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Contents

Acknowledgements

This report describes Mozambican research findings within the international 'Forest Connect' alliance that is managed jointly by the International Institute for Environment and Development (IIED) and the Food and Agriculture Organization of the United Nations (FAO). Forest Connect partners are currently active in Burkina Faso, China, Ethiopia, Ghana, Guatemala, Guyana, Lao People's Democratic Republic, Mali, Mozambique and Nepal. With poverty reduction and sustainable forest management both firmly in view, the central aim of Forest Connect is to better connect small and medium forest enterprises (SMFEs) to:

- each other (by facilitating the formation of associations);
- emerging markets (by facilitating market analysis and flow of information);
- business development and financial service providers (by facilitating training and finance);
- national forest programmes (by facilitating engagement with policy makers).

Within Mozambique, Centro Terra Viva (CTV) was identified by IIED as an ideal partner with whom to develop these broader project aims. But in an initial scoping visit a critical preliminary step was identified: the need to gather accurate information about the SMFE sector as a whole such that future efforts have a firm foundation in fact. This report is the outcome of that research process.

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Acronyms and abbreviations

ACIS	Commercial and Industrial Association of Sofala Province
AMODER	Mozambican Association for Rural Development
CBNRM	Community-Based Natural Resources Management
CGC	Community Management Committee
COGEP	Co-Management Council
CTV	Centro Terra Viva
DANIDA	Danish Ministry of Foreign Affairs
DFID	Department for International Development, UK
DNFFB	National Directorate of Forest and Wildlife
DNTF	National Directorate for Land and Forests
DUAT	Land Use Rights
FAO	Food and Agriculture Organization of the United Nations
FC	Forest Concession
FES	Friedrich Ebert Foundation
GAPI	Advisory and Support Agency for Small-scale Industry
GDP	Gross Domestic Product
IIED	International Institute for Environment and Development
INE	National Institute of Statistics
ITC	Community Lands Initiative
MIC	Ministry of Industry and Trade
MINAG	Ministry of Agriculture
MZN	Mozambican Metical
NGO	Non-Governmental Organisation
NORAD	Norwegian Agency for Development
NTFP	Non-Timber Forest Product
PARPA	Action Plan for the Reduction of Absolute Poverty
SDAE	District Services for Economic Activities
SDC	Swiss Agency for Development and Cooperation
SFE	Small Forest Enterprise
SL	Simple Licence
SME	Small and Medium Enterprise
SMFE	Small and Medium Forest Enterprise
SPFFB	Provincial Services for Forest and Wildlife

Executive summary

Natural forests and other types of woody vegetation cover 55.3 million hectares of Mozambique's total land area. Of the total forest, 67% is suitable for timber production. This represents a substantial commercial resource which forest enterprises could use to help achieve the aims of Mozambique's Action Plan for the Reduction of Absolute Poverty (PARPA) in a country where 70% of the population lives in rural areas.

Forest enterprises are flourishing in Mozambique in various shapes and sizes. This paper defines small and medium forest enterprises (SMFEs) as forest industries with not more than 50 employees (although there are a range of different definitions used within the country). Our estimates suggest that SMFEs comprise 95.8% of the formally registered enterprises in the forest sector, and more than 99.9% of the total if you include informal enterprises. SMFEs also account for more than 80% of the employment in the forest sector.

Forest enterprises in Mozambique can be registered as limited companies, partnerships or sole traders. While some larger companies opt for limited company status, most formal SMFEs are registered as sole traders because registration is much simpler. But because many do not perceive the benefits of formal registration to outweigh the costs, there is also widespread informality, estimated at 90.9% in agriculture and forestry. Some unregistered SMFEs still manage to apply for formal forest use rights. Conversely, many formally registered enterprises do not comply with all relevant legislation.

At present, there are only two formal channels through which SMFEs can acquire commercial timber rights: forest concessions (FCs) and simple licences (SLs). FCs are generally held by large forest industries operating over 50 year renewable timeframes. FCs up to 20,000 hectares in size are approved at the provincial level, FCs ranging from 20–100,000 hectares are approved by the Ministry of Agriculture and those above 100,000 hectares are overseen by the Ministerial Council. Fulfilling demanding inventory and management plan requirements, plus investments in processing capacity are pre-requisites to being awarded a concession. SLs are much simpler annual licences for extraction of up to 500m³ of timber, ostensibly from mapped areas using simple management plans. SLs are approved at the provincial level. Unsurprisingly, in 2006 there were only 126 FCs of which 63 had approved management plans, while more than 630 SLs were in operation, held mostly by SMFEs.

Neither of these formal channels for commercial timber use is doing much for poverty reduction. FCs and SLs offer the rural poor little more than low paid menial labour, often without contracts or adequate health and safety measures. Only a couple of community groups have successfully managed to obtain SLs for timber production. Potentially much more significant is the large number of rural people who supply timber informally either to FC or SL holders or to middlemen or local carpenters.

The trade in non-timber forest products (NTFPs) is highly significant in terms of its impact on poor people's livelihoods. Approximately 6,850 formal and 189,000 informal SMFEs trade in NTFPs based on honey, handicrafts, charcoal and firewood. There are also several other categories of NTFP, such as medicinal plants, grass products, bamboo and forest foods. Anecdotally, these are traded extensively, but there is little firm data on the volume of trade of these products.

Mozambique has about 123 functional sawmills, many of which may qualify as SMFEs, although data is lacking. In 2001, there were estimated to be at least 127 registered carpentry workshops, and probably many more local and informal carpenters.

Ecosystem service enterprises are also important in Mozambique. There are 19 game farms in Mozambique that rely on forest resources and a further 10 coutadas – areas set aside for controlled hunting. In addition, there are numerous tourism ventures which qualify as SMFEs, including three community-owned tourism enterprises and three community-based carbon sequestration projects managed by Envirotrade Ltd.

Government policies are currently failing to create a sustainable forest sector that maximises the potential of SMFEs. While Mozambique's land law allows communities land use rights (direitos de uso e aproveitamento de terra – DUAT) by dint of their historic occupation of the land, the forest and wildlife law is much more restrictive, limiting commercial timber rights to the holders of bureaucratic FCs and simpler but largely unsustainable SLs. In addition, business registration and tax procedures are complex and off-putting. While 180 communities had delimited their land by 2005, they had no easy means of developing commercial enterprises. We found only a few examples of successful attempts by communities to make use of the SL legislation.

Existing legislation still defines community-based natural resource management (CBNRM) as a subservient partnership between external forest enterprises and community management committees (CGCs). FC and SL holders are obliged to negotiate access and benefit sharing with communities, but there is often only token observance of these requirements. With only one enforcement agent per 78,015 hectares of land, there is little real prospect for government authorities to ensure that communities get a fair deal from partnerships with the timber industry.

Labour issues are a significant concern for both large forest enterprises and SMFEs. While there are substantial employment opportunities available, jobs for local people are often menial, poorly paid (sometimes below the minimum wage) and often dangerous. The use of health and safety standards and equipment is extremely rare. Employee training is rudimentary, and the seasonal nature of the workforce complicates attempts to build workforce capacity.

The main commercial activities of the SMFEs that are owned and managed by their members (such as the 225 CGCs and interest groups across the country) have historically been centred around NTFPs rather than timber. Legislation that would grant communities broader commercial rights through formal delegation of powers has not been ratified by government.

Despite these drawbacks, there are a wide range of government, civil society and private sector initiatives that support SMFEs. But because many are short term and limited in coverage, there is widespread ignorance of these programmes at the district level. SMFEs use formal banks almost exclusively to deposit savings rather than apply for credit. Weak business management, administration and planning, coupled with a lack of recognised collateral (due to insecure resource tenure) are major impediments to loan applications. A more coordinated effort to develop business skills and capacity among SMFEs is urgently needed.

At the provincial level, some enterprise associations have formed, such as the commercial and industrial association of Sofala, to improve bargaining power and develop capacity. But disputes between members, poor leadership and financial mismanagement have undermined their operating capacity. At the local level there have been some promising examples of CGCs or product interest groups achieving some commercial success, especially when supported by NGOs with business capacity, but successes are not yet widespread.

In conclusion, Mozambique's abundant forest resources have not yet translated into a profitable and sustainable SMFE sector. There is a need to devolve greater commercial rights to forest dependent communities and to develop their business capacity around particularly promising sub-sectors. Efforts are needed to catalyse more productive forms of collective action by SMFEs involved in those sub-sectors. SMFE groups also need assistance to better link them to markets and financial or business development service providers. Developing an institutional centre with the mandate to pursue such an agenda is an immediate priority.

Introduction

1.1 Background

Mozambique has extensive natural forests containing some valuable commercial timber species. Yet there is considerable poverty among Mozambique's predominantly rural population. There is significant potential to develop Mozambique's forest resources in such a way that poor people benefit. But to date, the forest-dependent poor have largely been excluded from commercial forest rights, at least formally.

In order to assess how to move forward in a constructive way, this research aims to provide information on the extent and nature of small and medium forest enterprises (SMFEs) currently operating in Mozambique. It also aims to evaluate the impact of SMFEs on poverty reduction and sustainable forest management, identify factors encouraging or restraining their profitability and sustainability and draw conclusions about the priorities and gaps that need to be filled to better support SMFEs.

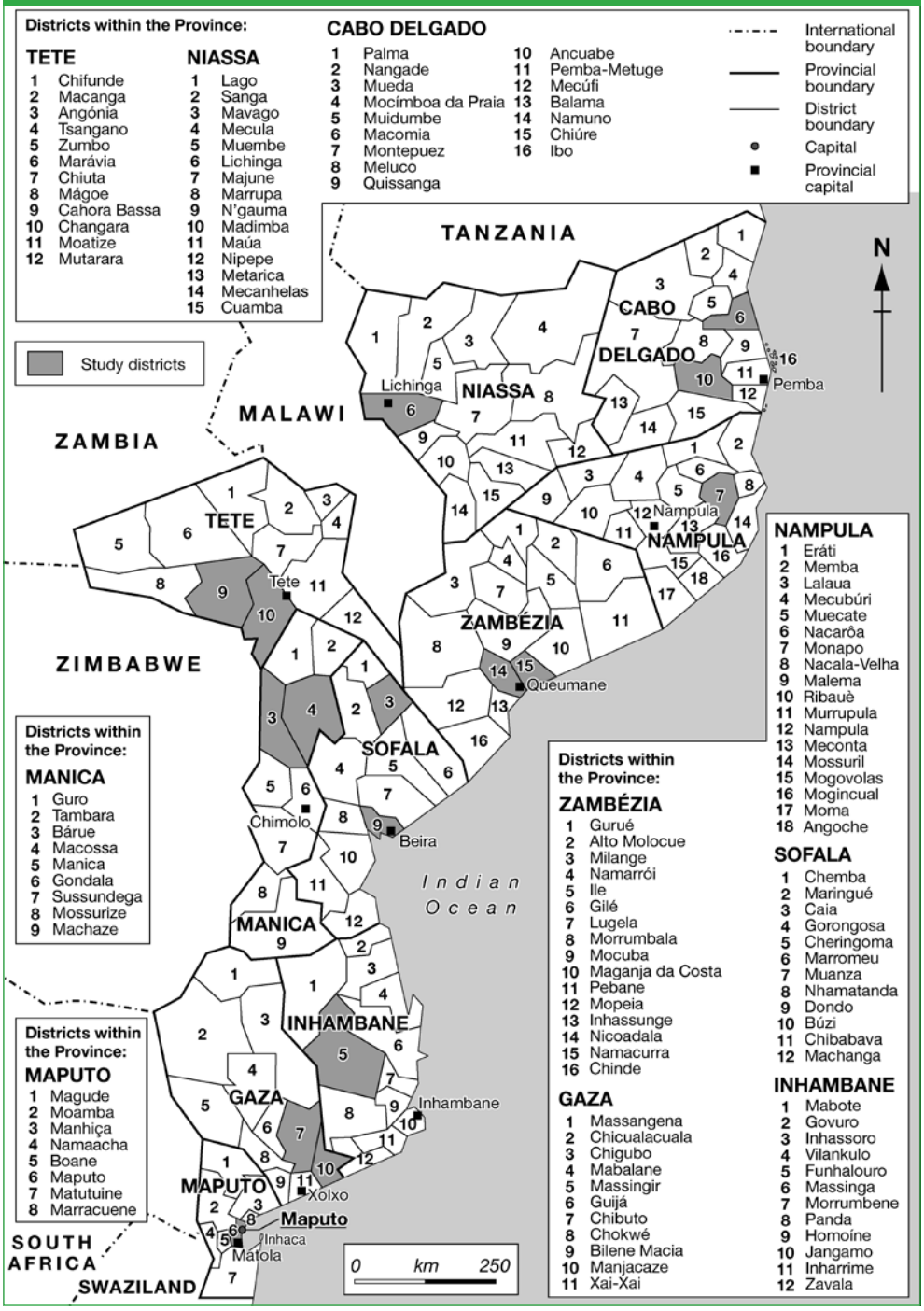
1.2 Methodology used

The Centro Terra Viva (CTV) research team carried out a literature review of the national forest sector. While there is little literature specific to SMFEs in Mozambique, a number of studies have covered the forest sector or small and medium enterprises (SMEs) in general and provided a good starting point.

Field visits were conducted in 16 districts spread across 10 provinces. Districts were selected according to the proportion of forest coverage in the province, as estimated by Marzolli (2007). The provinces and districts to which field visits were made included: Manica (Barue and Macossa), Tete (Changara and Cahora Bassa), Nampula (Monapo), Inhambane (Funhalouro), Gaza (Manjacaze and Chibuto), Cabo Delgado (Ancuabe and Macomia), Niassa (Lichinga), Zambezia (Nicoadala and Namacurra), Sofala (Dondo and Caia) and Maputo. Within each district, at least one enterprise of each type (where applicable) was visited. Within each type, the choice of which enterprise to visit was based largely on accessibility. District government staff played an important role in helping the researchers identify useful enterprises to visit.

The research team also undertook a programme of semi-structured interviews with professionals and academics involved in the sector to substantiate the findings from the literature. Questionnaires were circulated to forest department staff at the national, provincial and district levels, and to the owners of forest enterprises.

Figure 1. Mozambique districts in which field visits were conducted



1.3 Overview of the forest sector and the significance of SMFEs

Within Mozambique, the overall area covered by natural forests[1] and/or other types of natural wood formations[2] varies depending on the definition of forest used. FAO (2007) estimates the total forest area to be 19.2 million hectares, which amounts to 24.6% of the total land area. By contrast, Marzolli (2007) estimates natural forests and other woody vegetation to cover 70% of the total land area (54.7 millions hectares). In his definition, forests cover a total of 40.6 million hectares (51%) while other wood formations cover about 14.7 million hectares (19%) of the total land area. Of the total forest area, Marzolli records 67% as favourable for timber production, equivalent to 27 million hectares. A further 22% of the total forest area has legal protection status (Marzolli, 2007).

Table 1 below shows the area covered by each type of forest and other wood formations based on the work of Marzolli (2007), while Table 2 indicates the total and percentage of forest area per province.

Table 1. Total area (1000 ha) of forest and other wood formations

	Total	Dense forests	Open forests	Mangroves	Open forest in flooded areas
Forests	40,068.0	22,518.7	16,390.0	357.0	802.3
	Total	**Matagais**	**Shrubs**	**Forests with itinerant agriculture**	
Other wood formations	14,712.2	1,093.1	8,051.0	5,568.1	

Source: Marzolli, 2007.

There are an estimated 1,356 vascular plant species in the coastal forests of Mozambique of which as many as 450 may be endemic (Burgess and Clarke, 2000). From the 118 tree species that have been identified as having commercial use, only 33 species (31 natives and two exotics – subtropical pine tree and eucalyptus) have some commercial potential in the market. The industry exploits no more than 10 species, all well known in the domestic and international markets, namely Jambire (*Milletia stuhlmannii*), Chanfuta (*Afzelia quanzensis*), Umbila (*Pterocarpus angolensis*), Pau-preto (*Dalbergia melanoxylon*), Pau-ferro (*Swartzia madagascariensis*), Mecruse (*Androstachys johnsonii*), Pau-rosa (*Berchemia zeyheri*), Monzo (*Combretum imberbe*), Umbaua (*Khaya nyasica*) and Tule (*Milicia excelsa*).

Species are divided into a number of classes (precious, first, second, third, fourth, construction third and construction fourth, fuel wood and others), each of which has a different tax regime and export possibilities. Jambire, Chanfuta and Umbila are the most common species harvested in Mozambique, all of which are first class timber (Bossel and Norfolk, 2007).

1. As defined by Marzolli, the vegetation classes considered as forests are: evergreen dense forests, deciduous dense forests, evergreen open forests, deciduous open forests, mangroves and open forests in regularly flooded areas.
2. The following vegetation classes are included: matagais, shrub areas, shrubs in regularly flooded areas and mosaic of forests with itinerant agriculture.

Between 2000 and 2005, deforestation in Mozambique was roughly 50,000 hectares per year. Growing populations with a need for agricultural land are an important factor in increasing deforestation. Selective logging may play an indirect role by opening up access to new areas.

Alongside deforestation in natural forests, there is an expanding plantation sector. In 2006–2007, a total of 4,905 hectares of forest plantation were established, mostly with *Eucalyptus* and *Pinus* species. Manica and Niassa provinces led the expansion, with 61% and 29% of planted forests respectively. For the most part, private companies (IFLOMA in Manica and Malonda Foundation in Niassa) carried out the expansion.

In recent years, the contribution of the forest sector (timber, paper, wild fruits, etc.) to total manufacturing income in Mozambique has varied between 7% and 11%. The contribution of the forest sector to the country's gross domestic product (GDP) between 1996 and 2000 was slightly above 1%. This increased to 1.8% in 2001 and 2002 (MIC, 2005).

Mozambique's forest sector can be broadly divided into two sectors: the formal forest enterprise sector and the informal or subsistence forest enterprise sector. Both sectors are engaged in the production of timber products, non-timber forest products (NTFPs) and the provision of forest services such as eco-tourism, biodiversity conservation and carbon sequestration. The division between the sectors is often not clear; many informal enterprises struggle to comply with formal legislation, and the formal industries often operate partly outside the law. In general, SMFEs tend to be based around informal or subsistence activities, although there are numerous exceptions.

Table 2. Total area, forest area and percentage of forest area per province

Province	Total area (1000 ha)	Forest area (1000 ha)	Percentage of forest area (%)
Cabo Delgado	7,787.2	4,803.1	61.7%
Gaza	7,532.4	3,778.8	50.2%
Inhambane	6,877.2	2,419.3	35.2%
Manica	6,232.4	3,456.0	55.5%
Maputo	2,362.2	820.4	34.7%
Nampula	7,817.1	2,771.4	35.5%
Niassa	12,240.0	9,429.1	77.0%
Sofala	6,770.4	3,304.9	48.8%
Tete	10,064.6	4,221.4	41.9%
Zambézia	10,307.6	5,063.6	49.1%
Total	**77,991.0**	**40,068.0**	**51.4%**

Source: Marzolli, 2007.

Table 3. Forest plantation areas per province during the 2006/2007 season	
Province	**Total forest plantation area (ha)**
Cabo Delgado	0
Gaza	44
Inhambane	20
Manica	1,183
Maputo	87
Nampula	44
Niassa	2,513
Sofala	22
Tete	164
Zambézia	9
Total	**4,086**

Source: National Directorate for Land and Forest (DNTF), 2006.

The formal forest enterprise sector

The formal forest industries are primarily concerned with timber production. There are also a substantial number of formally registered NTFP and service enterprises based around eco-tourism and conservation, as well as a few carbon sequestration operations.

In Mozambique there are a number of forms businesses can legally take (Figure 2). While some larger enterprises form limited companies, most smaller enterprises register as sole traders because there are relatively few requirements compared with registering a limited company or partnership. In addition, many sole traders interviewed during this research expressed a strong desire to be independent and make their own money, and being a sole trader allows them to do this.

Owners of small enterprises that are not formally registered perceive the requirements and bureaucracy of registration as too onerous (e.g. they must have an initial capital of MZN 20,000 (US$ 770) and legally notarised statements about the company), and as offering them little or no benefit. Small enterprises that are not on the commercial register can still take part in some formal procedures. The Ministry of Agriculture can grant them simple licences (SLs) to exploit natural resources.

The only group that is completely informal (or illegal) are those not registered either with the Ministry of Agriculture through SLs or on the commercial register. These illegal enterprises are run by families or local communities to generate income to support their basic needs. Local communities have been at the forefront of exploiting timber and NTFPs. For example, they are the major suppliers of fire wood, which they sell on to licence holders. Because their level of resource exploitation is low and they do not have access to a commercial market, most of them prefer not to register or get a licence for their activities.

Formal timber producers can gain access to timber resources through two main channels: forest concessions (FCs), which cover large areas and large annual volumes of timber over a 50 year renewable licence; and annual SLs, which cover 500m³ of timber based on smaller mapped areas. There are an estimated 126 forest concession operators (Bila, 2008) and anything between 630 (Bila, 2008) and 1266 (DNTF, 2006) SL holders currently operating in Mozambique. In terms of timber processing industries, there are approximately 100 (Ogle and Nhantumbo, 2006) to 123 (DNTF, 2007) functional sawmills. Numerous licences are issued for NTFPs such as fuel wood, charcoal, poles and bamboo (Table 4). In addition, there are formal service industries, including 10 coutadas (private areas exclusively set aside for controlled hunting), 19 game farms (DNTF, 2006) and three carbon sequestration projects, all implemented by EnviroTrade Ltd and their partners: Nhambita Community Carbon Project, Zambezi Carbon Livelihood Project and Quirimbas Carbon Livelihoods Project.

Informal or subsistence enterprises

As noted above, one of the main problems in surveying forest enterprises in Mozambique is that most are not registered or licensed, have no bank accounts and usually carry out temporary activities. As a result, it is impossible or very difficult to track them down and identify how they might prosper and grow (Kaufmann and Parlmeyer, 2000). Inaccurate, poor and uneven statistical information is therefore a critical issue for any work that seeks to survey enterprises based on scale. The 'Inquérito ao Sector Informal' (Investigation of the Informal Sector, INE, 2005) estimates that 75.1% of the national workforce works informally. In the agricultural sector (including forestry) an estimated 90.9% of all workers are believed to work in informal enterprises.

The majority of Mozambican people (about 70%) live in rural areas and are dependent on forest resources. Many urban dwellers also rely on wood products for their housing and furniture and for energy. Rural people generate some income by organising themselves into a range of different enterprises to use or trade both timber and NTFPs.

Figure 2. Main types of legal business structures

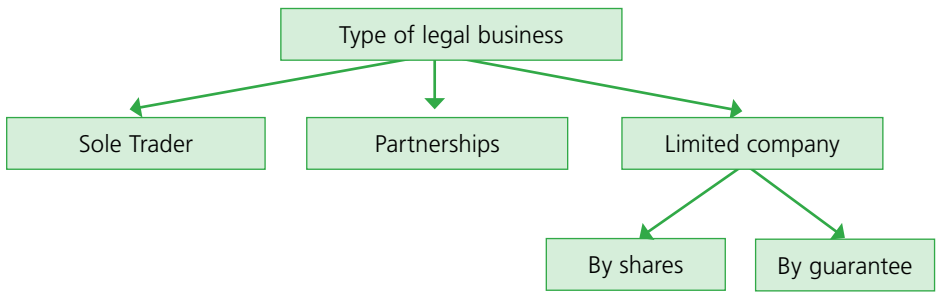


Table 4. National licensed forest production in 2005			
Product	Number of licences issued	Units	Licensed volume
Round logs	824	m^3	134,886
Firewood	440	bundles	54,475
Charcoal	1,552	sacks	781,166
Poles	132	bundles	8,164
Bamboo	175	bundles	9,686

Source: National Directorate for Forestry and Wildlife (DNFFB), 2005a.

At the local level, communities have developed informal forest enterprises based on forestry products such as timber, poles, beams, charcoal, twine, honey, grass, bamboo, forest foods and the distillation of traditional alcoholic beverages. These commercial transactions are usually very limited, but still contribute to the daily subsistence of the population by providing a source of cash used to purchase domestic goods such as food products not grown locally, clothing and medicine. Access to these resources represents one of the very few opportunities that rural people have to generate income. Several reports document how communities use forest resources extensively for the production of fuel wood, charcoal and construction materials (e.g. Eureca, 2001).

This report focuses on SMFEs, many of which fall into this informal or subsistence enterprise sector. Most previous studies have looked at formal forest industries with significant financial investment, focusing on improving their technical, economic and environmental performance. SMFEs, which produce a high proportion of forest products and involve large numbers of people, have traditionally been discriminated against, and the real extent of their impact remains unknown (Ogle and Nhantumbo, 2006). Community-based enterprises play a big role in the sustainable production of forest goods and services, and through income generation, reduce poverty. Our research shows that they offer important opportunities for direct employment and for securing land use rights and access to forest resources.

Description of SMFEs

2.1 Definitions of SMFEs in Mozambique

A vast proportion of the economic activity in Mozambique takes place through SMEs. For example, in a World Bank study of the Mozambican economy, 28,478 out of 28,870 enterprises were SMEs (World Bank, 2003). As government departments are not obliged to undertake accurate surveys, there are no clear figures that show what percentage of the forest sector is dominated by SMFEs. In any case, conducting such surveys would be highly problematic, given that most forest production activities lack a large degree of organisation and formality (INE, 2002).

For the purpose of this report, forest enterprises are considered to be those which use timber, NTFPs and offer forest ecological services to make a profit or to generate income. Forest enterprises are categorised as small or medium according to the National Institute of Statistics definition (INE, 1997). While there are several other definitions (Table 5), we prefer this definition because it includes the very smallest enterprises without drawing an arbitrary line between small and micro enterprises. According to INE, small enterprises are companies with less than 10 full or part time workers, while medium enterprises are those that employ 11 to 50 workers. For Mozambique we adopt the following definition:

> *A small and medium enterprise (SME) in Mozambique is one with no more than 50 full time employees.*

Over such variable enterprise types, the number of employees is a better indication of size than product volumes processed, financial turnover, etc. SMFEs can then be sub-divided based on the position of the enterprise in the value chain, the products processed and service types offered, as explained below.

Table 5. Definitions of SMEs according to number of employees

Agency/institution	Micro	Small	Medium
Instituto Nacional de Estatística (INE, 2002)	-	1-10	11-50
Ministry of Agriculture (DNFFB, 2004)	1-5	6-25	26-100
GAPI (Gabinete de Consultoria e Apoio a Pequena Industria) (World Bank, 2003)	1-9	10-50	50-100
Ministry of Commerce and Industry (World Bank, 2003)	1-25	25-124	125-249

2.2 Types of SMFEs in Mozambique

Local NTFP producers

Enterprises within this category mostly grow trees or harvest NTFPs from trees. They comprise operators in tree nurseries, honey production, handicrafts, fuel wood, charcoal, medicinal plants, grass products, bamboo, tree foods and traditional beverages. A low level of investment and financial returns and lack of technology characterises this sector. In general, these enterprises are opportunistic and support subsistence livelihood strategies rather than being well planned and economically viable.

Informal family- or community-based enterprises are particularly prevalent in this category. At the more 'planned enterprise' end of the spectrum, there are charcoal production, beekeeping and handicraft associations for which there is some statistical data (Table 6). We encountered such associations, as well as fruit and forestry nurseries, during field visits in Bárue and Macossa districts, Manica province. In addition, we interviewed a large number of individual roadside sellers providing honey, fuel wood, charcoal and grass for house building in all the provinces we visited. The interviewees were unanimous in saying their sales contributed greatly to the livelihood of their community.

Table 6. Estimation of NTFP SMFEs in Mozambique

Type of product	Authorised*	Unauthorised**
Honey	4,000	30,000
Handicraft	1,000	6,000
Charcoal	1,500	150,000
Firewood	350	9,000
Total	**6,850**	**195,000**

Source: Adapted from Del Gatto, 2003; DNTF, 2006; Alberto, 2006 and Mangue and Oreste, 1999.
* Authorised: SMFEs that are licensed and/or registered.
** Unauthorised: SMFEs that are neither registered nor licensed but are well organised.

Honey collection from the wild and beekeeping are very common practices all over the country, and there is a growing number of people and organisations becoming involved countrywide (Mangue and Orest, 1999). The most important honey trees are miombo (in general Brachystegia) and acacia. Honey producers often harvest the honey using fire. This technique kills many bees and the smoke greatly reduces the quality of the honey and beeswax.

Honey and beeswax are traditionally produced by rural households. There are an estimated 20,000 or more traditional beekeepers who produce 360,000 kg and 60,000 kg of honey and beeswax per year respectively. Modern beekeepers, of which there are approximately 10,000, produce an estimated 20,000 kg and 8,000 kg of honey and beeswax per year respectively.

According to the FAO (2003), the average fuel wood production in Mozambique is approximately 16.7 million cubic metres per year. Based on the FAO's assessment of charcoal consumption (primarily urban), at least 3 million cubic metres of this is converted to charcoal. Table 7 compares this quantity with the authorised production reported for the years 1997–2001 by the *Relatórios Estatísticos 2000* and *2001* (Del Gatto, 2003).

Box 1. Making use of NTFP resources: the Macossa Honey Production Association

Many honey producers in Mozambique use fire to harvest honey, which reduces the quality of the end product. They also often lack suitable materials to bottle their product. Although better equipment used to process honey – hives, fumigation equipment, masks and bottles – is simple, many do not have access to these tools.

The Macossa Honey Production Association, located in Macossa, Manica province, is made up of 13 community workers who pool their resources to buy essential equipment. The association formed in 2006 after the introduction of a district level initiative fund (MZN 7 million). They also receive support from the FAO. The association sells its honey in Chimoio city and surrounding areas, including Macossa.

Community members selling charcoal at the roadside

According to these estimates, between 1–5% of the total production is currently registered, while more than 8 million bags per year of charcoal are produced informally. The market value of these bags is probably around US$ 32–44 million. This figure is considerably higher than the estimated value of round wood timber production. The government's potential revenue loss could be as much as US$ 1.6 million per year (or higher if you take into consideration the small, non-commercial quantities of charcoal used for personal consumption that are currently exempt from taxation).

There are several other notable categories of NTFPs that we encountered in our field visits for which there is no statistical production data, including (i) medicinal plants, (ii) grass, (iii) bamboo, (iv) forest foods, such as wild vegetables, fruits and tubers and (v) traditional beverages.

The degree to which these products are consumed or marketed locally depends on the distance between the harvest site and major markets. According to Mangue and Orest (1999), rural communities from dispersed locations gather medicinal plants in small quantities

Table 7. Estimates of informal charcoal production in Mozambique			
Year	Official annual production (m^3)	Estimated total annual production (m^3)	Estimated informal production (percentage of total production)
1997	280,500	3,000,000	90.7%
1998	134,500	3,000,000	95.5%
1999	39,500	3,000,000	98.7%
2000	59,000	3,000,000	98.0%
2001	159,500	3,000,000	94.7%

in Mozambique. However, because the main markets are located in urban centres, such as Nampula, Beira, Quelimane and Maputo and the cost of transport is high, the profit margin for selling medicinal plants is low and they have not become a major commercial product.

Trade in bamboo and palm products is mostly concentrated in urban areas, particularly in Maputo, Inhambane, Beira, Chimoio, Quelimane, Nampula, Tete and Pemba. In Maputo, there are a growing number of small palm leaf processing enterprises. The products are diverse, from furniture to baby cots and carpets. The markets are large and usually located where the tourists pass by, such as along the roadside, in front of hotels and restaurants and along the beach. Other products, such as bamboo and reeds, are harvested relatively far from the main markets and local traders find transporting them difficult.

Cashew nuts and mangoes are also extremely important and contribute to the income of rural households, especially along the coastline. Approximately 100,000 tonnes of cashew nuts are produced annually in Mozambique, 60% of which comes from Nampula province. The 45,000 tonnes exported from Nampula alone brings in US$ 6 million in revenue for the government (Artur and Kanji, 2005).

Commercial timber producers

The commercial timber producer category is made up of timber licence holders (either FCs or SLs), forestry plantation operators and producers of construction material (stakes, sticks, bamboo, etc.). Although enterprises in this category are mostly private sector actors with relatively higher levels of investment and equipment compared to the NTFP producers, even these enterprises cannot always pursue their activities effectively.

Forest concessionaires can apply for renewable FCs of up to 50 years. The application process varies depending on the size of the concession: up to 20,000 ha must be requested from the provincial governor; from 20,000 to 100,000 must be requested from the Minister of Agriculture and more than 100,000 ha must be requested from the Ministerial Council.

Companies with FCs are mostly medium to large enterprises and usually make significant investments in their operations. Often they own all their equipment, such as chainsaws for felling, lopping, and cutting logs, and agricultural tractors to haul logs. Often the whole production chain, from the forests to the domestic or export markets, is developed by the concessionaire.


Local entrepreneurs selling fruit and handicrafts

There are 126 concessionaires currently active in Mozambique, covering an area of 5.2 million hectares. Only 63 have an approved management plan, while the rest are either operating informally or still undergoing the costly process of preparing their management plan.

This situation clearly demonstrates that forest resources are not being managed sustainably in Mozambique. The legislation supporting sustainable management is currently not enforced due to limited capacity, or because those political elite who could enforce it are either directly involved in the wood sector as concessionaires, or supporting third parties who ignore their legal requirements. Timber harvesting generally takes place in an unplanned manner within concessions. Harvesting volumes are decided annually, rather than to any long-term plan. It is questionable whether there is any real difference in management practice between annual licences and concessionaires beyond the amount of wood they can harvest annually.

An SL allows the holder to exploit a relatively small volume of timber (up to 500m³) and harvest NTFPs (e.g. poles, charcoal and firewood). The cost of an SL is only MZN 25,000 (US$ 980), despite the fact that most SL operators harvest valuable first class species such as Pau-preto (*Dalbergia melanoxylon*), which trades at US$ 1,200/m³.

The SL is the most common extraction regime, despite the fact that it is hard to monitor and adds relatively little value to the sector in terms of tax revenues compared with FC licences. Operators prefer SLs for a variety of reasons, not least the simpler application requirements. They must only provide a rough map, a very brief management plan, a token resource inventory and a simple signature as proof of community consultation. In many cases, forest extraction happens without any reference to the management plans at the specified extraction site, if it happens at the specified extraction site at all. These management plans serve simply to fulfil administrative requirements to acquire the licence in the first place.

Wooden planks and poles for sale at the Lichinga market

The SL system encourages loggers to focus on target volume only, with little commitment to long-term sustainable management of the forest. In contrast, the FC system, at least in principle, requires a level of institutional capacity and investment, encourages the maintenance of ecological processes to keep the area productive and involves surrounding communities (Sitoe *et al.*, 2003).

Because SL holders do not often have the technical or financial capacity to process their logs, they often sell them to middlemen. The middlemen, who often finance transportation of the logs (charging up to US$ 40/m^3), play an important role in determining the profitability of this sector. Many middlemen are linked to exporters, of which the Chinese agents are currently the most important and powerful group (Mackenzie, 2006; Bossel and Norfolk, 2007).

One or two community groups have managed to apply successfully for SLs, for example in Manica (Macossa district) and Nampula (Monapo district). These groups use handsaws to fell timber and transport their logs manually or by bicycle. The logs are usually sold to local carpenters. The forest law states that the local communities can only use local natural resources for their own consumption and not for commercial purposes. Thus the SL scheme is the only way they can get commercial access to the forest.

We also identified individual operators working at the community level without logging licences (which is technically illegal). Because these operators do not have a means of transporting their logs, they simply fell the trees and sell them on site to middlemen, often at between US$ 2–10 per log. This group is also an important supplier of logs to local carpenters, who process them using hand saws. These types of operators can make a quick profit and are thought to be fairly widespread. Although they are operating illegally, there is little law enforcement in many parts of the country. For example, a forest scout is responsible for patrolling on average 78,015 ha of forest (DNFFB, 2005b).

Table 8. Numbers of simple licences versus forest concessions		
Year	Number of simple licences	Number of forest concessions (accumulated)
2002	421	52
2003	418	81
2004	429	94
2005	461	100
2006	630	126

Source: Bila, 2008.

The timber product portfolio includes logs, sawn timber, railway sleepers, poles, parquet blanks, furniture, boxes, doors and window frames, and to some extent artefacts and designed products. In 2005, almost 58% of the annual cut was exported as logs rather than processed domestically, with more than 80% going to China (Bossel and Norfolk, 2007). Other important export products are parquet blanks (to Europe) and some sawn timber and railway sleepers exported to South Africa (DNFFB, 2005a).

Between 2005 and 2006, sawn timber exports increased by 267%. This is in part due to the implementation of decree 12/2002, which limits the number of unprocessed logs that can be exported, and stipulates that a certain number must be processed domestically. In order to further encourage local processing, the government has set royalty rates for the most valuable species (Class 1) at 25% of those for export logs. In addition, there is a further 40% rebate on royalties for veneer and parquet flooring, which is meant to encourage value-added processing (Ogle and Nhantumbo, 2006).

Processing has mostly focused on low added-value sawmilling of a limited number of high-value species to produce rough-sawn green timber. Investment in modern tertiary wood processing (e.g. kiln drying, veneer, plywood, moldings, joinery and furniture) has been limited. Sawmilling comes at a high cost to the Mozambique government. The loss in royalties of approximately MZN 1,500 (US$ 57.80) per cubic metre is equal to a subsidy of approximately

Table 9. Exported products (2005–2006)						
Province	Log (m³)		Sawn timber (m³)		Railway sleepers (m³)	
	2005	2006	2005	2006	2005	2006
Maputo	0	926	0	6	0	0
Inhambane	185	1,649	64	69	0	0
Sofala	6,120	6,601	446	3,431	786	856
Manica	312	5,716	586	2,896	50	140
Tete	7,047	19,032	278	277	0	0
Zambézia	12,093	10,576	3,458	1,795	0	0
Nampula	11,906	43,497	0	1,506	0	0
C.Delgado	20,995	19,137	6,585	20,479	0	0
Total	**58,659**	**107,135**	**11,417**	**30,459**	**836**	**996**

Source: DNTF, 2007.

MZN 39,500 (US$ 1,518) per sawmill employee per year. In addition, sawmilling can destroy value, as wood exported in log form is worth more than rough green-sawn timber (Ogle and Nhantumbo, 2006).

Several studies on the formal forest industries in Mozambique show that structural, technical and financial weaknesses constrain the socio-economic and environmental development of the sector (DNFFB, 2005b).

In addition to the commercial timber producers, there are many primary processors (sawmills) and secondary processors (carpentry workshops and a few furniture factories), some of which operate independently, occasionally as SMFEs, and some of which form part of larger forest industries.

Photo: Adolfo Bila

'Sawn timber' awaiting export

Primary wood processors

This category includes saw millers using mostly vertical band saws, but also some mobile horizontal saws and some circular saws. The circular and vertical saws are normally old and obsolete while some of the mobile saws are relatively new (DNFFB, 2005b). In 2006, there were a total of 179 saw mills in Mozambique, as Table 10 shows (DNTF, 2007).

While the total number of primary wood processing units increased (by one) between 2005 and 2006, the number of functional units actually decreased. This is because Mozambican sawmills are operating below their maximum capacity, as demonstrated by the relative ease by which they increased the volume of sawn timber by 267% between those two years. Maputo province has the greatest number of saw mills, but it registered a decrease in functional units, in part because of greater competition from sawmills operating closer to the logging areas in provinces further north (DNTF, 2007).

Table 10. Number of functional and non-functional saw mills in Mozambique						
Province	Functional		Non-functional		Total	
	2005	2006	2005	2006	2005	2006
Maputo	21	19	7	11	28	30
Gaza	2	3	3	2	5	5
Inhambane	14	15	12	7	26	22
Manica	14	14	2	2	16	16
Sofala	20	14	8	14	28	28
Tete	5	4	1	2	6	6
Zambézia	15	13	3	6	18	19
Nampula	18	18	4	4	22	22
Niassa	1	1	4	4	5	5
Cabo Delgado	18	22	6	4	24	26
Total	**128**	**123**	**50**	**56**	**178**	**179**

Source: DNTF, 2007.

Secondary wood processors

Mozambique has some relatively large furniture making enterprises that export their goods (e.g. Yola Mobílias in Maputo and Univendas in Tete province). The majority of domestic production comes from secondary processing units with basic equipment for carpentry (e.g. lathe, multipurpose machines, parallel plane, plane, molding lathe, etc.).

Community carpenters are mostly located around or in the villages in each district. They use hand equipment to process the sawn timber brought by clients, informal operators or from SL holders operating in the same or a nearby district. These enterprises produce furniture, doors, window frames, coffins, etc., which are sold to local people or, for those enterprises located along the principal roads, to people in nearby districts.

Box 2. An example of an expanding high tech furniture company: Yola Mobilias

Yola Mobilias is a Mozambican company located in Maputo city. It began operations in 2000 as an importing firm, and in 2002, acquired a bankrupt factory and began to produce its own furniture. The company has expanded beyond the SMFE threshold and now employs 70 workers. It produces a variety of home furnishings for the living room, kitchen, bedroom and garden. Since 2006, it has also sought to break into the office furniture market. The company uses a range of processing equipment and has tried to produce innovative designs to carve out its market. Access to regular electricity supplies in Maputo has helped the business grow.

Yolas Mobilias sells mainly in Maputo and several other provinces. The major difficulty it faces is the cost of raw materials, which is high due to transportation costs. Transportation is expensive because of the long distance from the harvesting site at Quelimane to Maputo, and the poor state of roads.

Another business constraint is the lack of equipment to increase timber quality, such as a drying kiln. The company tried to export furniture to South Africa and Portugal, but because the wood was not dried properly, they encountered problems caused by differences in regional humidity. Without proper equipment, their wood products do not meet regional standards and cannot be exported.

Employees at work in Sambate sawmill in Inhambane province

Due to a lack of modern equipment, these community carpenters often produce low quality products. The carpenters told us this lack of quality was one of the main constraints to the survival and growth of their enterprises. They also identified a lack of access to reliable electricity as another important limitation.

Box 3. An example of an SMFE sawmill and furniture factory: the Sambate sawmill

The Sambate sawmill was founded in 1960 and operates in Funhalouro district, Inhambane province. This sawmill employs 45 workers including 5 women. It produces approximately 50m³ of timber per year and also makes furniture for a diverse portfolio of buyers, including schools and customers wanting doors and windows for their homes.

The sawmill makes the majority of their goods for schools in the region. But they also sell in the strategically placed Maxixe market, which connects southern and central Mozambique.

The price of the raw material varies with species and ranges from MZN 15,000 to 18,000 (US$ 577 to 692) per cubic metre. The price of finished products also depends on the species. For example, a 'Chanfuta' door costs around MZN 1000 to 2500 (US$ 38 to 96) while an 'Umbila' door costs MZN 1200 to 2700 (US$ 46 to 103). Out-dated machinery is a major business constraint. The furniture producers sometimes sell their products at very low prices to meet their subsistence needs.

Forest-based services

Mozambique has substantial potential to develop enterprises based on forest ecosystem services. There are already carbon sequestration plantations, community lodges, camping sites, game ranches and commercial and sport hunting concessions. In recent years, wildlife and forest tourism has begun to grow alongside the more traditional beach holiday tourism.

The National Tourism Policy, the Land Law and the Forest Law aim to use existing natural resources to attract national and foreign tourists. While they prioritise Mozambican tourism ventures, they also encourage foreign investors to participate in the development of these resources.

Table 11. Estimated number of formally registered carpenters in Mozambique	
Province	**Number of formally registered carpenters**
Maputo	25
Gaza	10
Inhambane	14
Manica	9
Sofala	18
Tete	11
Zambézia	15
Nampula	10
Niassa	6
Cabo Delgado	9
Total	**127**

Source: adapted from Eureca, 2001.

The objective of these policies is to increase local job opportunities and, by encouraging the participation of local communities in the tourism industry, to guarantee their sustainable development. Tourism also raises Mozambique's profile.

There are currently only three community owned forest-based tourism enterprises of which we are aware: two in Maputo (Madjejane Community Lodge, Tinti Gala Loge) and one in Gaza (Covane Community Lodge). Table 12 shows the distribution of game farming enterprises across Mozambique.

Table 12. Number of game farming enterprises across different provinces in Mozambique	
Province	**Number of game farming enterprises**
Maputo	4
Gaza	7
Inhambane	0
Manica	1
Sofala	1
Tete	3
Zambézia	1
Nampula	0
Niassa	0
Cabo Delgado	2
Total	**19**

Source: DNTF, 2007.

Box 4. An example of emergent community-based tourism: Covane Community Lodge

The Covane Community Lodge is located in the village of Canhane, in the district of Massingir, Gaza province. The main activities offered by the lodge are walking, bike riding, introductory courses on local medicinal plants, excursions by boat on the lake or on the Elephants River and traditional dance lessons with the village people.

One of the lodge's best assets is its proximity to the Greater Limpopo Transfrontier Park and to the Kruger National Park across the South African border (about 80 km away), two of the oldest and most prestigious wildlife reserves in Africa.

With the support of Helvetas, a Swiss development agency, the lodge cost about US$ 50,000 to build. Two of the lodge's houses are made from local materials, including straw, 'caniço' and wooden stakes, and two are made from conventional materials. There is also a toilet block, a restaurant and three tents for camping. The lodge has been established for over 4 years and currently has 17 employees, 10 of whom are from the local community. The tourists mainly come from South Africa, but also from Italy, Spain and other parts of Mozambique.

2.3 Significance of SMFEs in Mozambique

Mozambique has some successful examples of SMFEs that are competitive and highly productive (e.g. Cooperativa dos Apicultores in Maputo province; Borgarello *et al.*, 2004). Excluding the large numbers of charcoal, fuel wood and village-based sawn timber producers, the forest sector provides direct employment for approximately 200,000 people. It accounts for about 10% of industrial production and contributes about 1% of GDP. This figure excludes fuel wood and other timber and non-timber forest products directly consumed by the rural population or sold in local markets. In 2004, exports from the sector amounted to US$ 30 million, approximately 2% of total exports. The sector earns the government of Mozambique approximately US$ 6 million per year through royalties on harvested logs (Ogle and Nhantumbo, 2006).

Including fuel wood and other timber and NTFP enterprises, the forest sector employs at least 600,000 people. Our estimates suggest that SMFEs comprise 95.8% of the formally registered enterprises in the forest sector but more than 99.9% of the total number of enterprises if you include informal enterprises. Even a conservative estimate would indicate that SMFEs also account for more than 80% of the employment in the forest sector.

3 Governance of SMFEs in Mozambique

The government of Mozambique and its donors have subscribed to a wide range of policies and programmes to support the country's goals of sustainable economic development and poverty alleviation. The Action Plan for the Reduction of Absolute Poverty (PARPA), the National Agricultural Programme (PROAGRI, phases I and II), and the policy, law and regulations for the forestry and wildlife sector, formulated between 1999 and 2002, all set out the requirements for sustainable forest management and the development of forest industries to combat rural poverty. The Mozambique government signed the Yaoundé Ministerial Declaration on African Forest Law Enforcement and Governance (AFLEG) in 2003, committing itself to the international fight against illegal logging and hunting, trade and corruption, and to the promotion of sound forest governance.

Harvesting of forest resources is controlled by the Ministry of Agriculture (MINAG) through its National Directorate for Land and Forest (Direcção Nacional de Terras e Florestas – DNTF). At the provincial level, there is a Provincial Directorate for Agriculture which includes the Provincial Services for Forest and Wildlife (Serviços Provinciais de Florestas e Fauna Bravia – SPFFB) and at the district level the District Services for Economic Activities (Serviços Distritais das Actividades Económicas – SDAE).

The main decisions regarding the forest sector, for example approving applications for forest concessions areas (Figure 3), are the responsibility of the provincial governor (<20,000 ha), the Minister of Agriculture (20,000–100,000 ha) and the Ministerial Council (>100,000 ha). The SPFFB and the SDAE work at a more local level, administering simple licences to exploit small areas of the forest, and enforcing the law.

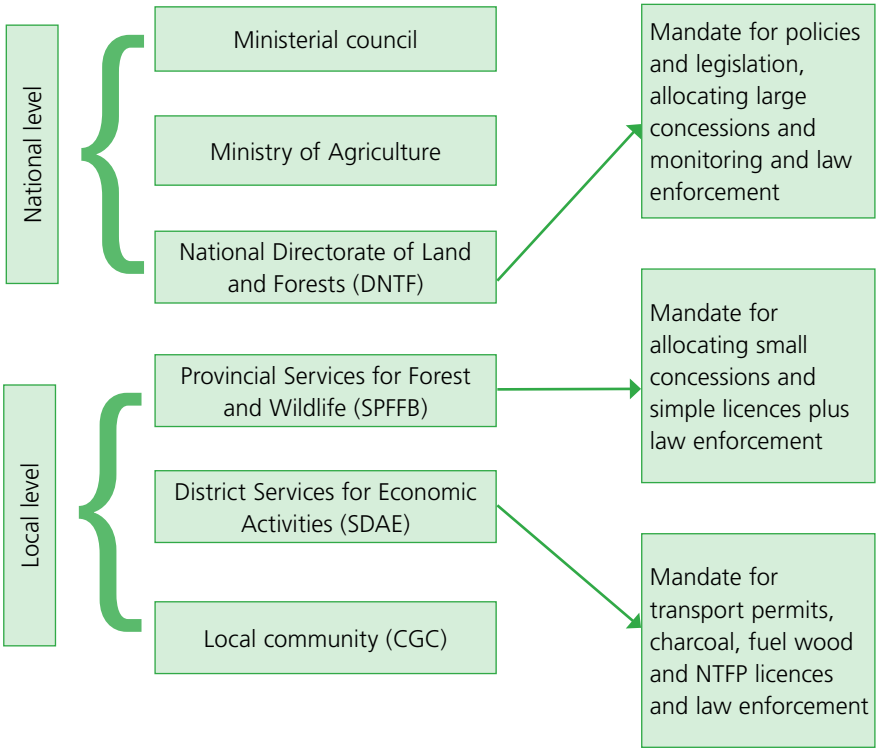
3.1 Land tenure

In Mozambique, forest and land are inextricably intertwined. Rural communities see land as a source of wealth that allows even the poorest people to look to the future with hope. The state acknowledges that taking land from communities condemns them to life-long poverty. As a result, Mozambique law defines land as state property that cannot be sold or alienated. The intention is not only to guarantee community livelihoods but also to produce revenues that contribute to poverty reduction.

The Land Law of 1997 governs land tenure. This law recognises a community's historic occupation of the land and their existence as self-defined communities, and protects their right to use the land for habitation and subsistence (direitos de uso e aproveitamento de terra (DUAT)). This extremely progressive legislation provides effective land tenure rights to communities, even though the state still holds the land ownership rights.

The Land Law ensures community participation in land management, specifically through processes set out in articles 13 nº3 and 24 nº1 c of the Land Law and article 27 nº3 of the Regulation of the Land Law (Remane, 2007).

Figure 3. Institutional organisations that govern the forest sector in Mozambique



Despite the importance of DUAT, communities still encounter problems when attempting to secure land rights: (i) most communities do not understand why the DUAT is valuable to them and what process of land delimitation they need to carry out to secure such a title; (ii) there are disagreements within communities during the process of community land delimitation; (iii) government institutions lack the capacity to adequately support the process; (iv) other organisations that support delimitation processes lack funds; (v) local communities lack the technical capacity and mechanisms to manage the land with or without DUAT.

According to PROAGRI II, there were 180 delimited community areas officially registered in 2005. The government has recently set up a community lands initiative (ITC) with a dedicated land fund. The central objective of the ITC is to strengthen the rights of rural communities, specifically to ensure their ownership of the land and the natural resources. The ITC also builds their investing and technical capacity to manage the land sustainably, with a view to reducing poverty and increasing communities' economic growth.

The land fund lasts for five years and is currently active in Cabo Delgado, Manica and Gaza provinces. These provinces were chosen because of the potential for conflict between

communities and tourist initiatives, forest operations and wildlife activities. The primary beneficiaries of the land fund are rural communities, associations, and community-based organisations. The land fund also tries to strengthen the capacity of service providers, particularly those that assist the local communities with land delimitation and development project planning. Service providers include non-governmental organisations (NGOs), the private sector, government institutions, the media and research institutions.

So far, most communities engaged in the ITC process have failed to see the advantages of land delimitation. However, this initiative is new and still working to achieve its objectives.

3.2 Forest resource extraction

The main policies and laws governing forest resource use are the Forestry and Wildlife Law of 1999 and the Forestry and Wildlife Regulations of 2002. The main challenge in forestry governance is to close the gap between law and practice, namely enforcement of existing laws. Despite opportunities provided by the Forest and Wildlife Law for local communities to be consulted on and potentially participate in the co-management of the resources, current management in practice offers no more than subsistence use rights to communities. While communities can in theory make commercial gain from forest resources – by applying for FCs and SLs, the same procedures used by the private sector (Johnstone *et al*., 2004) – the administrative and financial requirements make it difficult for remote communities to apply.

The current FC application process is far from transparent and has a list of expensive legal requirements. This list includes: a full timber resources inventory, a topography map, evidence of technical and industrial capacity to process timber within the concession area, a favourable opinion of community residents in the area, a successful negotiation process with the holders of the DUAT (see below) for the area in question (if such exists) and a management plan (to be presented within 180 days of public announcement of the application).

In reality, most FC licences are authorised without an approved management plan. Many forest operators see this management plan as a bureaucratic document rather than a strategic or operative planning instrument. There is almost no monitoring, enforcement or updating of management plans. As a result of this exhaustive and expensive list, many entrepreneurs applying for an FC give up due to their lack of financial power or simply apply for an SL.

Acquiring an SL is relatively cheap and simple. The applicant must only present proof of technical capacity, a hand drawn map of the proposed area, a simple estimate of timber volumes in that area and proposed extraction volumes, a record of consultation with local communities and a declaration that no other applications have been made for the campaign. As a result, the SL regime is the main entry point for private entrepreneurs into the forestry industry in Mozambique.

The SL is authorised by the provincial governor and can be issued only for Mozambican citizens. As noted in Chapter 2, SMFEs generally either fall under the SL legislation or operate informally. SLs are the dominant forest harvesting regime in Mozambique, despite policy assertions to the contrary. Even FC holders complain that SL holders are increasing year after year, backed by Asian intermediates that finance their activities, and there is little control over

where they harvest (including within existing concessions). Even the most basic requirements of national identity and technical capacity are not rigorously observed during the licensing process by the SPFFB. The SL system encourages loggers to have little or no concern for the quality of the remaining forest. The licence is just seen as a fee for short-term gain. Numerous reports point out the near impossibility of sustainable management using the SL regime.

As mentioned in the National Policy and Strategy for Forest and Wildlife (DNFFB, 1997), operators must install equipment to carry out in-country processing. The intention is to reduce round wood exports and increase value added processing. This same policy explicitly states that there will be a progressive move towards FCs and away from SLs in forest harvesting – and that this will encourage a more sustainable and hence environmentally and socially responsible approach to forestry (Sitoe *et al.*, 2003). Yet, in 2006, there were 630 annual SL holders versus 126 FCs.

Notwithstanding the preference for SLs, the vast majority of entrepreneurial activities are conducted without any compliance with regulations and in an unlicensed manner. This has a negative impact in two main areas. First, there is the issue of tax evasion and the loss of potential state revenue. Second, there is the issue of uncontrolled resource degradation. Del Gatto (2003) estimates that clandestine timber production may make up between 50–70% of the total national round wood production (between 90,000 and 140,000 m^3), worth in the region of US$ 15–24 million. Only an estimated 1–5% of charcoal production is registered and the potential revenue loss is US$ 1.6 million per year.

3.3 Provisions for community-based natural resource management

The National Policy and Strategy for Forest and Wildlife (DNFFB, 1997) introduced the concept of Community-Based Natural Resources Management (CBNRM) and encourages local community participation in the management and sustainable use of forest and wildlife resources. Members of local communities are expected to take part in co-management councils (COGEP – Comité de Gestão Participativa) in order to protect their interests (forest and/or wildlife resources) from exploitation at district level. However, because there is no strategy for community capacity building, there is no guarantee that communities will actively participate.

In addition to COGEPs, the Ministry of Agriculture and Rural Development has introduced the concept of Community Management Committees (CGC – Comité de Gestão Comunitária) that function at the local level. The CGC is the legally accepted local community unit that is supposed to act on behalf of the community in negotiation, representation, coordination, planning and management of forest resources. Several CGCs have been created across the country as part of CBNRM projects in timber production, charcoal, honey and carpentry. Government entities, the private sector and NGOs have trained and funded some CGC members to establish SMFEs using forest resources. Yet despite these positive steps, many regulations that would benefit communities and reinforce the work of the COGEP and CGC councils are regularly ignored (Nhantumbo and Macqueen, 2002). For example, a much publicised new regulation entitled 'Delegation of Powers', which would have given communities commercial rights over forest resources, was never actually approved by the government.

Box 5. An example of community enterprises emerging as a result of CBNRM policies: Barue Charcoal Association

The Barue Charcoal Association, located in Catandica village in the district of Barue in Manica province, was formed in 2006 after the introduction of a district initiative fund. The association employs 12 people, including three women, all of whom are engaged in the production of charcoal sourced from the surrounding forest.

The association produces a monthly total of about 600 bags of charcoal, sold at MZN 100 (US$ 3.80) per bag. The charcoal is sold at the Catandica market, as well as along the EN-102 national road that connects the cities of Chimoio and Tete.

Even with all the efforts made to date, there is a long way to go before the economic, social, ecological and institutional objectives of the National Policy and Strategy for Forest and Wildlife are successfully implemented. In Tete, for example, we came across several potential candidates for SLs in the process of cutting logs for Chinese operators; they were operating only on the basis of a promise to pay their taxes as soon as they had sold the logs. This clearly shows that the current means of operating rewards those who contribute little to the creation of employment / poverty reduction or to the economic growth of the country. Harvesting based on annual licences degrades the forest, with long term negative impacts for both the poor and the country as a whole.

3.4 Law enforcement and taxation

Despite government assertions and recommendations by numerous reports on the sector, government capacity for law enforcement and taxation has improved little in recent years, with shortages in staff, skills, equipment and funds. Current forest law enforcement in Mozambique is based primarily around fixed guard posts, located at provincial borders, city entrances, ports, airports and terrestrial borders. Some law enforcement also takes place via mobile patrols, established by various SPFFBs. This activity focuses largely on checking a series of paper documents such as cutting books, transport permits, the registry book at the log yard, the entry book at the processing facility and processing books (Norjamaki and Salmi, 2008).

There are limitations to this approach in Mozambique. Some of the more obvious shortcomings are the lack of financial resources to post and train staff; the closure of guard posts at night; the near absence of cooperation by community groups nearest to potential forest harvesting activities; lack of personal financial incentives to promote effective law enforcement and overcome perceived threats or risks; the lack of reinvestment of taxes in the sector by the government; widespread corruption; and the limited reach of mobile patrols and guard posts given the scale of the resource in question.

The province of Sofala provides a typical example. With a land area of 68,081 km^2 and 13 districts, Sofala has only 35 forest guards, mostly distributed at fixed posts, with two mobile patrols. This is clearly not enough to adequately patrol the forest. According to the head of the SPFFB of Sofala, law enforcement activities are further threatened by the incidence of HIV/AIDS because forest guards live far from their families. Recently there have been on average three forest guard deaths per year. Given the amount of time needed to replace staff,

this represents a serious issue. To improve the situation, Sofala province would need to double its forest guards (to at least 70), corresponding to roughly three forest guards per district and five mobile patrols.

Transport is one of the most expensive components of a forest operation in Mozambique, and one that is difficult for operators to circumvent. Elsewhere, transport is charged by volume and distance, but truckers in Mozambique charge a flat rate depending on truck size: MZN 8–9,000 (US$ 307–346) for a 7 tonne truck, and MZN 18,000 (US$ 692) for a 25 tonne semi-trailer. In an attempt to reduce transport costs, some operators employ run-down vehicles. These are low in cost, but are slow, suffer frequent breakdowns and vastly lower the efficiency of operations, thereby increasing other costs (Mackenzie, 2006).

During transport, timber must be accompanied by a transport permit (*guia*). *Guias* are purchased from SPFFB, and one is completed (in quadruplicate) at the logging camp for every truckload of logs. It must show the number of logs and total volume of each species, the felling licence number and the vehicle registration number of the truck. Each log on the truck must display the name or emblem of the company and a unique serial number, which should correspond with an entry in the operator's own field register, and ideally, with a number painted on the cut stump in the forest. Each *guia* is accompanied by a detailed log list, recording the serial number and dimensions of each log being transported. Without these documents, the driver is liable to a fine.

To control the volumes harvested, copies of all the licences of all the operators are filed at the main forest fixed guard post, specifying the volumes that they are allowed to extract. A driver bringing logs to town must stop, show the licence and hand over the log list and two copies of the *guia* to the forestry guards, who then inspect the load and verify the information on the *guia*. If incorrect, a fine can be imposed, and the *guia* is amended. If correct, the volume is recorded on a register of forest products for that operator, and the balance volume remaining on the licence is calculated, ready for the next shipment. Once the balance reaches zero, the licence is declared expired. If the operator has not yet used her/his entire annual quota, s/he can pay the fees for a new licence and continue cutting, and the countdown begins again. One copy of the *guia* and the register are kept on file at the check point, while the other copy and the log list are sent to SPFFB for recording in the harvesting database.

The competitiveness of the wood harvesting and processing industries is critical to revenue creation in the forest sector. Tax policy affects the competitiveness of the sector. Too high a tax burden would decrease relative competitiveness. It would work against economic sustainability of the sector, and be counter-productive even from the point of view of government revenue generation (Rytkönen, 2003). It could encourage illegal operations. Higher taxes would force inefficient operators from the market, while more efficient ones might be able to continue. On the other hand, a low tax rate would not be able to generate enough revenue flow to maintain the national forest administration, including protection, planning and reforestation. Low tax would imply low value of the timber at stump, sending a very harmful signal to the market place about the efficiency with which such resources should be used, potentially encouraging wasteful use of the forest.

In 2002, external consultants estimated that the current forest tax burden in Mozambique was too low by a substantial amount (much lower than in competing nations; Rytkönen, 2003). In 2002, the National Agricultural Programme PROAGRI created a 'Forum on Forests' to debate the issue (Bila, 2002). As a result, the DNFFB brought out new regulations, including a new system of taxes, fines and penalties (DNFFB, 2002: Annex 1, Table II) to update the previous tax values established in 1998. But this attempt to raise the tax levels was vigorously and successfully opposed by the industry (Macqueen and Bila, 2004) with ultimately negative repercussions on the sustainability of the sector.

3.5 Broader industrial development policies and incentives

The Mozambican government recognises that SMEs are an engine for economic development. It also acknowledges that initiatives carried out by private citizens are crucial to the implementation of the Action Plan for Reduction of Absolute Poverty (PARPA).

In the forest sector, the government aims to create conditions that promote growth. This will hopefully increase the sector's GDP contribution, modernise the economy, create jobs and improve connections with other productive sectors while promoting the environmental sustainability of industrial activities. Priority activities include those that contribute to job creation and capitalise on the comparative advantages of Mozambique production. Micro, small and medium entrepreneurs and agro-industrial companies have a key role in PARPA.

A key element of PARPA is to build on advantages afforded by the natural geography of the country. This means promoting the development of industries along the axis of the North-South highway, fostering industrial clusters in zones with potential for growth, and establishing tax free zones, with clear plans as to how these developments will ultimately contribute to the national economy and tax revenues.

The PARPA II document makes specific reference to the development of micro, small and medium enterprises, and calls for further analysis through SME diagnostics (such as this report). It envisages the creation of a specific SME support institution and a programme better linking SMEs to customers. Finally, PARPA II states that there will be an emphasis on sustainability, using production technologies that conserve the environment, with an explicit commitment to the joint participation of MICOA (Ministry of Environment) and MIC (Ministry of Industry and Trade).

Despite this apparently favourable policy environment and the size of the forest resource, the forestry sector in general and the SMFEs in particular are perceived to be underperforming in terms of both sustainable management and as an economically viable and competitive processing industry. Part of the problem may lie in the bureaucratic requirements that govern SMFE activities. For example, before releasing an industrial licence, MIC requires a full installation drawing, topographic map, detailed description of employees and environmental impacts. While this is a standard procedure in Mozambique, the problem is that it incurs substantial costs and time in the main cities, and this discriminates against smaller enterprises with limited resources and staff. Such requirements help explain why so many forest enterprises chose to remain unregistered, with the obvious consequence of not being able to access official credit and support institutions. The few that manage to get MIC registration must also apply

for a number at the tax department, get work, residence and imports permit and open a bank account (Borgarello *et al.*, 2004). Each of these processes involves substantial time and cost.

Beyond the bureaucratic requirements, business tax obligations are not transparent and often poorly managed. For instance, the VAT repayment system is not yet working well, with widespread delays in refunds to companies. Such complexities impede entrepreneurial confidence and reduce business start-up in Mozambique.

There are numerous business associations in Mozambique that could potentially lobby for simpler and clearer bureaucracy and tax rules, but interviewees expressed limited trust in these associations. Many firms consider them helpless and feel they concentrate on solving problems of particular individuals or interest groups. Few provide business training that could develop the capacity of all the members.

Business management training (e.g. for business planning, developing a market strategy, implementing transparent accounting systems, maintaining a level of debt consistent with their own capital, etc.) and technical and vocational training are essential to meet requirements for a bank loan. Without demonstrable capacity in such areas it is difficult for SMFEs to get access to finance. As a result, many SMFEs only use commercial banks to deposit their savings and fail to exploit other financial services on offer. Few firms are aware of any specific microfinance institutions.

As noted above, a significant proportion of the timber produced by SMFEs in Mozambique ultimately finds its way to China. Timber exports from Mozambique take place primarily from the ports by containers, and as loose cargo in bulk carriers. Export involves a wide range of stakeholders, including entrepreneurs, exporters, customs, the port authority, clearing and shipping agents, inspection companies, the Provincial Directorate of Industry and Trade, the Provincial Directorate of Agriculture and SPFFB. Export is a complicated process involving forms, inspections and payments.

Predominantly Asian buyers control the timber market in Mozambique. They fix prices and this in turn affects the extent to which the other actors in the timber value chain can benefit. It is unclear to what extent these Asian buyers themselves are controlled by the wholesale markets and other factors in countries such as China. The large buyers shift thousands of logs each season, but the margin they make on each log is not clear. They also run considerable risks, from bad debts, competition from other buyers, delays in transport and graft (Mackenzie, 2006). The community of buyers is quite dynamic, with individuals coming and going from year to year, and tales of intrigue, deceit, side-selling and bankruptcies not uncommon. When business goes bad, the buyers move on to other producer countries. However, what profit level defines 'bad business' in the eyes of the buyers is difficult to ascertain.

Our preliminary conclusion is that the main beneficiaries of the international timber trade are the foreign buyers, some competent local loggers and corrupt government officials, and that broader benefits in rural areas are limited to a few people paid poorly for their labour. The substantial domestic trade in timber and NTFPs primarily through SMFEs has much greater potential for reducing poverty in rural areas, but the government does not have an active programme to invest in and support such activities.

Market and finance issues

Mozambican capital markets are poorly developed and the commercial bank system is highly constrained. Although there are various formal credit lines (banks, registered credit institutions, credit cooperatives, etc.) and international finance sources in the country, access to them, particularly by local communities, is still limited (Borgarello *et al.*, 2004). Despite these shortcomings, a wide range of actors are trying to develop programmes to support SMFEs including government institutions, bilateral and multilateral agencies, local associations, NGOs and consulting firms. Most credit lines are based in the provincial capitals. We list below a number of well established initiatives that support SMFEs:

- Projecto para o Desenvolvimento Empresarial (PoDe-CAT)
- Gabinete de Promoção para Pequena Indústria
- Enterprise Mozambique
- Cooperative League of the United States of America
- Technoserve
- Malonda Foundation
- Aid to Artisans
- Fundo de Fomento a Pequena Indústria
- Fundo de Fomento Agrário
- Conselho de Aconselhamento para Desenvolvimento Insdustrial
- Fundo Comunitário de Crédito
- Iniciativa de Terras Comunitárias

During our interviews most entrepreneurs indicated that they do not even try to approach commercial banks to apply for credit, because they know they will be unable to pay the punitive interest rates. Interviewees, such as Mr Tapassa, from the sawmill Serração Ntiti in Niassa province, recounted stories of fellow colleagues who had taken out bank loans and ended up bankrupt. The few SMFEs that use commercial banks do so only to deposit their savings, and have to travel to the nearest cities where the banks are located.

The interviewees had exploited few if any other financial or commercial services, often simply because they were not aware of other opportunities, such as microfinance institutions like Sociedade de Crédito de Moçambique (SOCREMO). Most SMFEs usually start their firms with personal capital and make any further investments exclusively using their own capital. Some had approached relatives and friends and/or received funds from donors.

Despite this general self-sufficiency, several interviewees drew attention to informal sources of credit, where foreign timber dealers give money to an individual to apply for an SL on their behalf. Only citizens can apply for this type of licence and since it is the simplest and most profitable way of extracting timber in the short-term, there is strong demand. After acquiring a licence through such 'middlemen', the foreign timber dealer typically pays for all other costs of log extraction and exportation. Because the licence is non-transferable according to current

forestry legislation, the foreign timber dealer also has to cover the middleman's costs for transport permits, fuel, etc.

SMFEs clearly face a wide range of financial risks and barriers in their quest for profitability. For many interviewees, the principal constraints fell into the following three categories:

- Technical problems exacerbated by the informality of enterprises lacking legal registration
- Administrative and business planning inadequacies
- Lack of collateral

4.1 Technical problems that make SMFEs high risk

SMFEs need to overcome a series of technical challenges that limit their competitiveness in the global forest products market. Their capacity to develop their customer base depends largely on their capacity to deliver quality products on time, in sufficient quantities and at competitive prices. But often there are serious deficits, both in the machinery that SMFEs have at their disposal and in the capacity of staff to use such machinery.

In many cases, senior management posts are occupied by prominent community leaders or members of the board of directors, rather than professional managers or technical experts. As these posts rotate every few years, skill development and learning curves are irregular, often resulting in economic and other losses caused by improper management decisions. Most SMFEs have limited strategic business planning and communication skills, both of which are essential for establishing and maintaining mutually beneficial business partnerships with other actors along the supply chains, including specialised processors and buyers (Donovan *et al.*, 2006; UNECE, 2006).

In detailed studies of the timber industries in three key forest provinces, Cabo Delgado, Sofala and Zambesia, DNFFB (2005a) lists the forest industries in those provinces as sawmills, carpentry workshops and a few furniture factories. Most enterprises had already fully repaid the loan on the machinery, and the machine was at the end of its life cycle. Fixed sawmills were using mostly vertical band saws (e.g. Portuguese Pinheiros). There were also many mobile horizontal band saws and some circular saws. The circular saws were normally old and worn out, although some of the mobile saws were relatively new (e.g. Wood Mizers). In some units, the oldest machinery was deemed dangerous to use because of the risk to workers.

DNFFB (2005b) notes that in late 2004 in Sofala, 20 of the 24 sawmills then present qualified as SMFEs. Of these, 12 used band saws (nine vertical and three horizontal), one used a circular saw, and seven used mobile sawmills (five mobile band saws and two circular saws). Almost all the secondary processing units had basic equipment for carpentry (lathe, multipurpose machine, parallel plane, plane, molding lathe, etc.) and a circular or band saw. One small carpentry unit located in Marríngue used manual tools for wood processing. The report noted that most units were obsolete, worn out or had a very low production capacity. Of the 1,117 people employed in the large and SMFE harvesting and processing industries of Sofala at that time, only 62 had a basic education, 15 a secondary education and three a higher level of education.

In Zambezia, DNFFB (2005b) shows that 15 of the 18 sawmills qualified as SMFEs. 10 used band saws (nine vertical and one horizontal), two used single-blade circular saws and three used mobile band saws. The report recommended an urgent end to the use of some obsolete equipment as it posed a severe risk to the operators. Of the 1,784 people employed by the large and SMFE harvesting and processing industries in Zambesia, only 181 had a basic education, 23 had a secondary education and 8 had a tertiary education.

In Cabo Delgado Province, of the 21 sawmills approached in 2004, all but one were SMFEs (DNFFB, 2005b). Of these, nine used band saws (seven vertical and two horizontal), five used circular saws (three single and two double blades) and seven used mobile sawmills (one circular and six band saws). Only a few units were working at their full production capacity. Of the 1,848 people employed by the large and SMFE forest industries in Cabo Delgado, only 25 had a basic education, 22 had a secondary education and one had a tertiary education.

The results of our survey corroborate such findings. Most respondents said that the lack of appropriate equipment, qualifications to use it and information were the most crucial obstacles to developing their business. This lack of technical competence deters financial investors from engaging with the SMFE sector in Mozambique.

Most of the technology used by Mozambican SMFEs is almost obsolete

4.2 Administrative and business planning shortcomings

Many studies attribute the cause of problems in the SMFE sector to business leaders who seldom have much experience in business management, accounting or marketing (see Antinori and Bray, 2005; Nittler and Tschinkel, 2005; Donovan *et al*., 2006).

Demonstrable business management skills with technical and vocational training are essential to meet bank requirements for credit and for facilitating access to financial services. However, none of the enterprises we visited could meet such conditions.

In order to address these challenges, SPFFB, FAO and other NGOs are conducting capacity building courses for SMFE members, supporting SMFEs in obtaining loans and linking them to markets. At the national level, the Gabinete de Consultoria e Apoio a Pequena Industria (GAPI), founded in 1984 by the Friedrich Ebert Foundation (FES), promotes the interests of small enterprises. GAPI, the Mozambican Association for Rural Development (AMODER) and Technoserve play an important role in helping SMEs obtain loans and improve their entrepreneurial skills with technical assistance. At this stage, few SMFEs display the capacity for autonomous development. They need internal and external institutions that can mobilise funds at reduced interest rates and with long repayment periods and provide business development services at low prices (Borgarello *et al.*, 2004). These organisations can also help SMFEs to find markets for their products and assist them to improve the quality of their products to access those markets. In our interviews, this was especially true for beekeepers, carpenters and sawmill operators, all of whom generally produce low quality products.

In general, the agricultural sector (forest included) is negatively discriminated against within the finance system. In 2003, the credit distribution was 16% to the agricultural sector, 35% to industry, and 49% to commerce and other economic activities (Carvalho, 2003 cited by Borgarello *et al*., 2004).

4.3 Lack of collateral

SMFEs have insufficient collateral to secure a loan. According to a World Bank study (2003), short and long term loans require collateral of up to 300 per cent. Land cannot be used as collateral because in Mozambique the land and other resources belong to the state. Furthermore, acquiring formal land use rights such as the DUAT is a complex process. Forest use rights can be acquired for 50 years in the case of FC leases and renewed for a further 50 years by paying an annual leasing fee to the government. Although land is de facto sold, there is reluctance to formally acknowledge this and as a result, land does not as yet have a commercial value and cannot be used as collateral.

A possible way of overcoming such constraints is through vertical integration agreements with either larger local firms or international companies (Castelo-Branco, 2003 cited by Borgarello *et al.*, 2004). SMFEs could adopt both vertical and horizontal integration strategies in order to grow quickly and reduce their costs. This means that "*enterprises are connected to others in networks of exchange. Through networks, organisations can access complementary resources and/or capabilities or can closely coordinate their use of resources; in this way, they hope to enhance their competitiveness, for example in terms of improved products, better market access or faster market entrance, and thus increase their revenues*" (Ebers, 1997 cited by Borgarello *et al*., 2004).

Enterprise links and associations

The creation of associations based around SMFEs in forest frontier areas is often an attempt to overcome the disadvantages of scale and market or political marginalisation. Forest-based associations are known to play a pivotal role in reducing costs, developing new ways of adding value and increasing political and market bargaining power (Macqueen *et al.*, 2006).

Box 6. An example of a CGC: the Comité de Gestão Comunitaria de Morrumbala

The district of Morrumbala contains 25 communities living in forest and wildlife areas in which commercial concession holders are operating. As such, they can potentially benefit from a law that requires the government to return 20% of tax revenues collected from those commercial activities to the communities affected. To capture this benefit, the management committee of the CGC for Morrumbala was created in 2006, organised by committees of participating communities.

Through this financial arrangement, the community has built a small carpentry workshop, which generates income and allows the group to be sustainable. The carpentry products are sold at the local market and surrounding areas.

The communities of Morrumbala have also called for forest inspections and played a role in the development of good forestry practices to minimise uncontrolled bushfire with the creation of 'aceiros' (forest roads that prevent bushfires).

In Mozambique the various forest-based associations can be grouped into three main types:

- Comité de Gestão Comunitária – CGC associations are community based. Their main objective is to guarantee the sustainable use of forest resources while generating financial income through its use. Although they are a legal association, members do not usually pay membership fees and the associations seldom have detailed statutes that regulate them. An example of a CGC is the Comité de Gestão dos Recursos Naturais de Morrumbala, in the province of Zambézia. Similar institutions have been established in the 70 plus CBNRM initiatives being implemented across the country.

- Grupos de Interesse – these associations are often not registered and, in contrast to CGCs, they have a specific purpose, for example to produce charcoal, honey, etc. The Grupos de Interesse are often (but not always) found inside the CGC. Grupo de Interesse rarely have statutes to regulate their activities and the number of members is variable. The members do not pay membership fees but contribute to a joint payment for the licences necessary to harvest a particular resource or acquire equipment. An example of a Grupo de Interesse is the Grupo de Interesse de Artesanato in the province of Manica.

- Enterprise Associations – these are normally made up of formally licensed or registered SMFEs. These associations have statutes that regulate the association and its members pay membership fees. The main aim of such associations is to solve common problems related

to governance, bureaucracy and legislation that affect their daily activities. The underlying principle is that as a group they have a stronger voice and more influence with the official institutions. A good example is the Associação Comercial e Industrial de Sofala.

Box 7. An example of an enterprise association – the Associação Comercial e Industrial de Sofala (ACIS)

ACIS is a non-political, autonomous, private, non-profit association founded in 2000. Its aim is to contribute to the promotion and development of commerce and industry by strengthening local business and improving their sustainability. It also aims to increase private sector participation in Mozambique's economy.

ACIS currently has over 100 members, including some forest sector firms, with a combined workforce of more than 27,000 employees linked to a further 100,000 rural community outgrowers. ACIS is managed by a general assembly which comprises all full members of the association and is led by a president and vice-president.

While ACIS's size and diversity means it is unlikely to champion an issue specific to forestry, it does pursue issues of general relevance to its members. For example, ACIS identified corruption as one of the major issues affecting its members, as well as economic and business development in Mozambique. In partnership with the Center for International Private Enterprise (CIPE), ACIS embarked on a 12 month project to find ways to combat corruption in business in Mozambique.

5.1 Why associations form

The motivations for SMFEs to form associations, especially at the community level, are fairly consistent across different regions and include: to reduce costs; to improve negotiation with government institutions, customs and service providers; and to increase bargaining power with buyers. The government, through the SPFFB, officially supports the establishment and empowerment of community associations, particularly through CBNRM provisions in national policies.

The official requirements for creating an association are relatively straightforward compared with establishing an enterprise. For example, it is only necessary to: (i) form a group of at least 10 people; (ii) with members no less than 18 year old of age; (iii) each of whom must have a valid identification card; (iv) who together write the statutes of the association. Most interviewees indicated that the process is quick but referred to the absence of identification cards as the principal constraint. In Mozambique, the majority of rural people do not have such cards as they reside far from the identification services.

Box 8. An example of a local interest group: the Muchangalane Carpentry Association

The Muchangalane Association formed in 1997 in the district of Monapo in Nampula province. It has 69 members distributed in the following areas: 14 in carpentry, 12 in sawmilling, 15 in charcoal production and 27 in horticulture. The carpenters have produced furniture for a range of customers including schools and house builders. They also sell products at the local market and in nearby towns.

The carpenters use the sander, plane and circular saw, all of which require electricity to function. Much of the equipment is fairly outdated.

5.2 The numbers and efficacy of forest-based associations

Forest associations in rural areas are very common either as community associations, CGCs or grupos de interesse. Enterprise associations are mostly based in urban areas, particularly the provincial capitals. Table 13 shows the estimated number of associations per province.

Table 13. Number of registered associations / interest groups per province

Province	Comités de Gestão Comunitária/ Grupos de Interesse
Maputo	20
Gaza	31
Inhambane	29
Sofala	19
Manica	23
Tete	14
Zambézia	35
Nampula	63
Cabo Delgado	19
Niassa	2
Total	**255**

Source: DNTF, 2008.

Furniture made at the Diocese Caritas sawmill in Lichinga

Interviewees felt that the effectiveness of commercial enterprise associations was very limited, and that they were not meeting their objectives. For example, in Tete province the original forest operators association was perceived to be so ineffective by some operators that they created a new association. Commonly expressed problems with these associations were: (i) unhelpful competition between different associations, (ii) lack of leadership capacity, (iii) an individual dominating the association agenda and (iv) siphoning off of funds for inappropriate uses.

The above problems are also common in the CGCs and Grupos de Interesse. For example, in the Associação de AFORME in Niassa, formed to harvest exotic trees (*Eucaliptus sp* and *Pinus sp*), members agreed to pay for the harvesting licence in three instalments. However, when it became clear that some members were not making their contributions, the remaining members also refused to make further payments.

5.3 Types of institutional support that help such associations

NGOs have played a significant role in helping SMFE associations. Some have offered training to build capacity. Others have given legal advice and/or financial resources. For example, FAO launched an initiative called Community-Based Enterprise Development (CBED) to support participatory natural resource management in Nampula province. They hosted training for a series of enterprise interest groups such as carpentry and charcoal production groups. The initiative resulted in: (i) the Munchagalene carpentry group receiving support to prepare its enterprise development plan; (ii) the charcoal enterprise developing its enterprise development plans; and (iii) market surveys completed at district and provincial levels for some of the selected products.

6 Labour issues

It is widely accepted that SMFEs provide employment opportunities for local communities. However, in the absence of any real enforcement of health and safety legislation regarding the installation of sawmills or other equipment, or specific guidelines on the contractual rights and duties of local workers, the quality of these employment opportunities varies greatly. The lack of clarity about the enforcement of labour laws makes the resolution of labour disputes difficult. As the majority of local labourers are recruited without formal contracts, they remain vulnerable to abuses of their rights and non-payment or unreasonable dismissal.

6.1 Health and safety

In general, work in SMFEs is carried out under conditions harmful to human health. In sawmills, where labour conditions seem to be the worst, employees stand for many hours and in most cases they are exposed to high levels of gases and solid particles such as dust and high temperatures. These all present a constant health threat to the employees. In addition, the absence of appropriate safety equipment such as gloves and dust masks is very common.

Box 9. Observations on labour conditions in a large enterprise, Moflor – Moçambique Florestal SARL

Moflor is a company owned by Grupo Entreposto. It has membership in the Associação Coercial e Industrial de Sofala. Moflor was founded in 1960 and is located in Dondo in Sofala province and currently has 152 employees. The company has eucalyptus plantations in the province of Manica for the production of creosoted (preserved) poles for electricity, telecommunications and fencing, and a 50,000 ha concession of natural forest.

As a large company, it has two saw mills and one processing station with another circular saw, wood treatment tanks, tractors, trucks and chainsaws. The main product is creosoted railways sleepers and sawn timber, which are sold on national and international markets, especially in South Africa. Site visits to the company showed that Moflor employees routinely did not use protective gear when working with creosoted materials.

Although the companies we interviewed were aware of these problems, they cited a lack of funds as the reason why they had not purchased the necessary health and safety equipment. In any case, some workers actually prefer to work without gloves or masks; the gloves reduce sensation in the hands, which can be dangerous when sawing timber, and masks are hot to work in. These situations commonly occur, in part because managers and employees are not educated on the importance of safety and health protection measures in the workplace.

Worker carrying out maintenance on the cutting edge of a saw

6.2 Employee training

SMFEs often attribute the lack of training in sawmills to the seasonality of their activities and of their workforce. They claim that it would be very expensive for them to train all seasonal workers, especially because there is a high turnover. They prefer instead to provide informal training, where experienced workers teach the newcomers. The absence of government inspection also means there is little incentive to provide more thorough training to employees.

6.3 Contractual conditions and wages

Most workers in our field surveys did not have formal work contracts. This was especially true of those occupying lowly or part-time posts. This situation extends to all types of SMFEs regardless of size. We found that it was common for SMFEs (e.g. carpentry workshops in Changara district) to pay workers below the national minimal wage, ignoring Mozambican labour laws. The monthly minimum wage in Mozambique is MZN 1,443.17 (about US$ 55) for the service industries and MZN 1,023.80 (about US$ 40) for agricultural workers. In many cases, the only opportunity the rural poor have to generate an income is through the SMFEs, so they have little or no power to negotiate their conditions of employment.

In the case of community associations, like the Muchangalene Association in Nampula, the members are also the workers and they divide the income made from harvesting equally.

Employees of Moflor loading wooden sleepers, most of them without protective gear

Conclusions

In Mozambique, the size of the forest resource and several market trends favour the development of SMFEs. This is particularly true for timber and some commercial NTFP supply chains and for the tourism sector. Innovations in business organisation and management, and financing new production technologies as well as communication and information systems could significantly improve the productivity and efficiency of SMFE operations. The growing scarcity of certain tropical hardwoods is translating into higher prices for primary and secondary wood products. At the national level, there is a growing demand for furniture, construction wood and certain NTFPs, such as bamboo and reeds. Internationally, SMFEs have benefited from expanding niche markets for certain timber and NTFP products. Increasing nature tourism has provided expanding markets for handicrafts and ecotourism. Greater awareness of traceability issues and forest certification provides new market opportunities for legally and sustainably produced wood, and the growing concern about climate change, watershed protection and biodiversity conservation has spurred interest in ecosystem services and the need to pay for them.

However, most SMFEs have not been able to fully take advantage of these positive trends. Rather, they struggle to advance beyond the start-up stage of business development, exhibiting low levels of output, productivity, value addition and profit. Overcoming these challenges requires concerted action and investment from a number of stakeholder groups, including the SMFEs themselves, their business partners (processors and buyers) and service providers, as well as government agencies and NGOs.

The following recommendations are directed at potential supporters of SMFEs, especially government agencies. They have emerged from field work and the literature review carried out during this study:

- Make resources available to increase the interaction and exposure of SMFEs to buyers and markets to allow them to seek out and identify their needs and new business opportunities.
- Improve information flow about business training to allow SMFEs to acquire the capacities necessary to develop an efficient business.
- Find ways of rewarding downstream business for developing mutually beneficial partnerships with upstream community SMFE businesses.
- Invest in the facilitation of associations that unite SMFEs to increase their economies of scale in processing and marketing, and bargaining power.
- Foster information portals and alliances that draw SMFEs' attention to existing technical, business and financial service providers that can help SMFEs overcome challenges during the critical start-up phase.
- Ensure that the main government agencies such as DNTF pay as much attention to forest business efficiency as they do to social and environmental goals through the development of specific departments that support business management at the community level and among SMFEs.

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Small and medium forestry enterprises for poverty reduction and sustainability

Most international attention in forestry has been given to improving the conditions for large-scale or micro-scale forestry, and much less to the 'messy middle', which produces a high proportion of forest products and involves huge numbers of people. Ways need to be found by which small and medium forestry enterprises (SMFEs) can better contribute to sustainability and reduce poverty. IIED, with partners in Africa, Asia, Latin America and the Caribbean, has been investigating these issues. Country diagnostics show that the SMFE sector is of major significance for livelihoods; the net effect of myriad small players represents a substantial part of local economies. Yet these are largely invisible economies, and policy and programme developments almost completely ignore the SMFE sector. Raising the sector's visibility such that its impacts can be better assessed, and then going on to explore how the positive links to sustainability, livelihoods and poverty reduction can be enhanced, is a major challenge to which this initiative seeks to rise. The following reports in the *Small and medium forestry enterprises* series are available from IIED on request, and downloadable from www.iied.org:

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Small and medium forest enterprises (SMFEs) in Mozambique account for 95.8% of the formally registered enterprises in the forest sector and more than 99.9% of the enterprise numbers if the predominant informal enterprises are included. Total forest sector employment exceeds 600,000 people, 80% of which is based in SMFEs. Despite their significance to the economy and potential for sustainability and poverty reduction, SMFEs are poorly catered for by national policies and programmes.

At present, the two formal channels for commercial timber production – 50 year forest concessions and annual simple licenses – are inaccessible to the more socially responsible forms of community-based SMFE that might bring about greater sustainability and poverty reduction. While 180 communities had secured their land by 2005, they have no easy means to develop commercial enterprises from the forests on that land. Legislation still views community based natural resource management as a process of subservient partnership between external forest enterprises and community management committees. Despite these challenges, there are a wide range of Mozambican programmes spanning government, civil society and private sector initiatives that support SMFEs. This report makes the case that a more coordinated effort is urgently needed between these programmes to develop business skills and capacity among SMFEs.

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