EASTERN AFRICA REGIONAL PROGRAMME OFFICE

EASTERN AFRICA COASTAL FOREST ECOREGION PROGRAMME

CONSULTANCY REPORT ON NATIONAL AND REGIONAL TRADE OF FLORA AND FAUNA

The Mozambican Review
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1. Introduction

Mozambique is a country of contrasts in terms of natural resources availability, management system and relation to national development. While natural resources, including flora and fauna is reported to be abundant and, in some cases, intact, poor agricultural production and poorly developed markets, difficult climatic conditions, floods and severe draughts are the main reasons for rural poverty within the country.

Forests play an important role in rural communities as providing building materials, fuelwood, alternative source of food and income generation. In addition, forest products are important source of subsistence in cases of production failure, and this may be extended to wildlife. However, in economic terms the utilisation of the resources has not yet become important for poverty alleviation, due to several constraints, including technical capacity. While policies and strategies are conducive for sustainable resource management, weak institutional development associated to limited government budgets remain the major enemies.

Forest products are of enormous importance for local communities in Mozambique. It is estimated that 80 % of the energy consumed in the country comes from woody biomass - around 17 million cubic meters per year. This figure may rise to more than 20 million cubic meters over the next ten years, if good management practices are not applied. Moreover the rural population rely on the woodlands for numerous products such as building materials, bamboo, fruits, mushrooms, honey, edible insects, medicines, fuel wood and game meat. The forests also provide crucial soil nutrients for subsistence farmers who practice slash and burn or shifting cultivation all over the country.

Scientific data on non-wood forest products in Mozambique are lacking or simply scarce. Furthermore, the knowledge of their economical and social uses, as well as their distribution and market, are limited.

The present policies and legislation of Mozambique emphasise market economy, the role of the private sector and decentralisation. This offers challenging opportunities for the development of sustainable management and utilisation of the forest resources.

2. Policy framework that has an influence to trade in the EACFE

2.1. Relevant national legislation and policies in countries and as they relate to neighbouring countries,

In the last two decades, Mozambique has grown from colonial and or non-existent policy and legislation to modern and updated policy, strategy and legislation in sustainable natural resource management in general. While colonial policy was focused on wood products export and creation of forest and wildlife protected areas, new policies after independence include multiple use of these resources in order to benefit rural people and the country's economy. The government of Mozambique adhered to several international/regional conventions, agreements and protocols that brought light to the development, approval and implementation of several policies and legislation.

Present national policies emphasises sustainable use of natural resources in general and biodiversity conservation, while strengthening participation of the population in the management of these resources. To support the implementation of this process, a legal and strategic framework has been defined within the national planning system (the government five-year planning for 1994 and 1999 mandates). This framework has its basis mainly in the international conventions and protocols and specific lows that were developed since independence, in 1975.

The law of the environment specifically seeks to guarantee the improvement of the quality of life through appropriate management of the environment and natural resources within the processes established by the national planning system.

The relevant policies and strategies are listed bellow:

- National Management Environmental Programme (NMEP)
- Strategy and Plan for the Biodiversity Conservation (SPBC)
- National Policy for Coastal Management (NPCM)
- Environmental Impact Assessment Strategy and Regulation
- National Forestry and Wildlife Policy and Strategy
- Strategy for Tourism Development
- National Policy and Strategy for Water
- Fisheries Policy and Implementation Strategy

The legal documents that guide the general environmental and biodiversity conservation at both national and local (provincial and district levels) include:

- Environmental Law (1997) and Environmental Regulation (1999);
- Land Law (1997);
- Forestry and Wildlife Law (1999);
- Forestry and Wildlife Regulation (2002)
- Municipality Law (1998);

These laws have been promulgated and they constitute new elements for political dialogue and social harmonisation no natural resource management. The Government of Mozambique have also ratified many international environmental/conservation conventions, including the Convention on Biological

Diversity (August 1995), Convention on Drought and Desertification (October, 1996), Climate Change, CITES and Montreal Protocols. At regional level, many SADC protocols and multilateral agreements have been signed. The most relevant conventions and agreements signed/ratified by the country include:

- International Conventions (e.g. Biological Diversity; Protection of the World Cultural and Natural Heritage; Zambezi River Basin Multilateral Agreement; Convention to Combat Drought and Desertification);
- The SADC Protocol on Shared Watercourse Systems in the Southern African Development Region (1995);
- The SADC Consolidated Version of the SADC Protocol, Containing Original Provisions and Proposed Amendments, with Amendments Highlighted (1999);
- The UN Convention on the Low of the Non-Navigational Uses of International Watercourses (1997).

In addition the following documents are important references in legal context on natural resource management and biodiversity conservation in Mozambique:

- the Diploma Ministerial 145/92 that revised the 1965 Regulation
- the 1978 IUCN Plant Red Data Book (The Southern African Botanical Diversity Network - SABONET). "The Southern African Plant Red Data List" for ten SADC member states has been compiled recently.
- posterior additions to annexes to the CITES Treaty by collected by Bandeira *et al* (1994). Mozambique adhered to this treaty in 1981.

As mentioned earlier, the general guidance to forest and wildlife resources has its base these conventions and is well prescribed under the Forestry and Wildlife Policy and Strategy that comprises the following objectives:

The Economic Objective, which states that forests and wildlife should fulfil their role in economic development to meet the basic, needs of the communities in providing forest and wildlife products. It also promotes efficient generation and collection of fees to support national finances.

The Social Objective emphasizes the role of the forest and wildlife resources in the alleviation of poverty. It also promotes skills development within rural communities so that they are able to take responsibilities for the management and use of these resources. In summary, this objective takes into consideration the need to empower local communities as direct agents and beneficiaries implementing plans, programs and activities related to overall management of the resources.

The Ecological Objective takes into consideration the need to improve the management and conservation of the forest and wildlife resources aiming at contributing national sustainable development and the processes of local development, all framed within rational use of the land and conservation of biodiversity. The objective underlines the importance of forest resources and their contribution to the maintenance of the soil and water resources and biodiversity and in the generation of other environmental benefits.

The Institutional Objective seeks*:* (i) the organisational and operational improvement at central level of the national forests and wildlife administration so that it can fulfil its duties of planning, policy

formulation, administration, follow-up and evaluation; (ii) the strengthening of the operational and organisational capacities at provincial, district and local levels, in accordance with the requirements of decentralisation and participatory management of natural resources; (iii) the strengthening of capacity of the central, provincial, etc. administration, by means of the implementation of programs of training and professional development.

The Forests Policy described above guide the implementation of forest and wildlife products use, trade and management. These principles are taken into consideration in the Forest Law and Regulation, which define the roles of different stakeholders:

- The government is responsible for the formulation of policies and overseeing of the resources as a hole.
- Rural communities should participate actively to all the phases of the planning and use of forest and wildlife resources, gain direct benefits from the management of natural resources, as well as control burns and over-exploitation.
- Local government administration undertakes oversight, control and prevention of burns, and receives direct benefits from the inspection and management of forest resources.
- The private sector is expected to carry out viable commercial activities based on partnerships between the business sector and local communities, as well as to disburse taxes to the governmental budget.

Despite this favorable environment, however, the large number of institutions involved in the regulation, use and exploitation of natural resources and the fragmented nature of the legislation and its administration, renders resource management/use ineffective and uncoordinated, including trade mechanisms. Little information is available as regarding legal and illegal trade of flora and fauna in Mozambique. A study conducted by Puná (2002) on carvings or sculptures revealed unavailability of trade information on several national and international agencies such as the UNDP, the WorldVision, the Ministry for Coordination of Environmental Affairs (MICOA), the Ministry of Agriculture and Rural Development (MADER), National Museum of Art, among others. By contrast, it is estimated that annual sales amount to about USD 22 million, while legal and illegal exports may achieve USD 4.4 million, which correspond to 0.6% of annual national exports.

2.2. Relevant sections in regional agreements, policies and structures (e.g. EAC, Africa Union, SADC, NEPAD, Lusaka Agreements)

Mozambique became a member of the World Trade Organization (WTO) on 26 August 1996, having signed the Final Act of the Uruguay Round and the Marrakesh Agreement on 15 April 1994. The country has been eligible for technical assistance from international organizations that are part of the IF, including the WTO. In addition, has also benefit from the special and differential treatment afforded to developing countries in the form of exemptions or delayed implementation of certain provisions. Mozambique is not currently involved in any dispute settlement proceeding under the WTO.

Mozambique is a member of the Southern African Development Community (SADC), and the Cross-Border Initiative (CBI). Under the Cotonou Agreement (successor to the Lomé Convention),

Mozambique receives aid made available to ACP countries by the European Union, and non-reciprocal preferential treatment in the form of exemption from import duties for certain exports. Likewise, Mozambique's exports enjoy non-reciprocal preferential access to the markets of other developed countries through the Generalized System of Preferences. Due to its limited export capacity, Mozambique has not yet benefited significantly from these preferential arrangements. (htt://www.wtp.org/English/tratop_e/tpr_e/tp154_e.htm) visited on 02/03/2004.

SADC Protocol on Trade and Development was adopted in August 1996. The essential of this protocol included the following:

Elimination of tariffs and quantitative restrictions within a period of eight years

MFN and national treatment of all traded goods

No new subsidies that "threaten to distort competition" and only in conformity with WTO

Harmonisation of sanitary, phytosanitary measures, standards and technical regulations envisaged

Infant industry protection and safe-guard clauses

Anti-dumping in conformity with WTO rules

Detailed specifications of rules of origins

Notification under Art. 24 of GATT

Mozambique is a prominent member of NEPAD, and currently is chairing the African Union, since July 2003.

2.3. Relevant international frameworks and agreements (e.g. CBD and CITES)

Mozambique's external trade policies are designed to create an environment conducive to promoting its products in international markets, especially those of the developed countries of Europe, America, and Asia without prejudice to the promotion of intra-African trade. Trade policies are formulated with view to speeding up Mozambique's industrialization process, and in such a way to make access to foreign markets easier for Mozambican products. In pursuing these objectives, Mozambique has entered into multilateral, regional bilateral and preferential trade agreements as mentioned below. Mozambique is a

signatory of the WTO — World Trade Organization, World Bank, IMF— International Monetary Fund, Lomé Convention, SADC- Southern Africa Development Community, IOR- ARC Indian Ocean Rims Association For Regional Cooperation, AGOA- African Growth and Opportunity Act, GSP- Generalized Systems of Preferences and Trade Preferential Agreement with South Africa. (htt://www.wtp.org/English/tratop_e/tpr_e/tp154_e.htm) visited on 02/03/2004.

2.4. Relevant trade-related development initiatives

Mozambique has undertaken important reforms since 1987 — and at a more accelerated pace in the past few years. The reforms have resulted in a significantly liberalized trade regime that is essentially based on tariffs. Most export restrictions have been eliminated, as have foreign exchange controls. Mozambique has been making a determined effort to create an environment that is conducive to private investment, both domestic and foreign. The Government has shown a strong interest in expanding exports, particularly of agricultural and fisheries products, but limited export capacity has hindered significant export-led growth.

Mozambique has simplified the structure of its customs duties; the tariff rates currently range from 0 to 30%. The tariff structure is modestly escalatory. The simple average applied MFN tariff is 13.8%, among the lowest import duties in southern Africa. In 1999, Mozambique introduced a 17% value-added tax (VAT). The Government expects the VAT to improve public revenue; this will facilitate a future reduction of the maximum tariff to 20%. Excise taxes are levied on automobiles, luxury goods, alcoholic beverages, and tobacco products. Like other WTO Members, Mozambique has bound customs duties on all agricultural products; the tariffs are bound at a ceiling rate of 100%. In addition, rates on 17 HS eight-digit tariff lines for non-agricultural products have been bound, at ceiling rates of either 5% or 15%. (htt://www.wtp.org/English/tratop_e/tpr_e/tp154_e.htm) visited on 02/03/2004.

2.5.Strengths and weaknesses, synergies and conflicts between frameworks with respect to EACFE resource trade/use

Mozambican large areas are characterized by having infertile soils and limited rainfall reducing agricultural productivity. This factor, associated with frequent natural disasters such as droughts and floods, imposes food insecurity to most rural Mozambicans. Poor agricultural production over large areas of the country result in the dynamic that more than 95 % of crop production is small holder based and subsistence aimed. Traditional agriculture in southern part of the country, relay on trees to reduce production risk, food variability and as an alternative source of income.

In addition to above natural constraints above mentioned the country's development was seriously affected by successive wars, including civil war right after independence that ended in 1992. The economic recovery of post-war years, and the rapid population growth, has drawn heavily on natural resources. Areas of high agricultural and forest potential have become targets of intensified use and, as such, became areas of potential environmental degradation. The main problems identified indlude:

- The degradation of natural resources (including water, soil, forest) due to population pressure and inappropriate practices of farming and forest exploitation.

- The existence of adverse natural conditions (including droughts, floods, migratory pests, etc.), which are insufficiently known.

- The adverse socio-economic conditions for natural resources use and production (including generalised poverty and poor rural marketing infrastructure and mechanisms).

- The lack of appropriate technological alternatives for agricultural production and natural resources use and management (being objects of major concern the access to technology and the adoption of known technologies in the field)

- Poverty in rural areas leading to food insecurity (household and community level)

The natural resources of Mozambique are faced with the problem of rapid degradation due uncontrolled use, trade and agricultural development. The main causes of degradation include, among others, traditional agriculture (mainly slush and burning), commercial logging, hunting, charcoal making, firewood, carving and building material collection, with severe consequences in deforestation and soil degradation. Deforestation rates have increased significantly over the last ten years and in some cases, are reported to be alarming, such as around the capital Maputo (20 %), Nampula (10 %), between 1970 and 1990, (Saket, 1994).

3. Management

3.1. Brief stakeholder analysis – what institutions (government, private, civil society, etc.) are involved in different aspects of EACFE resource uses (trade; roles, responsibilities and existing capacity)

Forest and wildlife management in Mozambique is mainly in charge of government through the Ministry of Agriculture and Rural Development (MADER), outside protected areas. The National Directorate of Forestry and Wildlife (DNFFB), takes the overal role at national level and it charged with the formulation and development of policies, programmes and projects for the forestry sector. The DNFFB has jurisdition to protect, conserve and promote the sustainable use of natural resources, with enphasis on forest and wildlife. The DNFFB is organized into three departments that are Forest Department, the Economics and Forest Industry Department and the Wildlife Department.

The Ministry of Tourism (MT), has responsibility to manage protected areas, that includes national parks and reserves, since the year 2000. These responsabilities are replicated at provincial levels for both institutions, but still poorly represented at district level. The Ministry for Coordination of Environmental Affairs, has a mandate to coordinate general environmental aspects, that may involve both MADER and MT, or even other governmental or non governmental agencies dealing with environmental aspects.

The Provincial Forest and Wildlife Services (SPFFB) under the provincial Directorate of Agriculture (DPA) represents forest and wildlife at local/provincial level. The Provincial Directors of Agriculture and Rural Development together with the DNFFB for the technical aspects supervise the SPFFB's duties. A Head of Service leads each of the SPFFB and his responsibility is to guide the tasks of three technical sections: Forest Management, Wildlife, and Inspection. The District Directorates of

Agriculture (DDA) are charged with carrying out the activities in the field. In this case, the Head of Post, supervised by the District Director of Agriculture, is responsible for the activities connected to forests and wildlife. Mostly due to lack of resources, the main activities of the SPFFBs are dealing with inspection, issuing of licenses, and collection of fees.

While the government administration has gone through a process of decentralisation, the implementation of new procedures is not yet fully adopted in the provinces. In the situation of scarce human and material resources, the forest administration is concentrated to supervision of forest law whereas extension, forest inventories, preparation of management plans as well as promotion of community and private sector partnerships are still poorly devoted.

As mentioned earlier, Mozambican policies nad legislation promotes community participation in the management of natural resources, including forestry and wildlife. Therefore, some responsabilities is being taken by local communities in the management. In these cases, management strategies includes joint management programmes with either government agency or private/NGO in the development and implementation of resource management plan. In some cases, communities alone have taken initiatives for sustainable use programmes prior to outside assistance, that is government or any other agency.

In Mozambique, valuable wood is still being exported mostly as roundwood as against regulations that recommend local processing. Establishment of sawmills still limited due to low investments in this sub-sector. Roundwood exportation means economical losses of potential incomes to the industry, people and government. Rural communities may play more important role in the chain of wood processing, although the possibilities are at present rather limited and restricted in the first instance to the supply of raw materials to the sawmilling and logging companies.

The Forest and Wildlife Regulation approved in 2002 that is in place, promotes concessions as sustainable natural resource management strategy, as against simple licence. Authorities do not favour the simple licensing system, because it leads to practices where an entrepreneur searches for individual trees, which are collected with least efforts in easily accessible area and without any responsibility on management practices. The harvesting is concentrated to the most valuable or desired species leaving many potential trees unutilised. Valuable species have largely vanished from the areas of easy access. Unfortunately this system still in place and will take time to be discarded due to limited capacity of the concessions.

Capital markets in Mozambique are not yet well enough structured and developed to handle large projects (as e.g. sawmill equipment investments) or to satisfy the demands of long-term investments common in forestry sector. Therefore, special support in financial arrangements for the forest industry is of great importance.

The information on the forest resources and availability of raw materials for commercial use is scarce. Similarly, there is very little information on silvicultural regimes, and research in forestry issues is weak. The Department of Forestry of the Eduardo Mondlane University (DEF/UEM) and the Centre for Forestry Research (under DNFFB) are the main forest and wildlife research institutions in Mozambique. Their main constraint is fund availability and limited technical capacity for specific thematic areas.

Forestry concessions are new management regimes being adopted in Mozambique, but still a long way to better implement them due to both limited technical capacity of the concessionaires and the government as well as budget capacity. On the other hand, most of the concessions are located in poor

rural areas, were communities have free acces os natural resources, resulting in conflicts and mismanagement. Communities have many other priorities than sustainable forestry and the concessionaires do not have technical resources and capacity for proper forest management.

There are a number of wood and non-wood products in forests, which could be basis for small-scale business and income generation for local communities. Such products could be marketed locally or in urban centres. More information on the potential products and markets are needed. Men and women should be trained for entrepreneurship, co-operatives, marketing and delivery of products.

More than 50 initiatives in Community-Based Natural resource management are being implemented within the country, most of them with high performance in terms of community involvement strategy, benefit searing, markets and resource protection. While some experiences are recognised nationwide, they are unknown regionally and internationally due to limited documentation.

Local communities have agricultural practices, which are based mainly on the utilisation of fire. This has lead to increasing destruction of forests. Annual forest fires in same areas, and especially in young naturally regenerated stands cause disappearance of less fire resistant species. In order to improve the situation, methods to reduce forest fires have to be developed. The fire protection methods should include mechanisms of sustainable management and silvicultural practices as well as incentives for entrepreneurs and communities.

3.2. Investment levels - main on-going programmes and projects relevant to wildlife trade/use

Investment in agricultural sector in Mozambique is mainly implemented through the Agricultural Programme (POAGRI). PROAGRI is a five-year Sectoral Program implemented by Mozambique's Ministry of Agriculture and Rural Development (MADER), which receives financial support from some twenty donors. The first phase of the Program started in 1999. A second phase has just been developed and is currently being analysed for further implementation.

The objective of the first phase of PROAGRI was to protect, conserve and utilise agriculture, forestry and wildlife resources in a sustainable way. The overall goal of the Program included to achieve environmentally sustainable and equitable growth in rural areas so that poverty is reduced and food security improved. The approach the previous objective, the Programme had a set of investments and activities designed to: (1) reform MADER in order to make it more efficient and effective; (2) support the execution of MADER's activities in the country; and (3) harmonise donors' support to agricultural development and establish systematically greater Mozambican "ownership" of the projects.

The successful materialisation of these objectives is the first step in ensuring economical, ecological and social benefits of both present and future generations. The Sector Policy and Development Strategy state that local communities should use forest resources considering biological diversity and economic self-sufficiency.

3.3. Main gaps (geographic, cross-border, thematic and capacity) in management

These forest resources are currently threatened by growing urban populations through increased demand for fuelwood, land for settlement and agriculture. On the other hand, the pressure emanates from legal allocations to individuals and companies through simple licences and concessions despite poor enforcement records and lack of capacity to monitor and control natural resource use by provincial and district services responsible for forest management.

The annual allowable cut of commercial species in Mozambique has been estimated at around 500,000 cubic metres of logs. In 1996 the DNFFB reported actual logging of 94,000 cubic metres and production of sawn timber of 43,000 cubic metres. It is supposed that logging has increased substantially in subsequent years and that there is a serious problem with uncontrolled timber extraction. Most timber is exported. Important markets include South Africa, Zimbabwe, Germany, Italy and Japan.

Currently all legal commercial timber extraction is carried out with simple licenses - no concessions (long term and requiring formal management plans) have been issued. However, some management plans and preparatory forest inventories have been done in order to allocate concessions. It is required that the companies applying concessions should run a saw-mill, and this has created a situation where the companies exporting logs have established a saw-mill, which in reality does not play a very significant role in their business and the harvested logs are sold directly for export. The sawnwood produced does not usually fill the international requirements regarding the size and quality standards.

Degradation of the forests in Mozambique and, on the other hand, the value of forest resources as potential for the rural and national development has addressed the need to invest to the forestry sector. Forestry sector is one of the key areas also in PROAGRI. Most of the urgent development issues, such as implementation of the new legislation, law enforcement, concessions, utilisation of the forest resources, certification and fire management are all connected to the management of forest resources. According to experiences in Mozambique and the region, community participation has been seen as a solution for sustainable management and utilisation of the forest resources.

The development of small and medium size forestry entrepreneurship is very justified, because vast majority of the efforts has been channelled to community based forest management in the implementation of PROAGRI and therefore development of private sector entrepreneurship has been neglected. Only little attention has been paid to the commercial utilisation of the forests. Once the forest legislation and policy has changed, there is urgent need to develop the industrial policies for the forestry sector and to support the private sector in production of value–added forest products. The procurement of raw material from the natural forests in partnership with local communities will generate demand on forest products and hence strengthens joint management of the resource in a sustainable manner.

Marketing and transport of most of the forest products outside the communities may not work on individual basis, but requires co-operation in organising among the villagers and effective networking with the private sector.

- Lack of financing. The industries are not able to expand their production because of poor financial situation and the local banks are not willing to take any risks in crediting;

- Poorly developed infrastructure. The road connections are inadequate and the condition of roads is poor. There are no electricity, shop services (e.g. fuel) and phone connections in the countryside;
- Lack of adequate wood supply. In the miombo forest the density of valuable trees is very low (usually less than five trees per hectare) and the lack of roads and transportation vehicles make it difficult to obtain required wood volumes from the forests;
- Lack of adequate domestic markets and marketing capability. Sawnwood material has not been important in the traditional constructing and the markets are developing slowly. There is no tradition for marketing of products in the country;
- Lack of trained manpower and managerial capability. The education and training e.g. in the fields of forestry technology, entrepreneurship, business management and marketing is poor and therefore the efficiency and quality of work is usually modest;
- Poor quality or standardisation of products. There is no adequate knowledge on international quality standards as well as standardised and certified products;
- Institutional problems hampering private sector functions. The laws and regulations do not adequately support private economy and the authorities do not fully recognise the importance of the private sector for the national economy;
- Lack of involvement of the local population and subsequent controversies. People living in the forests and from the forest resources have long time been neglected from the planning and decision-making concerning their own environment. The increased awareness of the people's rights has increased conflicts between the communities, government and enterprises;
- Constraints that do not allow modernisation of existing enterprises to ensure competitiveness and lack of spare parts. The industries have mostly old-fashioned equipment and the quality of products does not meet the international standards. Also transportation vehicles are frequently out of order.

4. EACFE resource trade/use

4.1. Key resources and/or species in subsistence use

Mozambique has a population of 16.5 million (1997) and has an agricultural based economy highly dependent on the production of small scale farmers. The small scale farmers account for 98% of the national crop production where more than 80% of the population work in the agriculture sector. Traditional agriculture in some parts of the country, relay on trees and wild animals to reduce production risk, food variability and as an alternative source of income.

The depletion of natural resources in the country is not only due to already mentioned problems. The crisis has been aggravated by natural hazards, particularly recurrent droughts over the last three decades, and more recently, heavy floods associated to inadequate land-use practices, such as cultivation in slope areas, over cultivation, bush fires, among others, with severe consequences in soil degradation. On the other hand, most of the population is living in extreme poverty and relaying on the natural resources for their subsistence. Activities carried out by rural population include traditional agriculture (slush and burning), commercial logging, hunting, charcoal making, firewood, carving and building material collection, with severe consequences in deforestation and soil degradation.

Although the quantities of foods gathered from forests are substantially lower than those from agricultural production, the contribution of non-wood forest products is significantly high in rural communities, and even urban populations, of Mozambique. Products gathered in forests for subsistence purpose includes medicines, beverages, wild fruits, mushrooms, among others.

According to TRAFFIC (2001), greater reliance on natural resources has in part been made possible by low population densities (about 20/inhabitants/km2) that have resulted in over half of the country (420,195 km2) being described as wilderness areas. According to the same author, the prevalence of tsetse fly over 75% of the country and corresponding reduced availability of alternative domestic meats, a traditional association of utilizing wild meat by many cultural peoples within the country, low socio-economic and nutritional status of most inhabitants, and a legacy remaining from the civil war where communities and ex-combatants learned to relay on natural resources for sustaining themselves, has resulted in substantial utilization and trade wood and animal products. In the case of wildlife, combined with a limited capacity to enforce wildlife laws, unsustainable wild meat off-take represents by far the largest impact on wildlife populations within the country.

As regarding legal game meat utilization, Mozambique has a long history in undertaking large scale cropping and culling operations for tsetse fly and trypanosomiasis control, and for poverty alleviation through game meat distribution to rural and urban communities. Various campaigns have been taken in past aiming the above mentioned problems.

4.2. Key resources and/or species in commercial, localised trade

Mozambique is relatively rich in indigenous forests and wildlife habitats compared to other countries in the region. It has almost 20 million hectares of land, which is potential for commercial forestry. This makes it one of the few countries in Southern Africa that has competitive advantage in commercial forestry. However, although the resource is abundant compared to other countries, the information available on the forest resources is insufficient and the trend of deforestation is alarming. The deforestation rate is highest in the province of Maputo and around other urban centres, as the result of the population concentration. In general, the main causes of forest clearance are the existing agricultural practices, shifting cultivation and expansion of permanent fields to new forest areas. In addition, deforestation is caused by the demand of firewood, charcoal and construction materials.

In the last decade, there has been an increase on the natural resource utilization for localized trade. The rapid increase in use and dependence on forest resources by rural people without mechanisms to assure sustainability has serious consequences to both the environment and welfare. Forest products marketed in both rural and urban areas include sawn timber, charcoal, grass, carpentry, fuelwood, wild fruits and tubers, medicinal plants, building poles, bamboos, among others. Wild meat is also traded all over the country, and discussion will be conducted later, in this chapter.

Markets for community forest products are characterised by many producers, sellers and consumers and therefore are well developed. Market forces set prices of products with little or no influence by producers. However, in Mozambique, the cost of transport from the production site to the market has a significant influence on prices, due to long distances and poor quality roads. Therefore, income earner from wholesaling of various forest products varies considerably according to cost of transport.

In Mozambique, information on production, demand, markets and trading of various forest and wildlife products is scarce. Therefore, localised trade of these products need more analytical data in order to focus clearly and securely on this matter.

Charcoal and fuelwood production and market varies according to country's zone and interest. Professional burners produce charcoal throughout the year and may produce 400 to 700 bags a year/each producer. Charcoal production by small-scale community producers is an individual or household-based effort. Professional producers exercise greater control production by hiring people to produce charcoal rather than buying from local producers. The consumers of both charcoal and fuelwood are the lower income households in major cities, such as Maputo, Beira and Nampula.

Sown timber is obtained from sawmills for carpentries and artesian. However, some people relay on pitsawing or platform sawing which is a process of breaking down of a log into timber. The consumption of timber in rural areas is limited. Timber products and furniture is marketed in major cities. Most carpentries are located in the main capital cities, including Maputo, Xai-Xai, Beira, Quelimane, Nampula and Pemba.

Building poles are used in rural areas, and a sold in major cities. In southern Mozambique, building poles are good business in Maxixe, Xai-Xai and Maputo and species highly used is Mecrusse (*Androstachys johnsonnii*), which is sold along the roads and markets. Low-income urban households as well as industrial and tourism infrastructures construction use Poles for domestic house construction.

As regarding wildlife trade it is important that Mozambique has become dependent to certain extent on wild meat, due to prolonged war that had effects on livestock development associated prevalence of tsetse fly over 75 % of the country. Recently, a greater importance associated to the wildlife sector, that in part has been catalysed by the increasing role that wild meat plays to the food security, nutritional and economic status of many inhabitants has resulted in more equitable distribution of external assistance in the country (TRAFFIC, 2001).

According to TRAFFIC, 2001), the fact that Mozambique is characterised by limited livestock production, low socio-economic status of population, and traditional and present day reliance and preference for wild meat in providing protein requirements, the utilization and trade of wild meat represents a substantial industry. Most use is illegal, and in contrast to other countries within the region, is undertaken in a relatively open in indiscreet manner reflecting the limited capacity of government capacity in enforcing wildlife laws.

Illegal utilization of wild meat was intensified during and after the civil war, ended in 1992. During that period, wildlife resources were seriously depleted, with 1986 estimates (50,000-60,500 elephants) indicating 60 % reduction in elephant numbers as compared to 1974 (15,500-27,000 elephants). Wildlife populations in protected areas such as Niassa Game Reserve, Gorongoza National Park and the Marromeu Game Reserve were heavily affected by war (TRAFFIC, 2001). The author reported that

total amount of bush meat consumed annually within Mozambique could represent as much as 182,000 mt to 365,000 at an economic value of between US$365 and 730 million per year.

Wild meat use and demand are extensive but law enforcement still negligible. Throughout all the provinces, bush meat is available in identified markets along roadsides, hotels, restaurants and "barracas"(informal market kiosks). Fresh meat is preferred in the urban markets and prices varies according to origin, location and seller. Average prices varies from USD 1 to 3 per kg.

Although wild meat utilization and demand is extensive, little progress has been made in Mozambique in order to promote development of legal game meat use that has a very high potential industry due to existing high demand and economic values. The history of war conflicts is still being used as the main justification for neglecting wildlife management in the country.

Legal game meat production is limited in Mozambique. By far the largest source of legal game meat within Mozambique is supplied from licensed hunting (61.2%), which can be broken down into citizen licensed hunting (40.4 %) and safari tourism trophy hunting (20.8 %). Ecological cropping has not occurred since 1987, and community based cropping schemes are a new initiatives that currently are carried out through allocated citizen hunting quotas.

4.3. Key resources and/or species in commercial international trade

Mozambique has a significant international market of forest products. The export of wood is estimated at 40,000 m^3 annually, which is some 2 – 3 % of the total value of export of goods and services from Mozambique. Only some 5,000 m^3 of it is sawn timber and panels, the majority is exported as round wood and processed abroad. As comparison, in Cabo Delgado some 25,000 m^3 of logging licenses were issued in 2000. The allowable cut in the province is estimated at 60,000 m^3 per annum. Investment on value-added production is expected to generate incomes locally and reduce export of round wood. Value of sawn timber is roughly double of the wound wood. Further processing of the sawn timber into semi-products for furniture or other carpentry production will multiply the economic impact. The NDF credit facility of this Project may increase the production of sawn wood from indigenous forests by some 4,000 – 8,000 m^3 annually. The present value of the export of the 5,000 m^3 sawn timber is some USD 2 million, which could easily be doubled with the increased capacity.

A survey carried out by Puná (2002) revealed high level of informal markets on wood made products involving Mozambique, Zambia, South Africa, Botswana, Zimbabwe, Swaziland, Tanzania, Angola, Zaire and Namibia. According to this author, wood and stone carved products comprised about 90 % sales within the region, and the remain 10 %. Within Mozambique, there is good linkage amongst Makondes wodden carved products from the northern Mozambique, to other ethnic groups from the central and southern Mozambique. Most of crafters, do travell regularly to Cabo Delgado, Nampula and the neighboring country of Tanzania to looking for new developments.

Wood products market includes roundwood of precious and first class species. Demand projections of forest products show a growing tendency and may be dominated by Chinese market.

The key forest resources in commercial, localised trade include roundwood, sawn wood, parquet of species such as Black wood, Pau ferro, Monzo, Umbila, Jambire and Chanfuta. The secondary transformation of wood includes door, window and furniture making by small-scale industry and artesian. Carpentries are located in major urban areas and industrial carpentries do not satisfy demand for export purpose. Small-scale production is characterised by use of intensive labour. In 2001, small-scale production was estimated to be 26 000 m3/year.

4.4. Volumes, species, markets, origin, routes, prices and other pertinent points regarding trade dynamics of selected species/resources: including timber, charcoal, live animal exports, medicines, birds, bush meat, ornamental plants, and forest moss for florists, tourism (e.g. eco, cultural)

The importance of the Forestry sector for national economy is low, owing mainly to the irregular supply of raw materials and weaknesses of the forest industry, which is composed of obsolete and small-capacity sawmills. There are some exceptions, but all of them are going through difficulties. The production capacity is estimated at 130.000 m^3 but of this capacity only 30 % is used. The available statistics are not very reliable, because of the lack of information and differences in classification criteria. Compared to the statistics represented in the below figure, the estimate of the annual consumption of industrial wood is 1,170,000 m^3, which would require even three times higher production than 130,000 m^3 per year. Anyway, the consumption is on a relatively low level compared to the potential of the forest resource.

Economic importance of forestry sector to the government comes predominantly through forest entrepreneurship and industry. In remote areas, such as Cabo Delgado, forestry plays a major role in commercial terms, making an active contribution to local development and providing widely social and economic benefits. This income generated by the forest entrepreneurship can be an incentive to maintain and manage forest resources, support environmental protection and to improve the financial situation, in general.

Pricing of timber is settled on a moderate level. In Cabo Delgado, licence fee for the first quality (category) logs is Met 65,000/m^3 (USD 3.5/m^3) whereas the price of logs at the harbour, FOB, varies between 160 – 200 USD /m^3. The traders are exporting the logs for value-added production elsewhere. The saw-milling entrepreneurs in Pemba have their own logging operations based on simple licenses, or alternatively they obtain logs from specialised harvesting companies. However, the operations are expensive and the sawmills often have to fund the harvesting and transport in advance to guarantee the raw material supply. Transport accounts for some 25-30 % of total raw material costs.

The export of wood is estimated at 40,000 m^3 annually, which is some 2 – 3 % of the total value of export of goods and services from Mozambique. Only some 5,000 m^3 of it is sawn timber and panels, the majority is exported as round wood and processed abroad. As comparison, in Cabo Delgado some 25,000 m^3 of logging licenses were issued in 2000. The allowable cut in the province is estimated at 60,000 m^3 per annum. Investment on value-added production is expected to generate incomes locally and reduce export of round wood. Value of sawn timber is roughly double of the wound wood. Further processing of the sawn timber into semi-products for furniture or other carpentry production will multiply the economic impact. The NDF credit facility of this Project may increase the production of sawn wood from indigenous forests by some 4,000 – 8,000 m^3 annually. The present value of the export of the 5,000 m^3 sawn timber is some USD 2 million, which could easily be doubled with the increased capacity. Table 4.4.1 represents wood export levels from 1996 to 2002, and Table 4.4.2 illustrates wood production as from 1991 to 2002. Table 4.4.a, represents wood price products within Mozambique.

Mozambique's best-developed non-timber forest product is honey. Wild bees collect nectar from common tree species such as Brachytegia speciformis and Julbernadia paniculata. Traditional beekeepers hang hives made of bark cylinders in the trees. Medicinal plants are gathered in small quantities from dispersed locations throughout rural communities. However, the main markets are located in urban centres, such as Nampula, Beira, Quelimane and Maputo. It would appear therefore that the cost of transport is a major limiting factor to the commercialisation of medicinal plants owing to the fact that the margin of profit is rather low.

Other products, such as bamboo and reeds, are relatively far away from the main markets and thus local traders have faced serious difficulties in transporting them to the main markets. Other products that are of extreme importance and contribute to the income of rural households, especially along the coastline, are cashew nuts and mangoes.

Due to the long period of abandonment of the protected areas, their infrastructures are in a very poor condition. This situation has resulted in the degradation of the resources and many of these areas need to be re-evaluated in relation to the original boundaries, objectives and categorisation. In other areas, indications exist that the current network of protected areas does not cover some ecological habitats. Wildlife stocks have recently suffered a great reduction due to better accessibility through the extended road network. Table 4.4.7 summarises hunting quota for some species. Table 4.4.8 indicates estimates of game meat production from different licensing system in Mozambique.

Table 4.4.a. Sawn and roundwood prices within Mozambique (10^6 Meticais per m^3) by province (USD 1= 24000 Meticais)

Province	Roundwood			Sawn wood		
	Minim	Maxim	Averag	Minim	Maxm	Averag
Maputo	2.50	3.70	3.50	4.50	7.00	6.50
Gaza	0.60	3.00	2.50	5.00	8.00	5.50
Inhambane	0.80	1.00	2.00	2.00	6.80	6.00
Sofala	0.75	2.80	2.00	1.50	7.00	4.50
Manica	0.80	1.30	1.20	3.00	8.00	6.00
Tete	1.30	1.50	1.30			4.70
Zambézia	0.60	3.50	3.00	3.00	5.50	5.00

Nampula	1.20	3.60	2.30	1.70	6.50	3.50
Niassa				1.30	5.00	3.00
C. Delgado	0.70	6.00	2.80	1.20	7.30	4.50

Source Bila (2004)

Table 4.4.1. Wood exports (10^3 m^3) from 1996 to 2002

Product	1996	1997	1998	1999	2000	2001	2002
Roundwood	27.0	52.0	24.0	24.0	13.0		65.0
Sawn wood	2.2	0.7	9.4	9.4	0.1		4.9
Parquet	0.1	1.9	3.7	3.7	75.9		1.8
Flackboards	0.4	0.01	0.1	0.1	0.0		0.0
Boards (particle)	0.0	0.0	0.0	0.0	0.0		0.0
Poles	0.0	0.0	16.8	16.8	0.5		0.0

Source: Bila (2004)

Table 4.4.2. Forest wood production (10^3 m^3) as from 1991 to 2001

Produto	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Roundwood	50.2	17.3	14.5	34.8	76.8	85.2	120.6	119.8	61.0	84.8	91.2	130.3	93.2
Sawnwood	16.4	15.7	29.9	29.5	41.3	43	32.6	28.2	15.3	19.4	29.6	29.4	29.2
Parquet	0.1	0.2	0.3	2.3	1.0	3.7	9.4	16.4	6.4	9.3	3.9	3.7	2.9
Boards	0.03	0.1	0.1	0.0	0.07	0.7	1.0	0.7	0.6	0.8	0.7	0.7	0.1
Flackboards	0.3	0.8	0.6	1.4	1.4	1.8	2.5	2.8	1.0	0.8	0.9	1.1	0.0
Poles	2.6	1.0	1.0	3.0	4.3	0.0	0.0	8.6	3.2	0.0	0.0	5.0	3.6
Particleboards	2.4	1.2	1.2	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Bila (2004)

There is limited information on wood forest imports to Mozambique. Available information presents only import values according to customs records (see Table 4.2.3.) bellow. With about 80 %, South Africa is the main source of wood imports from Mozambique, followed by Portugal, Brasil and Swaziland.

Table 4.4.3. Wood import value from 1998 to 2002

Year	Value (10^3 USD)
1998	817
1999	1211
2000	1622
2001	1063
2002	1263

Source: Bila (2004)

The wood market in Mozambique is dominated by roundwood sales on the route north-south and that of sawn wood in major cities and rural areas. Market prices grows up at the same direction (North-South) and may achieve USD100 to 150 m3. Stumpage price may rich USD 200 to 300 m3. Mozambique imported wood includes pine sawn wood, poles and furniture. Import values varies from USD 1 to 1.5 million per year. FOB prices varies from USD 150 to 200 per m3 and USD 250 to 300 per m3 for roundwood and sawn wood respectively. Table 4.2.4 represents FOB exports per product and species. Table 4.2.5 shows wood export values at CIF prices to destination countries.

According to Bila (2004), the major Mozambican imports of wood include Hong Kong, Japan, German, Spain, Italy, Portugal and South Africa. However some West African countries such as Cameron, Ivory Coast, Ghana, Gabon and Congo, as well as Southeast Asia (Indonesia, Malaysia and Myanmay) and Brazil are also some importers.

Mozambique's participation in the international trade can be considered limited as compared to many countries with similar resources. This is clearly evident if looking at the total wood trade revenues from exports. Most exports is done through intermediates which benefit much more from the final destination of the products.

Table 4.4.4. Export prices (FOB in USD per m^3) per product and species.

Product	Species	Price		
		Minim	Maxim	Averg
R/ndwood	Pau-preto			
	Pau-ferro	170	350	200
	Umbila	140	280	150
	Jambire	140		150
	Chanfuta	140		150
	Outras			130
Sawnwood	Umbila		300	250
	Chanfuta		400	250
	Outras			
Parquet				
Sleepers				

Source Bila (2004)

Table 4.4.5. Wood export values (CIF 10^3 USD) to the export countries from Mozambique in 2000

Country	Round wood	Sawn Wood	Parquet & Boards	Total
Hong Kong	14988	1184	0	16172
China	8424	0	0	8424
German	844	665	0	1509
Portugal	80	465	331	876
Italy	0	667	0	667
South Africa	102	563	0	665
Spain	148	66	125	339
Japan	295	0	0	295
Belgium	0	201	0	201
France	0	118	0	118
Chec Republic	0	90	0	90
Holland	0	34	0	34
Total	24881	4053	456	29390

Source Bila (2004)

Table 4.4.6. Wood Prices (CIF USD) per m^3 in concurrent countries in 2000

	Origin			
	Malasya	Gabon	Myanmar	Congo
Hong Kong	135	393	464	

China	206

Saown Wood	Origin			
	Ivory Coast	Cameron	Malaysia	Ghana
Hong Kong		942	497	506
Italy	605	612	946	688
France	637	577	732	748

Parquet e boards	Origin			
	Ivory Coast	Indonesya	Brazil	Spain
Portugal	1284	1424	892	1340

Source Bila (2004)

Table 4.4.7. Hunting Quota (in number of animals) of wild animals frm 1991 to 1997

Species (Portuguese)	Licence Models A-D	Licence Model E
Redcrested korhan (Abetardas)	1360	87
Buffalo (Búfalo)	1140	1449
Duikers (Cabritos)	4028	1471
Reedbuck (Chango)	758	539
Blue wildbest (Boi cavalo)	0	56
Crocodile (Crocodilo)	869	99
Kudu (Cudo)	334	435
Eland (Elande)	19	73
Phacocerus (Facocero)	1570	816
Francolin (Francolim)	1055	97
Helmeted Guienea-fowl (Galinhas do mato)	1475	139
Hartbest (Gondonga)	27	123
Hippopotamus (Hipopótamo)	541	259
Bushback (Imbabala)	481	430
Impala	2076	1290
Waterbuck (Piva /Inhacoso)	207	611
Nyala (Inhala)	249	245
Leon (Leão)	0	278
Leopard (Leopardo)	79	262
Chacma baboon (Macaco cão)	1615	869
Sable (Palapala)	0	304
Bush pig (Porco do Mato)	2831	564
Zebra	64	187
Total	20778	10 683

Bila (2004)

Table 4.4.8. Game meat production estimates from 1991 to 1997

Desctription	Animal quantity	Game meat production (tons)	Averg price per kg (USD)	Annual value estimates

				(USD)
Licenced hunting (Coutadas, Model A)	4.494	299,4	0.77	230.538
Licenced hunting (Nationals, Model A-D)	2.968	197,6	0.77	152.152
Other non resident Safaris (Model E)	1.526	101,8	0.77	78.386

Source: Bila (2000)

4.5. Legal versus illegal trade

Is mentioned on previous chapters, in Mozambique there is both legal and illegal trade of forest and wildlife products. Legal production and commercialisation understands mainly wood products at both internal and international markets. However, some exports may go beyond governmental control and therefore, be illegal. This may include both wood and non-wood products such as honey, medicines, and carved materials, fruits, among others. Travellers or involving neighbouring communities along the borders sells most of these products at regional level.

A survey carried out by Puná (2002) revealed high level of informal markets on wood made products involving Mozambique, Zambia, South Africa, Botswana, Zimbabwe, Swaziland, Tanzania, Angola, Zaire and Namibia. According to this author, wood and stone carved products comprised about 90 % sales within the region, and the remain 10 %. Within Mozambique, there is good linkage amongst Makondes wodden carved products from the northern Mozambique, to other ethnic groups from the central and southern Mozambique. Most of crafters, do travell regularly to Cabo Delgado, Nampula and the neighboring country of Tanzania to looking for new developments.
Legal trade, inlves major wood export companies that require government inspections and permit to carry out the activity. These are mainly licenced exporters and intermediate agents involving both national and international dealers. Legal trade, fall under national and international trade regulations and varies according to the final desctination of products. Presently certification measures are not yet taken in account on the international trade mechanisms due to both capacity constraints and limited law enforcement.

As regarding wildlife products, little as been achieved so far in order to promote legal consumption and trade of wild meat and other products. As already mentioned above, most of wild meat is consumed localy for subsistence and there has been limited capacity on the management and conservation. In Mozambique, the utilization of bush meat as always constituted an integral role of rural communities. This role, was perhaps intensified during the civil war ended in 1992 and afterwards.

Currently, a remaining high demand for bush meat is resulting in prevalent levels of illegal hunting through the country with severe consequences on animal populations. Although legislation allows for licenced hunting at relatively cheap rates, total quota allocations are minimal in comparasion to country's demand. While legislation has improved in order to protect and manage wildlife, bush meat in Mozambique is viewed as providing in many cases additional and in sole sources of income for local people, and therefore, unsustainable.

4.6. Major trends over past ten years

Recent trends in Mozambique's political and economic situation demonstrate the consolidation of the process of economic liberalisation. One indication of the achievements obtained is shown by the fact that Mozambique's macro-economic indicators have been maintained without major alterations during the last four years.

Within the forest sub-sector there have been significant achievements in order to promote natural resource management. These achievements includes:

- The development, approval and implementation of new forest and regulation, aiming better control and management;
- The implementation of community-based initiatives as way to promote integrated natural resource management, there are many successful experiences being implemented nationwide; (See Table 4.6.2).
- The introduction of concessions as a new management regime that promote integrated use, reforestation, stakeholders involvement in forest and wildlife management;
- There has been development of management plans that promote sustainable resource use and management;
- The banning of roundwood exports as a way to promote national industry and job creation;

The Mozambican wood industry is significantly old and machinery is outdated. The conversion efficiency or yield ranges from 25 to 30 % and the quality of product is very low and therefore unsuitable for international standards. Table 4.6.1 shows number of forest enterprises per province in 2001.

Table 4.6.1 Number of forest enterprises by province in 2001

Province	Sawmills	Sawmill and Carpentries	Carpentries	Venner factories	Boards factory	Total
Maputo	5	9	9			23
Gaza		4	1			5
Inhambane	9	3	7			19
Sofala	5	9	1	1		16
Manica	6	5			1	12
Tete		5				5
Zambézia	3	11	3			17
Nampula	8	9	1			18
Niassa	2	4				6
Cabo Delgado	3	8	1			12
Total	40	69	22	1	1	133

Source: Bila (2004)

Table 4.6.2. Available community game reserves under implementation in Mozambique

Game reserve	Location	Area (ha)

Sable Safaris Tours, L.da	Sofala	10 000
Paul & Ubisse, Lda	Gaza	30 000
Africaça, Lda	Gaza	10 000
C. Delgado Biodiversity & Tourims	C.Delgado	5 342
Negomano Safaris, L.da	C.Delgado	10 000
Sable Game Park, L.da	Maputo	40 000
SAPAP	Maputo	10 000
Community wildlife managed area	Location	Area (ha)
ThcumaTchato Daque	Tete	
ThcumaTchato Bawa	Tete	
ThcumaTchato Mulambe	Tete	
Muze	Tete	
Magoe Chiwal	Tete	
Magoe Thuvi	Tete	
Magoe Nhend	Tete	
Chipanje-chetu	Niassa	5,500 km²

Source: Bila (2004)

4.7. Local, national and international driving forces causing changes in trade/use dynamics

Forest and wildlife trade/use dynamics is mainly guided by several factors at different levels:

- At local level, driving forces include traditional knowledge/cultural, institutional arrangements and policies and socio-economic status. Driving forces in Mozambique at local level involves political stability after long period of civil war, recent legislation on sustainable natural resource management (forest and wildlife regulation, tourism law, etc.), massive community involvement and local institutional set up that promotes peoples participation in resource use/management/benefit sharing, etc. At this level, communities in Mozambique are willing to use/conserve forest and wildlife resources, as being reported in recent community base resource initiatives. Local management/use of resources may also be influenced by other factors such as communications, tourism development and globalisation.

- At national level, driving forces includes institutional arrangements, national economy/macroeconomics, regional and international conventions/agreements and regulations. Country's national economy is at its best performance. Statistics indicates significant economic growth (GDP 7.3 in 1999). In addition, Mozambique have come an important destination for international investment, especially in the field of natural resources, including forest and wildlife. Mean wile, policy and legislation have developed to accommodate regional and international agreements such as the CBD, Drought and Desertification, International Trade, etc. The development of tourism in Mozambique may also influence changes in marketing and use natural resources.

- At regional/international level, they include political relations, regional cooperation and integration, regional and international conventions/agreements and regulations. Mozambique is

a prominent member of SADC, NEPAD, WTO and other relevant organizations, which are strongly interested in sustainable use/trade/management of forests and wildlife. Mozambique signed most of international and regional agreements pertaining sustainable resource use.

One strong issue influencing Mozambican economy is its relationship with the neighbouring countries. Regional forces guide Mozambican business. As the key issue in developing the business is to follow the demand and respond to this in production and marketing. In Mozambique, import especially from South Africa competes severely with local entrepreneurs. For example large development projects very often prefer purchasing all wooden products, doors, windows and furniture, from South Africa. The quality and price of the products and delivery time are the factors in competing the bids. The local production cannot meet easily the modern standards required by the customers. If the production is aimed at export markets, the role of marketing becomes even more pronounced. This may be applied elsewhere on trade of forest and wildlife products.

5. Opportunities

5.1.Economic benefits of EACFE trade/use

A wide variety of flora and fauna species are utilised regularly in Mozambique for several purpose. Species selection and composition for trade purposes vary according to location, habitat type, market demand, marketable products, and proximity to major cities, roads and other infrastructures. In urban areas, preference for certain products trade result on the mechanism and available facilities, including pricing and connections to regional and international destinations/markets. Products traded in rural areas are based more on local availability of the resources, with the most abundant resources being utilized in the greatest quantities.

Economic benefits of trade/use of flora and fauna in Mozambique vary according to level of analysis. At local level, traded resources are a source of alternative income to poor local people. In most cases, available natural resources are the only source for subsistence, due poor agricultural production caused by different factors such as natural disasters or limited availability of inputs. At national level, economic benefits may be viewed in terms of global development that may include increasing export levels, improved welfare, among others.

By efficient or sustainable use of resources, the country achieves greater revenues to the government treasury, and provides more effective mechanisms for poverty alleviation as required under PRSP (in Mozambique known as PARPA). However, this requires effective policy, technical capacity and means that will guarantee appropriate use/trade. Mozambican policies and legislation are conducive to sustainable natural resource use/management, which is a greater steep forward to resource trade and use.

While the macroeconomic point of view understandable, constraints remain at benefit analysis at local level. For instance, the resulting quantities of bush meat utilised by the majority of inhabitant in Mozambique is substantial and represents one of the most important natural resources available to households that contributes significantly to development in most cases of rural communities. In addition, some resources are critically important to most households due to economic considerations, other social factors play an important role in many areas of the country.

5.2.Social benefits of EACFE trade/use

Mozambique is country of serious constraints in term of food security. In some areas, such as the central and southern part the issue of food availability is exasperated by cyclical natural disasters, including recurrent droughts and floods. Nutritional status is significantly low and national estimates of stunted growth high at around 11 % of infants by end of last decade. This is an indication of mal nutrition and high level of poverty. That is why, relevant political measures were taken by government five-year plan aiming to revert the levels of absolute poverty. Government strategy, known as PARPA is being implemented over the last five years.

Most rural Mozambicans, including poor urban populations, relay on natural resources for their day-to-day subsistence. Some products do contribute significantly to household standard of living, while other products represents the only viable source of food, specific nutrients, as commercialised products are being prohibitively expensive, largely unavailable and hence contributes to social stability. Some resources are relevant for subsistence of lower income communities, including wild valuable fruit trees (mafurra, massala, macuacua, mapfilwa, etc.) medicinal plants, etc.

In some regions of the country, there is strong social and traditional affiliation with specific use of resources, including wild fruits, bush meat, vegetables, mushrooms, medicinal plants, honey, among others, being the unique source of income generation and nutrition. On the other hand, the role that natural resources such as fish, bush meat, honey, and medicinal plants plays in socio-cultural contest is of special interest on its continued importance. For example, hunters are respected and enjoy the esteem of surrounding communities in the village by distributing bush meat after good hunting campaign.

5.3.Ecological benefits of EACFE trade/use

Trade and use of flora and fauna may have both positive and negative impacts ecologically. Positive impacts may include resource use as management tool that will balance biodiversity levels. Negative ecological impacts include severe damage to resource availability due to over utilization/trade or the removal of threatened and protected species. Ecological benefits of resource trade/use are associated to positive impacts that may be promoted to sustainable management.

Ecological benefits of resource trade/use can be seen in terms of:

- Identification of resources that are more threatened to extinction due to overtrade or over utilisation by communities and other stakeholders;
- Identification of relevant resources that can be promoted for sustainable use/management and improve livelihoods;
- Adoption of better management practices that can maintain balanced levels of flora and fauna;
- Control of unwanted species, such as invasive and unsuitable species to specific environments or ecosystems, among others;
- Promotion of best practices on the resource trade/use.

5.4.Evidence of socially responsible schemes in operation (e.g. certification, good woods, etc.)

Evidences of socially responsible schemes are recent in Mozambique. Most of these schemes have been developed due to recent policies and legislation on natural resources. In some cases, these schemes are reported to be successful and are being replicated nationwide. Relevant schemes include community-based resource management that are supported with management plans. Mozambique has registered more than 50 CBNRM initiatives whose experiences vary according to implementation strategy and framework. These are some of recognised socially responsible schemes.

In Mozambique, certification has been under discussion for the last two years. The Mozambican National Forestry Certification Policy Development Project funded by UNDP and GTZ is in charge of the process and has produced a basic working document. Currently the draft document is under circulation within relevant institutions and is expected to be approved soon (Anon, 2004).

According to above mentioned document, while current policy and legislation is conducive for sustainable resource management, this means that those responsible for the forest ensure that their activities are:

- Socially just
- Environmentally acceptable
- Economically viable.

As stated on the proposed policy, certification will be open to any forest operator who has a forest concession or certified, as well as defined community managed area that can show sustainability. Becoming certified is having the right to use the FSC symbol on products coming from a forest managed in an environmentally, and socially adequate as well as economically viable way, as well as being managed in accordance with the applicable laws.

According to de proposed document, certification has the following advantages:

- Competitiveness, as well as facilitating access to new markets and new clients for certified products
- Develop and enhance the public image of the company and its' workers
- It provide incentive for sustainable forest management and good management practice
- Guarantees compliance with existing laws
- Promotes the combat of illegal cutting or hunting of forestry and wildlife resources
- Promotes the collection and payment of taxes
- Maintains the ecological functions of the forest
- Protects the rights of local communities
- Contributes to the introduction of safety standards reducing or avoiding work related accidents.

The process of developing the national standards for the certification of native forests in Mozambique is designed according to the following elements which ensure its recognition at national and international level: (See Anon., 2004)

- Compatibility with FSC and international recognition – the standards comply with the requirements of the principles and criteria for sustainable forest management of the FSC
- Non-discriminatory – the standards are not discriminatory which is to say that certification is not a way to discriminate forests according to their size, quality, type, ownership or management contract
- Participative and transparent – the development of the national standards and of the forestry certification system must be open and accessible to all those involved in the forestry sector
- Balance of interest – the development of the national standards and forestry certification system should incorporate a balanced participation from the interests involved in the sector (economic, social, environmental and cultural)
- Scientific support and field testing – the national standards for forest certification must be scientifically supported and justified as well as tested to ensure applicability on the ground
- Continual process – forest management is a dynamic process and progressive way to overcome barriers and obstacles. In this way the national standards for forest certification must be regularly analysed, revised and altered in a process similar to that of their creation, allowing the incorporation of new tendencies and the inclusion of new techniques and knowledge.

5.5.Opportunities for increasing benefits in a sustainable manner

Te increasing emergence of flora and fauna trade as source of income is resulting in positive implications do community development in many areas. Community managed initiatives are increasing significantly both in Mozambique and within the region. In the last two decades, legislation and policy have been developed in order to accommodate these initiatives, which are quite new. While approaches vary case-by-case, relevant recognised methodologies are being adopted and replicated.

Most rural areas are characterised with limited potential for alternative wage or business employment, and natural resources and natural resources represents a valued mechanism to generate incomes. As mentioned by TRAFFIC (2001), economic values being realized by traders throughout the region are substantive and more then adequately compete with alternative formal livelihoods or professions.

Opportunities for increasing benefits in the trade/use of natural resources may include:

- Strengthening partnership amongst resource users/traders in order to add value;
- Build networks of users/traders to in order to facilitate dissemination on new management strategies, market access and technical assistance;
- Increase awareness on sustainable use, good practices and conservation strategies;
- Certification of resources, following national and international standards;

6. Challenges

6.1. Ecological threats posed by EACFE trade/use – areas under most pressure, resources under most pressure, species under most pressure.

In Mozambique, the major ecological threats are seriously affecting the following areas and resources:

- Forestry (illegal logging, selected valuable timber species in natural forests through simple licensing, fragile or sensitive ecosystems, such as along the rivers, estuaries/delta, etc. Shifting cultivation for subsistence agriculture, fuelwood and bush fires remain major enemies). Relevant species a listed along the document. Poverty and government limited enforcement are major constraints to sustainable forestry trade/use.
- Wildlife (poaching, all species including threatened species. Illegal hunting occurs in both protected and unprotected areas). Relevant species area listed on this document. Bush meat being sold nationwide, with limited government control and enforcement.
- Marine ecosystems (including rivers, mangroves and wetlands and sand dunes. Agriculture, fuelwood collection, building material, uncontrolled fishing, etc.).

6.2. Evidence of unsustainable trade

- Export of roundwood at high levels. However, government has just officially banned this activity;
- Generalised bush meat sales along the main markets, shops and roads with limited government capacity to law enforcement. Informal markets.
- Charcoal making around major cities, involving many people with limited control on species, quality and quantities used for this purpose;
- Forest products, including building poles, firewood being transported and sold in major cities;

7. Recommendations and the way forward

- The need for law enforcement through networking/partnership involving government/NGO's/Communities and private sector;

- Need for promotion of good trade/use practices, including certification and good woods, involving different stakeholders.

- the need for institutional and organizational capacity building at the local levels (local political and service administrations, and community organization);

- the need for meaningful partnerships among government, non-governmental, community and private sectors;

- the need for collaboration with other organizations with experience in various aspects of CBNRM implementation including extension, local credit systems, participatory methodologies, women involvement, and training.

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Attachments:

Annex 1: Relevant sections of National Laws

- **FORESTRY AND WILDLIFE LAW AND REGULATION**

This Law affirms the rights of the State over natural forest and wildlife resources in the country. A key principle of the Forestry and Wildlife Law is to ensure that local communities are fully involved in the conservation and sustainable use of forestry and wildlife resources. For instance, Article 3 (b) states that policies for economic and social development and the conservation of biodiversity must involve local communities, the private sector and civil society in general in order to achieve sustainable development now and for future generations. At the same time, Article 3 (f) recognizes the need to act in harmony with local communities and to promote the conservation, management and use of forest and wildlife resources without prejudice to customary practices in the context of decentralization.

The Forestry and Wildlife Law also provides for the establishment of Historical – Cultural Use Zones (Article 10), a completely new strategy for Mozambique, which may be created by the Provincial Governor. These zones are intended to protect forests of cultural value and the forests and wildlife resources within these zones may be used by local communities. It also calls for the participation of communities in the formulation of management plans for National Parks and National reserves.

- **ENVORONMENTAL LAW**

The Environmental Law was approved in July 1997 and acknowledges the responsibility of the Government of Mozambique in the promotion and implementation of the National Environmental Management Programme (NEMP). The law provides a legal framework for the use and correct management of the environment and its components such that it assures sustainable development. The Environmental Law applies to both private and public activities which may influence the environment either directly or indirectly[1].

The most important features of the Law include the following:

- Those who pollute or in any way degrade the environment are always obliged to rehabilitate it or to compensate for the resulting damage;[2]
- It is explicitly forbidden the importation of dangerous residues or dangerous waste, except for that laid out in specific legislation;[3]
- Projects and operations that likely to have a negative impact on the environment are required to be subject to an Environmental Impact Assessment (EIA) by independent assessors;
- The Law also forbids all activities that may threaten the conservation, reproduction, quality and quantity of biological resources, especially those in danger of extinction;[4] and
- Licensing of activities that are liable to cause significant environmental impacts shall be required. The issuance of such a license shall be contingent upon an EIA.

In order to protect the environmental components of recognized ecological and socio-economic value, environmental protections can be created. These protection zones may be national, regional or local and may cover land areas, lakes, rivers, marine waters and other distinctive nature zones.

To ensure effective co-ordination and integration of sectoral policies and plans related to environmental management at the highest level, a National Commission for Sustainable Development (NCSD), linked to the Council of Ministers was created by a provision in the Environmental Law.

LAND LAW

The Land Law was passed in July 1997. The Regulations for implementing the Law were passed by the Council of Ministers by Decree N^{o} 66/98 on December 8th, 1998. The Land Law specifies that all land is State property and may not be sold. The Law also provides a further legal basis for demarcating areas for total protection and conservation (Article 7) and the creation of total and partially protected zones (Article 8). The latter provision now permits the conservation and management of riparian and coastal habitat together with their associated areas.

The Land Law includes provisions for the participation of local communities in the protection of natural resources and conflict resolution (Article 24). In rural areas, local communities will participate in:

[1] Article 3 of the Environmental Law
[2] Idem, paragraph (g)
[3] Article 9 of the Environmental Law
[4] Article 12 of the Environmental Law

- The management of natural resources;
- The resolution of land-use conflicts;
- The titling process (issued by the Public Cadastral Services); and
- The identification of the areas they occupy.

The Land Law Regulations describe how communities may gain rights over land they occupy (Article 9) and includes several safeguards for local communities in the process of land attribution to other individuals or associations. Local communities who are occupying land according to customary practices acquire the rights over the land except in cases where the land is legally reserved for a particular purpose or partial protection zone. In necessary, or at the request of the communities, communal land may be delimited and registered with the National Land Cadastre in accordance with requirements which will be defended in a technical annex. Mozambican nationals who have used a parcel of land continuously for 10 years may also acquire the rights to use and benefit from the land (Article 10).

MUNINCIPALITY LAW

This Law was passed in May 1997 (Law 11/97 of 31 May) and provides for an enhanced degree of policy, programme and budgetary authority to municipalities deemed competent for greater responsibility. According to the Law, municipalities will be able to promote their local development, protect natural resources and manage land. Within established limits, municipalities also have control over financial resources.

Municipalities are responsible for (among other areas) the following (Article 25):

- Green areas including gardens and nurseries;
- Fire-fighting;
- Markets;
- Water supply;
- Drainage systems;
- Collection and treatment of waste and public cleaning;
- Cultural, aesthetic, or urban heritage;
- Camping grounds
- Protection and rehabilitation of the environment;
- Afforestation, planting and conservation of trees; and establishment of municipal reserves.

It is interesting to note that the Municipalities Law provides great opportunities for CBNRM implementation in an urban context that would encompass most of the aspects listed above. On the other hand, however, it should be understood that decentralization is a gradual process and as was pointed out earlier, capacity building will be required at the municipal level in many areas.

Annex 2. List of relevant wood species in Mozambique (First Class)

Nu	Scientific names	Comercial names	Local names	DBH Min. (cm)
10	*Afzelia quanzensis*	Chanfuta	Mussacossa, Mugengema, muoco	50
11	*Androstachys johnsonii*	Mecrusse	Cimbirre	30
12	*Albizia glaberrima*		Mutivera	40
13	*Albizia versicolor*	Tanga-tanga	Tingare, Mpovera	40
14	*Balanites maughamii*	Nulo	Muvando, Nanluve, Sacanono	30
15	*Breonardia microcephala*	Mugonha	Muonha, Nkonha	50
16	*Baikiaea plurijuga*		Chiti	30
17	*Combretum imberbe*	Mondzo	Munagari, Mungari, Ehupu	40
18	*Cordyla africana*	Mutondo	Bonjua, Murroto	50
19	*Diospyros spp*		Mucucul-cula, Muoma	40
20	*Erythrophloeum suaveolens*	Missanda	Muave	40
21	*Faurea speciosa*		Muxiri, Nthethere, Mussossola	40
22	*Inhambanella henriquesii*	Mepiao	Mepiao	50
23	*Khaya nyasica*	Umbáua	Mbawa	50
24	*Millettia stuhlmannii*	Jambirre	Panga-panga, Panguire	40
25	*Monotes africanus*		Muculala	30
26	*Morus lactea*	Mecobeze	Mecobeze	50
27	*Pterocarpus angolensis*	Umbila	Mbila, Mucurambira	40
28	*Podocarpus falcatus*		Gogogo, Izulambite, Chongue	50
29	*Pseudobersama mossambicensis*		Tondue, minhe-minhe	40
30	*Swartzia madagascariensis*	Pau-ferro	Nhaquata, Pau-rosa, Cimbe	30

Fonte: Bila (2004)