards and have been motivated by policy and institutional reforms that encouraged the establishment of private plantations. The Government policy on security of land tenure is clear, and there is also a clear legal framework for public-private partnerships (PPP). In the past, companies wishing to engage in forestry or other agricultural land uses were issued leasehold title deeds for 99 years. In 2009, Tanzania approved the National PPP Policy, and in 2010, the PPP Act. The aim has been to promote private sector participation in terms of investment capital, management skills and technology. The Tanzania Investment Center has also attracted foreign investments through less bureaucracy for investments, short-term tax exemptions and duty-free machinery imports. One enabling feature has also been Tanzania’s coastal location with a deep sea port.

The Tanzania Wood Industries Company (TWICO) was privatized under the macro-economic reform programmes in the early 1990s. In the late 1990s and early 2000s, the national forest policy and legislation were reformulated to improve the enabling environment for private sector involvement in forest management. A step towards a more efficient and effective supply of quality forest products and services to investors and other stakeholders was taken through launching of the Tanzania Forest Services Agency (TFS) in 2011.

During the last 10 to 15 years, commercially oriented smallholder-driven tree planting has been increasing in the Southern Highlands. About five years ago, the government tripled the administratively determined royalty prices for logs sold from its own plantations, and to endure the price shock, the saw millers and other processors started active purchasing from private tree farmers. The private small-scale plantation investors do not pay land rent and they presently do not need to pay taxes when selling timber. Thus far, about thirty Tree Growers Associations have been formed in the Southern Highlands. The associations support small-scale tree growers in availability of market and price information, in acquiring bargaining power on pricing, in having better access to technical knowledge, in financing and extension services and in achieving benefits of economies of scale in timber sales and forest management and harvesting operations.

Enabling environment and the role of the public sector in Malawi
Strong governmental support to mobilize private sector investments is not always required. In fact in some cases, private sector operators prefer minimal public sector involvement. In Malawi, the tobacco and bioenergy companies are developing plantations without any ties to the Department for Forests. The companies do not see a direct need for any major public sector support except in maintaining law and order in the sector and in helping to protect the assets. From the private sector perspective, government involvement can mean meddling and bureaucracy. For example, according to a representative of one of the biggest banks in Malawi, the bank generally avoids financing investment projects where the Government is involved, because the public sector institutions have a negative reputation for corruption and political interference (PROFOR, 2013).
As for the nursery business, in the past the Government monopolized the sector and supplied free or subsidized seedlings, thus hindering private investments. After the Government decided to extricate itself from nursery operations, private nurseries started to appear.

**Rapid increase of concession areas in Lao PDR**

Currently, Lao PDR is one of the ten fastest-growing economies in the world. During the last decade, the country’s forest sector has been entirely transformed, and the number of concessions and various land leases have escalated fiftyfold from 2000 to 2009 (Schönweger et al. 2012 in PROFOR, 2013). The active investment promotion policies have favoured investment in land-based natural resources and infrastructure. Also, the increased export demand particularly linked to China, Thailand and Vietnam has impacted the increasing trend of concession areas. FDI has been increasing over the last several years and continues to flow to sectors such as mining, hydropower, and agriculture. The agriculture sector includes tree crops such as rubber, jathropa, oil palm, eucalyptus and teak.

Generally, one important feature in the enabling environment for forest investor is the provision of secure long-term tenure. In Lao PDR, the legislation guarantees a 50-year land lease with strong associated rights. The country has provided investors with a range of incentives, including reduced duties, tax holidays or exemptions, which partly compensate for various risks and still-prevailing red tape. Under the 2009 Law on Investment Promotion, foreign and domestic investors should be given equal treatment and incentives. The country allows 100 per cent foreign ownership of enterprises.

The National Growth and Poverty Eradication Strategy defines investments in forestry and wood industries as one of the priority development areas. Also, “The National Forest Development Strategy to 2020” identifies plantation forestry as a key development area. It sets a target of establishing 500,000 ha of tree plantations for various purposes by 2020.

In 2012 the first nationwide concession survey was carried out and revealed a rapid increase of the total area under different forms of concessions and leases. Thus far, five per cent of the total land area of the Lao DPR has been granted to investors for development (Schönweger et al. 2012 in PROFOR, 2013). Logging also takes place in concessions for mining and hydropower projects, and if these concessions are considered, the area is nearly ten per cent.

Lao PDR has put in place various measures to facilitate investment, and as a result of these positive changes, the FDI in the Lao forest sector has increased. However, a related concern is what type of investors enter a country. Weak forest sector governance, an opaque system of issuing concessions, corruption and weak enforcement of forest and contract laws tend to act as investment barriers to more serious, respectable international companies who are committed to high standards of environmental and social governance. To allow a level playing field, solid legislation and guidelines related to the process of issuing land-based concessions and monitoring their implementation need to be in place.
6. STRATEGIES FOR, LESSONS ABOUT AND SUCCESS STORIES OF INCREASING FINANCING FLOWS FOR SUSTAINABLE FOREST MANAGEMENT

This chapter presents some examples of promising and successful strategies in facilitating and mobilizing financing for forest and trees in LDCs. As observed in the previous chapters, LDCs face various challenges in their efforts to mobilize financing.

Key elements to facilitate private sector investment

Generally, the key elements of an enabling environment for forest investments are macro-economic, political and institutional stability; clear resource tenure arrangements; and secure access to land. As noted in the previous chapter, LDCs are generally considered as having unconducive environments for doing business, so the key elements require attention in order to improve the environment and attractiveness for private sector investments.

Half of land-locked developing countries are LDCs. However, countries cannot change their physical features, such as location, or other features, such as growing conditions. However, as noted in PROFOR (2013), there is a variety of opportunities to improve other elements of the investment environment to mobilize investment from smallholders, SMEs, large domestic and international companies and timberland investors.

Although physical growing conditions cannot be influenced, the productivity of the land available can be improved through investment into research. To secure high growth rates, locally adapted and resistant plantation models are necessary. Whereas large investors can themselves afford to develop such models, small investors do not have the required capacity. Public investment into R&D and extension services is required to support small and medium-scale investors. Investment attractiveness can also be improved through port and road infrastructure development. For example in Lao PDR, investment into improving the road network connecting the country to neighboring countries has resulted in increased investments (PROFOR, 2013).

Forestry and pulp and paper industry investments tie up capital for a long time and, hence, political and macro-economic stability are key factors of the investment environment. Also, the related country risks directly affect the cost of capital, and high country risks result in higher investment cost/return expectations, which in turn deter investments. According to PROFOR (2013), private sector forestry investors frequently cite poor governance of forest administration as a constraint for forestry investments. This is increasingly important, as there is a growing group of investors implementing sustainability measures such as the Equator Principles. In LDCs, this results in a need for improved sector governance. In practice, this means increasing transparency of the licensing and permitting processes, decreasing red tape and reducing the risk of corruption.

A key requirement for land-based investments is the access to land in terms of secure, long-term land leases. To mobilize investment, the procedures for leasing or acquiring land need to be clear, transparent and cost efficient. In many LDCs, this often requires a strengthening of the cadastral system. In the context of land tenure, community consultations and related robust social safeguards are crucial to avoiding conflicts.

Improved availability and quality of information is required to mobilize investment. A frequent complaint sounded by forestry investors is that the information at country level on existing forest assets and/or sites suitable and available for plantations is difficult to obtain and may also be unreliable in many countries (PROFOR 2013). In LDCs, this in practice requires systematic forest inventories, forest information systems and combining of the spatial forest information with other relevant data, such as land transport infrastructure, rainfall, land quality, and population.

Public-Private Partnerships and support to small scale tree growers

PPPs combine the risk-bearing capacity of the public sector and the efficiency and business skills of the private sector. This combination has been proven to be useful and effective in forestry investments because they require a long time horizon (thus also a relatively high risk-bearing capacity), efficient and well planned operational and management skills, as well as up-to-date technology (PROFOR, 2013).

For example, Tanzania has established a clear legal framework for PPPs through the National Public Private Partnership Policy (2009) and the Public Private Partnership Act (2010). These have the objective of promoting private sector participation in the development of key economic clusters in terms of investment capital, management skills and technology. In Uganda, a PPP scheme called the Saw Log Production Grant Scheme\(^20\) has been operational in the past decade. SPGS refunds 50 per cent of tree farmers’ costs if required technical standards are followed. The scheme has co-funded 16,000 ha since 2004. In 2006, the SPGS also provided a start for the Uganda Timber Growers Association (UTGA), formed by individuals and private firms with an interest in developing industrial plantations.

The small-scale tree growers and processing enterprises alone are too small and weak to access markets and negotiate effectively with suppliers of inputs and buyers of their products. Support provided to SMEs to form associations can help these producers to improve economies of scale, access to information, their negotiation position, access to good partners; and to integrate the small-scale producers into broader supply chains. According to Akida (2012), in Tanzania, the establishment of tree growers associations has been piloted in the Southern Highland of Tanzania in 2011, through a project on Public-Private-Partnership arrangement. The initiative has shown positive indications with improved availability of information on markets, and prices have been made available to small-scale tree farmers. The initiative also supports the promotion of a small-scale forest industry and the reduction of wood waste in processing.

Partnerships and upfront payments

SMEs and other small producers can also benefit from coalitions or partnerships with larger companies, as such cooperation may offer improved market access, market information, and technical and financial know how. Through partnerships, the larger companies can benefit from increasing their supply chains. They can also improve their acceptability and reduce social risks through deeper community involvement in their operations.

The company L’Occitane has been sourcing its shea butter from Burkina Faso since the early 1980s. L’Occitane partnered with UNIFEM, which financed the organization and training of the women’s collectives, and with the Centre for International Studies and Cooperation (CECI), which set up the Women’s Project and Shea Network to give practical training to ensure standardization. By 1995, L’Occitane had decided to start using shea in cosmetics. The women’s collectives were unable to fill the order due to upfront costs and lack of financing; therefore, the company decided to pay a 30 per cent advance on the order. Because of the lack of trade credit in Africa, the pre-financing was crucial to continuing the project – it probably would have failed otherwise. By 2003, the company began offering 50 per cent advances and obtained “Ecocert” organic certification, which in turn was more profitable to the producers. By 2007, L’Occitane launched the Shea Centre in Ouagadougou, Burkina Faso and built a 4,300 square foot production facility to further train the women on butter neutralization in an effort to optimize quality and reduce losses. The unit included space for manufacturing, storage and an analysis laboratory. In that same year, the company ordered 336 tons of shea butter from the collectives, including 60 tons of organic butter. Today, L’Occitane buys shea butter from three unions representing 11,000 women (modified from Reynolds, 2010).

\(^{20}\) For more information see www.sawlog.ug
**Domestic revenue generation and retention**

Domestic revenues are an important source of sustainable financing. However, the revenues collected are often only a fraction of the potential owing to various issues, such as lack of staff and other resources, lack of training and corruption. According to Akida et al (2012), in Tanzania various necessary activities have been identified for improved revenue collection, including i) rationalization and harmonization of revenue collection to address competing claims over forest revenue by different authorities (District Councils and central government), ii) dialogue between the Tanzania Forest Service and local governments to define common rules and procedures, and iii) training to strengthen the revenue collection capacity, and iv) provision of administrative and political backing. Mechanisms to increase the staff motivation, for instance through a compensation system or other incentives, would reduce irregularities. Reporting and monitoring of revenue collection needs to be streamlined through the reduction of unnecessary bureaucracy in the issuance of licences, permits and registration. Simplified licences and improved control through checkpoints, stock registers and transit passes need to be developed. Likewise, introduction of unified charges for each product would eliminate multiple fees and taxes charged by the central government and local government staff.

Revenue retention models hold the potential to improve revenue collection by incentivizing the relevant institution to collect in order to gain financing for its operations. In Tanzania, the recently established Tanzania Forest Service is allowed it to retain most of the revenue collected. This could accelerate access to funds and subsequently spark the implementation of planned activities. As noted in the Tanzania case study, the National Forest Authority managed to nominally spend more than what had been provided for in planning documents. This was possible perhaps because of the retained revenue, which is non-tax and off-budget, and hence the agency could spend according to the collected revenue.

**Leasing of government forest land**

According to Swoyambhu (2013), in Nepal, the government leases degraded forest land to local people to support rehabilitation of the land. The target beneficiaries of the land lease are families living below the poverty line, with a special emphasis on the landless, women and ethnic groups. The lease period is initially 40 years and can be renewed. Thus far, 14,730 hectares of forest land have been handed over to poor communities. Through providing land for local people and supporting benefit-generating activities, the leasehold model aims for sustainable management of degraded forest land. At the same time, poor communities access land for productive purposes. In having local people manage the forest land sustainably, the Government does not need to make intensive investments into rehabilitation of the degraded forest land.

**Payment for ecosystem services**

Well-designed PES schemes can provide incentives and facilitate financing for forest conservation at the local level. As observed in the case of the Nam Et-Phou Louey National Protected Area (Box 2.3), significant local revenues can be generated through performance-based natural resource management systems. Also, the integration of a PES mechanism for eco-tourism provides potentially significant livelihood opportunities through the service sector.

**Regional cooperation**

Ecosystems do not follow country borders, so regional cooperation is needed for cross-border natural resource management and protection. In Central Africa, the Yaounde Summit and the Central African Forest Commission (COMIFAC) are examples of regional initiatives that have shown success in policy-level cooperation and in translating this cooperation into practice by mobilizing financing for forest protection. Many COMIFAC members are LDCs. To benefit other LDCs and developing regions, the experience needs to be studied further so that the success factors can guide other LDCs in their efforts for improved cooperation in natural resource management at a regional level. Under COMIFAC and the Yaounde Summit, over 4.5 million hectares of new forest protected areas have been created.
Improving cross-sectoral coordination

If the formal forest sector’s contribution to the economy and the revenues and benefits from forests and trees are seemingly small in monetary terms, and if the cross-sectoral linkages and contributions are poorly articulated, it can be challenging to convince decision makers to increase financial and other resources. Analysing and increasing the information about the total economic value of services and goods generated by the forest and trees can improve this situation. Some countries, such as Tunisia, have already taken steps to establish this analysis (Indufor 2012c). In this context, identifying cross-sectoral linkages is necessary because of the importance of forests to broader rural development linking agriculture, forests, energy, livestock, etc. Forests and trees provide various direct and indirect supporting services for other sectors, and this contribution needs to be identified and considered in the planning of financing and activities in the land-based sectors.
7. CONCLUSIONS

LDCs account for approximately 15 per cent of the world’s forests, and many members of the impoverished populations in LDCs depend on forest and trees for their subsistence and livelihoods. In LDCs, support for sustainable management of forests and trees can offer significant opportunities for poverty reduction, so sustainable solutions for financing the forest resource are crucial.

**Concentration of ODA and REDD+ financing**

Generally, in LDCs a significant share of the public expenditure in the forest sector is covered through ODA funding. However, although globally forestry ODA has experienced an increasing trend, the relative share of ODA for LDCs has significantly decreased. LDCs did benefit from the (likely REDD+ related) spike in forestry ODA in 2010, but did so notably less than upper and lower middle income countries. In light of the stagnant forestry ODA allocations for LDCs, new and sustainable sources of financing are vital.

LDCs have not benefitted evenly from forestry ODA. In the past decade, the funding has been concentrated in a limited number of countries such that half of the support was channelled to only seven countries. It is clear that forestry ODA is not a long-term solution for financing the forest sector across the LDCs, so it should play only a catalytic role in leveraging and boosting the quality and quantity of domestically generated public and private sector finance.

REDD+ financing flows have become increasingly important. However, since in LDCs the financing has been concentrated, only four countries have received half of all REDD+ financing channelled to the country group. The question for the future is what the opportunities are for the majority of the LDCs to benefit from REDD+ financing. Some LDCs have tapped into opportunities in the market for forest carbon; however, those projects are restricted to a limited number of countries. The lessons and exchange of experiences generated in these countries need to be analysed and disseminated to benefit other LDCs in their efforts to mobilize carbon finance for forests.

**The need to improve the investment environment to mobilize private sector investment**

The modest domestic public sector financing for forests and trees has in many cases left the forest sectors in the LDCs almost entirely dependent on the private sector at large and ODA. However, the limited amount of forestry ODA available has engendered the need to mobilize private sector financing to improve the domestic revenue generation.

Target countries for private sector investment benefit in many other ways than just monetarily. In the best case scenario, private sector investment also provides knowhow, improved technologies and production techniques, and investment into R&D; through these, it can enhance the productivity per land unit. However, foreign private sector investments related to forests and trees have thus far not been directed towards LDCs on a significant scale. LDCs have less than four per cent of the world’s commercial plantations and limited processing industries. The lack of investment in forestry and value-adding industries is likely linked with the generally poor investment and operational environments in many LDCs, as illustrated for example in the World Bank Doing Business index rankings.

Although physical features such as location and climate affect the investment environment, countries can take many actions to improve the investment environment and to mobilize private sector investment. In practice, these include increasing investor information through forest inventories and investor platforms, supporting partnerships with SMEs, supporting research and development, reducing red tape, removing disincentives for forest sector investment, and establishing carefully planned incentives. To allow the private sector to begin or increase investment in many LDCs, the streamlining of policies and legislation, assurance of secure land and resource tenure, and improvement of general forest sector governance and transparency are needed.
Data limitations concerning the financing landscape and cross-sectoral dynamics

The data limitations impede one's understanding of the relative importance of different financing sources for forest and trees and of the financing landscape. Data on forestry ODA and REDD+ flows are generally widely available for most LDCs. Data on domestic revenue and expenditure are also available for some countries. However, data on domestic private sector investments and financing and on cross-sectoral financing patterns are not readily available, and they are difficult to obtain. An improper understanding of the true financing landscape can in the worst case lead to suboptimal policy decisions. It is important to support efforts to record and make publicly available the data on cross-sectoral finance flows and on domestic and international private sector finance and investments. This support is required at the country level, because the international publicly available data bases collect the data from the country-level institutions.

In the context of cross-sectoral linkages, the data limitations concern not only the financial flows but also all aspects of cross-sectoral dynamics. From one’s observations of the forest sector policies and strategies of the LDCs, it is generally well understood that forests and trees provide direct and indirect benefits to various sectors and are also impacted by activities carried out in other sectors, such as the infrastructure, mining, power and agriculture sectors. Based on the case studies, efforts to allow institutional cross-sectoral cooperation across sectors exist in some LDCs. However, with the information currently available, it is unclear whether cross-sectoral cooperation reaches beyond meeting rooms and translates into practical actions. However, cross-sectoral approaches are especially important in LDCs due to the importance of forests to broader rural development, linking such sectors as agriculture, forest, energy and livestock. Increased efficiency could be facilitated through cross-sectoral approaches in the land use and development planning integrating forests with other land-based sectors.

There is a clear imperative to address this thematic area, and in doing so to i) further study and better understand the cross-sectoral dynamics, including the financial flows between sectors; ii) record the lessons learned; and iii) share best practices. The increased availability of data and best practices would likely facilitate increased consideration of the cross-sectoral linkages at the practical level.

Opportunities in partnerships and smallholders

With competition for land increasing, management of the natural resource by smallholders is becoming increasingly important to meet the demand for materials and products by the domestic and international markets. Domestic demand is increasing for wood products, and as can be seen in the case studies, supply provided by smallholders is also on the increase. Many LDCs have favourable conditions for fast-growing tree plantations, and the domestic demand is increasing rapidly for building and construction materials, fuelwood and fruits. These producers have much untapped potential in supplying the market, especially if key enabling factors such as secure land tenure, organization into producers groups, access to market information, finance and risk mitigation are supported. Public-private partnerships and outgrower schemes are tools for catalyzing investment in small and medium-sized timber plantations. Depending on the design, the PPP schemes can provide access to timely finance and risk mitigation, and outgrower schemes can facilitate upfront financing, quality inputs, knowhow and technical capacities. However, robust social safeguards need to be in place to protect the small producers in LDCs because they often do not have the risk-bearing capacity of the public sector or large private sector companies. The partnerships among local communities and smallholders, large forest industry companies, and the state need to be socially and financially equitable. Successful partnerships provide incentives to all stakeholders, for instance opportunities for improved livelihoods for the smallholder sector, improved revenue generation and resource management for the public sector, and improved supply of raw materials and a stable operational environment for the large private sector companies.

Role of forests in national economy

Across the LDCs, impoverished and vulnerable populations depend on forests and trees for their livelihoods and subsistence, and the opportunity for poverty alleviation through support provided to the sector has been acknowledged in the poverty reduction strategies of the LDCs. However, in the
macro-level economic growth strategies, forestry is not identified as one of the priority sectors of the economy. In most LDCs, the total economic value of goods and services of forest and trees across all sectors of the national economy are not quantified, and the decision makers do not have the necessary information to acknowledge the significance of forest contributions and to allocate finance and investments accordingly. Further, the low levels of revenue collection and the resulting perception of the forest sector as a deficit sector dampen public sector interest in financing and investing in forest and trees. It is challenging to convince decision makers at the very top to increase resourcing and to invest public funds into the forest sector when the forest sector contribution to the economy is seemingly small, when the total value of the often cross-sectoral services generated by the forests and trees is not quantified, and when only a fraction of the revenue potential is collected. To enhance the role of the forest sector, the total economic value of the forest goods and services needs to be quantified, and both the formal and informal sector employment need to be taken into consideration. Also, improved understanding of the cross-sectoral linkages is needed to allow decision makers to focus attention on managing and investing in the national forest and tree resources.

Payment for ecosystem services opportunities is yet to be realized in LDCs
Participatory forestry approaches are often highlighted in the forest policies of the LDCs, and indeed many countries have participatory management models in use. A positive policy environment for participatory models also paves the way for innovative financing mechanisms such as PES. However, in LDCs these opportunities have not yet been realized because there are only few PES examples in LDCs. Of the various ecosystem services, carbon sequestration is the most commonly marketed service, but these projects have been concentrated on only a handful of LDCs. The main bottleneck for PES schemes is often the high upfront costs. Although the mechanisms themselves may be self-financing and financially sustainable, the challenge lies in finding the financing required to set up the mechanism. This can incur significant costs in capacity building related to policy, legislation, monitoring and accounting; and costs in preparatory studies of the potential, feasibility and correct set-up of the mechanism. To allow for a wider application of PES schemes, the upfront costs need to be reduced or external support needs to be found to cover them.

Country-level financing strategies and regional cooperation
For LDCs, little documentation on demand for financing as well as little analysis of existing and potential sources and opportunities for financing forests and trees were found. It is clear that in order to enable optimal solutions for financing the resource, country-level strategies for forest financing and investment are needed. These strategies should be based on a sound analysis of the revenue generation potential and related challenges and should consider the cross-sectoral linkages and related opportunities. Alignment of the macro-level planning and budgeting processes and related strategies should be carefully taken into account. Further, it would be of benefit for the strategies to link with regional-level activities. Various LDCs are engaged in regional bodies that can facilitate regional cooperation for natural resource management and protection. Some regional bodies with many members from LDCs, such as COMIFAC, have been successful in establishing policy-level cooperation and in translating that cooperation into practice, leading to increased areas under protection alongside the mobilization of financial resources.
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Indufor plantations database
Appendix 1

Forest revenue and expenditure in selected LDCs
### Forest revenue and expenditure of selected LDCs in 2005

<table>
<thead>
<tr>
<th>Country</th>
<th>Revenue</th>
<th>Expenditure</th>
<th>Net revenue or expenditure</th>
<th>Share of foreign funds from total expenditure (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total ('000 USD)</td>
<td>Per ha (USD)</td>
<td>Domestic funds ('000 USD)</td>
<td>External funds ('000 USD)</td>
</tr>
<tr>
<td>Angola</td>
<td>71</td>
<td>0.00</td>
<td>410</td>
<td>na</td>
</tr>
<tr>
<td>Benin</td>
<td>3,886</td>
<td>0.81</td>
<td>3,887</td>
<td>15,925</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>607</td>
<td>0.10</td>
<td>2,287</td>
<td>3,202</td>
</tr>
<tr>
<td>Cambodia</td>
<td>1,415</td>
<td>0.13</td>
<td>1,005</td>
<td>na</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>7,945</td>
<td>0.35</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Chad</td>
<td>286</td>
<td>0.02</td>
<td>666</td>
<td>381</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>11,954</td>
<td>7.09</td>
<td>6,230</td>
<td>417</td>
</tr>
<tr>
<td>Gambia</td>
<td>90</td>
<td>0.19</td>
<td>171</td>
<td>8,034</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
<td>121</td>
<td>0.06</td>
<td>72</td>
<td>48</td>
</tr>
<tr>
<td>Kiribati</td>
<td>7</td>
<td>0.58</td>
<td>805</td>
<td>350</td>
</tr>
<tr>
<td>Malawi</td>
<td>1,388</td>
<td>0.41</td>
<td>456</td>
<td>1,351</td>
</tr>
<tr>
<td>Mali</td>
<td>692</td>
<td>0.05</td>
<td>3,608</td>
<td>17,640</td>
</tr>
<tr>
<td>Mozambique</td>
<td>6,489</td>
<td>0.16</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Myanmar</td>
<td>2,041</td>
<td>0.06</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Nepal</td>
<td>8,449</td>
<td>2.32</td>
<td>2,2605</td>
<td>4,523</td>
</tr>
<tr>
<td>Niger</td>
<td>1,739</td>
<td>1.37</td>
<td>4</td>
<td>na</td>
</tr>
<tr>
<td>Rwanda</td>
<td>359</td>
<td>0.93</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Senegal</td>
<td>3,157</td>
<td>0.36</td>
<td>18,848</td>
<td>32,556</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>648</td>
<td>0.23</td>
<td>623</td>
<td>467</td>
</tr>
<tr>
<td>United Republic of Tanzania</td>
<td>11,637</td>
<td>0.33</td>
<td>18,004</td>
<td>59,348</td>
</tr>
<tr>
<td>Togo</td>
<td>140</td>
<td>0.36</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>45</td>
<td>0.10</td>
<td>460</td>
<td>247</td>
</tr>
<tr>
<td>Zambia</td>
<td>1,038</td>
<td>0.02</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>

*Source: Adapted from FRA 2010*
Semiautonomous institutions in Uganda and Tanzania

**Uganda National Forest Authority**
According to Ruhombe (2012), the National Forestry and Tree Planting Act establishes the National Forestry Authority (NFA), which is supposed to be financed from its own revenue and fiscal transfers and has the power to "borrow [funds] from any source" for performance of its mandate and is free to invest any “surplus funds in any manner” that may not be immediately required. NFA retains revenue generated from Central Forest Reserves, and in addition receives some government subvention. Responsibilities of the NFA are:
- Management of central forest reserves in partnership with private sector and local communities
- Advisory, research or commercial services on contract
- Seed supply (NTSC)
- National forest inventory and other technical services (NBS)

NFA did well during its first years, but later has become dogged with problems of governance and failed to achieve financial self-sufficiency in its fourth year of existence as previously planned.

**Tanzania forest service**
The TFS was launched in July 2011 as a semi-autonomous government Executive Agency (Akida et al 2012). The establishment of TFS was part of the on-going Public Sector Service Reform Programme (PSRP). The TFS started its operations in the financial year 2010/11. The core functions of TFS are:
- Establishing and managing central government natural forest and bee reserves;
- Establishing and managing central government forest plantations and apiaries;
- Managing forest and bee resources in general land;
- Enforcing forest and beekeeping legislation in areas of TFS jurisdiction;
- Providing forest and beekeeping extension services;
- Collecting forestry and beekeeping revenue;
- Safeguarding TFS assets;
- Marketing forest and bee products and services

TFS can retain part of its revenue to fund its activities; in addition, all state owned forest plantations are allowed to charge and retain logging, silvicultural and road fees from customers who are licensed to harvest. In this regard, TFS is expected to be 100 per cent self-financing, but any amount collected in excess of the annual budget is sent to the Treasury. However, until TFS can cover all its operational and staff costs, the Government, through MNRT, will continue to pay for staff salaries.
Appendix 2

Funds relevant to forests and trees in LDCs
Generally, there are various types of funds and no single standard. According to Rosenbaum and Lindsay (2001), the setting up of forest funds varies from funds having an independent institutional structure to funds that are set up directly under the ministry of forestry or ministry of finance and included in their accounts and with no special institutional structure.

A forest fund can be either included in the budget or extra-budgetary. In the latter case, such funds allow investments to be independent of the budgeting cycle. Funds may get income from single or multiple sources, including a government’s forest revenue or general revenue, a share of royalties from natural resource use, forest taxes, and donations. For a discussion on positive and negative aspects of forest funds, see Rosenbaum and Lindsay (2001).

The forest funds available in LDCs are listed in the table below.

<table>
<thead>
<tr>
<th>Country</th>
<th>Fund</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>Afghanistan Recovery Trust Fund (ARTF)</td>
<td>The ARTF was established in March 2002 by the international community, with the World Bank as Administrator, as a coordinated approach to fund the reconstruction of Afghanistan. The ARTF finances the National Priority Programs, a share of the civil recurrent cost of the annual budget and technical assistance for policy reforms. The ARTF has now been in operation for over ten years, and as of April 30, 2012, had received donor contributions from 33 donors of over USD 5.3 billion and had made disbursements over USD 4.2 billion, comprising USD 2.5 billion for recurrent costs and USD 1.6 billion for investment projects. This fund has been used for rural development; it could be potentially used for productive forest-related activities.</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>Arannayk Foundation or Bangladesh Tropical Forest Conservation Foundation (AF)</td>
<td>The Arannayk Foundation (the Bangladesh Tropical Forest Conservation Foundation) was established in 2003. It is a joint initiative of the Bangladesh and the United States Governments. Its mission is to facilitate the conservation, protection, restoration and sustainable use of tropical forests in Bangladesh. It receives a total of USD 8.5 million from the United States Government through a debt for nature swap arrangement facilitated by the Tropical Forest Conservation Act (TFCA) over 18 years for undertaking projects fulfilling its mission.</td>
</tr>
<tr>
<td>Benin</td>
<td>Fondation des Savanes Ouest-Africaines (FSOA)</td>
<td>An umbrella fund sourced by the WB (GEF) and the Government through CENAGREF. The focus is on conservation units and the environment; more specifically, the savanna.</td>
</tr>
<tr>
<td>Bhutan</td>
<td>Bhutan Trust Fund for Environmental Conservation (BTFEC)</td>
<td>The BTFEC is the world’s first environmental trust fund, established in 1992 as a collaborative venture between the Royal Government of Bhutan, United Nations Development Program, and the World Wildlife Fund. An endowment of USD 20 million was set up as an innovative mechanism to finance conservation programs over the long term in Bhutan. The fund finances e.g. research on ecosystems and conservation, including social issues, economic development issues with direct impacts on natural environment, climate change adaptation strategies, awareness and education, and Integrated Water Resource Management (IWRM).</td>
</tr>
<tr>
<td>Cambodia</td>
<td>National forest development fund (NFDF)</td>
<td>The NFDF is used for the following activities: reforestation; silviculture and forestry rehabilitation; forest protection and conservation and bio-diversity; forest and wildlife scientific and technical research; extension on forest and wildlife sector; development in forest and wildlife sector; development of community forestry; and training human resources for the forest and wildlife sector.</td>
</tr>
<tr>
<td>Country</td>
<td>Fund</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>Fund for Forest and Tourism Development (FFTD)</td>
<td>The FFTD main source of financing is taxes: surface area tax, felling tax and reforestation tax. The fund finances the development programs for the forestry, fauna and tourism sectors and ensures the follow-up and monitoring of the carrying out of these actions.</td>
</tr>
<tr>
<td>Chad</td>
<td>Fonds Spécial en Faveur de l’Environnement (FSFE)</td>
<td>The environmental law of 1998 established a special environmental fund. The fund aims to contribute to the protection and enhancement of the environment. To this end, the fund contributes to the following: - promote and participate in any action, research, study and training applied to the environment; - funding incentives provided under the Act and secondarily to fund pilot operations.</td>
</tr>
<tr>
<td>Democratic Republic of Congo</td>
<td>National Forest Fund (NFF)</td>
<td>The NFF was created in 2002 with the Forest Code and further developed by a decree in 2009.</td>
</tr>
<tr>
<td>The Gambia</td>
<td>National Forestry Fund</td>
<td>Receives income from various sources and finances protection, development, and sustainable use of forests and promotion of community forestry.</td>
</tr>
<tr>
<td>Guinea</td>
<td>Fonds Forestier (FF)</td>
<td>Funds forest development with multiple forest related income sources.</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
<td>Forestry Fund (FF)</td>
<td>A special fund for forestry sector management was created by the Forest Act of 1991. The fund focuses on providing resources for: planting and replanting of tree species; creation of State nurseries; dissemination of knowledge to the community; R&amp;D; lending for forest sector activities; training and formation of forest agents; refund of loans given to the fund; spending by the government on forest-related activities; forest-fire control and prevention, and promotion of agroforestry. Sources of funding: fees, taxes, donations and loans.</td>
</tr>
<tr>
<td>Laos</td>
<td>Environment Protection Fund (EPF)</td>
<td>The EPF was established in 2005 as a financially autonomous organization to strengthen environmental protection, sustainable natural resources management, biodiversity conservation and community development in Lao PDR. Five main sources of income are defined: endowments, national budget, contributions from development projects (especially in mining and hydropower sectors), private contributions and interest. The EPF provides funding for projects under various “windows”: policy implementation and capacity enhancement, biodiversity and community investment, pollution control, water resources management, and sustainable land resources management.</td>
</tr>
<tr>
<td>Lesotho</td>
<td>The Lesotho Forest Fund (LFF)</td>
<td>The Lesotho Forest Fund, under the control of the Principal Secretary of the Ministry of Agriculture, receives voluntary contributions plus all fees, monies, and fines collected under the Forest Act. The Government may use the Fund for forest management and research. Among other uses, the Fund may make payments to the holders of a community forest, may assist private, co-operative, or community forest owners, may pay for reforestation not otherwise required by law, and may provide materials or assistance to afforestation efforts. The Forest Act requires proper accounting of the Fund and annual audits by the Ministry of Finance.</td>
</tr>
<tr>
<td>Liberia</td>
<td>Environmental Conservation and Protection Fund (ECPF)</td>
<td>Chapter 15 of the National Forest Law from 2000 provides for measures to promote forestry and wildlife activities, including the establishment of an Environmental Conservation and Protection Fund. The purposes of the fund are: financing of all or part of activities designed to enhance the promotion and protection of environment; financing all or part of the Government’s programme for the conservation of wildlife and the bio-diversity</td>
</tr>
<tr>
<td>Country</td>
<td>Fund</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>Madagascar</td>
<td>Fonction pour les Aires protégées et la biodiversité de Madagascar (Madagascar Biodiversity Fund) (MBF)</td>
<td>The Madagascar Biodiversity Fund is a private foundation created in 2005 and declared of public utility. The Foundation strives for the financial sustainability of Madagascar's protected areas and biodiversity. It carries out numerous actions that relate to the funding of the recurrent managerial costs of the protected areas and of projects that aim at reducing the pressures put on them, while addressing the needs of the populations. With USD 50 million in capital, the Foundation supports 1.7 million ha of protected areas spread over 15 sites, which cover 1/3 of Madagascar Protected Areas System. Three of the parks are part of the UNESCO World Natural Heritage Site, the Atsinanana Humid Forests. Grants of the Foundation also positively impact on 973,000 lives through the management of sites or identification of alternative activities.</td>
</tr>
</tbody>
</table>
Appendix 3

Forestry ODA in LDCs
In 2010, as well as during the past decade, LDCs have not been significant forest sector ODA recipients. From 2002 to 2009, this group of countries was a distant second after lower-middle income countries (LMICs) (see graph below). However, from 2009 to 2010, the upper-middle income countries (UMICs) experienced more than five-fold growth and became the second biggest recipient, superseding the LDC group. During the past decade, the trend of contributions has been clearly increasing for LMICs, while trends of LDCs, UMICs and other low income countries (OLICs) had been relatively stable until the spike in 2010 disbursements.

For LDCs, the most significant donor during 2006-2010 was Japan, which contributed exactly one quarter of all ODA during the period. Among other bilateral donors, Finland has also...
contributed with nine per cent, followed by the UK with six per cent. The USA and Germany have contributed five per cent each (Error! Reference source not found. graph below). Japan has already been the biggest donor for forests and trees in these countries during the past decade, but its forest ODA contributions further increased significantly in 2010 in comparison to earlier years.

Most significant donors as per disbursements during 2006-2010 (%)

Grants constituted almost all (97 per cent) of forestry ODA disbursements to LDCs in 2010 while loans and equity investments constituted only a fraction (see graph below).

Distribution of the forest sector ODA in 2010 (%)

More than four fifths of the ODA support went to project-type interventions in 2010 and limited support was given through budget support (see graph below).
The majority of the support is delivered through the public sector (65 per cent), while 10 per cent of the support is delivered through multilateral organizations (Error! Reference source not found. graph below).

During 2006-2009, on average two thirds of the forest sector ODA disbursements came from bilateral sources, and around one third from multilateral sources. This, however, changed significantly in 2010 when approximately 90 per cent of the disbursements came from bilateral sources (Error! Reference source not found. graph below). The share of multilateral partners was one third of the total forest sector ODA during 2006 and 2009, but decreased in 2010. Of the multilateral partners, the Asian Development Bank (ABD) is an important institution for financing forest sector development in LDCs from Asia and Oceania. The
Coastal Green Belt Project of Bangladesh\(^{21}\) is a prime example of the ADB’s support to the forest sector. For African LDCs, the African Development Bank (AfDB) is a significant financial institution. The Bank supports initiatives related to forests and trees in Africa. For example, the Agriculture and Agro-Industry Department of the Bank manages the Congo Basin Forest Fund (CBFF), which cover a number of LDCs in the Congo Basin region. In 2012, under the Indicative Operational Programme, the Bank used approximately 10 per cent of its fund in agriculture and rural development, which included forestry. The total forest portfolio of the Bank was around USD 352 million in 2010 (Gondo 2010). According to the AGF study (2012), 21 countries in Africa benefit from the Bank’s forest sector portfolio.

### Share of bilateral and multilateral ODA disbursements during 2002-2010 (%)

![Chart showing share of bilateral and multilateral ODA disbursements during 2002-2010](chart.png)

Source: OECD CRS

Thematic areas on forestry policy, administration and management, and forestry development\(^{22}\) have received the most forest ODA disbursements within the LDCs (see graph below). Forest biomass fuel is one of the main sources of energy; however, the support relevant for fuelwood and charcoal has been minor although a high dependence on and increasing demand for fuelwood are pressing issues in many countries in this group.

\(^{21}\) The Coastal Green Belt Project of Bangladesh was funded by ABD. Under this project, extensive plantations have been raised using mangrove species such as *Sonneratia apetala* and *Avicennia officinalis* in the coastal area of Bangladesh. These plantations act as a windbreak and thus minimize the devastating effects of tropical cyclones.

\(^{22}\) Due to labeling, these categories can potentially include a wider variety of activities than other categories.
Financing related to the Rio Conventions

The Rio Conventions, which include The Convention of Biological Diversity (CBD), Convention to Combat Desertification (UNCCD) and the Framework Convention on Climate Change (UNFCCC), were established in 1992. GEF operates as an independent financial organization and also serves as a financing mechanism for the Rio Conventions. GEF provides grant financing for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants. Much of the ODA and climate financing under these themes are cross-sectoral and are relevant to forests and trees. Some of this financing is likely reported under other sectors than forestry and not included in the analysis of the OECD DAC data above and in Chapter 2 of the report.

In this study, biodiversity, climate change, land degradation and multifocal areas are considered as relevant GEF-funded themes for forests and trees. According to the GEF project and funding database, since 1991 their global funding has amounted to USD 9.1 billion.

Globally, biodiversity is the largest GEF thematic portfolio in terms of the number of projects financed, as there have been over 1000 national projects. However, when measured by the greatest funding volume, climate change is the largest thematic area, with project grants totalling USD 3.6 billion. Co-financing forms a significant share of the forest-related GEF funding flows, and globally on average about 16 per cent of the total funding is produced by GEF grants, the rest being generated by co-financing. In LDCs (in terms of number of projects) most projects concentrate on biodiversity or climate change and they cover 23 per cent and 30 per cent of global GEF projects respectively. Notably for land degradation, 44 per cent of projects have been carried out in LDCs. This is logical, given that many LDCs are struggling with issues related to land degradation.

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23 Also for the Stockholm Convention on Persistent Organic Pollutants (POPs) and implementation in countries in transition the Montreal Protocol on Substances that Deplete the Ozone Layer.
### Number of GEF-funded projects in selected thematic areas

<table>
<thead>
<tr>
<th>Thematic area</th>
<th>National projects (NPs)</th>
<th>Regional and global projects</th>
<th>NPs in LDCs</th>
<th>LDCs’ share of global NPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity</td>
<td>1 006</td>
<td>151</td>
<td>233</td>
<td>23%</td>
</tr>
<tr>
<td>Climate change</td>
<td>859</td>
<td>115</td>
<td>259</td>
<td>30%</td>
</tr>
<tr>
<td>Land degradation</td>
<td>94</td>
<td>30</td>
<td>41</td>
<td>44%</td>
</tr>
<tr>
<td>Multifocal area</td>
<td>324</td>
<td>105</td>
<td>71</td>
<td>22%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2 283</strong></td>
<td><strong>401</strong></td>
<td><strong>604</strong></td>
<td><strong>26%</strong></td>
</tr>
</tbody>
</table>

Source: [http://www.thegef.org/gef/gef_projects_funding](http://www.thegef.org/gef/gef_projects_funding)

### Cumulative GEF project funding for selected thematic areas (billion USD)

<table>
<thead>
<tr>
<th>Thematic area</th>
<th>National</th>
<th>LDCs*</th>
<th>Regional</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GEF grant USD</td>
<td>CF** USD</td>
<td>GEF grant USD</td>
<td>CF USD</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>2.4</td>
<td>7.7</td>
<td>0.43</td>
<td>1.18</td>
</tr>
<tr>
<td>Climate change</td>
<td>3.0</td>
<td>23.1</td>
<td>0.57</td>
<td>2.99</td>
</tr>
<tr>
<td>Land degradation</td>
<td>0.3</td>
<td>1.9</td>
<td>0.19</td>
<td>0.79</td>
</tr>
<tr>
<td>Multifocal area</td>
<td>0.8</td>
<td>5.0</td>
<td>0.15</td>
<td>0.76</td>
</tr>
</tbody>
</table>

Source: [http://www.thegef.org/gef/gef_projects_funding](http://www.thegef.org/gef/gef_projects_funding) (November 2012)

* The LDC-results are also included in the National results.

**CF – Co-financing
According to the GEF database, there have been 604 national projects in LDCs, and these correspond to approximately 26 per cent of all the GEF-funded national projects globally (under the four thematic areas of biodiversity, climate change, land degradation and multifocal area). These projects are divided fairly equally across the LDC geographic regions (Africa, Asia, Caribbean and Oceania). However, as can be expected, the funding volume is concentrated in Africa, which represents 69 per cent of all LDCs (33 out of 48) and 79 per cent of the total GEF funding volume (see graph below).

**LDC’s regional shares by thematic funding volume**

![Graph showing regional shares by thematic funding volume](image)

**BD – Biodiversity, CC – Climate Change, LD – Land Degradation, MFA – Multifocal Area**

Even in average terms, African LDCs are attracting bigger projects, which is natural given their larger average country size (see graph below). Furthermore, 11 out of the 12 most funded countries, which combine with 57.7 per cent of the total, come from Africa.
Uganda is a major recipient among individual countries, with a 9.4 per cent\(^5\) share of the total LDC funding (see two graphs below). Other significant recipients include Madagascar, Bangladesh, Ethiopia, Tanzania and Burkina Faso. At the other end of the spectrum, Somalia, Myanmar, Equatorial Guinea and the Central African Republic receive minor amounts.

Country shares of total thematic GEF funding (%)

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\(^5\) However, it is good to note that a large part of this share comes from three major climate projects.
since 1991, the GEF biodiversity portfolio has provided approximately USD 3 billion in grants and leveraged about USD 9 billion in co-financing. According to GEF (2010), this support has included over 1 000 biodiversity projects in more than 155 countries.
Combining GEF grants and co-financing for biodiversity projects in LDCs has resulted in around USD 1.6 billion. This equals 16 per cent of the global total. Of 48 LDCs, only Somalia has not received any GEF funding for biodiversity (and very little thematic funding), whereas the biodiversity rich countries, such as Madagascar (23 per cent) and the DRC (13 per cent) have accumulated substantial amounts. Other countries showing significant national shares include Mozambique, Tanzania, Zambia, Cambodia and Nepal. Even though Asia and Oceania seem to have a visible share of the biodiversity projects, these tend to be small scale, thus resulting in minor funding volumes. Nevertheless, it is good to note that, especially in Oceania, minor funds on the global scale can have relatively influential effects due to the smaller project areas.

**GEF financing for land degradation**

In comparison to biodiversity and climate change portfolios, the land degradation portfolio is relatively smaller. GEF has funded regional and national land degradation-related projects with approximately USD 400 million, and generated over USD 2 billion in co-financing. LDCs have accrued around 44 per cent of the global total (see graph below). More than 90 per cent of this has been directed to African LDCs, especially to those Western African nations that are most vulnerable to land degradation and desertification. In general, land degradation projects tend to be larger in their average funding than other thematic project types.

The Global Mechanism (GM) is a subsidiary body of the UNCCD. It facilitates member countries with access to finance, such as GEF financing, and provides seed money and technical assistance. For the 2010-11 biennium, the core and extra-budgetary resources of the GM were approximately USD 6.7 million (GM 2011). The GM directed the largest share of financing to African countries, many of which are LDCs.

**LDC’s share of thematic national-level GEF financing**

<table>
<thead>
<tr>
<th>Country</th>
<th>LDCs</th>
<th>Non-LDCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD</td>
<td>16 %</td>
<td>84 %</td>
</tr>
<tr>
<td>CC</td>
<td>14 %</td>
<td>86 %</td>
</tr>
<tr>
<td>LD</td>
<td>44 %</td>
<td>56 %</td>
</tr>
<tr>
<td>MFA</td>
<td>16 %</td>
<td>84 %</td>
</tr>
</tbody>
</table>

**Climate finance through GEF and other sources**

**UNFCCC**

The Bali (2007) climate change conference approved compensation for tropical countries for emission reductions from deforestation and forest degradation, and various financing mechanisms and facilities have been established since the conference. The UNFCCC has entrusted part of its financial mechanism to the GEF, and climate change is the largest...
thematic area of GEF funding by grant volume. Relevant to forests and climate change, the GEF invests in management of land use, land-use change, and forestry (LULUCF). Total investment in the aforementioned thematic areas was a USD 3.6 billion GEF grant and USD 25.4 billion in co-financing for national and regional projects. However, LDCs have received only 14 per cent of all national level financing, about USD 3.6 billion. Of this, 73 per cent was directed to African LDCs, Uganda being the major recipient with nearly USD 500 million. Among the individual LDCs, Bangladesh, Sudan and Ethiopia received more than USD 200 million. In general, the GEF climate funding seems to be distributed to LDCs that are the most vulnerable to climate change. This can be seen with the high share of climate funding for Bangladesh, Nepal, Oceania, Sudan and Ethiopia.

GEF also manages two separate adaptation-focused funds that are established under the UNFCCC. Specifically dedicated to catering to the LDCs, the Least Developed Countries Trust Fund (LDCF) supports the 48 LDCs that are especially vulnerable to the adverse impacts of climate change. To date, the fund has mobilized contributions of approximately USD 180 million. The target within the next years is to reach USD 500 million, which is the amount the UNFCCC has estimated as necessary for financing NAPA implementation in the LDCs. The Special Climate Change Fund (SCCF) was established in 2001. To date it has received contributions worth USD 120 million. The fund aims to support the climate change relevant projects complementary to those funded by the GEF or bi- and multilateral sources.

In addition, the Green Climate Fund (GCF) was established in 2010 by the UNFCCC COP 16 to support the objectives of the UNFCCC. It is intended to be the main fund for global climate change finance. In the broad context of long-term financial support, industrialized countries have committed to provide funds rising to USD 100 billion per year by 2020 under the GCF. These funds are to be raised from a mix of public and private sources and are aimed at supporting concrete mitigation actions taken by developing countries and implemented in a transparent way. In October 2012, the Board of the GCF selected Korea to host the fund. The World Bank is set to be the interim trustee of the fund. The fund is not yet disbursing.

The Kyoto Protocol Adaptation Fund (AF) is capitalized through the Clean Development Mechanism (CDM) (share of proceeds on the project activities) and other sources of funding. GEF provides secretariat services, and the World Bank is the trustee of the fund. The total approved financing since 2010 has been USD 166 million, of which 34 per cent has been directed to LDCs. Of this financing, 25 per cent went to the Oceania countries of Samoa (the biggest individual receiver) and the Solomon Islands, and 66 per cent to African countries. Cambodia was the only Asian country included, receiving approximately USD 5 million.

**REDD+ financing modalities**

Reducing emissions from deforestation in developing countries was introduced for discussion at the UNFCCC COP in 2005. In Bali, a 2007 agreement was reached on an urgent need to take action on REDD+. During the process, the concept has also been complemented with the “plus” i.e. conservation, sustainable management of forests and enhancement of forest carbon stocks. Besides afforestation and reforestation, under the CDM, much discussion in the UNFCCC on forest carbon has centred on REDD+ in addition to negotiations on Land Use, Land Use Change and Forestry within the Kyoto Protocol. Specific to financing under the Convention it has been agreed that “results-based finance provided to developing country Parties that is new, additional and predictable may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources”.  

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26 [http://www.thegef.org/gef/trust_funds](http://www.thegef.org/gef/trust_funds)
28 Cambodia, Djibouti, Eritrea, Madagascar, Mauritania, Tanzania, Samoa, Senegal, Solomon Islands
29 [http://www.thegef.org/gef/trust_funds](http://www.thegef.org/gef/trust_funds)
A phased approach has been agreed to facilitate countries in differing situations preparing for REDD+. The first two phases concentrate on creation and establishment of national policies, strategies and action plans and on capacity building and stakeholder engagement activities. The third phase involves the measurement, reporting and verification activities, with subsequent performance-based payments. Financing for the last phase should come from the private sector, and REDD+ could potentially be linked to compliance markets.

Since 2008, over USD 6 billion\(^{30}\) has been estimated to be available for REDD+. Norway has contributed almost half of the funds, and Japan almost one quarter. Multilateral sources operating REDD+ financing are for example UN-REDD, FCPF, ITTO, and PROFOR. UN-REDD is the United Nations collaborative programme for REDD+. It was established in 2008 and has 46 partner countries and approximately USD 118 million as deposits to date. UN-REDD has national programmes in five LDCs and other support in 15 LDCs (see the table below). A significant majority of the contributions (89 per cent) come from Norway.

The FCPF was established in 2008 to support country-level demonstrations of REDD+. The facility has focused on readiness. FCPF has two funding mechanisms, the Readiness Fund and the Carbon Fund, which together have raised USD 457 million. The facility supports 36 countries, 12 of which are LDCs\(^{31}\). The committed funding of FCPF since 2009 is USD 236 million.

### LDCs in UN-REDD, FCPF and FIP

<table>
<thead>
<tr>
<th>Country</th>
<th>UN-REDD partner country</th>
<th>FCPF participants</th>
<th>FIP pilot countries</th>
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<tr>
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</tr>
</tbody>
</table>

Source: Compiled from UN-REDD, FCPF and FIP webpages

* Countries with UN-REDD National Programmes

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\(^{30}\) [http://reddplusdatabase.org/](http://reddplusdatabase.org/)

\(^{31}\) [http://www.forestcarbonpartnership.org/fcp/node/203](http://www.forestcarbonpartnership.org/fcp/node/203)
According to ITTO (2009) “REDDES Programme has a strategic focus on reducing deforestation and degradation through sustainable management of primary forests, and restoration and rehabilitation of secondary forests and degraded areas with a view of enhancing all the environmental services provided by tropical forests”. The pledges received under REDDES amount to over USD 9 million, which is about half of the programme’s indicative budget of USD 18 million for the pilot phase (ITTO 2012). During the 2009-12 cycles, the share of LDC funding of the total funding\textsuperscript{32} was 15 per cent, or approximately USD 2.5 million. This was generated by four countries: Togo, DRC, Liberia and Myanmar.

In addition to financing REDD+ projects, there are also funds purchasing carbon from forest-related projects (including A/R, REDD+). For example, the Biocarbon Fund is administered under the World Bank. Also in 2013, the Carbon Fund under the FPCF will start providing payments for verified emission reductions from REDD+ programs in countries that have made considerable progress towards REDD+ readiness.

The Climate Investment Funds (CIF), including the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF), help developing countries pilot low-emissions and climate-resilient development. The Forest Investment Programme (FIP), established in 2008, is a targeted program of the Strategic Climate Fund. FIP “supports developing country efforts to reduce deforestation and forest degradation and promote sustainable forest management that leads to emissions reductions and enhancement of forest carbon stocks”\textsuperscript{33}. FIP focuses on large-scale investments in a smaller number of key countries to achieve economic transformation and generate global knowledge. The FIP is currently active in eight pilot countries, three of which are LDCs. Currently USD 639 million has been pledged to the FIP.

**FLEGT**

According to PROFOR (2009) “Poor forest governance can cost governments and forest owners as much as USD 15 billion annually because of losses from illegal logging and evasion of forest charges”. In the recent decade, donors have generated significant financing to support efforts to enhance Forest Law Enforcement and Governance and Trade (FLEG/T).

One major initiative is the EU Forest Law Enforcement, Governance and Trade (FLEG) Action Plan initiated in 2003. The EU is among the largest single market for tropical timber. The origin and legality of timber entering this market is a major concern. The Action Plan aims to prevent the importation of illegal wood into the EU, improve the supply of legal timber and increase demand for wood coming from responsibly managed forests. Therefore, it also supports SFM. Funding for the implementation of the EU Action Plan comes from the European Commission and European bilateral donors. The support is channelled through the EU FLEGT Facility which is hosted by the European Forest Institute (EFI).

Total reported FLEGT financing\textsuperscript{34} during 2003-2011 was EUR 608 million. During the period, separate national support to individual LDCs was around USD 65 million and consisted of 12 African countries, as well as Cambodia. There have been a significant amount of regional and international support programmes (worth approximately USD 190 million) that concern many of the LDCs mainly in Africa and Asia. The figures available are indicative at best, and hence can give only general estimations on the degree of funding. However, it is most likely that the major share of the FLEGT-related funding, in terms of LDCs, has gone to those few African countries that have been or are actively involved in the VPA-negotiations (CAR, DRC and Liberia).

\textsuperscript{32} ITTO and counterpart funding
\textsuperscript{33} https://climateinvestmentfunds.org/cif/node/5
\textsuperscript{34} FLEG Action Plan Progress report 2003-2010. The report notes that “amounts reported here should be taken as a rough indication of undertakings and financing made available”.

INDUFOR: FOREST FINANCING IN LEAST DEVELOPED COUNTRIES
A multi-donor trust fund for The Forest Law Enforcement and Governance (FLEG) partnership was established in 2004. In 2009 the partnership merged with PROFOR and is now part of PROFOR’s Governance portfolio. In 2009, PROFOR committed USD 1.2 million to governance work. The majority of the support went to Latin America (65 per cent) and Asia (25 per cent) and regional support. A relatively minor share was directed to Africa (10 per cent), where most of the LDCs are located.

ITTO finances activities relevant for FLEGT. ITTO has the TFLET programme with a forecast budget of USD 15 million for 2009-2012. According to ITTO (2012), USD 6.9 million was pledged by October 2012. After analysing the financing for TFLET during the 2009-12 rounds\(^{35}\), of the LDCs, only Cambodia received funding (USD 560,000).

African LDCs receive a significant share of the total LDC funding available for forest law enforcement, governance and trade from various sources. Also, Asian LDCs have accrued some funds. As expected, FLEGT-related LDC-funding in Oceania and the Caribbean (Haiti) is very minor due to the lack of extensive forest reserves. In general, the LDC funding falls visibly short of the amount accumulated by the non-LDCs (especially the ones engaging in VPAs).

**Processes supporting forest financing**

Besides the significant efforts of the UNFF in facilitating access to forest financing, the Advisory Group on Finance of the Collaborative Partnership on Forests, with the support of PROFOR, has put major inputs into studying forest financing at the global level. Other organizations have also supported this crucial thematic area (see box below).

\(^{35}\) ITTO financing cycles during 2009-2012
Support provided to the forest financing and investments agenda

Since 2005, the FAO has together with the NFP Facility supported the development of national forest financing strategies (NFFS) in various countries. According to the FAO, “This is a focused capacity building effort to better understand the variety and effectiveness of various financing options and help the key stakeholders develop a country-specific comprehensive forest financing strategy”. The work was initiated as a sequel to a Dutch government-supported project in Latin America that analysed forest financing in 19 countries and conducted regional and sub-regional synthesis. The process of holding dialogues and discussions among forest, finance, and other key stakeholders to develop and implement NFFS and selected forest financing instruments to support SFM has been active in the following countries: Guatemala (November 2007), Suriname (June 2008), El Salvador (September 2008), Peru (December 2008), Paraguay (February 2009), Costa Rica (May 2009), the Philippines (August 2009) and Ecuador (September 2009). At least two African countries have also been supported, namely Namibia (October 2007) and Uganda (2010).

ITTO has organized regional forums on forest investments in various regions. These have included, for example, in 2007 the Asia-Pacific forum in Thailand, 2006 forum in South Africa and in 2007 the West and Central Africa tropical forest investment forum: issues and opportunities for investment in natural tropical forests.

The Forest Investment Forum was convened in October 2003 at the World Bank Headquarters in Washington DC. It discussed opportunities for investments in environmentally and socially sustainable forestry in developing and economic transition countries. The Forum was organized jointly by the World Bank, the International Finance Corporation (IFC), the World Business Council for Sustainable Development (WBCSD), the WWF, the Programme on Forests (PROFOR), and Forest Trends.

UNEP has a Financing Initiative which is a global partnership between UNEP and the financial sector. According to UNEP FI, over 200 institutions (banks, insurers and fund managers) work with UNEP to understand the impacts of environmental and social considerations on financial performance. The activities include e.g. research on the “business case” of internalizing environmental, social and government externalities; and international, national and regional seminars and conferences.

The CBD works actively on biodiversity financing and has also supported development of The Little Biodiversity Finance and The Little Forest Finance books.
Appendix 4

Innovative financing
Forest carbon

According to Hamilton et al. (2010), forestry transactions were the first ever carbon offsets starting the global carbon offset market in the early 1990s. However, they became sidelined with stringent conditions concerning global GHG regulations, as only limited offsets were recognized under the Kyoto Protocol. As a result, forest carbon offsets have been more traded in the voluntary market. Over time, forest carbon has gained more attention in the global search for cost-effective mitigation methods and evolved MRV techniques. Currently, the majority of globally traded forest carbon offsets are from A/R or REDD+ projects.

CDM

CDM was established under the Kyoto Protocol. It allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one ton of CO₂. The only forest-related project type allowed under the CDM is afforestation/reforestation, but these comprise only a fraction, less than one percent, of all projects in the pipeline. An example of a registered CDM project in Ethiopia is given in the following box.

The Humbo, Ethiopia Assisted Natural Regeneration project

In the village of Humbo in southwestern Ethiopia, rural communities benefit from a carbon reduction project that has successfully restored 2,728 ha of biodiversity-rich land. To fuel economic growth and fight poverty, the full amount of the carbon revenue awarded is being reinvested in productive, community-driven activities, paying for micro businesses such as beekeeping, livestock husbandry and the construction of a flour mill and grain storage facility. These activities are replacing traditional ones such as fuel collection, earlier the main source of income for many Humbo residents. The credits generated by the project were purchased by the World Bank BioCarbon Fund, creating an important revenue stream for Humbo residents and setting an example for similar projects to be scaled up across the continent. While this is the first forestry project in Africa, and only the second worldwide to issue such credits, many others are currently undergoing verification. The project won global recognition in October 2012 when it was awarded Africa’s first temporary CERs for reforestation (73,000 credits) under the CDM.

The project is managed by World Vision Ethiopia in collaboration with the Government of Ethiopia and World Vision Australia. The Humbo project is the first of its kind in Ethiopia using farmer-managed natural regeneration (FMNR) techniques to generate carbon credits. This allows rural communities to assist in re-introduction of native species. In addition to limiting cattle grazing on forest land, which allows the Humbo mountain forest cover to regenerate, farmers are planting some supplemental tree species where needed. By restoring vegetation on the mountain, the fragile water catchment area is being protected, and the project is preventing water and soil erosion and flooding. In particular, sediment runoff currently threatening the fragile ecosystem of Lake Abaya - located 30 km downstream from the project site – is being reduced. This is helping maintain the supply of springs and subterranean streams that support the region’s water supply, and wildlife is also slowly coming back.

Source: Summarized from a World Bank web-article

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36 The share of these projects is 0.8 per cent based on number of all projects. Source: http://www.cdmpipeline.org/cdm-projects-type.htm. Accessed 11.11.2012.
Forest carbon markets

In 2011 the value of global forest carbon markets was USD 237 million, of which voluntary markets accounted for USD 185 million and compliance markets for USD 52 million. Although REDD+ has received a lot of attention, and its transacted volume peaked in 2010, in 2011 the highest transacted MtCO$_2$e volumes were from A/R projects (see graph below).

Historical global transacted volume by project type (MtCO$_2$e)

![Historical global transacted volume by project type](image)


In Africa, where most LDCs are located, the transacted MtCO$_2$e volume grew rapidly from 1.9 MtCO$_2$e in 2010 to 4.7 MtCO$_2$e in 2011, with expansion mainly coming from A/R projects (see graph below).

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38 The chapter is mostly based on Peters-Stanley et al., 2012 and from the VCS project database.
In Asia, LDCs Laos and Cambodia did not originate a significant volume of forest carbon credits contracted in 2011, but they reported a few projects in the pipeline. According to the State of the Forest Carbon Markets 2012 report, the region still suffers from the shadow of the 2008 financial crisis, which sparked an exodus of private sector resources, and saw the project development vacuum filled by development agencies and NGOs. Furthermore, the report states that suppliers say the lack of supporting policies and national REDD+ institutions in the region has hindered the ability of the regional market players to recreate the investment environment formerly in place.

Forest carbon markets in Oceania’s LDCs, or in Haiti, are so marginal that they were not even mentioned in the Forest Carbon Markets 2012 report.

Risks that developers and investors encounter in LDCs are similar to those in other developing regions in general. Developers consider the most common risks to be the unclear or overlapping land tenure, civil unrest, shifting subsistence agriculture, population and economic growth pressures, legal and illegal extraction of forest resources, wood consumption for energy, charcoal production and consumption, lack of enforcement agency coordination and resources, absence of land management plans and other issues that vary by country (Peters-Stanley, 2012).

**Payments for ecosystem services: water and biodiversity**

In 2003, the Profor Forest Investment Forum concluded that “Markets for forest environmental services are underdeveloped”. An enabling environment must be developed to help accelerate private sector investment in environmental services (ES) such as carbon sequestration, biodiversity protection and watershed services. Since the forum, much has happened in the markets for ecosystems services – especially regarding the forest carbon markets, which have received much global attention. However, there is also great interest in developing markets for other ecosystem services, such as watershed services and biodiversity or bundling these together with carbon. What might escape the public eye is that the water markets are, in terms of volume, larger than the forest carbon markets: the total transaction value for payment
for watershed services (PWS) was in 2008 USD 9.2 billion, and for forest carbon offsets in 2011, USD 237 million (Stanton et al 2010, Peter-Stanley et al 2012).

Complete statistics are not readily available for finance generated for forests and trees from different thematic areas such as climate, biodiversity, tourism levies and fees, other charges applied to mining and hydropower and large infrastructure companies. Thematic ODA flows can be identified as already analysed in previous chapters, but beyond foreign public funding, there are also a multitude of other sources such as private ES schemes, innovative conservation schemes and payments generated through extractive projects such as mining.

According to Stanton et al. (2010) in 2008, there were 113 active PWS schemes globally. Latin America and Asia (including China) host the bulk of these schemes, while Africa had in total 20 programmes, of which 10 were active. In LDCs, there were three active PES schemes, all in African countries. Two of the active programs were located in Tanzania, one in Uganda, and the rest were hosted in non-LDCs (Kenya and South Africa). Altogether, these four countries’ accumulated payments totalled approximately USD 63 million in 2008. However, the share for LDCs was minor. Tanzania recorded only USD 70 000, and for Uganda, no figure was presented by Stanton et al. (2010). Moreover, the 2008 value for payments in South Asia and Southeast Asia equalled USD 1.8 million, but none of the recipient countries were LDCs (Stanton et al. 2010).

PWS programmes can be implemented by various sectors, such as the private sector, non-governmental organizations (NGOs), and community groups or a combination of actors. However, more than half of the schemes are implemented by Governments.

Regarding biodiversity markets, in 2010 there were 39 active compensatory mitigation programmes (Madsen et al., 2010). These varied from mitigation banking of biodiversity credits, to programmes channelling impact fees, to policies that drive one-off offsets. However, there is little in LDCs in Africa or Asia in terms of biodiversity offsetting or compensation programmes. In general, Asia hosted four active programmes and had another four in the pipeline, but none of these apparently in LDC countries. There were no active offset programmes in Africa, but six were in development at the time of the study of Madsen et al in 2010.

**Debt-for-nature swaps**

As described in AGF (2012), there are two main types of DNSs. In bilateral DNS, the creditor government will cancel or discount a portion of debt in exchange for the debtor country’s commitment to finance local conservation activities. In three-party DNS, commercial creditors sell the debt at a discount on the secondary market to third parties, such as conservation NGOs.

According to Sheikh (2006), debt-for-nature swaps are generally viewed as a success by debtor governments and conservation organizations because of the funds generated for conservation efforts. The environmental benefits to the debtor country include promoting responsible resource use, helping to preserve biodiversity, maintaining ecosystem services and reducing deforestation. For example, in Gabon and Cameroon, DNS funds have been used to improve management of parks and reserves. Furthermore, investment in conservation has the potential to boost economic returns through increased opportunities for tourism and improved water quality.
According to Sheikh (2010), the conservation funding created globally through DNS has already surpassed one billion USD. The peak for new DNS initiatives was in the early 1990s, after which the frequency declined significantly. Of the bi- and multilateral DNSs, 67 per cent was initiated before 2000; debt relief programmes in HIPC countries might have reduced the DNS initiatives.

Approximately 4.4 per cent of the global bilateral DNS funding pool up to 2010 was directed to LDCs, mainly by bilateral European creditor countries. In addition, three-party DNSs have taken place for example in Madagascar (nearly USD 31 million from nine projects between 1989 and 2008) and Zambia (USD 2.5 million in 1989) (Sheikh 2010). Generated conservation funds typically range from approximately USD 100,000 USD to USD 50+ million. Similarly to the general trend, the majority of the DNSs in LDCs were initiated in the 1990s. However, it seems that the more recent DNSs have been greater in average funds generated per project. See the box below for an example of DNS in Madagascar.

### Debt-for-Nature Swap to protect biodiversity in Madagascar

The largest DNS agreement in Madagascar’s history was signed in June 2008 between the Government of Madagascar and the Government of France. The agreement allocated roughly USD 20 million to preserve Madagascar’s rich biodiversity. The funds are managed through the Foundation for Protected Areas and Biodiversity, a conservation trust fund established in 2005 by WWF, Conservation International and the Government of Madagascar. The fund supports sustainable financing for protecting, maintaining and expanding Madagascar’s protected areas network, including certain buffer zones and ecological corridors, and ultimately to reduce dependence on external project assistance. The Foundation is already widely recognized as a “model” foundation for Africa and an anchor for sustainable financing of Madagascar’s protected areas system. With the DNS agreement, the fund has reached its endowment target of USD 50 million. The agreement forms part of Madagascar’s ambitious national effort to triple the size of the country’s protected areas.

Source: Summarized from a WWF web-article 39.

### Green Bonds

It is clear that the financing currently available is not enough to maintain the natural forest capital; manage forests; and combat climate change, deforestation and forest degradation. It is also clear that ODA alone cannot meet the financing needs and is not necessarily the right financing modality, considering the vast range of activities in the forest sector. In some instances the private sector, sometimes in partnership with the public sector, can generate the necessary financing. According to Cranford et al. (2011), forest bonds are one option for this financing and can leverage additional finance from global capital markets.

For example, World Bank Green Bonds raise funds from investors to support World Bank lending for eligible projects in the context of climate change mitigation and adaptation. The Green Bond product was designed in partnership with Skandinaviska Enskilda Banken (SEB). The eligible mitigation and adaptation projects include inter alia i) carbon reduction through reforestation and avoided deforestation; ii) protection against flooding, including reforestation and watershed management; iii) sustainable

forest management; and iv) avoided deforestation. The World Bank has issued over USD 3 billion in Green Bonds since 2008.
Appendix 5

Financing demand and supply in the context of REDD+
The average costs of the REDD+ readiness phase vary from USD 4 million to USD 27 million per country, based on an analysis of readiness plans in 21 countries that report to the FCPF, UNREDD or both (AGF 2012). The demand for REDD+ financing is established in the Readiness Preparation Proposals (R-PPs) for a number of LDCs.

The demand for financing related to REDD+ has been articulated through FCPF R-PPs and UNREDD NPDs for REDD+ readiness and for subsequent investments in FIP. The FIP supports countries in their efforts to reduce deforestation and forest degradation and promote SFM that leads to emissions reductions and enhancement of forest carbon stocks (REDD+). Burkina Faso, DR Congo and Laos are LDCs included in FIP. Under FIP, each country has an investment program which describes forecast investment volumes and thematic areas for activities. The FIP has agreed that the range of funding from FIP resources for Burkina Faso is USD 20-30 million, for DR Congo USD 40-60 million and for Laos USD 20-30 million (see box on the next page for thematic areas in these three countries).

UNREDD notes that investment plans produced for the FIP process, to the extent feasible, should avoid duplication of other activities proposed in the R-PP. Ideally, these investment plans will be built on and be reflected within R-PP activities in order to promote synergism between the readiness and investment phases of REDD+. Hence, there should not be a major overlap in funding needs, as indicated in the table below which shows the financing demand and supply situation. Demand is detailed in the R-PPs and FIP investment plan, and supply is detailed in VRD (Nov 2012).

The comparisons based on the table below can be indicative at best. The supply side amounts reported40 in VRD are cumulative from 2006, so comparisons should be made with care as the demand-side documentation was established more recently, during 2010-2012. VRD also includes all types of funding, including funding for demonstration, and thus does not report only readiness.

### REDD+ financing demand and supply in selected LDCs

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Sources: FCPF41, FIP42, Simula 2010

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Data as reported to the REDD+ Partnership by 17 donor countries and 15 institutions.


## FIP financed projects in LDCs

**Burkina Faso** FIP priorities:
- REDD+ Strategy Development, Legal and Regulatory Framework and Forest Governance
- Capacity Building, Stakeholder Outreach and Consultations
- Investment in sustainable forest and woodland management targeted at achieving transformational change towards landscape approaches
- Knowledge Management

Investment projects:
- Decentralized sustainable forest management
- Participatory management of state forests
- Project for forest products utilization and value chains

**DRC** Investment projects:
- Addressing deforestation and degradation
- Small grants programme for promising small-scale REDD+ Initiatives
- Engaging private sector in REDD+ in DRC

**Laos** Investment projects:
- Protecting Forests for Ecosystem Services
- Smallholder Forestry Project
- Scaling-Up Participatory Sustainable Forest Management

Source: FIP 2012
Appendix 6

World Bank ease of doing business index ratings for LDCs
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