

# CONTRIBUTION OF TOURISM HUNTING TO THE ECONOMY IN MOZAMBIQUE



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**ASSISTÊNCIA TÉCNICA À DNAC/MITUR PARA A PROTECÇÃO E GESTÃO  
DA FAUNA BRAVIA NAS ZONAS DE CAÇA EM MOÇAMBIQUE**



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**SUMMARY:** Tourism hunting has been a feature of Mozambique's wildlife conservation programme since the 1970's and evolved from a loose system of areas set aside for hunting to a structured system of hunting blocks or Coutadas. The civil war in the 1980's disrupted its progress but today there are 53 hunting areas under the control of the the *Direção Nacional de Areas de Conservação* (National Directorate for Conservation Areas (DNAC) within the Ministry of Tourism (MITUR) and 37 areas (11 Provincial and 26 *Fazendas do Bravio* (or Game Farms) under the Ministry of Agriculture (MINAG). Together these areas cover approximately 134,944km<sup>2</sup>. Aerial and ground surveys have been conducted to monitor the status and distribution of the large mammal species that support the industry. The distribution of is concentrated in three core regions: Niassa, Tete and Sofala.

The economy of Mozambique is structured around agriculture, manufacturing, industry and services. GDP is estimated \$12.83 billion in 2011 and grew by 7.2%. Tourism contribution towards GDP is estimated at roughly 2% by the WTTC. Tourism hunting contribution towards overall GDP is insignificant (<0.01%) and is a reflection of the scale of the industry. This is despite setting aside approximately 17% of its land mass where tourism hunting takes place.

The Mozambique tourism hunting industry ranks bottom in terms of overall gross income when compared to tourism hunting industries in the region, attracting around 350 clients/year. Revenues to Government from concession fees are low, averaging US\$4.60/km<sup>2</sup>, with the highest values achieved in the Niassa National Reserve where competitive tenders attracted significant investments. Revenues from the sale of licenses etc. is estimated at US\$1.2 million with the bulk of these been generated from the sale of trophy abate tickets (58%). Employment by the industry is low when compared to other sectors (>1000) and the industry contributes approximately US\$1 million annually in salaries and wages to the local economy. Community benefits from the government imposed "20% levy" equates to approximately US\$1200/Association.

Given the high demands on government to meet social agendas such as health and education, it is not surprising that minimal government funds are channelled towards meeting the costs associated with the management and administration of conservation. Mozambique is therefore heavily dependent on donor funding to meet these costs. Regional baseline indicators set these costs at approximately US\$80/km<sup>2</sup> implying that an operational budget of US\$7 million is needed for the hunting areas. With a current income of US\$1.2 million there is a significant financial gap. Overall there is a negative net benefit that accrues to government from coutadas and reserves estimated at US\$6 million/year mostly as a result of government's inability to tax indirect benefits (timber, bushmeat) that accrue to communities that reside within these areas.

An analysis of the maximum potential value of the 2011 national quota to both government and the private sector is provided in order to gauge the magnitude of the Mozambique hunting industry. The quota is split between DNAC, that has five programmes to accommodate, and MINAG that deals with Provincial quotas and the Fazendas. The greater proportion of the quota is allocated to DNAC, including the key species (elephant, lion, leopard and buffalo).

The overall abate value of the 2011 quota is US\$1.577 million (~MT50 million). DNAC would receive 66% of this amount however history shows that approximately 45% is actually purchased by the industry. With regard to the private sector, the quota has the potential to generate approximately 8,700 hunter days which is worth US\$11 million. A further US\$18 million could be generated in trophy fees. However, when the data are adjusted to account for actual performance, it is estimated that the industry is generating approximately US\$6 million/year with the majority of this income generated in the Niassa National Reserve.

The data strongly indicate that the Mozambique hunting industry is under-performing and could potentially double its overall income using the existing quota allocations. However, to achieve this growth will require Government adopting several key policy changes to improve the overall administration and management of the industry, while the private sector needs to improve its marketing strategies and business performance.

**Cover picture:** Niassa Wildebeest *Connochates taurinus johnstoni* (© V.R.Booth)

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## ACRONYMS

<b>AMOS</b>	Association of Mozambique Safari Operators/Associação Moçambicana dos Operadores de Safaris
<b>AMUE</b>	Experimental Areas for Multiple Use/ <i>Áreas de Utilização Múltipla Específica</i>
<b>CBNRM/MCRN</b>	Community Based Natural Resource Management ( <i>Manejo Comunitario dos Recursos Naturais</i> )
<b>CITES</b>	Convention on International Trade in Endangered Species of Wild Fauna and Flora
<b>CGC</b>	<i>Comite de Gestão Comunitario</i> (Community Management Committee). A community only representative CBNRM body
<b>COGEP</b>	<i>Conselho de Gestão Participativo</i> (Community Management Council).
<b>DINAP</b>	National Directorate for Livestock
<b>DNAC</b>	National Directorate for Conservation Areas/ <i>Direção Nacional de Areas de Conservação</i>
<b>DNFFB</b>	National Directorate for Forestry and Wildlife/ <i>Direção Nacional de Florestas e Fauna Bravia</i> .
<b>DNPT</b>	National Directorate of Tourism Promotion/ <i>Direção Nacional de Promoção Turística</i>
<b>DNTF</b>	National Directorate of Land and Forests/ <i>Direção Nacional de Terras e Florestas</i>
<b>DNSV</b>	National Directorate of Veterinary Services/ <i>Direção Nacional dos Serviços Veterinários</i>
<b>DPA</b>	Provincial Directorates of Agriculture/ <i>Direção Provincial da Agricultura</i>
<b>DUAT</b>	<i>Direito de Uso e Aproveitamento da Terra</i> (Mozambican state-granted land right and single form of land tenure)
<b>EMOFAUNA</b>	Mozambican Wildlife Company (parastatal) <i>Empresa Moçambicana de Fauna, Empresa Estatal</i>
<b>GDP</b>	Gross Domestic Product
<b>GOM</b>	Government of Mozambique
<b>HIPC</b>	Heavily Indebted Poor Countries
<b>IFC</b>	International Finance Cooperation
<b>IGF</b>	La Fondation Internationale pour la Gestion de la Faune (Fondation IGF)
<b>INE</b>	National Statistics Institute
<b>IUCN</b>	The World Conservation Union/ ( <i>União Mundial para a Natureza</i> )
<b>LFFB</b>	Forestry and Wildlife Law ( <i>Lei de Florestas e Fauna Bravia</i> )
<b>MICOA</b>	Ministry of Environment ( <i>Ministério da Coordenação da Acção Ambiental</i> )
<b>MINAG</b>	Ministry of Agriculture ( <i>Ministério da Agricultura</i> )
<b>MINIT</b>	Ministry of Interior ( <i>Ministério do Interior</i> )
<b>MITUR</b>	Ministry of Tourism ( <i>Ministério do Turismo</i> )
<b>NNR</b>	Niassa National Reserve ( <i>Reserva do Niassa</i> )
<b>OER</b>	Official exchange rate
<b>PATI</b>	Priority Areas for Tourism Investment
<b>PCC</b>	Chipanje Chetu CBNRM Programme ( <i>Programa Chipanje Chetu</i> )
<b>PDA/DPA</b>	Provincial Directorate of Agriculture ( <i>Direção Provincial da Agricultura</i> )
<b>PDTUR</b>	Provincial Directorate of Tourism ( <i>Direção Provincial do Turismo</i> )
<b>RoE</b>	Rate of Exchange (Mt :US\$)
<b>SDAE</b>	District Economic Services Activities/ Serviço Distrital de Actividades Económica
<b>SGDRN</b>	<i>Sociedade de Gestão e Desenvolvimento de Reservo do Niassa</i> (Society for the Management and Development of Niassa Reserve)
<b>SPDTM</b>	Strategic Plan for the Development of Tourism in Mozambique

<b>SPFFB</b>	<i>Servicos Provincias de Florestas e Fauna Bravia</i> (Provincial Services for Forestry and Wildlife)
<b>TIZs</b>	Tourism Interest Zones
<b>UEM</b>	Eduardo Mondlane University
<b>UNDP</b>	United Nations Development Programme
<b>VRF</b>	Visiting Friends and Relatives
<b>WTTC</b>	World Travel and Tourism Council
<b>WWF</b>	World Wide Fund for Nature and/or World Wildlife Fund

### Historical mean annual exchange rates (MT = US\$)

<b>Year</b>	<b>MT</b>
2000	15.23
2001	20.70
2002	23.68
2003	23.78
2004	22.58
2005	23.06
2006	25.40
2007	25.84
2008	24.30
2009	27.52
2010	33.96
2011	29.07

[http://www.indexmundi.com/mozambique/gdp\\_\(official\\_exchange\\_rate\).html](http://www.indexmundi.com/mozambique/gdp_(official_exchange_rate).html)

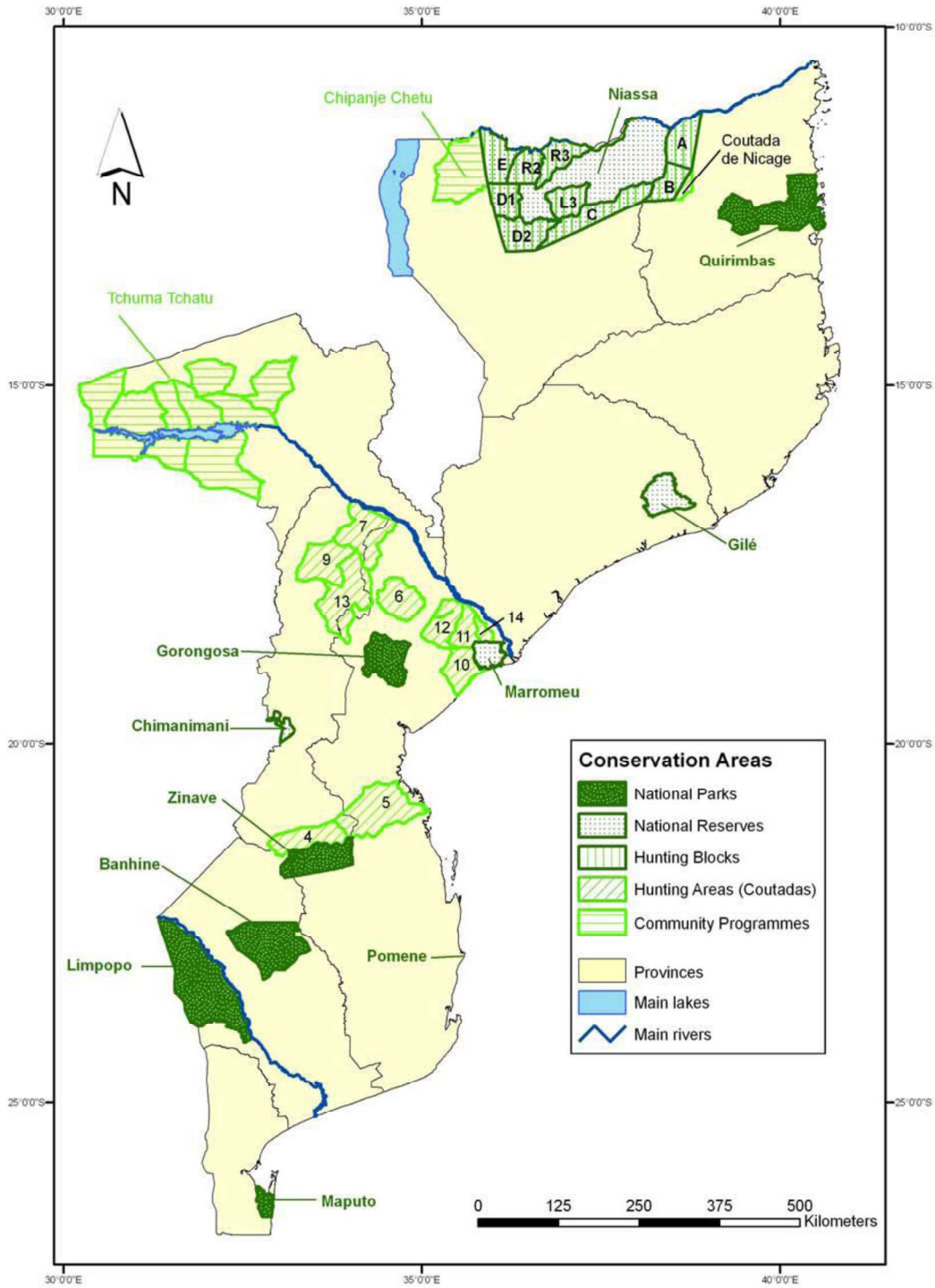
## 1 Introduction

Historically Mozambique was considered as one of the premier tourism destinations in southern Africa, renowned for its world-class national parks, its tropical beaches and cosmopolitan cities that attracted close to 400,000 tourists, mostly from southern Africa and from Portugal. All this changed in the 1970's following the escalation of the war of liberation that led to independence in 1975 and the civil war that followed. Tourist numbers quickly declined, tourism infrastructure was destroyed and wildlife resources, especially large mammal species, were decimated across the entire country. It would be another 20 years before the tourism industry begun to show signs of recovery after the peace accord was signed in 1992. This first started in Maputo with the development of a number of business hotels, but gradually as the infrastructure improved and confidence in the political stability of the country increased, demand for beach based leisure tourism stimulated development of tourism accommodation mostly along the southern coast. This trend gradually expanded into the central and northern parts of the country in the mid-2000.

The sport hunting industry has followed these trends. Up until the 1970's Mozambique was regarded as a hunting paradise that produced renowned professional hunters such as Adelino Serras Pires, Werner von Alvesleben and Wally Johnson. Although the resuscitation of the industry took less time it was not until the beginning of 2000 that confidence was restored.

Over the last 10 years the industry has rapidly expanded. There are now 53 hunting areas under the control of the *Direção Nacional de Areas de Conservação* (National Directorate for Conservation Areas (DNAC) within the Ministry of Tourism (MITUR, see Figure 1) and 30 areas (11 Provincial and 19 Fazendas do Bravio) under the Ministry of Agriculture (MINAG, Table 1). Most of these areas are allocated to the approximately 59 hunting companies registered in the country (see Annex 1).





**Figure 1: Location of the established hunting areas that are under the control of DNAC within the Ministry of Tourism**

**Table 1: The breakdown of hunting areas under the control of MITUR and MINAG.**

<b>Ministry of Tourism (N=53)</b>				
<b>Coutadas (N=14)</b>	<b>Niassa National Reserve (N=9)</b>	<b>Community Programme (N=12)</b>	<b>Utilisation Programme (N=5)</b>	<b>Community Quota (N=13)</b>
Coutada 4	Blocko R1	Bawa	Messalo	C.Chetu
Coutada 5	Blocko R2	Daque	Nungo	Bacia Lurio - Maua (C.Nacumua)
Coutada 6	Blocko R3	Chiridzi	Bacia do Lureco	Bacia Lurio - Nipepe (C.Nipepe)
Coutada 7	Blocko L1	Muze	Revia Comercial (Majune)	Bacio do Lureco
Coutada 9	Blocko L2	Chawalo	AAC Manda Wilderness	Nungo
Coutada 10	Blocko L3	Thuwi		Messalo
Coutada 11	Blocko L7	Chiputo		Manda Wilderness
Coutada 12	Blocko L8	Nhenda		Revia Comercial (Majune)
Coutada 13	Blocko L9	Chipera		Reserva do Niassa
Coutada 14		Chioco		Coutada 10
Coutada 15		Bungue		Coutada 11
C. Nicage		Capoche		Coutada 12
C. Nipepe		Chipanje Chetu		Coutada 14
C. Nacumua				

<b>Ministry of Agriculture (N=37)</b>							
<b>Provincial (N=11)</b>	<b>Fazendas (N= 26)<sup>1</sup></b>						
	<b>Maputo</b>	<b>Zambezia</b>	<b>Gaza</b>	<b>Niassa</b>	<b>Cabo Delgado</b>	<b>Sofala</b>	<b>Manica</b>
Niassa, Cabo Delgado, Nampula, Zambezia, Manica, Tete, Sofala, Inhambane, Gaza, Maputo DNTF/DNAC	SAPAP Sable Game	Artemis Mahimba Mocambique Safaris Real Safaris African Safaris	Muthemba Imofauna Mbabala Gaza Safaris Paul & Ubisse Africaca	Mozambique Wilderness Adventure	Hunters Mozambique Namoto Safaris Mwirite Safaris Ntsewa Safaris Negamano Safaris Muangaza	Mozunaf Safaris	Mafuia Safaris Chaba Ingwe Safaris Senga Senga Instituto Agrario de Chimoio

<sup>1</sup> The names of several Fazendas do not appear here: Paul & Ubisse, Africaca, Moz Unlimited, OLINAX, Dombawer, Lacerdonia, Mozunaf (see Table 7).

## 2 Mozambique Hunting Industry

A monograph presented by the Mozambique Hunting Commission to the IV Tourism Congress held in Lorenzo Marques (now Maputo) in 1952 describes the hunting opportunities in Mozambique at that time<sup>2</sup>. Six broad regions are highlighted as prime hunting areas including “Umbeluzi ao Pafuri”, “Greater Limpopo” and “Coutada do Save” in the south, “Manica and Sofala” in the central areas and “Greater Molocue” in Zambezia. But Niassa in the north is identified as having the richest and most diverse hunting opportunities in the entire country.

Over the last 50 years the administration of hunting has evolved with the establishment of coutadas, reserves, experimental and community programmes (IGF, 2009). The majority of areas are under the responsibility of the Ministry of Tourism (MITUR). The early concepts of setting aside “game farms” (*Fazenda do Bravio*) for the production of venison has remained under the Ministry of Agriculture (MINAG) and comprises less than 1% of the territory. Currently approximately 16.87% of Mozambique’s land mass (=799,830km<sup>2</sup>) has been set aside for sport hunting compared to 63,824km<sup>2</sup> (7.98%) that is protected (Table 2).

**Table 2: Summary of the areas set aside for hunting (134,944km<sup>2</sup>) represents 17% of the country (IGF, 2009).**

	<b>Designação</b>	<b>Superfície km<sup>2</sup></b>	<b>% do Território**</b>
Áreas de Caça	Coutadas Oficiais	49,951	6.25%
	Blocos de Caça da Reserva do Niassa	27,977	3.50%
	Programas Comunitários *	37,903	4.74%
	Áreas de Utilização Múltipla Específica	11,764	1.47%
	Fazendas do Bravio *	7,349	0.92%
	<b>Superfície total das áreas de Caça</b>	<b>134,944</b>	<b>16.87%</b>
Áreas Protegidas	Parques Nacionais	39,356	4.92%
	Reservas Nacionais**	19,533	2.44%
	Reservas Florestais	4,935	0.62%
	<b>Superfície total das Áreas Protegidas</b>	<b>63,824</b>	<b>7.98%</b>

\* Área relativamente maior que a estimada, uma vez que os dados destas áreas não estão completos e actualizados.

\*\* Foram excluídas as áreas ocupadas pelos Blocos de Caça da Reserva do Niassa, uma vez que estas estão incluídas nas áreas de caça.

Check this table against Samiro data.

### 2.1 Institutions, Policy and Law related to tourism hunting

### 2.2 Government Institutions involved in the business of hunting

<sup>2</sup> Caca em Mocambique: *Monografia Apresentada Pela Comissao de Caca de Mozambique por Ocasiao do IV Congresso de Turismo Africano Realizado em Lourenco Marques em September de 1952.*

IGF (2009) provides a detailed summary of the government institutions that are directly involved in the management and administration of hunting in Mozambique. Essentially there are two ministries: Ministry of Tourism responsible for all conservation in protected areas and Ministry of Agriculture that is responsible for promoting wildlife utilisation outside of the protected areas.

**Ministry of Tourism:** The Ministry of Tourism (MITUR) was established in 2000 by Presidential Decree No. 1/2000 17 January that gave it the mandate to coordinate and develop of tourism in the country. The duties and powers of MITUR are detailed in Articles 2 and 3 of Presidential Decree No. 9/2000 of 23 May. Among them are the promotion of conservation wildlife as one of the components necessary for the development of tourism and promotion of sustainable tourism development in order to contribute to the economic and social development of the country.

Within this Ministry there are two directorates: the National Directorate for Conservation Areas (DNAC) which is the institution directly responsible for the management and administration of all matters related to hunting and the National Directorate of Tourism Promotion (DNPT) that is responsible for the development and promotion of national and international tourism in the country.

These national institutions are linked to the Provincial Governments via the Department of Provincial Tourism (DPTUR) that were established in all provinces in January 2004. DPTUR is directly responsible for implementation national policies related to tourism in general and tourism hunting in particular at the provincial level. At district level the mandate of MITUR is implemented through the District Economic Services Activities (SDAE) which deals more closely with local communities.

In terms of this structure DNAC plays a crucial role in the development and monitoring of wildlife-based tourism including in particular sport hunting and in planning, management and monitoring of current and future conservation areas. This Directorate has a team of park managers in the field that consisted of about 17 technical people at headquarters and 861 on the ground (June 2008).

**Ministry of Agriculture:** The Ministry of Agriculture (MINAG) was established by Presidential Decree No. 13/2005, 4 February 2005. Its overall mission is to contribute to improved food security and reducing poverty by supporting smallholder sector, the private sector, agencies governmental and non-governmental organizations in order to increase agricultural productivity, agro-industry and marketing within the principles of sustainable resource natural. The duties and powers of MINAG are defined in Presidential Decree 24/2005 of 27 April and detailed in Ministerial Diploma n ° 202/2005 of 29 August.

In terms of its mandate MINAG is authorised to supervise activities related to the use of forest resources in productive forests and forests of multiple use as well as protection areas (national parks, national reserves and areas of use and cultural historical value) as approved management plan for the area of protection question.

Regarding the management, operation and monitoring of wildlife resources, MINAG has jurisdiction over the entire country, with the exception of areas under the jurisdiction of MITUR. In other words, MINAG is responsible for all wildlife management zones and multiple uses on game farms or “fazendas”.

At the central level, there are two National Directorates that are involved in monitoring the hunting activity: the National Directorate of Land and Forests (DNTF) that is responsible for all uses permitted by law relating to forest and wildlife resources within the areas under the jurisdiction of MINAG. Under Article 6 of the Decree of 2005, DNTF has among its functions the responsibility to "...promote the sustainable use of land and forest and wildlife resources as well as the reforestation and restocking of wildlife" and "...promoting the supervisory activity". In this regard DNTF overlaps with DNAC since it oversees all activities (licensing, quotas, monitoring etc.) on game farms.

The National Directorate of Veterinary Services (DNSV) is also located with MINAG and among other functions, is responsible for ensuring the licensing and certification of processes of import and export of animals and animal products. Accordingly, with regard to the hunting activities it is responsible for issuing health certificates for the export of hunting trophies, and ensuring that these comply with the requirements of recipient countries.

At the provincial level, the mandate of MINAG is implemented by the Provincial Directorates of Agriculture (DPA) which is responsible for the management and utilization of forest resources and wildlife at the provincial level, outside of the areas under the jurisdiction of MITUR. The DPA is supported by the Provincial Forestry and Wildlife Services (SPFFB) which is responsible for inspecting and issuing veterinary sanitation certificates. As with the MITUR the mandate of MINAG at district level is also implemented by the District Services of Economic Activities (SDAE).

Other institutions that are involved with the hunting industry include:

**Ministry for Coordination of Environmental Action (MICOA)** which is responsible for the administration of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES). As such it is responsible for the issuance of licenses related to the import and export of all wildlife species covered by the Convention and ruling on their legality.

**Ministry of Interior (MINIT)**, and in particular the Directorate of Security and Public Order is responsible for issuing all licenses related to the import, export, re-export, re-import and transit of arms and ammunition in the country.

The Directorate General of Customs within the Ministry of Finance is responsible for overseeing the import, export, re-export, re-import and transit of all capital goods related to the hunting industry including procedures relating to export of hunting trophies.

Through Decree No 35/2008 of 20 August, the Eduardo Mondlane University (UEM) was designated Scientific Authority of CITES. As such it has the function of advising Administrative Authority (AA) on the impact of import or export species, assist the AA in the preparation of proposals for amendment of CITES Appendices and promoting the training and awareness on issues related to national implementation of the Convention.

### **2.2.1 Policy Environment related to hunting**

The four strategic documents that contribute to the management and ministration of tourism hunting including:

- The Policy and Strategy Development of Forestry and Wildlife (Resolution No. 8/97 of 1 April 1997);
- The Tourism Policy and Implementation Strategy (Resolution No. 14 of 04 April 2003);
- The Strategic Plan for the Development of Tourism in Mozambique 2004-2013 (adopted by the 15th Ordinary Session of the Council of Ministers on 12 October 2004);
- The Principles for the Management of Protected Areas in Mozambique (June 2006).

These documents set out several guidelines two of which are of relevance to wildlife for hunting: the optimization of this form of wildlife utilization including improved management of conservation areas, improved economic production and use of forest and wildlife resources and to increase revenues from tourism hunting. The second point is the involvement of the private sector in developing and exploring the wildlife utilisation potential of the hunting areas (coutadas). In particular the policy encourages the establishment of partnerships between the private sector and local communities.

The participation of local communities is referred to in these policies and although it envisages community participation in natural resource management, it stops short of devolving full authority to communities. Instead the policies promote the equitable distribution of income from natural resource management as the key means for communities to benefit from tourism activities both within and outside of protected areas.

### **2.2.2 Legislation related to tourism hunting**

The two pieces of legislation directly related to wildlife and hunting are:

1. The Law of Forestry and Wildlife (Law N° 10/99 of July 7, 1999)
2. Its Regulations (Decree N° 12/2002 of June 6, 2002).

There are also other pieces of legislation that have a direct or indirect impact on hunting activities:

- The Tourism Act (Law No. 4/2004 of 17 June 2004);
- The Land Act (Law n ° 19/97 of 1 October 1997) and its Regulations (Decree n ° 66/98 of 15 July 1998);
- Arms Regulation and Ammunition as set out in the Council of Ministers Decree No 8/2007 of 30 April that laying down rules governing the possession, use and possession, importation, exportation, transit of firearms and ammunition in the country.

In addition to the above legislation, there are other guidelines, laws and regulations at the international and regional level that impact on hunting activities in the country. These include:

- Convention on International Trade in Endangered Species of Wild Fauna and Flora Endangered (CITES), ratified by the Government in 1981, through Resolution No

20/81 and 21/8, both of 30 December, which enforces rules and limitations on trade in species of wild fauna and endangered flora

- Protocol on Wildlife Conservation and Law Enforcement in Community Development Southern Africa approved through Resolution 14/2002 of 5 March 2002, which aims to establish common approaches in the area of conservation and sustainable use of wildlife resources and support effective implementation of legislation on wildlife.

**Law of Forestry and Wildlife and the Regulations:** After calling attention to different values (economic, social, cultural and scientific) of forest and wildlife resources for the Mozambican society, the preamble of the Act deals with on several principles that guide the law and regulations on fauna and flora especially:

- The fact of forest and wildlife resources belong to the State (Article 3);
- The involvement of local communities, private sector and civil society in definition of policies and strategies, management, conservation and exploitation of resources forest and wildlife; promotion of studies and research (Article 3);
- The protection, conservation, development and sustainable and rational use of resources for economic benefit, social and ecological current and future generation of Mozambicans (Article 4);
- The stimulation by the Government of national private sector participation in exploration, management and conservation of forest and wildlife resources (Article 7).

**Tourism Law:** The Tourism Law reiterates the major sectoral policy principles developed in 2003, namely sustainable development, private sector participation and other stakeholders in tourism development, inter-institutional coordination, conservation biodiversity (articles 3 and 5).

With respect to this last point, the central and local authorities should promote and encourage tourism development of low impact on the environment in order to preserve among others, forest resources, wildlife, water, energy and protected areas (Article 7). The operators of ecotourism and hunting are included in the suppliers of products and tourist services (Article 15). Have among its duties to conserve the environment and comply with the rules for their protection (Article 16). In order to develop its activities lack of a prior licensing (Article 18) subject to the payment of fees to be fixed by Council of Ministers (Article 19) and to monitoring under the regulations (Article 23).

**Land Law and its Regulations:** This law defines land that can be set aside for the conservation or preservation of certain animal or plant species, biodiversity, historical monuments and areas of scenic and natural interest. The law is very clear that all land belongs to the state and cannot be sold or otherwise alienated, mortgaged or pledged. The right to use the land is subject to obtaining a DUAT.

This law defines in detail what activities can and cannot be undertaken on various categories of land without special permits. With respect to Fazendas, the law defines the extent of land that can be awarded at the Provincial (up to a maximum of 1000ha), Ministerial (1000ha to 10,000ha) and Council level. The law also makes provision for the Council of Ministers to declare new protected areas, modify existing areas and dissolve protected areas.

**Regulation of Firearms and Ammunition:** This Regulation lays down the rules governing the possession, use and possession, importation, export, transit of firearms and ammunition in the country, either by citizens, residents or foreigners. It also classifies the type of weapons permitted, including those for use in the hunting industry.

**CITES:** Mozambique is signatory to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) that aims to regulate international trade in endangered species of wild flora and fauna, their parts and derivatives. CITES categorises fauna and flora under Appendices I, II and III according to the degree of threat to which they are subjected. Appendix I include species threatened with extinction and for which trade is permitted only in exceptional circumstances. Within this Appendix are included leopard, crocodile, and elephants, with the exception of populations the South-South, Botswana, Namibia and Zimbabwe (which are in Appendix II).

### 2.3 Hunting areas under the administration of Ministry of Tourism

Areas under the administration of DNAC within the Ministry of Tourism include coutadas, Reserves and two pilot community programmes (Tchuma Chatu and Chipanje Chetu). More recently a number of “experimental areas” have been established in Niassa Province.

#### 2.3.1 Coutadas

*Coutadas* (or hunting blocks) were created by colonial legislation in the 1930s. During the 1960's these were consolidated so that by the 1970's some 17 of these hunting areas had been gazetted as official reserves. Much of the hunting at that time focused on meat harvesting with limited sport hunting taking place (Soto, 2003 in Anstey, 2009). The legislation accompanying the establishment of these areas also evolved from the simple conditions set in the 1950's by the “*Comissao de Caca*” (Commissioner of Hunting) to a more rigorous set of regulations that identified types of hunting licenses, hunting seasons, prices, and animals that could and could not be hunted (‘*Legislação Sobre as Actividas da Caça*’ (Legislative Diploma N° 2629 of August 7, 1965, Soto 2003). This legislation also formalised meat hunting by local communities that formed cooperatives to which the state could issue low cost licences. Similarly the *Coutadas* were organised into ‘Wildlife Utilisation Units’ under a state enterprise called EMOFAUNA (Tello 1986, IGF 2009).

The hostility in the 1980's effectively closed down organised sport hunting but did not stop the uncontrolled hunting for meat across the country (Anstey, 2009). As the industry emerged from this period following the peace accord in the 1990's, so too were there changes in the number of hunting coutadas that were available. Some, such as Coutada 16, were incorporated into the Limpopo National Park while others were overrun by human settlements. Several coutadas were closed (Coutadas 4, 6, 7 and 15) as the wildlife populations had been decimated and were not suitable to support a sustainable hunting industry. Those that remained open (Coutadas 5, 9, 10, 11, 12, 13 and 14) went through various periods of rehabilitation and only became active from 2002 onwards. Currently there are 10 Coutadas under the jurisdiction of the Ministry of Tourism (MITUR, Figure 1)

Table 3 summaries the extent of the coutadas (49,951km<sup>2</sup>) in the three Provinces of Manica (27,724km<sup>2</sup>), Sofala (21,683km<sup>2</sup>) and Cabo Delgado (544km<sup>2</sup>).

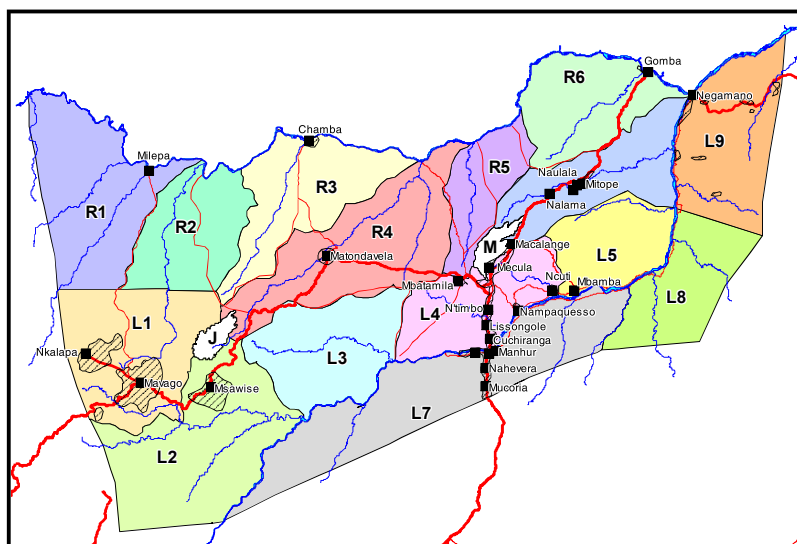


**Table 3: The area of land (km<sup>2</sup>) held under Coutadas in Mozambique**

Província	Designação	Superfície km <sup>2</sup>	Instrumento legal
Manica	Coutada 4	12,300	Portaria 22357 de 23/8/1969
	Coutada 7	5,408	Portaria 22097 de 19/4/1969
	Coutada 9	4,333	Portaria 22097 de 19/4/1969
	Coutada 13	5,683	Portaria 14254 de 27/8/1960
	<b>Superfície total em Manica</b>	<b>27,724</b>	
Sofala	Coutada 5	6,868	Portaria 592/72 de 30/5/1972
	Coutada 6	4,563	Portaria 14096 de 9/7/1960
	Coutada 10	2,008	Portaria 14715 de 4/2/1961
	Coutada 11	1,928	Portaria 22097 de 19/4/1969
	Coutada 12	2,963	Portaria 22097 de 19/4/1969
	Coutada 14	1,353	Portaria 22097 de 19/4/1969
	Coutada 15	2,000	Portaria 22097 de 19/4/1969
	<b>Superfície total em Sofala</b>	<b>21,683</b>	
Cabo Delgado	<b>Nicage</b>	<b>544</b>	Decreto 39/2008 de 26/11/08
	<b>Superfície total das Coutadas Oficiais</b>	<b>49,951</b>	

### 2.3.2 Niassa National Reserve

Located in the northernmost part of Mozambique, the Niassa National Reserve (NNR) covers parts of Cabo Delgado Province and nearly one third of Niassa Province. The total area of the Reserve is 42 277 km<sup>2</sup>, making it the country's largest conservation area and the third largest protected area in Africa (Table 4).



**Figure 2: Location of the 17 management units within the Niassa National Reserve**

The approved management plan for the Reserve (SGDRN 2007) identifies 17 management units, and based upon their broad commonalities these have been designated as Special Conservation Areas (2), Wilderness Conservation Areas (4) or Resource Conservation Areas (11). Nine of the Resource and Wilderness Conservation Areas presently operate as safari hunting concessions (66%) while three blocks (Blocks R6, L6 and L5) are being developed exclusively for non-consumptive tourism. The remaining two management units (Blocks R4 and R5) are still to be offered as either new photo-tourism or safari hunting concessions. Block L4 will remain as an area for general public use (Figure 2, Table 4)<sup>3</sup>.

**Table 4: The area of the individual management units in the Niassa National Reserve. Hunting occupies 27,989km<sup>2</sup> (66%) of the 42,277km<sup>2</sup>.**

	Província	Designação	Superfície km <sup>2</sup>	Instrumento legal
Blocos de Caça	Niassa	Bloco L1 (Nkalapa)	3,308	Plano de Maneio da Reserva Nacional do Niassa 2007 - 2012
		Bloco L2 (Luatize)	4,180	
		Bloco L3 (Metapiri)	2,640	
		Bloco L7 (Mussoma)	4,446	
		Bloco R1 (Lucheringo)	3,458	
		Bloco R2 (Lucabanga)	2,251	
		Bloco R3 (Mazeze)	2,671	
		<b>Superfície total no Niassa</b>	<b>22,954</b>	Contrato ou Memorando de Entendimento (MdE) com Operadores
	Cabo Delgado	Bloco L9 (Ninga)	2,910	
		Bloco L8 (Nicondezi)	2,125	
	<b>Superfície total em Cabo Delgado</b>	<b>5,035</b>		
	<b>Superfície total dos Blocos da R. do Niassa - Caca</b>		<b>27,989</b>	
Blocos de Photographic	Niassa	Bloco L4 (Incalaue)	2,212	Plano de Maneio da Reserva Nacional do Niassa 2007 - 2012
		Bloco L5 (Miuro)	1,828	
		Bloco L6 (Jurege)	2,301	
		Bloco R4 (Chuilexi)	3,712	
		Bloco R5 (Licombe)	1,470	
		Bloco R6 (Misangese)	2,325	
			<b>Superfície total no Niassa</b>	
		Joa Mountains	209	
		Mecula Mountains	231	
		<b>Superfície total</b>	<b>440</b>	
	<b>Superfície total dos Blocos da R. do Niassa - Photographic</b>		<b>14,288</b>	
	<b>Superfície total dos Blocos da R. do Niassa</b>		<b>42,277</b>	

## 2.4 Community Initiatives

<sup>3</sup> This was the situation at the end of 2012. One area (Block L5) has been subdivided into two blocks and is being developed as an ecotourism concession. A short term 5-year MoU was granted for Block R2. Block L4 will remain as an area for general public use.

The evolution of Community Based Natural Resource Management (CBNRM, or *Maneio Comunitario dos Recursos Naturais* – MCRN) begun in earnest in the mid-1990's (Magane 2001 in Anstey 2009). Altogether this initiative covers approximately 37,903km<sup>2</sup> with the majority (84%) in Tete Province and the remainder in Niassa. The objective of the two community programs (Tchuma Tchato and Chipanje Chetu) was to test the principles of the rights of communities and their institutions to share the proceeds resulting from the exploitation of wildlife. The areas under community programmes in theory belong to the “communities”, although in the case of Tchuma Tchato these have not been properly demarcated and legalized, which has created conflicts of interest with other forms of land use. Operators in these areas are only granted the right to use wildlife in areas under community management. It is not clear who is empowered to authorize the exploitation of wildlife in these communal areas as some contracts are signed at the provincial level and others at the national level.

#### 2.4.1 Tchuma Tchato

The Tchuma Tchato pilot programme initiative in Tete Province originated in 1993 as an effort to resolve conflict between the local community and the incumbent safari operator who had been hunting in the “Bawa” area since 1988. The programme was initiated by the *Direção Nacional de Florestas e Fauna Bravia* (National Directorate for Forestry and Wildlife, DNFFB) and later supported by IUCN, Ford Foundation and others. Local institutions were developed to manage the relationship with the operator, manage the local resources (including fisheries) and most importantly create a benefit sharing mechanism to re-distribute a portion of the state's royalties back to the local level from taxing of the hunting<sup>4</sup>.

However, in the absence of any legislation to cover this, a specific Ministerial Decree authorised a division of these state taxes with around half going to the local communities (Anstey 2009). This was the first serious attempt to develop a wildlife based CBNRM programme. This model was not, however, extended elsewhere in the country as the Ministerial Decree was only exclusively for the Tchuma Tchato area.

Furthermore, this approach of sharing ~50% of the state taxes from natural resources harvested in community areas was not enshrined in the new national legislation. Instead the state implemented a law in 2005 that provided for 20% community dividends from the revenue generated from the sale of abate tickets (Anstey 2009). Tchuma Chatu consists of 12 areas and covers an area of approximately 31,838km<sup>2</sup> (Table 5).

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<sup>4</sup> Fees for sport hunting are fixed by the Council of Ministers, with MINAG, MITUR and the Ministry of Finance responsible for their periodic revision. Tchuma Tchato has a special set of fees set by Ministerial Diploma N° 92/95 that are approximately 1.8 times higher.

**Table 5: The Tchuma Chatu pilot community programme in Tete Province consists of 12 individual blocks. Chipanje Chetu in Niassa is one consolidated area.**

	Província	Programa	Nome	Superfície km <sup>2</sup>
Programas Comunitários	Tete	Tchuma Tchato	Bungue 1	Por definir
			Capoche 1	Por definir
			Chawalo	2,238
			Chiritse	3,768
			Chintopo	3,028
			Chioco 1	Por definir
			Chipera	3,103
			Chiputo	2,920
			Daque	6,367
			Muze	4,620
			Nhenda	2,945
			Thuvi	2,849
		<b>Superfície total em Tete</b>		
	Niassa	<b>Chipanje Chetu</b>		<b>6,065</b>
<b>Superfície total dos Programas Comunitários</b>				<b>37,903</b>

#### 2.4.2 Chipanje Chetu

Another example of a wildlife based CBNRM programme is the *Programa Chipanje Chetu* (PCC) that was developed in mid 1998 in collaboration with IUCN and the Niassa Provincial Services for Forestry and Wildlife (SPFFB). In a protracted series of negotiations, this area was offered on tender and awarded to a private operator initially on a 3-year trail in 2007 after the local community secured a *Direito de Uso e Aproveitamento da Terra* (DUAT, Anstey, 2009).

Associations were created for each of the five communities within the project, and each has a bank account that requires three signatures. These associations receive revenues from:

- 20% of the cost of the Abate tickets purchased from government. This is paid directly into the respective accounts by the government.
- An annual lease fee paid directly to the communities by the safari operator.
- A "trophy fee" for each animal hunted

Equal amounts are deposited into each of the 5 community accounts, and each village has control over their own account and autonomy on deciding how to spend their money i.e. the communities can make their own financial decisions. Village meetings are held once every 3 months where the three signatories present a balance of accounts to the village council (Howard Hunter, pers comm.).

#### 2.4.3 Coutada 9 Community Programme

There are long-term resident local populations living inside most conservation areas in Mozambique who can prove historical links with these areas (the Niassa National Reserve is another example where approximately 35,000 people reside in 40 villages).

The case of Coutada 9 highlights the complexities with respect to land rights of managing these areas in conjunction with local resident communities. In this case the debate centred around whether a local community have rights within coutadas especially as a DUAT cannot be acquired in areas of partial protection (Norfolk and Tanner, 2007). It was also questioned whether existing customarily acquired DUATs are acceptable, or if other rights apart from DUATs must also be considered.

Dealing with these *de facto* rights, and promoting investment in wildlife based land use options such as sporting hunting under these circumstances, is the challenge that the government is still grappling to find ways to deal with.

In the case of Coutada 9 the investors have a contract with MITUR to restore the animal populations, introduce good conservation practices and make the Coutada a viable economic activity that generates revenues for the State from sport hunting. At the inception of this contract MITUR were at first of the opinion that the local community should not be in the Coutada. In addition the investors found that serious, illegal hunting by the local people was taking place. However instead of trying to move people out of the Coutada, the investors assessed the situation, recognized the long-standing rights of the communities (*regulados*), and accepted that they needed to benefit from the wildlife resource base to support their livelihoods.

Negotiations with local chiefs resulted in an agreement being proposed in which the community agreed to give up illegal hunting and in return the investor would share trophy fee revenues with the communities. In addition the communities could keep all the meat from animals killed by the sports hunters. The deal also recognized that since part of the Coutada was already heavily settled, it should become a multi-use area, usable for agriculture, etc.

A revenue sharing arrangement was structured around this *de facto* zoning plan in which the core area would be managed by the investor while a second area between this core and the multi-use area would be managed by the community as a hunting reserve. The community would receive 25% of trophy fees from the core area while they would get 75% of the trophy fee from animals taken in the community-managed area. In return the community would stop all illegal hunting and use of illegal weapons.

A protracted process of negotiations followed with MITUR to find a legal basis for this arrangement. Eventually MITUR agreed to a new contract on an experimental basis but the Provincial Government and MITUR did not accept that the community could secure their DUAT in order to establish them as legal entities. The legal basis of the contract between the communities and the investor is therefore still unclear. Nevertheless, both sides agreed to work together under this arrangement which they regard to be a legitimate and binding undertaking.

In 2005, the leaders of three communities inside the Coutada received approximately US\$11 000 to spend as they wish. These dividends have continued however there are still problems with continuing illegal hunting. A delicate balance exists between the needs of the investors and the community. Managing this process is taxing on the investor, local leaders, and state agencies (Norfolk and Tanner, 2007).

## 2.5 Multiple Use Hunting Areas

A number of “experimental” multiple use hunting areas (*Áreas de Utilização Múltipla Específica*, AMUE) have been established in Niassa Province (Matusse, 2004, Booth, 2006, Figure 3). These areas have been identified as having the potential to be developed as wildlife management areas, usually by private sector safari operators. In most cases these operators do not have the DUAT for the area. To overcome this, they are only granted the right of exploitation of the wildlife resources within the defined area.

This category of hunting area was not foreseen in law (*Lei de Florestas e Fauna Bravia*, LFFB) and their respective regulations. As such it is not clear whether these are game ranches (*fazendas*), *coutadas* or a hybrid of the two. Generally the authority to exploit the wildlife in these areas has been granted at the Provincial Government level after consultation with local stakeholders but with little or no involvement of the national authority. Furthermore there does not appear to be any verified information regarding quota allocations for these areas. It is understood that these areas are to be upgraded to *coutada* status, and two areas (Messalo and Nungu) were offered on tender in 2011. Approximately 11,764km<sup>2</sup> has been set aside under this scheme (Table 6).

**Table 6: The total area of Multiple Use Zones established in Niassa Province.**

	Província	Distrito	Designação	Superfície km <sup>2</sup>	Instrumento legal
Zonas de Utilização Múltipla Específica	Niassa	Maua e Metarica	Bacia do Lúrio	2,713	Despacho do GGN de 13/09/07
		Nipepe	Bacia do Lúrio	1,382	Despacho do GGN de 13/09/07
		Majune e Marrupa	Bacia do Lureco	3,600	
		Marrupa	Nungo	3,262	
		Marrupa	Messalo	807	
	<b>Superfície total no Niassa</b>				<b>11,764</b>
<b>Superfície total das Zonas de Utilização Múltipla Específica</b>				<b>11,764</b>	



**Figure 3: Location of the experimental multiple use hunting areas in Niassa Province**  
**2.6 Fazenda Bravia's under the administration of Ministry of Agriculture**

There are 26 registered “game farms” located across the country in the eight provinces that cover approximately 7,348.62km<sup>2</sup> (Table 7). The location of these areas is difficult to identify. With one exception, Mozambique Wild Adventures in Niassa Province (2,954km<sup>2</sup>), these properties vary in size from 95 – 500km<sup>2</sup> with the majority being 100 – 200km<sup>2</sup>.

**Table 7: Summary of game farms (*fazendas do bravio*) in the various provinces in Mozambique**

	Província	Designação	Superfície km2	Instrumento legal
Fazendas do Bravio	Cabo Delgado	Hunters Mozambique	236	Em processo de legalização
		Namoto Safaris	95	Em processo de legalização
		Muangaza Safaris	100	Em processo de legalização
		Mwirate Safaris	?	Em processo de legalização
		Ntsewa Safaris	503	Em processo de legalização
		Negomano Safaris	100	Despacho de 14/4/2000-MPF
		Superfície total em Cabo Delgado	1,034	
	Niassa	Mozambique Wild Adventures	2,954	Em processo de legalização
		Superfície total no Niassa	2,954	
	Zambézia	African Safaris Tours	0.30 (?)	Em processo de legalização
		Real Safaris	80	Em processo de legalização
		Moçambique Safaris	200	Em processo de legalização
		Artemis Safaris	300	Em processo de legalização
		Mahimba Game Farm	176	Despacho de 1995 - MINAG
		Superfície total na Zambézia	756.30	
	Manica	Mafuia Safaris	379.32	Em processo de legalização
		Chaba Ingwe Safaris	180	Em processo de legalização
		Senga Senga	200	Em processo de legalização
		Instituto Agrário de Chimoio	170	Em processo de legalização
		Superfície total em Manica	929.32	
	Sofala	Mozunaf Safaris	100	Contrato c/ MADER de Sep 02
		Superfície total em Sofala	100	
	Gaza	Paul & Ubisse	300	Contr. c/ MADER de 3/4/2000
		Muthemba Safaris	100	Processo nos SPFFB de Gaza
		Imofauna	200	Processo nos SPFFB de Gaza
		Mbabala Safaris	200	Processo nos SPFFB de Gaza
Gaza Safaris		100	Processo nos SPFFB de Gaza	
Nharre Safaris		100	Processo nos SPFFB de Gaza	
Africaça		100	Contrato c/ MADER de ?	
Superfície total em Gaza		1,100		
Maputo	Sabie Game Park	355	Resolução Interna do CM no 03/2000 de 19 Julho	

	SAPAP	120	Contrato c/ MADER de 6/4/2000
	Superfície total em Maputo	475	
	<b>Superfície total das Fazendas</b>	<b>7,348.62</b>	

### 3 Status of wildlife populations

#### 3.1 National Survey

The first attempt at a national survey was conducted in 2008 that covered approximately 537,041 km<sup>2</sup> at sampling intensity of 2.35 % (Agreco, 2008)<sup>5</sup>. The results of this survey were combined with the estimates from other areas of Mozambique where wildlife populations have been sampled from the air during the previous five years to give population estimates for Mozambique as a whole. This enabled approximately 80 % of Mozambique's land area to be surveyed (Table 8).

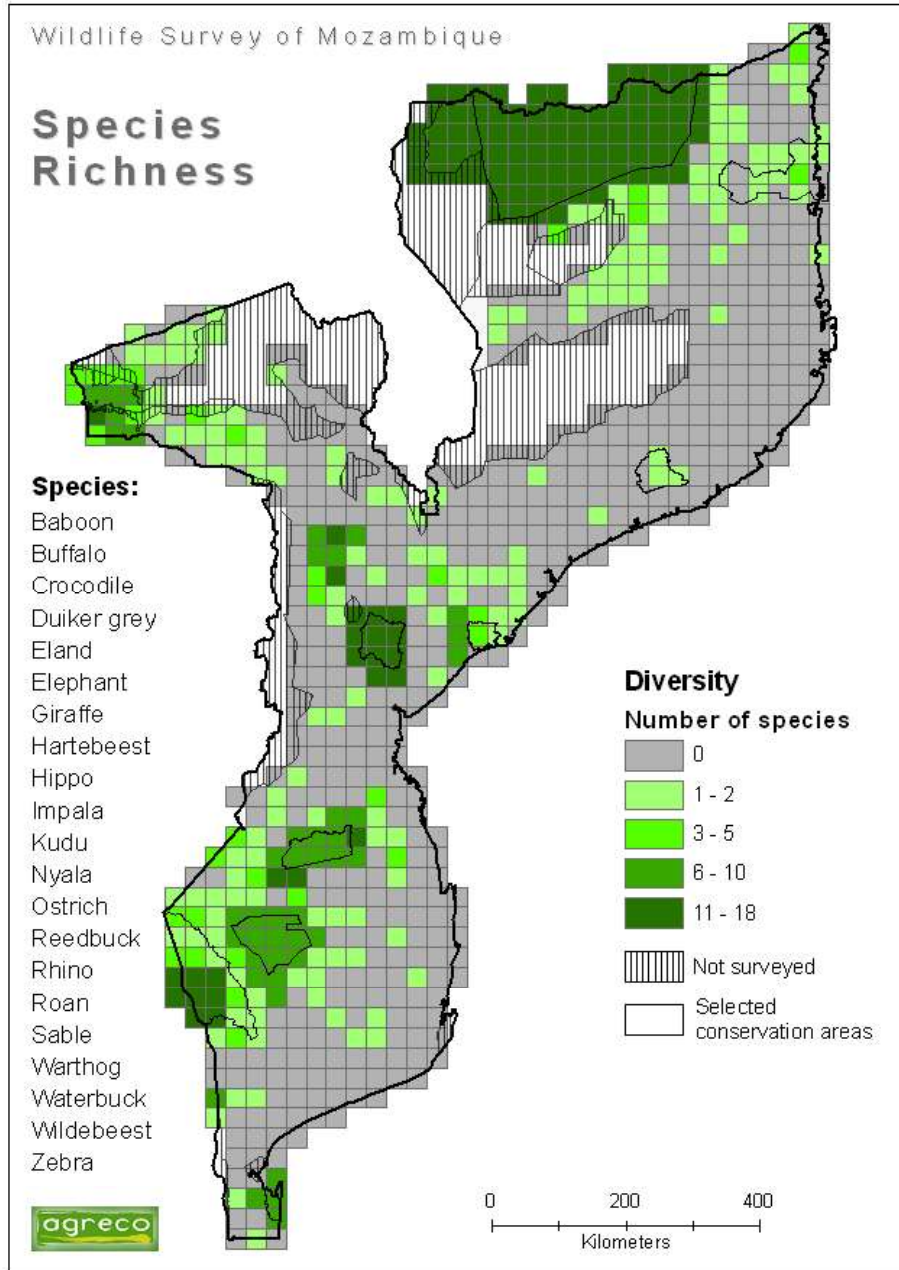
**Table 8: National population estimates of large mammals in Mozambique (Agreco, 2008)**

Species	Portuguese name	Estimate	95% Limits
Baboon (groups)	Macaco-cão	2,425	1,820 – 3,030
Buffalo	Bufalo	5,717	2,678 - 8,756
Duiker grey	Cabrito cinzento	45,246	42,245 – 48,246
Eland	Elande, Pacala ou Tuca	9,382	5,597 – 13,168
Elephant	Elefant	22,144	16,393 -27,894
Giraffe	Girafa	125	25 – 340
Hartebeest	Gondonga, Nameriga, Ecoce	5,107	3,742 – 6,473
Hippopotamus	Hipopótamo	8,388	3,896 – 12,879
Impala	Impala	11,677	1,932 – 21,422
Kudu	Cudo	15,764	12,952 – 18,575
Nyala	Inhala	3,435	1,923 – 4,947
Ostrich	Avestruz	1,566	511 – 2,621
Reedbuck	Chango	12,293	9,923 – 14,664
Rhinoceros black	Rinoceronte de lábio preênsil	1	-
Rhinoceros white	Rinoceronte de lábio direito	20	-
Roan antelope	Matagaica ou Palapala cinzenta	525	30 – 1,775
Sable antelope	Pala pala	32,393	21,799 – 42,987
Warthog	Facocero	18,880	15,734 – 22,025
Waterbuck	Piva, Inhacoso ou Namedouro	9,956	41,88 – 15,723
Wildebeest	Cocone ou Boi- cavalo	2,031	1,090 – 2,972
Zebra	Zebra	7,480	5,801 – 9,159
Cattle	Gado bovino	59,3476	504,243 – 68,2708
Goat	Cabrito	50,1762	437,088 – 566,436
Crocodile (large)	Crocodilo	1,511	561 – 2,462

<sup>5</sup> This is a very low sampling intensity but given the size of the area involved, it is suitable to meet the objectives of the survey. Normally a sampling intensity of at least 10% is preferred to determine the status of wildlife populations.



These data represent the minimum estimates for these species, and cannot be taken as a representative estimate of the wildlife populations in Mozambique. However, this survey does provide a valuable indication of the distribution of wildlife and species richness in Mozambique (Figure 4).



**Figure 4: Species richness is confined to three regions: Niassa Province in northern Mozambique, Zambezi valley in Central Mozambique and the Southern reserve complex of Limpopo, Banhine, Zinave. (Data from Agreco, 2008.)**

### 3.2 Niassa National Reserve

The Niassa National Reserve has been systematically surveyed every two years since 1998. This data set now represents the most comprehensive record of population trends for a

protected area in Mozambique. Table 9 summarises the estimates of all large mammals and anthropomorphic activities in the series to date. These data suggest that only hippopotamus and waterbuck display a continued upward trend. The number of elephant carcasses recorded increased significantly from 2009 and 2011, highlighting the escalation in illegal ivory hunting. Number of snarelines recorded is also a good index of the amount of illegal activity which appears to have doubled every six years.

The decline in most species *estimates* between 2009 and 2011 is likely to be a result of a combination of observer bias and real declines as a result of increased illegal activity and/or localised movements of wildlife (Craig 2012).

**Table 9: Wildlife trends in the Niassa National Reserve: 1998 – 2011 (from Craig 2012)**

	1998	2000	2002	2004	2006	2009	2011	r	p
Elephants (total)	8707	11828	13061	12478	11833	20364	12029	0.0327	0.1429
Elephant carcasses	336	644	645	461	588	896	2627	0.1126	0.0266 *
Buffalo	2095	2513	6220	6968	2271	6833	6214	0.0705	0.1664
Bushbuck	203	443	733	322	454	366	242	-0.008	0.8503
Bushpig	591	696	1239	1284	505	743	251	-0.0566	0.278
Crocodile	57	97	202	146	31	118	173	0.033	0.6137
Duiker	5166	16074	16992	12202	23172	22174	10683	0.0486	0.3193
Eland	1358	2121	3249	2664	6645	5856	3136	0.0486	0.3193
Hartebeest	1531	2504	3984	3382	4404	5074	3799	0.0834	0.073
Hippopotamus	463	305	502	768	1206	1325	863	0.0917	0.0284 *
Impala	124	530	1231	1095	1335	2175	1019	0.1471	0.0562
Kudu	949	1297	2951	1439	3845	2928	1397	0.0469	0.3504
Reedbuck	69	363	1673	1096	3879	2041	765	0.1786	0.2078
Sable	7134	9445	13940	13233	13881	14823	9662	0.0278	0.3076
Warthog	3681	6312	7550	5614	8660	10132	4629	0.0278	0.4158
Waterbuck	334	719	868	1219	2308	2973	1662	0.1391	0.0095 **
Wildebeest	778	777	573	930	1543	1124	877	0.0327	0.2612
Zebra	2854	2788	3773	3609	6222	6294	3844	0.0484	0.0875
Ground hornbill	3023	2702	3360	3621	4101	4392	3209	0.0215	0.1571
All Wildlife	39117	61514	82101	72070	96295	109735	64454	0.0446	0.1857
Snarelines (no.seen)	40	80	63	101	118	150	222	0.1148	0.0008 ***

### 3.2.1 Chipanje Chetu

Table 10 below summarises the result of three aerial surveys undertaken in Chipanje Chetu as part of the 2011 Niassa National Reserve survey programme (Craig 2012a). For most species the changes are within the expected range of variation between surveys. The decline in reedbuck, however, appears to be real. Buffalo was seen for the first time in 2011. The estimate for elephants has increased since 2004, supporting local observations that elephant have moved out of the Niassa Reserve as a result of the increased poaching levels.

**Table 10: Wildlife trends in the Chipanje Chetu Community Area: 2004 – 2011 (from Craig 2012a)**

SPECIES	2004	2006	2011
Baboon	576	144	152

<b>SPECIES</b>	<b>2004</b>	<b>2006</b>	<b>2011</b>
Buffalo			10
Bushbuck	60	21	
Bushpig	40	154	95
Crocodile		21	
Duiker	1767	2350	657
Eland	10	195	57
Elephants (total)	179	92	333
Elephant carcasses	20	21	10
Ground Hornbill	467	575	457
Hartebeest	119	113	286
Kudu	30	174	
Monkey	30		
Honey Badger			10
Reedbuck	397	4064	181
Sable	1827	2535	1913
Warthog	407	677	219
Waterbuck	99	308	133
Zebra	89	369	247
Snarelines	70	60	29

### 3.2.2 Quirimbas National Park and adjacent areas

An aerial survey of wildlife and other environmental attributes in Cabo Delgado province in Northern Mozambique was undertaken in October 2011. The survey was done under the auspices of the 2011 Niassa National Reserve survey in conjunction with the Worldwide Fund for Nature (WWF) to cover the Quirimbas National Park, a corridor linking the Niassa Reserve with Quirimbas NP and a forest area in the Palma District on the Rovuma River. The total area surveyed was 20,834 km<sup>2</sup> at a mean sampling intensity of 10.4%. The results are shown in the Table 11 below (Craig 2012b).

**Table 11: Aerial survey results from the Quirimbas National Park and adjacent areas, October 2011 (from Craig 2012b).**

<b>SPECIES</b>	<b>Estimated Number</b>	<b>95% Confidence Range</b>
Elephants in Family Groups	653	200 – 11074
Elephants in Bull Groups	192	20 – 390
Elephant Carcass 3	29	3 – 60
Elephant Carcass 4	115	52 -179
Baboon	1570	803 – 2337
Bushbuck	201	102 – 300
Bushpig	144	15 – 298
Crocodile	19	2 – 56
Duiker	4202	3443 – 4961
Eland	19	2 – 44
Hartebeest	68	7 – 158
Hippopotamus	262	27 – 594

SPECIES	Estimated Number	95% Confidence Range
Kudu	462	210 – 713
Monkey	450	114 - 786
Reedbuck	19	2 – 55
Sable	491	68 – 915
Warthog	1193	749 – 1638
Waterbuck	29	3 – 83
Zebra	87	9 – 231
Cattle	791	86 – 2014
Sheep/goats	1217	504- 1930

### 3.3 Other survey results

Several other surveys have been conducted in various parts of the country. These surveys have either targeted specific species or well defined areas. The results of these surveys are summarised below.

#### 3.3.1 Survey of hippopotamus and crocodile populations in Moçambique – 2010

The first co-ordinated attempt to assess the status of wild crocodile and hippo populations at a national scale in Mozambique since the 1970s was undertaken in 2010 (Fergusson, 2010, Mackie 2010, Mackie, Dunham and Ghiurghi, 2012). The study comprised an aerial survey using a slow flying, fixed- wing aircraft that sampled sections of many of the major rivers and dams. A night-time survey using a boat and a spotlight was undertaken of shorter sections of some of the same areas to assess populations of smaller crocodiles that cannot be seen from the air. The following major rivers and dams were included in this survey and covered 3,337 km:

- Northern Moçambique including a sample of Lake Niassa shores
- The Zambeze river and parts of Lake Cabora Bassa
- Central Mozambique including selected inland lakes
- Southern Moçambique including Lebombo and Massingir dams

Table 12 summarises the numbers of hippo counted during this survey and includes data from previous surveys of the Rovuma River and southern shores of Cabora Bassa (Mackie 2010).

**Table 12: Number of hippos counted and the applied correction factors to derive minimum population estimates in the different catchment areas of Mozambique.**

River Sector	Hippo counted	Correction Factor	Corrected estimate
C.Bassa East - North bank	0	1.3	0
C.Bassa East - South bank <sup>1</sup>	911	1.3	1184
Shire river (section)	0	-	0
C.Bassa - Tete	12	1.3	16
Tete - C.Bassa	25	1.3	33
Tete - Chemba	133	1.3	173

River Sector	Hippo counted	Correction Factor	Corrected estimate
Chemba - Gorge	127	1.3	165
Caia East both banks	13	1.6	21
<b>Subtotal Zambeze including Cabora Bassa</b>	<b>1221</b>		<b>1592</b>
Niassa lake	0	-	0
Lugenda/Luatize	299	1.2	359
Rovuma <sup>2</sup>	47	1.2	56
Lurio river	0	-	0
Lighona river	0	-	0
Messalo river	0	-	0
<b>Subtotal North</b>	<b>346</b>		<b>415</b>
Pungwe river incl Urema	62	1.6	99
Save river	129	1.2	155
Inhambane Inland Lakes	0	-	0
<b>Subtotal Central</b>	<b>191</b>		<b>254</b>
Lebombo dam	0	1.3	0
Incomati river	0	-	0
Limpopo river	20	1.2	24
Sabie River	16	1.2	19
Olifants river	0	-	0
Olifants/Massingir Dam	12	1.2	14
Maputo river	74	1.8	133
<b>Subtotal South</b>	<b>122</b>		<b>191</b>
<b>Overall Totals</b>	<b>1880</b>		<b>2451</b>

Notes: <sup>1</sup> the number of hippos in the table for Cabora Bassa south bank was taken from the October 2010 aerial sample count which covered the southern lake shore (Dunham, 2010).

<sup>2</sup> The number of hippos in the table for the Rovuma River was taken from the recent survey from the 2008 Phase 1 survey.

The numbers of hippo seen, including estimates from other surveys, was 1,880 which when corrected, provides an estimate of 2,451 hippos for the country as a whole. This represents a *minimum* estimate since data are not available for some river and lake systems (Mackie, Dunham and Ghiurghi, 2012).

A total of 1,123 large (adult) crocodiles were seen during the 2010 aerial counts (Fergusson 2010). Ten night-time boat surveys were carried out covering 331 km during which 549 crocodiles were seen. These data were used to correct the aerial survey data to include crocodiles that are too small to be seen from the air. This calculation gives an estimate of 10,025 crocodiles of all ages in the sections of rivers that were surveyed (Table 13).

**Table 13: Aerial survey estimates of the Density and percentage CV for adult crocodiles recorded in four stratum in Mozambique.**

<b>Northern stratum</b>	<b>Lake Niassa</b>	<b>Lugenda River</b>	<b>Messalo River</b>	<b>Lurio River</b>	<b>Ligonha River</b>
Surveyed distance (km)	58	338	177	184	135
Average Density (croc per km)	Nil	0.14	0.05	Nil	0.02
Population Estimate (adult crocodiles)	Nil	46	9	Nil	3
Coefficient of Variation (CV) (%)	-	47.2	36.1	-	57.2
<b>Zambezi Stratum</b>	<b>Cahora Bassa</b>	<b>Zambezi (Gorge-Tete)</b>	<b>Zambezi (Tete-Caia)</b>	<b>Shire River</b>	<b>Zambezi (Caia – Chueza)</b>
Surveyed distance (km)	575	147	767	75	359
Average Density (croc per km)	0.62	0.16	0.71	Nil	0.25
Population Estimate (adult crocodiles)	398	16	296	Nil	38
Coefficient of Variation (%)	47.3	30.0	21.5	-	38.0
<b>Central Stratum</b>	<b>Urema River</b>	<b>Busi River</b>	<b>Save River</b>	<b>Lebombo Dam</b>	<b>Maputo River</b>
Surveyed distance (km)	94	90	201	39	117
Average Density (croc per km)	0.35	0.06	0.22	Nil	1.03
Population Estimate (adult crocodiles)	33	13	46	Nil	121
Coefficient of Variation (%)	27.7	19.2	25.9	-	16.2
<b>Southern Stratum</b>	<b>U. Incomati River</b>	<b> Limpopo &amp; Elephantes River</b>			<b>Massingir Dam</b>
Surveyed distance (km)	161	311			69
Average Density (croc per km)	0.49	0.19			0.14
Population Estimate (adult crocodiles)	79	61			10
Coefficient of Variation (%)	16.3	19.0			47.7

The survey confirms the widespread distribution of wild crocodiles in Mozambique however the population does not occur in high densities when compared to similar populations in neighbouring countries. Furthermore, unlike in most other countries in southern Africa, the crocodile population in Mozambique does not benefit from having a significant proportion located within conservation areas. Taking into account the difficulties of surveying crocodiles

and applying correction factors to the data it is guesstimated that the total national population of crocodiles in Mozambique may exceed 70,000 animals.

### 3.3.2 Aerial Survey: Lake Cabora Bassa, Mozambique: 2010

Elephants and other large herbivores, wild and domestic, in the region of Tete Province lying to the south of Lake Cabora Bassa were surveyed from the air during the dry season of 2010 (Dunham 2010a). The study area totalled 16,583 km<sup>2</sup>.

The estimated population numbers of the principal large herbivores in the entire survey area are provided in Table 14.

**Table 14: Population estimates for major wildlife species, domestic livestock and elephant carcasses in the area of Mozambique south of Lake Cabora Bassa during the dry season of 2010 (Dunham 2010a).**

Species	Estimate	% CL	Lower CL	Upper CL
Elephant	1985	55.5	882	3087
Elephant bull	212	62.2	80	344
Elephant cow	1773	61.8	676	2869
Buffalo	4626	104.3	0	9449
Zebra	110	133.4	0	256
Impala	3446	46.2	1854	5037
Hippo	911	48.6	468	1354
Warthog	528	34	348	707
Kudu	627	37.8	390	864
Waterbuck	50	225.3	0	163
Sable	341	171.1	0	925
Roan	30	149.6	0	76
Duiker, grey	3149	17.4	2600	3698
Cattle	22988	18.7	18691	27286
Sheep/goat	16924	20.9	13383	20456
Donkey	793	35.5	512	1074
Pig, domestic	172	57.6	73	271
Elephant carcass 3	216	29.2	153	279
Elephant carcass 4	75	51.7	36	113
Ground hornbill	320	49.7	161	478
Crocodile	746	80	149	1343

For most wild species, the majority of the population occurred to the west of the Musengezi River, even though this area formed just 16 % of the entire study area. Sable antelope, roan antelope and waterbuck were seen only to the west of the Musengezi River. Similarly the densities of other wild herbivores to the west of this River were often higher than the densities of the same species to the east of the river. In contrast the densities of domestic livestock were lower in the west than in the east.

### 3.3.3 Status and distribution of large herbivores: Marromeu Complex

The Marromeu Complex (11,270 km<sup>2</sup>) covers the southern half of the Zambezi Delta and includes the Marromeu Buffalo Reserve (Reserva Especial de Marromeu) and two forest

reserves (Reserva Floresta de Nhampacue and R.F. de Inhamitanga), four hunting concessions (Coutada Oficial no. 10, 11, 12, and 14), large commercial agricultural lands (notably the Sena Sugar Estates), and community lands.

During November 2008 and May 2009, a comprehensive survey of large herbivores and selected large bird species of conservation concern was conducted for the Marromeu Complex (Beilfuss *et al.*, 2010). The results were compared to the data of previous aerial surveys conducted over the 40 - year period between 1968 -2007.

An estimated 16,124 individuals of 11 large mammal species were recorded on the open floodplain in November 2008, with an additional 2,061 individuals of 13 large mammal species observed on the ecotone. At the end of the following wet season, in May 2009, an estimated 15,427 individuals of 12 large mammal species were recorded on the open floodplain, with 1,411 individuals of 13 large mammal species on the ecotone.

On the pans and drainage lines of the Cheringoma escarpment, 3,285 individuals of 16 large mammal species were observed in November 2008, and 1,150 individuals of 11 large mammal species were observed with slightly reduced overall coverage in May 2009.

Most species in the Marromeu Complex have undergone steady population growth over the past 10 years. Buffalo are the dominant species on the open floodplains of the Marromeu Complex, with an estimated population >10,300 individuals. Most buffalo were concentrated in large herds scattered across the Marromeu Reserve. The population has recovered to about 33% of its pre-war (1979) level, growing at an average annual rate of 12% since 2000. Approximately 350 Elephant were estimated which is comparable to pre-war levels. The estimated 4,588 waterbuck represent the second most abundant species on the floodplain in May 2009. This population remains <10% of the pre-war estimate, but is undergoing steady growth and expansion. Sable antelope are widespread on the seasonally flooded grasslands along the ecotone and on pans and drainage lines in the miombo woodlands, with an estimate population of >2,000 individuals which is comparable to pre-war estimates. Lichtenstein's hartebeest (>500 individuals), reedbuck (>2,500), and warthog (>2,500) are abundant across the floodplain, ecotone, and escarpment pans and drainage lines. Eland are highly nomadic and probably number >200.

Two key species in the Marromeu Complex remain vulnerable. Relatively few zebra were observed during the surveys, with an estimated population >60, and hippopotamus remain in much reduced numbers relative to pre-war estimates (<10%).

### **3.3.4 Aerial survey: Gonarezhou National Park (Zimbabwe), Zinave National Park (Mozambique) 2009.**

The objective of this survey was to provide estimates of elephant and other large herbivores in the Gonarezhou – Zinave National Park complex (Dunham *et al.*, 2010). The results indicated that there were 9,281± 20.6% elephant, 6,770±34.2% impala, 2,742±75.8% buffalo, 2,832±25% kudu, 1,500±29% zebra, 364±81% wildebeest, 330±59% giraffe, 341±112% eland and 546±39% nyala. Most of the wildlife occurred in the Gonarezhou National Park in Zimbabwe. Zinave National Park contained very few large herbivores. The most frequently seen were common duiker (899±24%), impala (150±122%), kudu (235±63%), oribi (254±57%) and nyala (143±64%).



## **4 Economic Contribution of the Travel and Tourism Industry in Mozambique**

### **4.1 Structure of the Mozambique Economy**

At independence in 1975, Mozambique was one of the world's poorest countries that was exacerbated by the civil war from 1977-92. In 1987 the government embarked on a series of macroeconomic reforms designed to stabilize the economy. These steps, combined with donor assistance and with political stability since the multi-party elections in 1994, led to a dramatic improvement in the country's growth rate. Fiscal reforms, including the introduction of a value-added tax and reform of the customs service, have improved the government's revenue collection abilities. But in spite of these gains Mozambique still remains dependent upon foreign assistance for more than half of its annual budget, and in 2008 54% of the population remained below the poverty line.

Subsistence agriculture continues to employ the vast majority of the country's work force and smallholder agricultural productivity and productivity growth is weak. A substantial trade imbalance persists although the opening of the Mozal aluminum smelter increased export earnings. At the end of 2007, the government took over Portugal's majority share of the Cahora Bassa Hydroelectricity Company (HCB). More electrical power capacity is needed for additional investment projects that could further close the import/export gap. Mozambique's once substantial foreign debt has been reduced through forgiveness and rescheduling under the IMF's Heavily Indebted Poor Countries (HIPC) and Enhanced HIPC initiatives, and is now at a manageable level. In July 2007 the Millennium Challenge Corporation (MCC) signed a 5-year compact with Mozambique that will focus on improving sanitation, roads, agriculture, and the business regulation environment in an effort to spur economic growth in the four Northern provinces of the country.

The Mozambique economy grew at an average annual rate of 9% in the decade up to 2007, one of Africa's strongest performances. However, heavy reliance on aluminium, which accounts for about one-third of exports, subjects the economy to volatile international prices. The sharp decline in aluminium prices during the global economic crisis lowered GDP growth by several percentage points. This reliance on aluminium is about to change once the development of the coal fields in Tete and the production of natural gas in Cabo Delgado comes on line.

Despite 6.8% GDP growth in 2010, the increasing cost of living prompted citizens to riot in September 2010, after fuel, water, electricity, and bread price increases were announced. In an attempt to contain the cost of living, the government implemented subsidies, decreased taxes and tariffs, and instituted other fiscal measures. Real growth of 7.2% was achieved in 2011 with an estimated GDP of \$12.83 billion. The economy of Mozambique is structured around four broad pillars: agriculture, manufacturing, industry and services (Table 18)

**Table 18: Structure of the Mozambique economy**

(% of GDP)	1990	2000	2009	2010
Agriculture	37.1	24.0	31.5	31.9
Manufacturing	10.2	12.2	13.6	13.1
Industry	18.4	24.5	23.6	23.4
Services	44.5	51.5	44.9	44.8

(Source: [http://devdata.worldbank.org/AAG/moz\\_aag.pdf](http://devdata.worldbank.org/AAG/moz_aag.pdf))

**Agriculture:** The economy of Mozambique is dominated by agriculture that contributed 32% to GDP in 2010 (Table 18). Subsistence agriculture continues to employ the vast majority of the work force. Agriculture is for the most part based on small, hand-cultivated units often farmed by women-headed households. About 97 percent of production comes from some 3.2 million subsistence farms averaging 1.2 hectares. The majority practice extensive shifting cultivation, only about one-third sell any crop output, and almost two-thirds live in households that lack food security. The value of cashew nuts, raw cashew and cashew oil exported was estimated at US\$20 million in 2010.

Animal husbandry is underdeveloped. In 2009, livestock accounted for 1.2 million of head of cattle, 4.5 million sheep and goats, 1.3 million pigs, and 18 million poultry. Beef production was estimated at 22,000 tons; pig meat, 91,000 tons; poultry meat, 22,000 tons; cows' milk, 75,000 tons; and hen eggs, 14 million. The high prevalence of disease is the main constraints undermining an increase in livestock numbers.

**Fisheries:** It is estimated that some 1,500 species are believed to live in the Mozambican seawaters, of which 400 are of commercial importance. Fishery and aquaculture production totalled 120,000 tons in 2008 (the potential catch is estimated at 500,000 tons of fish). Export of prawns in 2010 was valued at approximately US\$40 million. South African trawlers are allowed to fish in Mozambican waters in return for providing a portion of their catch to Mozambique.

**Forestry:** Extensive stands of hardwood, such as ebony, flourish throughout the country. Wood production is from natural forests and is almost entirely consumed by the local rural populations for fuel and construction. Forests constitute an estimated 30.7 million hectares. In 2009, the timber cut was approximately 36 million cu m.

## 4.2 Tourism policy and legislation

The Government of Mozambique (GoM) created the Ministry of Tourism (MITUR) in 2001 to promote the tourism sector and adopted a Tourism Policy and Implementation Strategy in 2003. This policy defines the high-level tourism objectives, identifies the focal points for government intervention and provides tactical guidelines on how to optimize and put into action its competitive edge (Republic of Mozambique, 2003).

The *Tourism Law of 2004* sets down the legislation that applies to tourism activities, public sector activities directed at promoting tourism, suppliers of tourism products and services, tourists and consumers of tourism products and services.

### **4.3 Tourism plans**

The Strategic Plan for the Development of Tourism in Mozambique (SPDTM) argues that tourism in many developing countries has been proven to be a significant catalyst for economic growth and job creation. The SPDTM incorporates a vision for 2020, that Mozambique will be Africa's most vibrant, dynamic and exotic tourism destination, famous for its outstanding beaches and coastal attractions, exciting eco-tourism products and intriguing culture, welcoming over 4 million tourists a year (Ministério do Turismo, 2004).

To achieve this, 18 areas have been identified as Priority Areas for Tourism Investment (PATIs). Three areas are classified as type "A" or existing destinations; five are type "A/B" destinations with limited existing tourism development; and 10 as type 'B' destinations, which are areas with high potential to develop into a tourism destination but with very few products and services developed yet. However despite the investments to date, the tourism sector remains under developed due to the absence of large, international investment capable of driving high-value markets and building local supply chains, high input costs, low productivity of current tourism businesses, and sub-optimal use of resources and other attractions (Spenceley and Batey, 2011).

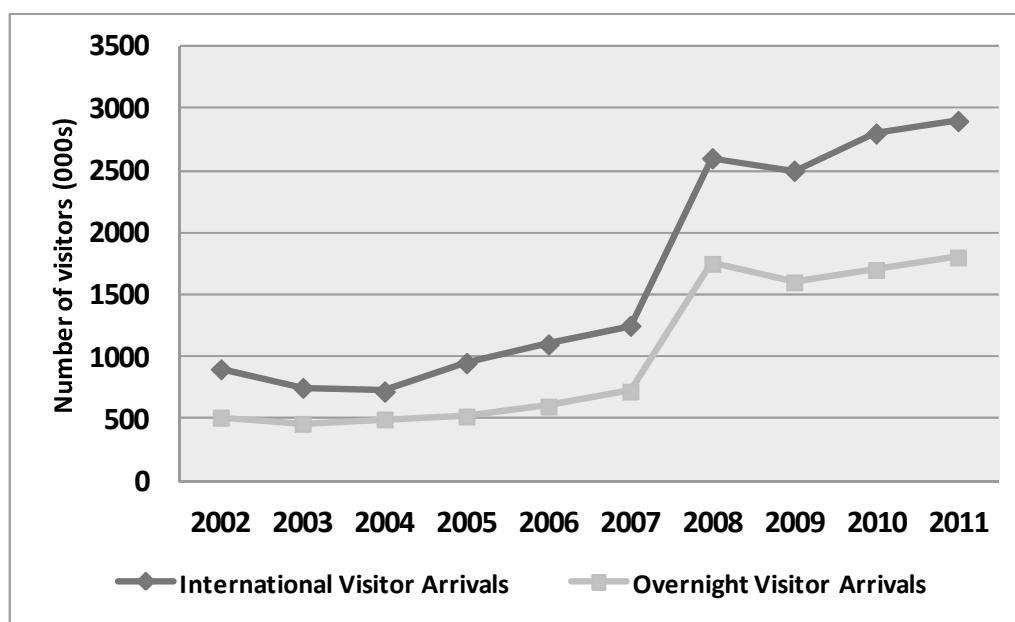
MITUR has for the past decade tried various approaches to attract tourism investment including the creation of Tourism Interest Zones (TIZs) and Anchor Investment sites. However the timing of the launch of these initiatives unfortunately coincided with the global economic crisis resulting in minimal uptake from international investors or the national private sector in large scale tourism developments.

Investment has taken place in some sport hunting destinations, notably in the Niassa Province where successful tenders resulted in long term contracts being negotiated with 9 safari operators that attracted investments estimated to be in excess of US\$11 million since 2000 in developing tourism hunting blocks (SGDRN, unpublished data). With few exceptions this trend however has not occurred in the coutadas elsewhere in Mozambique.

### **4.4 Contribution of Travel and Tourism to GDP**

Tourism statistics for Mozambique provided by the National Statistics Institute (INE) and MITUR and estimates from international agencies based on national data (e.g. the World Travel and Tourism Council - WTTC) are unreliable since neither MITUR nor the INE publishes regular or consistent tourism arrival numbers. The role of domestic tourism, numerous workshops and conferences funded by international donors, and a relatively large number of expatriates is also not considered in the data (Jones, 2007 in Spenceley and Batey, 2011).

Despite these inconsistencies the general trend suggests that since the restoring of peace in 1992, international tourist arrivals to Mozambique have grown from around 240,000 in 1999 to around 470,000 by 2004, before increasing rapidly to just under two million visitors by 2008 (an annual growth rate of about 13%). The growth trend estimated by the World Travel and Tourism Council (WTTC) is depicted in Figure 5.



**Figure 5: International arrivals and overnight visitors in Mozambique (Source: Data from WTTC, 2011b)**

Despite this growth, the Mozambique tourism market seems depressed when compared to neighbouring countries, attracting 6 times fewer inter-continental travellers than the rest of Africa. The share of inter-continental travellers of total arrivals is approximately 10% in Mozambique compared to approximately 60% for the rest of Africa. South Africa, with a share of 41% of all visitors to Mozambique, accounts for the bulk of Mozambique’s regional traffic (FIAS, 2006 in Spenceley and Batey, 2011).

Visiting Friends and Relatives (VFR) accounted for 13% of all tourists to Mozambique in 2008. Almost 70% of tourists arriving in Mozambique are motivated by specific personal or business reasons, while only 32% of the tourists visit Mozambique with the primary purpose of leisure, recreation and holidays. When compared to neighbouring countries where the leisure segment accounts for upwards of 70% of tourists, this seems low. In contrast, Mozambique’s large share of business tourists stands out in comparison to the average share of business tourists in other African countries (Spenceley and Batey, 2011).

#### 4.4.1 Length of stay and expenditure

The average length of stay has increased from 2.19 nights in 2004 to 4 days in 2008 and 7 nights in 2010 (INE, see Table 15).

**Table 15: Average length of stay and spend in Mozambique**

Year	Average stay in the country (Days)	Average spending per day (MT)	Average spending per day (USD *)
2008	4	4,688.00	188.65
2010	7	9,490.52	287.72

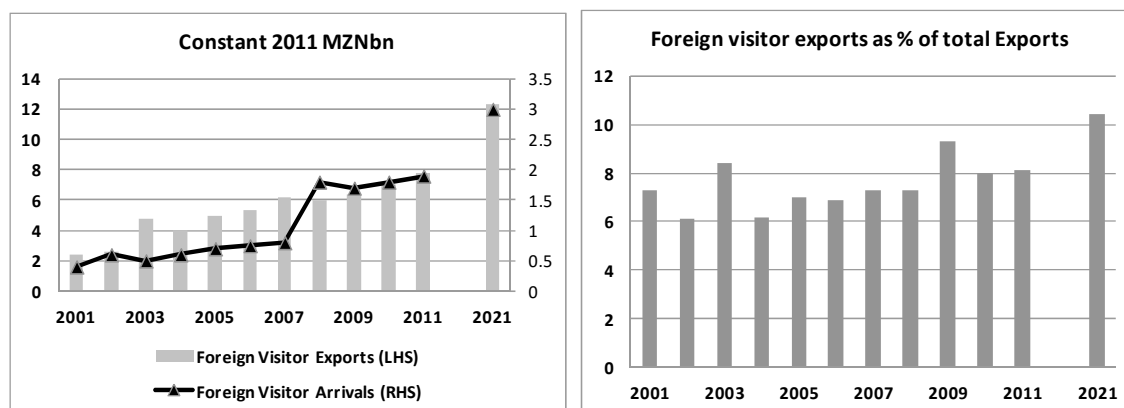
Source: Spenceley and Batey, 2011. INE. Exchange rate 2008 = 24,85 MT (Source: World Bank); Exchange rate 2010 = 33,00 MT (Source: World Bank)

International tourism receipts per international arrival were estimated at US\$260 in 2003 but dropped to US\$189 in 2008, before rising to US\$289 per day in 2010 (see Table 15). National figures indicate that Mozambique received US\$197.3 million in 2010 from international tourism (see Table 16), while the WTTC estimate the figure for the same year at US\$240 million (MZN 7.6 bn, see Figure 6).

**Table 16: Receipts for international tourism in US\$**

Year	2004	2005	2006	2007	2008	2009	2010
US\$ millions	95.3	129.6	139.7	163.4	190.0	195.6	197.3

Source: (Spenceley and Batey, 2011, World Bank)



**Figure 6: Visitor exports (foreign visitor spending including transport) in Mozambique, WTTC data** Source: WTTC, 2011. Values in constant 2011 prices and exchange rates

#### 4.5 Contribution of tourism to GDP

The World Bank estimates of the contribution that tourism makes to GDP<sup>6</sup> indicate relatively constant rates of between 2.0% and 2.4% between 2005 and 2008 (see Table 17). In 2008 the WTTC estimates that the share of GDP was closer to 2.9%, compared with 25.8% of GDP in the Seychelles, 5.1% in South Africa, 5.6% in Zimbabwe, 5.1% in Tanzania and 4.9% in Kenya (WTTC, 2011b).

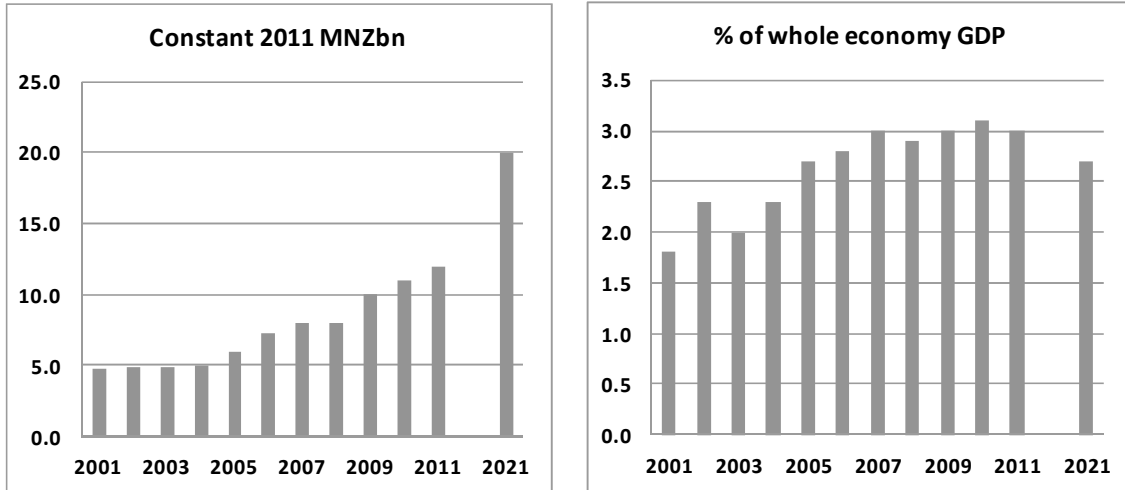
**Table 17: Contribution of tourism to GDP in Mozambique**

Year	2004	2005	2006	2007	2008
%	1.7	2.1	2.0	2.3	2.2

(Source: World Bank)

However, estimates from the WTTC suggest a relatively constant growth of the contribution to GDP between 2001 and 2011 (see Figure 7), and that the contribution to the whole of the economy GDP was higher, at around 3% in 2009 and 2010.

<sup>6</sup> Gross Domestic Product (GDP) is defined as the value of all final goods and services produced within a nation in a given year. A nation's GDP at official exchange rates (OER) is the home-currency-denominated annual GDP figure divided by the bilateral average US exchange rate with that country in that year.



**Figure 7: Direct contribution of travel and tourism to GDP, WTTC data**  
Source: WTTC, 2011. Values in constant 2011 prices and exchange rates

## 5 Profile of the Mozambique Tourism Hunting Industry

The approximate gross value of tourism hunting for seven SADC countries is summarised in Table 19. These data suggest that tourism hunting generates gross revenues of at least US\$190 million per year (Booth, 2010).

**Table 19: Approximate gross value of tourism hunting in Botswana, South Africa, Namibia, Zambia, Zimbabwe and Tanzania (US\$ millions) (from Booth 2010).**

Country	Date	Gross Income (US\$) <sup>1</sup>
Botswana	2000	\$12.6 million
	2008	\$40.0 million
South Africa	2003/2004	\$68.3 million
Namibia	2004	\$9.6 million
Zambia	2002	\$3.6 million
Zimbabwe	2000	\$18.5 million
	2007	\$15.8 million
Tanzania	2001	\$39.2 million
	2008	\$56.3 million

<sup>1</sup> Note: Data not adjusted for inflation.

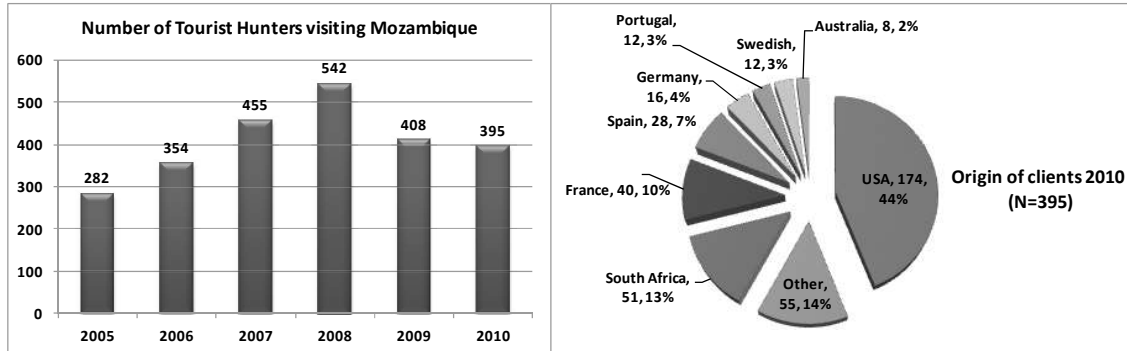
Mozambique has set aside 17% of its land mass where tourism hunting takes place (Section 2 above). This area has been allocated to 59 registered safari hunting companies (see Annex 1) and employed 127 professional hunters from 14 countries in 2010 of which 74% originate from South Africa and Zimbabwe. Only three Mozambican professional hunters were registered in 2010 (Table 20).

**Table 20: Professional hunters registered with MITUR in 2010.**

Nacionalidade	Nº de Caça Guias (N = 127)
Sul Africana	61 (48%)
Zimbabwe	33 (26%)
Espanhola	6 (5%)
Portuguesa	5 (4%)
Britânica	5 (4%)
Francesa	4 (3%)
Moçambicana	3 (2%)
USA	3 (2%)
Alemã	1 (1%)
Tanzaniana	1 (1%)
Namibia	1 (1%)
Holand	1 (1%)
Australia	1 (1%)
Italiana	1 (1%)

## 5.1 Number and origin of tourist hunters

The scale of the Mozambique industry does not compare with that in South Africa (~7,000 clients) or Tanzania (~1,200 clients). Figure 8 shows that on average Mozambique received 400 clients/year since 2006. The majority of hunters originate from the USA (44% in 2010) followed by South Africa (13%), France (10%) and Spain (7%).



**Figure 8: Trend in tourist hunters visiting Mozambique and origin. (Data source: MITUR)**

## 5.2 Evolution of Quota Allocation and utilisation by Hunting Area

Mozambique is in a position to offer 30 species of mammals (including 3 subspecies: sable, zebra and wildebeest) to the tourist hunting industry (see Annex 3). Several species that are normally available to be hunted elsewhere in the region (giraffe, klipspringer, jackals etc.) are listed as protected species in Mozambique. Overall Mozambique does not offer any “specialist” trophy species as is the case in east Africa or the desert environments of Botswana and Namibia. Furthermore, with very few exceptions, overall trophy quality in Mozambique is on a par or slightly less than that in the neighbouring Zimbabwe and Tanzania (IGF, 2009).

### 5.2.1 Quota purchase and utilisation

The overall number of animals on offer (excluding game birds) has increased from 3,379 in 2007 to 6,962 in 2010. This quota is split between five categories of hunting areas (Figure 9). The quota allocation awarded to the Niassa National Reserve hunting blocks has steadily increased since 2007 as more operations came on line. Quota allocation to the Fazendas jumped from 375 animals in 2008 to 1,209 in 2009 and increased further in 2010 to 1,653 animals. Elsewhere the overall quota allocations have remained relatively constant.

Overall approximately 34% of the quota was purchased in 2010 (2,401 animals) but only 23% (1,601 animals) was utilised. Operators in the Niassa Reserve and those utilising the Coutadas are most active whereas the fazendas, multiple use zones and community programmes purchase and utilise a relatively small proportion of the quota allocated to them (Figure 9).

Table 21 summarises the allocation, purchase and use of the four key trophy species (elephant, leopard, lion and buffalo). Utilisation of elephant across the different hunting areas varies. Overall, 52 elephant were allocated in 2010, but only 50% were purchased.



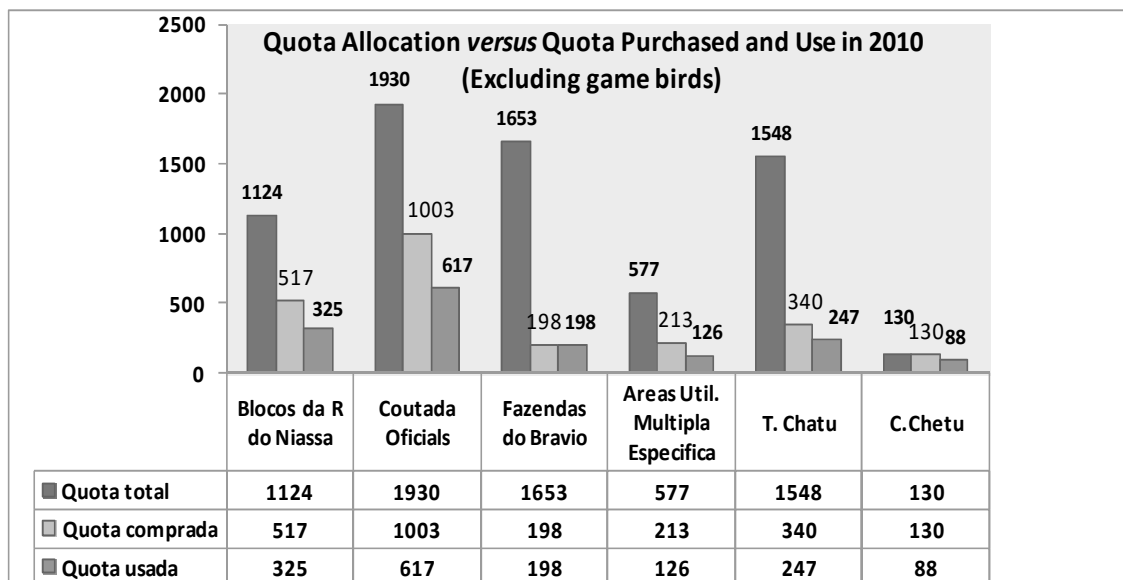
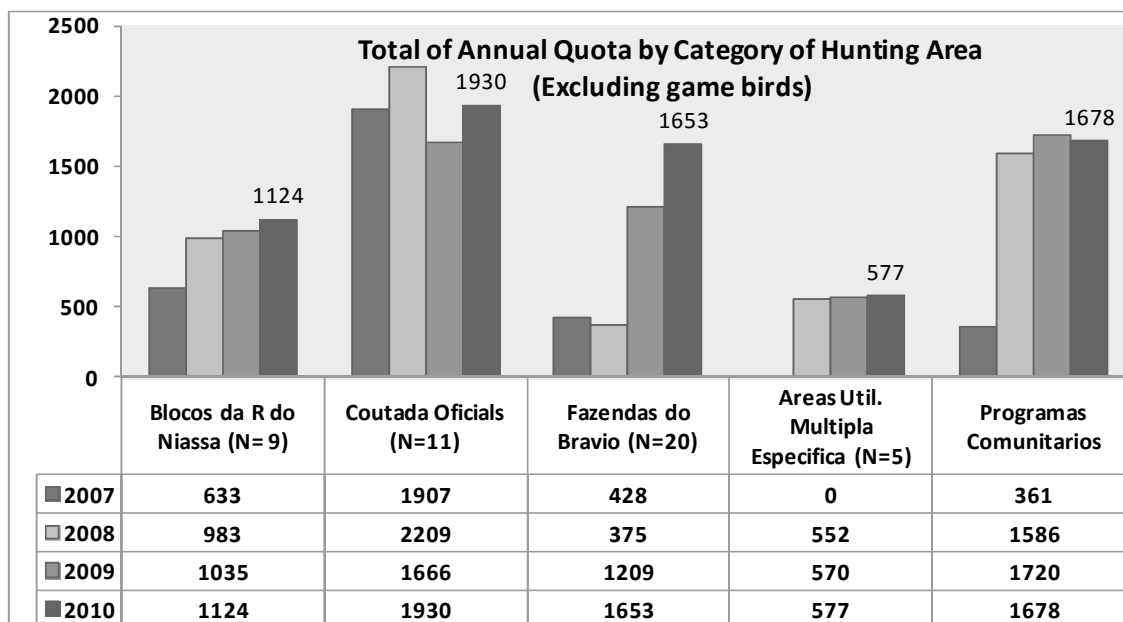
Operators in the Niassa National Reserve used the least number on quota despite Niassa Province having the largest elephant population; the Fazendas were allocated the highest elephant quota (22) but used only 27%.

Leopard were most utilised in the Niassa National Reserve (65%) and Coutadas (70%) while 39% of the overall lion quota (N=59) were used across all hunting areas. No data on buffalo utilisation is available for all areas except Niassa National Reserve that used 42 (55%) of the allocated quota (N=77).

**Table 21: Allocation, purchase and use of the key trophies (elephant, leopard, lion and buffalo) in the different categories of hunting areas (Data source: MITUR)**

Elephant	Blocos da R. do Niassa	Coutada Oficiais	Fazendas do Bravio	Areas Util. Multipla Especifica	T. Chetu	C. Chatu	Total
<b>Quota total</b>	15	2	22	2	9	2	<b>52</b>
<b>Quota comprada</b>	6	2	6	2	8	2	<b>26</b>
	40%	100%	27%	100%	89%	100%	<b>50%</b>
<b>Quota usada</b>	3	2	6	5	8	2	<b>26</b>
	20%	100%	27%	250% <sup>1</sup>	89%	100%	<b>50%</b>
<b>Leopard</b>							
<b>Quota total</b>	23	10	30	8	23	5	<b>99</b>
<b>Quota comprada</b>	18	9	4	6	9	5	<b>51</b>
	78%	90%	13%	75%	39%	100%	<b>51%</b>
<b>Quota usada</b>	15	7	4	4	6	5	<b>41</b>
	65%	70%	13%	50%	26%	100%	<b>41%</b>
<b>Lion</b>							
<b>Quota total</b>	17	4	21	4	11	2	<b>59</b>
<b>Quota comprada</b>	10	1	8	4	3	2	<b>28</b>
	59%	25%	38%	100%	27%	100%	<b>47%</b>
<b>Quota usada</b>	7	0	8	3	4	1	<b>23</b>
	41%	0%	38%	74%	36% <sup>2</sup>	50%	<b>39%</b>
<b>Buffalo</b>							
<b>Quota total</b>	77	No data	No data	No data	No data	No data	<b>No data</b>
<b>Quota comprada</b>	44						
	57%						
<b>Quota usada</b>	42						
	55%						

Three additional elephant shot in the Multiple Use areas  
 One lion shot without abate ticket in Tshuma Chatu



**Figure 9: Evolution of quota allocation by category of hunting area (2007 – 2010), and allocation versus purchased and use in 2010. (Data source: MITUR)**

### 5.2.2 Generation of hunter days

The number of *Hunter Days*<sup>7</sup> generated by the industry provides an indication of its economic potential. Table 22 summaries the total number of hunter days generated by the Mozambique industry in 2010. Excluding activities in the Fazendas, the industry generated 3,341 hunter days from 304 safaris with the Coutadas contributing 42% and Niassa Reserve 27%. The average length of the safaris was 11 days.

**Table 22: The number of Hunter Days generated in each of the hunting areas in 2010 (Data source: MITUR).**

	<b>Blocos da R do Niassa</b>	<b>Coutada Oficiais</b>	<b>Fazendas do Bravio</b>	<b>Areas Util. Multipla Especifica</b>	<b>T.Chatu</b>	<b>C. Chetu</b>	<b>Total</b>
Dais de safaris	903	1397	No data	263	660	118	<b>3,341</b>
No de safaris	72	135		21	68	8	<b>304</b>
Media de dais/safari	13	10		13	10	15	<b>11</b>
Percentagem	27%	42%		8%	20%	4%	<b>100%</b>

### 5.3 Source of Revenues

The tourism hunting industry is required to purchase a number of licenses and permits, and pay various taxes to Government. Some of these fees are paid by the safari operators while others are paid by hunting clients. Direct sources of revenue include:

- Concession fees
- Abate tickets
- Professional Hunter Licenses (*Carteira do Cacador Guia*)
- Client Hunter License (*Licenca de Caca*)
- Temporary Import Permit for Firearms & Ammunition
- Local permit to move trophies (*Guia do Marcha*) including Ownership Certificates, Local Sanitary Certificates
- International Sanitary Certificates issued at the national level (DINAP – National Directorate for Livestock)
- Trophy Export Certificates (CITES & Non-CITES).

Indirect sources of revenue to the economy include:

- Social Taxes
- VAT
- Purchases (fuel, food, equipment, travel, insurance etc.)

<sup>7</sup> A Hunter Day represents the period that a hunter pays to undertake a safari and is an indicator of the efficiency of an operator to market the quota. For example, a Leopard safari will be marketed on a 15-day safari. The greater the number of hunter days generated, the more profitable the

### 5.3.1 Revenue from concession fees

MITUR recovers annual concession fees from 17 coutadas covering 59,000km<sup>2</sup> (Table 23). In 2010 this amounted to 4,621,772MT (=US\$171,113) which is equivalent to 78MT/km<sup>2</sup> (or \$2.80/km<sup>2</sup>). One area (Coutada 10) accounted for 39% of these fees. The overall average concession fee payment is 270,398MT (US\$10,011).

MITUR also receives a nominal annual concession fee of MT480,000 (US\$17,771) from Tchuma Chatu (31,838km<sup>2</sup>).

**Table 23: Total concession fees recovered from 17 coutadas in 2010. (Data source: MITUR), RoE MT27.01 = US\$**

Designação	Superfície km <sup>2</sup>	Valour MT	US\$	%	Value/km <sup>2</sup>
Coutada nº 4	12,300	179,946.61	\$6,662.22	4%	\$0.54
Coutada nº 5	6,868	0	\$0.00	0%	-
Coutada nº 6	4,563	0	\$0.00	0%	-
Coutada nº 7	5,408	209,415.90	\$7,753.27	5%	\$1.43
Coutada nº 9*	4,333	135,050.00	\$5,000.00	3%	\$ 1.15
Coutadas nº10	2,008	1,800,000.00	\$66,641.98	39%	\$33.19
Coutada nº 11	1,928	270,808.34	\$10,026.23	6%	\$5.20
Coutada nº 12	2,963	478,491.55	\$17,715.35	10%	\$5.98
Coutada nº 13	5,683	140,000.00	\$5,183.27	3%	\$0.91
Coutada nº 14	1,353	206,000.00	\$7,626.80	4%	\$5.64
Coutada nº 15	2,000	150,000.00	\$5,553.50	3%	\$2.78
Coutada Oficial Nicage	544	250,000.00	\$9,255.83	5%	\$17.01
Coutada Oficial de Nacumua	No data	310,000.00	\$11,477.23	7%	
Coutada Oficial de Nipepe	1,382	305,000.00	\$11,292.11	7%	\$8.17
Mondzo-Nungo-Niassa*	3,262	54,020.00	\$2,000.00	1%	\$0.61
Majune Safaris*	3,600	54,020.00	\$2,000.00	1%	\$0.56
Messalo*	807	54,020.00	\$2,000.00	1%	\$2.48
SGDRN <sup>1</sup>		25,000.00	\$925.58		
<b>Total</b>	<b>59,002</b>	<b>4,621,772.40</b>	<b>\$171,113.38</b>		<b>\$2.90</b>
<b>Average</b>		<b>270,398.38</b>	<b>\$10,011.05</b>		

<sup>1</sup> SGDRN are required to pay a nominal “rent” to MITUR as part of the contract between government and Investimentos do Niassa.

The Niassa National Reserve, which is managed under a contract by the *Sociedade para a Gestão e Desenvolvimento da Reserva do Niassa* (SGDRN), leases out management units to the private sector for both hunting and photographic tourism (Table 24).

**Table 24: Total concession fees recovered from the Niassa National Reserve management units in 2012. RoE MT27.01 = US\$**

NNR	Hunting (km <sup>2</sup> )	Valour (MT)	US\$	%	Value/km <sup>2</sup>
Block L1	3,308	405,150.00	\$15,000.00	2%	\$4.53
Block L2	4,180	617,988.80	\$22,880.00	4%	\$5.47
Block L3	2,640	1,958,225.00	\$72,500.00	12%	\$27.46
Block L7	4,446	405,150.00	\$15,000.00	2%	\$3.37
Block L8	2,125	1,665,058.46	\$61,646.00	10%	\$29.01
Block L9	2,910	648,240.00	\$24,000.00	4%	\$8.25
Block R1	3,458	1,215,450.00	\$45,000.00	7%	\$13.01
Block R2	2,251	337,625.00	\$12,500.00	2%	\$5.55
Block R3	2,671	1,620,600.00	\$60,000.00	10%	\$22.46
<b>Subtotal</b>	<b>27,989</b>	<b>8,873,487.26</b>	<b>\$328,526.00</b>		<b>\$11.74</b>
<b>Average</b>		<b>985,943.03</b>	<b>\$36,502.89</b>		

NNR	Photographic (km <sup>2</sup> )	Valour (MT)	US\$	%	Value/km <sup>2</sup>
Block L5 North	1,000	1,080,400.00	\$40,000.00	6%	\$40.00
Block L5 South	828	0.00	\$20,000.00	3%	\$24.15
Block L6	2,301	945,350.00	\$35,000.00	6%	\$15.21
Block R4	3,712	0.00	\$0.00	0%	\$0.00
Block R5	1,470	0.00	\$0.00	0%	\$0.00
Block R6	2,326	675,250.00	\$25,000.00	4%	\$10.75
<b>Subtotal</b>	<b>11,637</b>	<b>2,701,000.00</b>	<b>\$120,000.00</b>		<b>\$10.31</b>

NNR	Public (km <sup>2</sup> )	Valour (MT)	US\$	%	Value/km <sup>2</sup>
Block L4	2,212	0.00	-	0%	\$0.00
Joa Mountains	209	0.00	-	0%	\$0.00
Mecula Mountains	231	0.00	-	0%	\$0.00
<b>Subtotal</b>	<b>2,652</b>	<b>0.00</b>	<b>\$0.00</b>		<b>\$0.00</b>
<b>Total NNR</b>	<b>42,278</b>	<b>11,574,487.26</b>	<b>\$448,526.00</b>		<b>\$10.61</b>

(Data source: SGDRN)

In 2012 SGDRN recovered MT8,873,487 (US\$328,526) in annual concession fees from 9 hunting management units covering 27,989km<sup>2</sup> (Table 19). This is equivalent to MT317/km<sup>2</sup> (or \$11.74/km<sup>2</sup>). In 2012 SGDRN negotiated contracts with three additional photographic management units that generate US\$120,000/year (equivalent to US\$10.31/km<sup>2</sup>). Overall SGDRN generated MT11,574,487 (US\$448,526) from concession fees in 2012 equivalent to US\$10.61/km<sup>2</sup>.

The combined revenue from concession fees (including Chuma Chatu) is therefore MT16,676,259 (or US\$617,460) which is equivalent to approximately US\$4.64/km<sup>2</sup> for the 133,118km<sup>2</sup> that was available in 2012.

### 5.3.2 Revenue from abate ticket sales

Table 25 summaries the total value of the quota allocation awarded to the different hunting areas in 2010, and the value of the abate ticket sales. These data show that only 43% (MT20,310,914) of the overall quota value (MT46,771,195) was purchased by the safari hunting industry in 2010.

**Table 25: Total value versus the value of abates ticket purchases in 2010 (Data source: MITUR)**

Hunting Area	Total value (MT)	Purchased (MT)	%
Fazendas	10,651,100	2,332,773	22%
AMUE	2,950,000	1,834,700	62%
NNR	7,609,000	4,059,700	53%
Chipanje Chetu	842,000	842,000	100%
Tchuma Chatu	16,648,395	6,328,141	38%
Coutadas	8,070,700	4,913,600	61%
<b>Total Value MT</b>	<b>46,771,195</b>	<b>20,310,914</b>	
<b>US\$ (MT31:US\$)</b>	<b>1,508,748</b>	<b>655,190</b>	

### 5.3.3 Revenue from licences and permits

Various other revenues accrue to MITUR and the National Directorate of Land and Forests (DNTF) through the sale of licenses and permits (Table 26). These data are incomplete, especially for the revenues generated at the Provincial level for Temporary Import Permit for Firearms & Ammunition from Ministry of Interior (MINIT), local movement/ownership permits (*Guia do Marcha*) obtained from the Provincial Directorates of Agriculture (PDA) and Tourism (PDTur), International Sanitary Certificates issued at the national level by the National Directorate for Livestock (DINAP) in Maputo and finally the Trophy Export Certificates (CITES & Non-CITES) that are obtained from the Ministry of Environment (MICOA).

**Table 26: Approximate value of revenue (MT) generated through the sale of hunting and professional hunter licenses in 2010 (Data source: MITUR).**

Source of Revenue (MT)	DNAC	DNTF	T. Tchatu	TOTAL (MT)
Hunting License ( <i>Carteira do Cacador Guia</i> )	275,116	64,932	88,099	428,148.00
PH License ( <i>Licenca de Caca</i> )	81,144	N/A	23,184	104,328.20
<b>Total (MT)</b>	<b>356,261</b>	<b>64,932</b>	<b>111,283</b>	<b>532,476</b> (=US\$~17,000)

The fees for the import of firearms and for provincial licenses/permits are relatively high and are a significant source of revenue at this level<sup>8</sup>. For example:

<sup>8</sup> For example, revenue generated in the NNR in 2010 for Firearm Importation was approximately MT304,314.

Permit/License	Cost (MT)
Firearm and ammunition	MT1130/license MT1161/weapon MT26/box 25 bullets or MT1/bullet
Provincial Ownership Certificate	MT250/client licence
Provincial Sanitary Certificate	MT250/animal part
Cites I Certificate	\$10/page
Cites II Certificate	\$5/page

#### 5.4 Summary of revenue streams

Table 27 summaries the overall income from the various revenue streams. Excluding income from licenses and permits, the estimated income in 2010 was MT37,519,649 (US\$1,210,311). DNAC received approximately 75% of this income.

**Table 27: Summary of income (MT) from the various revenue streams in 2012.**

Source of Revenue	DNAC	DNTF	T. Tchatu	TOTAL (MT)	%
Abate tickets	11,650,000	2,332,773	6,328,141	<b>20,310,914</b>	58%
Hunting License	275,117	64,932	88,099	<b>428,148</b>	1%
PH License	81,144	N/A	23,184	<b>104,328</b>	0.30%
Annual Concession Fee	4,621,772	N/A	480,000	<b>5,101,772</b>	15%
NNR (hunting)	8,873,487.26			<b>8,873,487.26</b>	22%
NNR (photo)	2,701,000.00			<b>2,701,000.00</b>	3%
<b>TOTAL in Meticais</b>	<b>28,202,520</b>	<b>2,397,705</b>	<b>6,919,424</b>	<b>37,519,649</b>	<b>100%</b>
<b>TOTAL in USD</b>	<b>909,758</b>	<b>77,345</b>	<b>223,207</b>	<b>1,210,311</b>	
<b>% of the Total Revenue</b>	<b>75%</b>	<b>6%</b>	<b>18%</b>	<b>100%</b>	
<i>Other Licenses/permits</i>					
CITES Certificates	?	?	?	?	
Firearm Temporary Import	?	?	?	?	
Prov Ag: Sanitary Cert	?	?	?	?	
Prov Tour: Ownership Cert	?	?	?	?	
International Sanitary Cert	?	?	?	?	

#### 5.5 Contribution to national economy

The socio-economic data on the contribution of the safari industry to the national economy is incomplete. The information provided below therefore serves to indicate the scale of employment, social payments (the “20%” levy) and the potential indirect payments to government through VAT.

### 5.5.1 Employment

Table 28 summarises the data extracted from the annual reports submitted to MITUR by a selection of safari operators. Employment is broadly split into permanent, temporary and scouts (*fischais*). Permanent employees recruited from the local community include cooks (*cozinheiro*), waiters (*garçom*, *Emp de mesa*) gardeners (*jardineiro*), camp guards (*Emp de piquet*), construction workers/artisans (*artesãos*), drivers (*motoristas*), etc. Semi-skilled workers (in many cases foreigners from Zimbabwe and South Africa) include trackers (*perseguidor*) and skimmers (*peleiro?*).

The industry also employs local people as temporary labourers (*trabalhador*) usually at the start of the hunting season where they are used to open roads, airstrips and re-construct temporary camps etc.

**Table 28: A sample of the number of people employed locally in different hunting areas (Data source: MITUR)**

Hunting Area	Permanent workers ( <i>empregado permanent</i> )	Temporary workers ( <i>trabalhador</i> )	Scouts ( <i>fischais</i> )	Total
Coutadas (N=6)	125	47	82	254
T Tchatu & C. Chetu (N=7)	194	98	25	317
NNR (N=8)	134	192	113	439
AUME (N=3)	27	44	7	78
Total (N= 24 areas)	480	381	227	1,088
Family support (7 members)	3,360	2,667	1,589	7,616
Average monthly minimum salary (MT)	2,800	1,500	3,100	
<b>Annual salary (MT)</b>	<b>16,128,000</b>	<b>2,857,500</b>	<b>8,444,400</b>	<b>27,429,900</b>
<b>US\$ (RoE = MT27:1)</b>	<b>597,333</b>	<b>105,833</b>	<b>312,755</b>	<b>1,015,922</b>

Working on the assumption that each person employed supports a family of 7 members, it is estimated that approximately 7,616 people benefit from this employment. Furthermore, assuming an average minimum monthly salary, it is estimated that these 24 hunting areas spend approximately 27MT million (~US\$1 million) annually on salaries. When extrapolated to all 59 hunting areas, this implies that the wage bill is roughly US\$2.4 million/year (66.3millionMT/year).

### 5.5.2 Contribution to the Community 20% Levy

In 2005 MITUR introduced regulations (Ministerial Diploma N° 93/2005 of May 4) that requires that 20% of all revenue generated from the sale of abate tickets is distributed to communities residing within the hunting areas via Community Management Committees (CGC, *Comite de Gestão Comunitario* or Community Management Council (COGEP, *Conselho de Gestão Participativo*)<sup>9</sup>. Implementing this process has experienced difficulties

<sup>9</sup> Decree N° 15/2009 of April 14 further develops this mechanism. This decree substantially alters the revenue distribution for communities by first allocating 20% of fee income in NPs and Reserves to the general state



especially reconciling the payments from the safari operations and allocating this to the appropriate committees in a timely manner. Table 29 provides an example of the amount of funds paid to 49 communities committees in the different hunting areas in 2010.

Altogether MT2,211,041 was raised for distribution with the average dividend being MT45,123 per committee.

**Table 29: Summary of 20% payments to 49 community committees in the different hunting areas in 2010. (Data source: MITUR).**

Província	Área	No Comités	Distritos	Receita	20%	Valor/comité
SOFALA	Coutada 10	2	Cheringoma	492,832	98,566	49,283
	Coutada 12	4	Cheringoma	1,381,752	276,350	69,088
	Coutada 14	3	Marromeu	163,460	32,692	10,897
	Coutada 11	4	Marromeu	1,668,650	333,730	83,433
	<b>Subtotal</b>			<b>3,706,694</b>	<b>741,339</b>	<b>53,175</b>
CABO DELGADO	Coutada Nicage	1	Xixano	522,236	104,447	104,447
	<b>Subtotal</b>			<b>522,236</b>	<b>104,447</b>	
MANICA	Coutada 9	6	Macossa, Guro, Tambara	374,302	74,860	12,477
	Coutada 13	1	Macossa	140,773	28,155	28,155
MANICA and SOFALA	Coutada 4	2	Machaze	126,506	25,301	12,651
	<b>Subtotal</b>			<b>641,581</b>	<b>128,316</b>	<b>17,761</b>
NIASSA	Bloco L9	3	Mueda	151,500	30,300	10,100
	Bloco L8	3	Montepuez	1,061,500	212,300	70,767
	Bloco L7	1	Mussoma	1,052,900	210,580	210,580
	Bloco L1	1	Mavago	297,700	59,540	59,540
	Bloco L2	5	Mavago	113,500	22,700	4,540
	Bloco R1	1	Mavago	94,800	18,960	18,960
	Bloco L3	4	Mecula	530,100	106,020	26,505
	Bloco R2	1	Mecula	355,900	71,180	71,180
	Bloco R3	1	Mecula	401,800	80,360	80,360
	<b>Subtotal (NNR)</b>			<b>4,059,700</b>	<b>811,940</b>	<b>61,392</b>
	Chipanji Chetu	5	Sanga	849,730	169,946	33,989
	B.L/Majune Safaris	1	Majune	651,560	130,312	130,312
	B.L/Mab.Hunter			208,503	41,701	41,701
	Nungo/Mondzo-Niassa			75,411	15,082	15,082
	Messalo/S.Nhal.Niassa			339,792	67,958	67,958
	<b>Subtotal (AMUE)</b>			<b>2,124,996</b>	<b>424,999</b>	<b>57,808</b>
<b>TOTAL</b>		<b>49</b>	<b>MT</b>	<b>11,055,207</b>	<b>2,211,041</b>	<b>45,123</b>

## 5.6 Cost- benefits analysis of the hunting industry.

Government revenue allocations to conservation areas consist of direct government budget support, public taxes, fees and fines, revenue sharing with communities and debt relief.

budget, and only then allocating 20% of the remaining value to local communities, thus in practice reducing their percentage from 20% to only 16% of overall income received by the state.

These allocations are made through the provincial directorates of MITUR and the Provincial Governments. Salaries of staff working in conservation areas are paid by provincial government offices. Based on data collected from conservation areas, Tua and Nazerali (2010) provide an amount of US\$153,094 or 1% of the total revenue required for general operational expenses for conservation areas, excluding central management. It is therefore almost impossible to determine the budgets for specific conservation areas since there are no data on public expenditures.

### **5.6.1 Protected area financing in Mozambique**

Protected areas in Mozambique are financed from three primary sources (Moye and Nazerali, 2010):

1. Annual central government allocation (~1% of income in 2008/9).
2. Other government allocations, including payment of staff salaries and special grants (~2.5% of income in 2008/9); internal revenue (self-financing) generated from activities undertaken in protected areas (~8% of income in 2008/9 of which 16-20% is distributed to designated local communities and 20% back to the state budget);
3. Donor funding provided by development partners (~89% of income equivalent to ~US\$18 million in 2008/9 and ~US\$22 million in 2010).

The main income sources from the use of protected areas and their natural resources include:

- User fees (such as entry fees, accommodation, fishing fees, guided tours and diving fees).
- Fees from licenses for use of natural resources (timber concessions, live game sales and hunting concessions)
- Income from fines and auction sales of confiscated goods (predominantly timber);
- Income from nature-based tourism concessions.

Except in the case of Limpopo NP and Niassa National Reserve where a special agreements enables these areas to keep all or part of the revenues generated within its borders to be used to offset operating and investment costs, the income from protected areas is submitted to the relevant provincial Financial Administration Office where a portion is allocated to the state budget (20%), a portion to the affected local community (16%) and the remainder (64%) returned (on application) to the relevant protected area for disbursement. In 2009 the estimated total income from national parks, community areas and reserves was US\$1,228,076 of which the Coutadas contributed 35%, Tchuma Tchatu 15% and Niassa National Reserve 17%. The national parks contributed 27% (Data source Biofund, <http://www.cbd.int/lifeweb/project.shtml?did=6319>).

Income from hunting concessions and abate ticket sales therefore make up a significant portion of DNAC revenue representing 54% in 2008, 62% in 2009 and 52% in 2010 (Moye and Nazerali, 2010).

### **5.7 Cost of basic conservation activities**

The funding necessary to cover core costs (staff costs, basic conservation activities and investment) for all the National Parks, National Reserves and Forest Reserves were conservatively estimated at US\$19,837,459 per year in 2010. With current revenues of

~US\$1, 2 million this equates to a funding gap of ~US\$ 18 million (without donor funds) per annum (Tau and Nazerali, 2010).

### 5.7.1 Cost of management and administration of hunting areas in Mozambique

Martin (1997) developed standard spreadsheets for calculating the operating costs and capital requirements in all the Mozambique state protected areas based on the relationship of the number of men required to patrol a protected area effectively which is subject to severe illegal hunting. This relationship showed that the number of men was approximately equal to the square root of the protected area (i.e. an area of 10,000 km<sup>2</sup> requires 100 game scouts and each scout is required to patrol 100km<sup>2</sup>). Since the number of men determines the annual running cost for any protected area, the budget, made up of salaries, field allowances, equipment, transport and maintenance costs, provisions for senior field and research staff (including budget towards meeting a part of Head Office administrative costs) can be determined. Martin (2004) further developed this approach to determine staff structures and budgets for all the National Parks in South Africa (21) and Namibian protected areas (24). From these two studies it was possible to derive a general relationship for calculating the operating costs for savanna parks which are not subject to severe illegal hunting:

$$\text{Conservation cost (US\$/km}^2\text{)} = A \cdot (\text{Annual Scout salary US\$}) / \sqrt{\text{(Land Area)}}$$

- where A is a constant which has the value of A= 4 for savanna parks or A=2 for desert parks
- and where the area of the park is expressed in square kilometres

When this relationship is applied to the budgets from savanna parks where illegal hunting is severe, the value of the constant (A) has to be increased four-fold i.e. A=16 : –

$$\text{Total cost (US\$)} = 16 \cdot (\text{Annual Scout salary US\$}) \cdot \sqrt{\text{(Land Area)}}$$

Applying this formula to the Coutadas in Mozambique and the management units in the Niassa National Reserve, and applying a minimal annual scout salary of US\$1,500, the operational budget for the Coutadas is estimated at UD\$107/km<sup>2</sup> (or US\$3.9 million/year) and US\$117/km<sup>2</sup> (or US\$4.9 million/year) for all the blocks (hunting and photographic) in Niassa National Reserve.

Overall, the operating budget estimate for the hunting areas is estimated to be US\$79/km<sup>2</sup> (~US\$7.2 million/year) under the current levels of illegal activity (Table 30).

**Table 30: The theoretical operational budgets required to manage and administer hunting areas in Mozambique (using formula derived by Martin (2004)).**

Província	Designação	Superfície km <sup>2</sup>	Operational Budget	US\$/km <sup>2</sup>
Manica	Superfície total em Manica	27,724	3,996,126	144
Sofala	Superfície total em Sofala	21,683	3,534,035	163
Cabo Delgado	Nicage	544	559,771	1,029
<b>Superfície total das Coutadas Oficiais</b>		<b>49,951</b>	<b>5,363,933</b>	<b>107</b>
Niassa	Superfície total no Niassa	22,954	3,636,139	158
Cabo Delgado	Superfície total em Cabo Delgado	5,035	1,702,986	338
<b>Superfície total dos Blocos da NNR - Caca</b>		<b>27,989</b>	<b>4,015,179</b>	<b>143</b>
<i>Superfície total dos Blocos da NNR - Photographic</i>		<i>14,288</i>	<i>2,868,778</i>	<i>201</i>
<b>Superfície total dos Blocos da R. do Niassa</b>		<b>42,277</b>	<b>4,934,729</b>	<b>117</b>
<b>Total</b>		<b>92,228</b>	<b>7,288,575</b>	<b>79</b>

Tau and Nazerali (2010) arrive at similar estimates for basic and optimal management scenarios:

- National Reserves: US\$84/km<sup>2</sup> – US\$133/km<sup>2</sup> (US\$4.2 million – US\$6.7 million/year)
- Coutadas: US\$101/km<sup>2</sup> – US\$134/km<sup>2</sup> (US\$5.6 million – US\$7.5million/year)

In section 5.3.1 above it is estimated that the Coutadas generate approximately US\$2.9/km<sup>2</sup> and the Niassa National Reserve generates approximately US\$10.61/km<sup>2</sup>. These data underline the magnitude of the financial gap that exists.

## 5.8 Benefits derived from hunting areas

Direct and indirect benefits flow from the hunting areas to a number of stakeholders. Quantifying these benefits is difficult since there are few monitoring systems in place to gather these data. Direct benefits to government include:

- Concession fees
- Abate ticket sales
- Hunting licenses
- PH licences
- Other taxes (firearms, veterinary etc)

Indirect benefits that accrue to communities that reside and utilise the resources in these areas include:

- Wages from labour
- Bushmeat and fisheries
- Agro-forestry products

The crude net benefit that accrues from the coutadas and national reserves is crudely computed in Table 31. This data is based on the available information, and assuming a Present Value Discount Rate of 5%. The direct costs and benefits are drawn from data produced in this report. The values of the indirect benefits are crude guesstimates. Under this scenario the data suggests that there is a negative net benefit of approximately US\$5

million that accumulates over five years. When the indirect benefits are removed, the negative net benefit is approximately US\$34 million.

This implies that under the current policy and management regime, the hunting areas are costing government approximately US\$3/km<sup>2</sup>/year *assuming that it can provide the budgets (i.e. US\$79/km<sup>2</sup>) necessary to mitigate the high levels of illegal activity*. In reality this is far greater but cannot be assessed without access to current budget allocations to the various protected areas and Reserves.

Much of these costs are offset by the indirect benefits that accrue to communities that reside within these areas (bushmeat, fisheries, agro-forestry). However government is unable to directly tax these and thus benefit from the use of these resources (with the possible exception of timber, charcoal and other forest products).

**Table 31: The cost – benefit analysis of the hunting industry.**

	Current Year (CY)	CY +1	CY +2	CY +3	CY +4	CY +5
<b>Costs: Operational budgets</b>						
Coutadas and Reserves	\$7,288,575	\$7,507,232	\$7,732,449	\$7,964,423	\$8,203,356	\$8,449,456
Total Costs (Future Value)	\$7,288,575	\$7,507,232	\$7,732,449	\$7,964,423	\$8,203,356	\$8,449,456
<b>Total Costs (Present Value)</b>	<b>\$7,288,575</b>	<b>\$7,149,745</b>	<b>\$7,013,560</b>	<b>\$6,879,968</b>	<b>\$6,748,921</b>	<b>\$6,620,370</b>
						<b>\$41,701,139</b>
<b>Direct Benefits</b>						
Concession fees	\$513,911	\$529,328	\$545,208	\$561,564	\$578,411	\$595,763
Abate	\$655,191	\$674,846	\$695,092	\$715,945	\$737,423	\$759,546
Hunting license	\$13,811	\$14,226	\$14,652	\$15,092	\$15,545	\$16,011
PH License	\$3,365	\$3,466	\$3,570	\$3,677	\$3,788	\$3,901
Community 20%	\$82,000	\$84,460	\$86,994	\$89,604	\$92,292	\$95,060
<b>Indirect Benefits</b>						
<i>Other taxes</i>	\$25,000	\$25,750	\$26,523	\$27,318	\$28,138	\$28,982
<i>Labour</i>	\$1,015,922	\$1,066,718	\$1,098,720	\$1,131,681	\$1,165,632	\$1,200,601
<i>Bushmeat/Fishery</i>	\$1,235,520	\$1,297,296	\$1,362,161	\$1,430,269	\$1,501,782	\$1,576,871
<i>Agro-forestry</i>	\$2,500,000	\$2,623,000	\$2,756,250	\$2,894,063	\$3,038,766	\$3,190,704
Total Benefits (Future Value)	\$6,044,720	\$6,321,091	\$6,589,169	\$6,869,213	\$7,161,776	\$7,467,440
<b>Total Benefits (Present Value)</b>	<b>\$6,044,720</b>	<b>\$6,020,086</b>	<b>\$5,976,571</b>	<b>\$5,933,884</b>	<b>\$5,892,011</b>	<b>\$5,850,935</b>
<b>Present Value Discount Rate</b>		<b>5%</b>				<b>\$35,718,207</b>

Cost Benefit Analysis	
<i>With Indirect Benefits</i>	<i>Without Indirect Benefits</i>
Total PV Benefits	\$ 7,256,375
Total PV Costs	\$ 41,701,139
<b>NET BENEFIT</b>	<b>(\$34,444,763)</b>

## 6 Value of the 2011 National Quota

The 2011 Quota de Abate was announced by the Ministry of Tourism on the 27<sup>th</sup> December 2010 (Ref 337/DNAC/DUPC/2010), and covers areas under the management of MITUR and MINAG. The joint quota of 12,132 animals is divided between 53 areas managed by DNAC and 30 areas under the MINAG. This is summarised in Table 32 and Table 33 as follows:

**Table 32: The number of hunting areas under the administration of MITUR**

DNAC (N=53)					
Coutadas (N=14)	NNR** (N=9)	Community Programme (N=12)	Utilisation Programme (N=5)	Community Quota (N=13)	
Coutada 4	Block R1	Bawa***	Messalo	C.Chetu	
Coutada 5	Block R2	Daque***	Nungo	Bacia Lurio - Maua (C.Nacumua)	
Coutada 6	Block R3	Chiridzi***	Bacia do Lureco	Bacia Lurio - Nipepe (C.Nipepe)	
Coutada 7	Block L1	Muze***	Revia Comercial (Majune)	Bacio do Lureco	
Coutada 9	Block L2	Chawalo***	AAC Manda	Nungo	
Coutada 10	Block L3	Thuwi***	Wilderness	Messalo	
Coutada 11	Block L7	Chiputo***		Manda Wilderness	
Coutada 12	Block L8	Nhenda***		Revia Comercial (Majune)	
Coutada 13	Block L9	Chipera***		Reserva do Niassa	
Coutada 14		Chioco***		Coutada 10	
Coutada 15		Bungue***		Coutada 11	
C Nicage		Capoche***		Coutada 12	
C Nipepe		Chipanje		Coutada 14	
C Nacumua		Chetu		Coutada 14	
<b>Total All Animals</b>	<b>3064</b>	<b>2195</b>	<b>2138</b>	<b>494</b>	<b>326</b>
Elephant	19	18	20	5	0
Lion	7	22	12	3	0
Leopard	16	41	25	7	0
Buffalo	171	97	72	19	19

\*Coutada 5 and 6 have not been allocated any quotas \*\*NNR= Niassa National Reserve, \*\*\*Tchuma Chatu, Tete Province

DNAC have 5 programmes to accommodate: Coutadas (14,), Niassa National Reserve (9), Community Programmes under Tchuma Chatu and Chipanje Chetu (12), Utilisation Programmes (5) and Community quotas (13). Of the 8217 animals that are on quota for these areas, there are 62 elephant, 44 lion, 89 leopard and 378 buffalo. The remainder consists of antelope, zebra, crocodile, pigs and various birds.

MINAG deals with two broad categories: the 11 provinces including a quota jointly allocated to the Department of Forestry and Department of National Conservation Areas, and 19 Fazendas do Bravia (or Game Farms) that are distributed across 6 provinces.

**Table 33: The number of hunting areas under the administration of MINAG**

Ministry of Agriculture (N=30)							
Provincial (N=11)	Fazendas by Province (N= 19) <sup>10</sup>						
	Maputo	Zambezia	Gaza	Niassa	Cabo Delgado	Sofala	
Niassa	SAPAP	Artemis Mahimba	Muthemba	Moz Unlimited Mozambique	Hunters Mozambique	Dombawer	
Cabo Delgado	Sable Game	Game Farm	Imofauna	Wilderless Adventure	Namoto Safaris	Lacerdonia Safaris	
Nampula			Mbabala		OLINAX	Mozunaf Safaris	
Zambezia			Gaza		Mwirate Safaris		
Manica			Safaris		Mtsewa		
Tete					Negamano		
Sofala					Safaris		
Inhambane							
Gaza							
Maputo							
DNTE/DNAC							
<b>Total All Animals</b>	<b>2902</b>	<b>200</b>	<b>122</b>	<b>82</b>	<b>79</b>	<b>234</b>	<b>296</b>
Elephant	5	7	0	8	4	14	2
Lion	2	4	0	0	4	4	0
Leopard	3	3	0	0	4	0	3
Buffalo	18	4	2	0	0	20	9

Of the 3915 animals allocated, 2902 (74%) are awarded to the provinces. The remainder is split between the Fazendas, with those in Maputo, Cabo Delgado and Sofala Provinces receiving the bulk of these.

The high provincial quota is a result of large quotas for some animals e.g. cabritos (422), crocodile (920), facoceros (234) and macaco-coa (259). Apart from elephant (40) relatively few of the valuable trophy hunting animals were allocated to MINAG: lion (14), leopard (13) and buffalo (53).

### 6.1 Abate Value of 2011 Quota

If it is assumed that 100% of the animals are purchased, the abate value of the 2011 quota is MT50.465.899 (or US\$1.577.056 at 2010 prices). The DNAC controlled areas would generate 66% of this amount (MT33.063.100) and MINAG 34% (MT17.402.700, Table 34).

<sup>10</sup> There is a discrepancy between the number of Fazendas listed in the data provided by MINAG in Table 1 (26) and that provided in the quota allocations

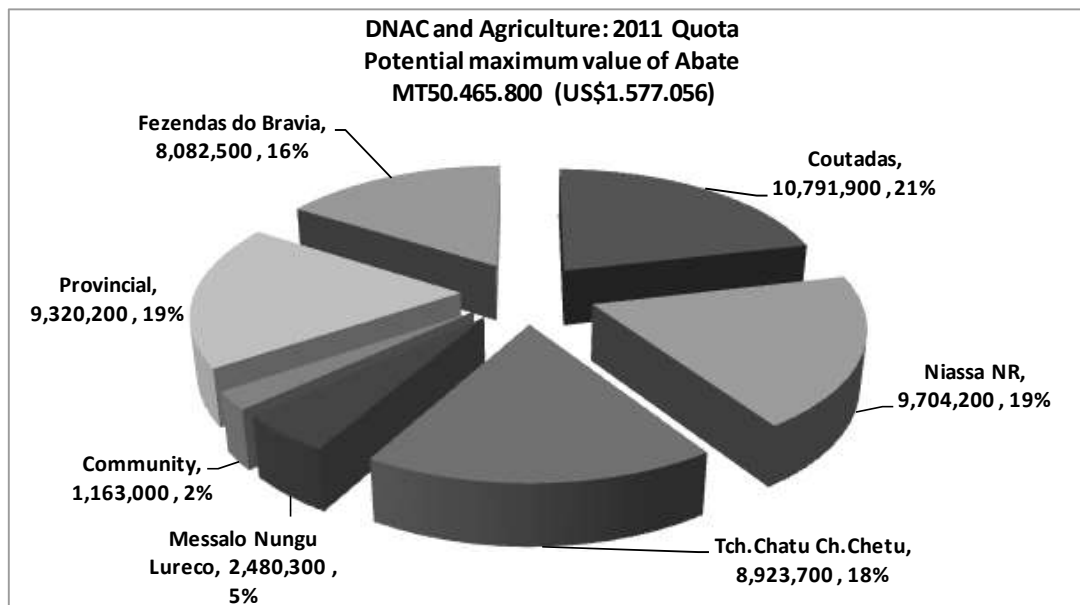


**Table 34: The overall value of the 2011 national quota under the administration of MITUR and MINAG**

Species	DNAC								
	National Coutadas and Reserve		Utilisation Programme		Community Quota	Total Animals	Total cost of Abate		
	Coutadas	Niassa NR	Tch Chatu, Ch Chetu	Messalo, Nungu	Community		MT	US\$	%
Bufalo	171	97	72	19	19	378	5,670,000	\$177,188	17%
Elephante	19	18	20	5	0	62	7,440,000	\$ 232,500	23%
Leao	7	22	12	3	0	44	660,000	\$ 20,625	2%
Leopardo	16	41	25	7	0	89	1,513,000	\$47,281	5%
<b>Total (all animals)</b>	<b>3,064</b>	<b>2,195</b>	<b>2,138</b>	<b>494</b>	<b>326</b>	<b>8,217</b>	<b>33,063,100</b>	<b>\$1,033,222</b>	
Percentage of total quota (N=8217)	<b>37%</b>	<b>27%</b>	<b>26%</b>	<b>6%</b>	<b>4%</b>				

AGRICULTURE						
Species	Provincial	Fezendas do Bravia	Total Animals	Total cost of Abate		
				MT	US\$	%
Bufalo	18	35	53	795,000	\$24,844	5%
Elephante	5	35	40	4,800,000	\$150,000	28%
Leao	2	12	14	210,000	\$6,563	1%
Leopardo	3	10	13	221,000	\$6,906	1%
<b>Total (all animals)</b>	<b>2,902</b>	<b>1,013</b>	<b>3,915</b>	<b>17,402,700</b>	<b>\$ 543,834</b>	
Percentage of total quota (N= 3915)	<b>74%</b>	<b>26%</b>				

The total quota allocations in the five major sectors each contribute 16 – 21% of the overall abate value while the quota for the Community Quota and Utilisation Area (Messalo, Nungu and Lureco) only account for approximately 7% of this value (Figure 10). This is determined by the composition and number of animals allocated to each of the seven sectors. For example elephant are the major contributors to the abate value (23%, DNAC and 28%, Agriculture, Table 34). By contrast lion and leopard do not contribute significantly to the abate value (9%). DNAC will receive 3% of the abate value from 296 crocodiles while Agriculture will receive 20% from 999 crocodiles.



**Figure10: The overall abate value of the 2011 national quota awarded to the different sectors under MITUR and MINAG administration.**

However, in reality, not all the animals on the quota are purchased, especially the less valuable animals such as cabritos. For example, in 2010, operators in the Niassa National Reserve purchased 49% (MT4.059.700) of the maximum quota value. Elephant abate made up 21% of this followed by buffalo (17%), zebra (10%) and sable (8%). The remaining animals make up 0.3 – 5% each.

## 6.2 Potential Commercial Value of 2011 Quota

The potential commercial value of the 2011 quota can be derived by determining the potential hunter day value of the quota, and then applying various marketing strategies to calculate the potential income from the sale of hunter days and trophies. These results can then be adjusted to speculate what the actual figure may be.

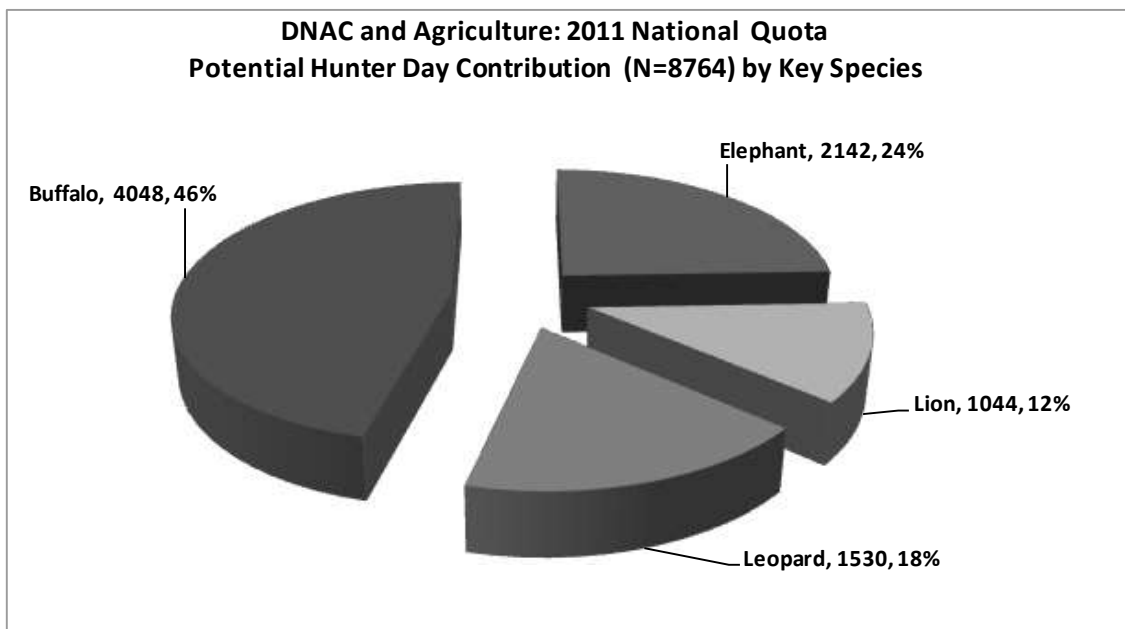
The following assumptions need to be applied:

- The entire elephant, lion, leopard and buffalo quota is marketed to determine the maximum number of hunter days
- The marketing strategy assumes that:
  - Elephant are sold on 21-day safaris @ US\$2000/day
  - Lion are sold on 18-day safaris @ US\$1600/day
  - Leopard are sold of 15-day safaris @ US\$1400/day
  - Buffalo are sold on 10 day safaris @ US\$750/day
- Each elephant, lion and leopard safari will include one buffalo
- Plains game safaris are ignored, but plains game trophies are included with the above packages
- The average Mozambique commercial fees are applied for all trophies.
- The total Hunter Days and Trophy Offtake is adjusted to accommodate successful safaris in each of the sector.

The purpose here is to establish a baseline using simple parameters to gauge the magnitude of the industry. It is appreciated that the variables proposed here can be adjusted, and that the hunting package combinations can change to give many different results. However this fine-tuning required access to be better data, especially related to market price trends and actual utilization data.

### 6.3 Potential maximum number of Hunter Days

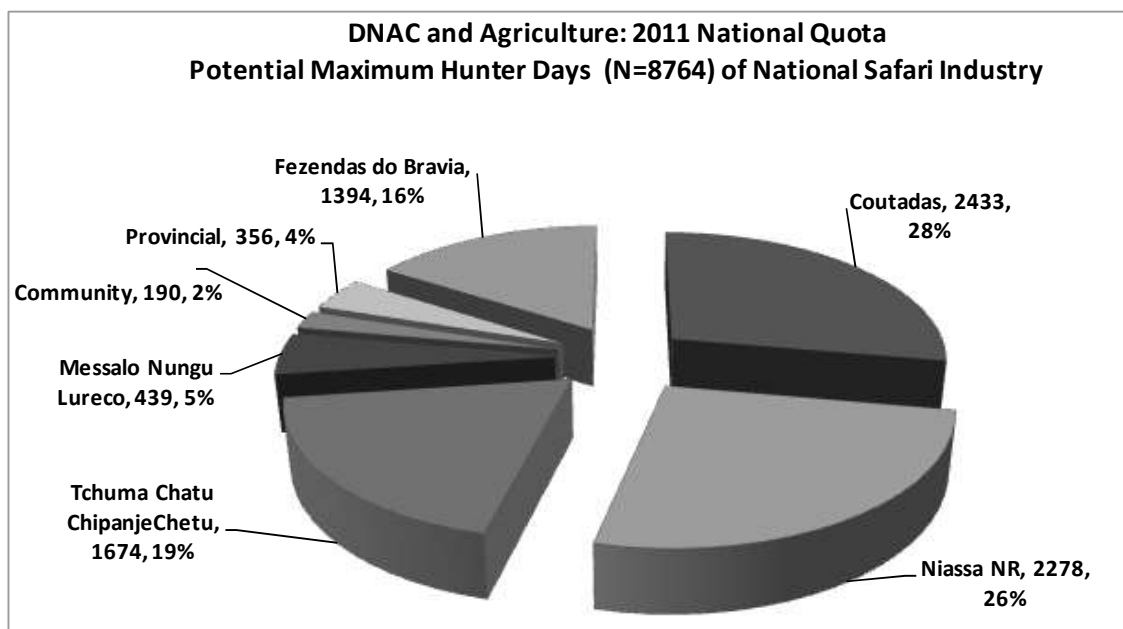
Using the parameters above, it is estimated that the key species allocated 2011 can potentially generate 8764 hunters days (Figure 11). The elephant quota (102) can potentially generate 2142 hunter days or 24% of this total (i.e. 102 elephant safaris x 21 days + 102 buffalo). Buffalo are by far the most important contributor (46%) with lion the least important (12%).



**Figure 11: The potential number of Hunter Days contributed by key species allocated on the 2011 quota**

These key trophy animals are distributed across the seven sectors that are allocated quotas. The contribution of total hunter days generated from the allocation of these animals to the various sectors can be illustrated as follows (Figure 12):

- The Coutadas (28%) and Niassa National Reserve (26%) account for 4,711 hunter days or 54% of the potential value.
- Tschuma Chatu and Chipanje Chetu account for 19% (1674 hunter days).
- The 19 Fezendas do Bravia split 1394 hunter days (16%) of the overall total.



**Figure 12: The potential maximum number of Hunter Days that can be generated in the seven different sectors in Mozambique**

#### **6.4 Potential maximum Hunter Day and Trophy Value of the Mozambique Safari Industry**

Using the potential maximum hunter days that could be generated by each of the four key species, and applying a generic daily rate, it is possible to calculate the total potential value of the Mozambique Safari Industry – MT356.236.800 (=US\$11.132.400, Table35).

The distribution of elephant, lion, leopard and buffalo between the Coutadas, Niassa National Reserve, Tchuma Chatu and Fazendas suggests that each of these areas has the potential to generate approximately US\$2.2 million – US\$2.9 million<sup>11</sup>.

Elephant based safaris could potentially contribute 38% (US\$4.284.000) of this total amount followed by buffalo (27%), leopard (19%) and lion (15%).

<sup>11</sup> The Community Quota is included here, although these animals are generally used to provide meat and are not sold.

**Table 35: The potential maximum Hunter Day and Trophy Fee value of the 2011 quota across the seven sectors involved in tourism hunting in Mozambique**

Safari Type	Rate/Hunter day	National Coutada and Reserve				DNAC				AGRICULTURE				Total Potential Value
		Coutadas		Niassa NR		Utilisation Programme		Community Quota		Provincial		Fezendas do Bravia		
						Tch.Chatu Ch.Chetu	Messalo Nungu Lureco	Community						
Elephant	\$2,000	\$798,000	\$756,000	\$840,000	\$210,000	\$0	\$210,000	\$1,470,000	\$4,284,000					
Lion	\$1,600	\$201,600	\$633,600	\$345,600	\$86,400	\$0	\$86,400	\$345,600	\$1,670,400					
Leopard	\$1,400	\$336,000	\$861,000	\$525,000	\$147,000	\$0	\$147,000	\$210,000	\$2,142,000					
Buffalo	\$750	\$1,251,000	\$666,750	\$497,250	\$131,250	\$142,500	\$131,250	\$219,750	\$3,036,000					
<b>Total @ 100% marketing</b>		<b>\$2,586,600</b>	<b>\$2,917,350</b>	<b>\$2,207,850</b>	<b>\$574,650</b>	<b>\$142,500</b>	<b>\$574,650</b>	<b>\$2,245,350</b>	<b>\$11,132,400</b>					
<b>Percentage of total value</b>		<b>23%</b>	<b>26%</b>	<b>20%</b>	<b>5%</b>	<b>1%</b>	<b>5%</b>	<b>4%</b>	<b>20%</b>					

Safari Type	Avg Trophy Fee*	Coutadas		Niassa NR		Tch.Chatu Ch.Chetu		Messalo Nungu Lureco		Community		Provincial		Fezendas do Bravia		Total Potential Value
Elephant	\$24,500	\$465,500	\$441,000	\$490,000	\$122,500		\$490,000	\$122,500	\$2,499,000			\$122,500	\$857,500	\$2,499,000		
Lion	\$7,940	\$55,580	\$174,680	\$95,280	\$23,820		\$95,280	\$23,820	\$460,520			\$15,880	\$95,280	\$460,520		
Leopard	\$4,444	\$71,104	\$182,204	\$111,100	\$31,108		\$111,100	\$31,108	\$453,288			\$13,332	\$44,440	\$453,288		
Buffalo	\$2,734	\$467,514	\$265,198	\$196,848	\$51,946		\$196,848	\$51,946	\$1,126,408			\$49,212	\$95,690	\$1,126,408		
Sable	\$3,345	\$418,125	\$317,775	\$210,735	\$110,385		\$210,735	\$110,385	\$1,344,690			\$137,145	\$150,525	\$1,344,690		
All other species		\$1,675,526	\$4,204,930	\$1,356,524	\$312,436		\$1,356,524	\$312,436	\$12,139,067			\$3,680,172	\$909,479	\$12,139,067		
<b>Total @ 100% marketing</b>		<b>\$3,153,349</b>	<b>\$5,585,787</b>	<b>\$2,460,487</b>	<b>\$652,195</b>	<b>\$0</b>	<b>\$2,460,487</b>	<b>\$652,195</b>	<b>\$18,022,973</b>			<b>\$4,018,241</b>	<b>\$2,152,914</b>	<b>\$18,022,973</b>		
<b>Percentage of total value</b>		<b>17%</b>	<b>31%</b>	<b>14%</b>	<b>4%</b>		<b>14%</b>	<b>4%</b>			<b>22%</b>	<b>12%</b>				

\* Booth (2009)

If it is assumed that all animals are sold as trophies at the average Mozambique commercial trophy fee, the 2011 national quota has the potential to generate MT576.738.136 (US\$18.022.973 see Table 35 above).

Elephant make up 14% of this amount (US\$2.499.000) with buffalo and sable each contributing approximately 7% respectively. Lion and leopard contribute 3% respectively.

The Niassa National Reserve has the highest overall potential trophy value (US\$5.585.787) while the large crocodile quota accounts for more than 50% of the potential value of the Provincial quota (US\$4.018.241).

By combining the potential maximum Hunter Day and Trophy Fee values it is possible to gauge the overall maximum potential value of the Mozambique safari hunting industry. These data are summarised in Table 36.

**Table 36: Combine the potential Hunter Day and Trophy Fee values provides and indication of the maximum value of the Mozambue Hunting industry.**

Safari Type	DNAC					AGRICULTURE		Total Potential Value
	National Coutada and Reserve		Utilisation Programme		Community Quota	Provincial	Fezendas do Bravia	
	Coutadas	Niassa NR	Tch.Chatu Ch.Chetu	Messalo Nungu Lureco	Community			
Hunter days	\$2,586,600	\$2,917,350	\$2,207,850	\$574,650	\$142,500	\$458,100	\$2,245,350	\$11,132,400
Trophy Fees	\$3,153,349	\$5,585,787	\$2,460,487	\$652,195	\$0	\$4,018,241	\$2,152,914	\$18,022,973
Total @ 100% marketing	\$5,739,949	\$8,503,137	\$4,668,337	\$1,226,845	\$142,500	\$4,476,341	\$4,398,264	\$29,155,373
Percentage of total value	20%	29%	16%	4%	0.5%	15%	15%	

This data suggests that the maximum potential value of the industry is approximately US\$29.155.373 (or MT932.971.936). The Niassa National Reserve, which has the largest quota in terms of key species, has the potential to generate approximately 29% of this income. The Tchuma Chatu and Chipanje Chetu community programme is capable of generating 16%, although in this case, the earning potential is skewed in favour of two areas that support substantial wildlife populations (Bawa in Tete Province and Chipanje Chetu in Niassa Province). The 14 Coutadas lack access to elephant, lion and leopard, but have significant quotas of buffalo that boosts the potential of these areas and hence their overall values.

## 6.5 Adjusted Value of Mozambique Safari Industry

The actual value of the safari industry in Mozambique requires that the potential data is adjusted to take into account the performance of the various sectors. Much of this depends on the quality of hunting in the areas, the availability of the key species, and the success of marketing and implementing the safaris. The potential income of each area therefore needs to be adjusted to accommodate these attributes. To achieve this, the level of quota utilisation for each species has been adjusted depending on the probability of success.

For example, the success rate of hunting the buffalo and lion quota in the Coutadas is 75% and 30% respectively and 80% and 60% in the Niassa Reserve. The same conditionality's are subjectively applied to all the species on quota across the different sectors (Table 37).

**Table 37: Estimated percentage utilisation of trophy animals allocated per sector in Mozambique.**

Species	Percentage Utilisation of trophy animals per sector					
	Coutadas	Niassa	Community	Utilisation	Provincial	Fazendas
Bufalo	75%	80%	60%	50%	30%	20%
Cudu	60%	65%	60%	60%	50%	50%
Elande	30%	45%	30%	25%	20%	20%
Elephante	30%	50%	35%	35%	10%	10%
Facocero	75%	75%	75%	75%	50%	60%
Hipopotamo	60%	75%	50%	10%	20%	10%
Imbabala	60%	60%	60%	40%	40%	35%
Impala	65%	50%	65%	10%	30%	25%
Inhacoso	65%	75%	65%	65%	50%	50%
Inhala	35%	35%	35%	0%	15%	15%
Leao	30%	60%	25%	25%	15%	10%
Leopardo	85%	85%	65%	65%	45%	35%
Macaco-coa	25%	25%	25%	25%	25%	10%
Sable	80%	80%	45%	65%	35%	25%
<b>Average</b>	<b>47%</b>	<b>53%</b>	<b>42%</b>	<b>33%</b>	<b>28%</b>	<b>23%</b>

The overall average success rate is then calculated to determine the adjustment factor to be applied to the potential income. This exercise ranks the sectors with Niassa being the most successful (53%) and the Fazendas the least successful (23%).

Applying these adjustment factors to the potential gross income suggests that the value of the industry is approximately US\$7.210.457 (MT230.734.636). After deducting the adjusted abate value, the approximate net value industry is US\$6.606.702 (MT211.414.454, Table 38).

**Table 38: Adjusted value of the Mozambique hunting industry based on overall estimated utilisation of the 2011 quota.**

Adjusted income	DNAC				AGRICULTURE		Total Value	
	National Coutada and Reserve		Utilisation Programme		Community Quota	Fazendas do Bravia		
	Coutadas	Niassa NR	Tch.Chatu Ch.Chetu	Messalo Nungu Lureco	Community			
Potential Gross	\$5,739,949	\$8,503,137	\$4,668,337	\$1,226,845	\$142,500	\$4,476,341	\$4,398,264	\$29,155,373
Adjustment %	47%	53%	42%	33%		28%	23%	
Adjusted value	\$2,002,628	\$2,379,238	\$1,409,525	\$307,984	\$0	\$502,636	\$608,445	\$7,210,457
Less Abate	(\$158,787)	(\$142,783)	(\$116,775)	(\$32,457)	(\$106,156)	(\$81,916)	(\$71,038)	(\$709,912)
Approximate Value	\$1,843,841	\$2,236,455	\$1,292,750	\$275,527		\$420,720	\$537,408	\$6,606,702
Percentage	28%	34%	20%	4%		6%	8%	

The Niassa Reserve is the premier hunting destination in Mozambique, and not unexpectedly is the highest potential earner – US\$2.236.455. The Coutadas and Community Programme generate 28% and 20% of the total respectively. The remaining areas combined generate less than 20%.

## **6.6 Growth projection of the hunting industry**

The data presented here suggests that the estimated commercial value of the Mozambique hunting industry could be as much as US\$6.6 million/year and that in 2010 it had the following characteristics:

- Generated 3,341 hunter days from 304 safaris (Table 22)
- Generated approximately US\$4/km<sup>2</sup> from concession fees (Table 24)
- Sold approximately 43% of the abate tickets (Table 25)
- Earned approximately US\$1.2 million in revenues for government (Table 27)
- Employed approximately 1,100 people in the industry (Table 28)
- Awarded approximately US\$1670/committee (Table 29).

These data underline the under performance of the industry relative to its potential. There are, however, a number of factors that are inhibiting the growth of the industry.

### **6.6.1 Factors inhibiting growth of the hunting industry**

The Association of Mozambique Safari Operators (Associação Moçambicana dos Operadores de Safaris - AMOS) was formed in 2009 to represent the private safari hunting sector. One of its functions is to actively lobby Government to improve the administration, management and performance of the industry. In this role the association has identified a number of bureaucratic factors which it claims is inhibiting its growth<sup>12</sup>:

- The Technical Working Group established in 2010 to discuss issues related to the hunting industry has ceased to function.
- There are complicated procedures that curtail the temporary import of hunting weapons.
- Purchase of weapons and ammunition for law enforcement/anti-poaching duties is difficult.
- The legal position of safari operators regarding their involvement in combating illegal hunting is obscure.
- The bureaucratic process involving the inspection and final export of client trophies results in long delays that negatively impact on the Mozambique hunting industry.
- There are various bureaucratic administrative procedures that complicate the licensing of professional hunters.
- Government does not assist the promotion of the industry at international hunting conventions, such as Safari Club International (SCI).

In addition to these issues, the growth of the Mozambique hunting industry is also hampered by international conventions, notably:

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<sup>12</sup> Letter addressed to His Excellency, Ministry of Tourism Maputo, 27 de Fevereiro de 2012, N/Ref<sup>o</sup>. 005/AMOS/op/1: Articulação entre o Governo e o Sector Privado no Turismo Cinegético



- Mozambique has a CITES quota of 120 leopard. This is insufficient for the number of safari operations in the country.
- The elephant quota is restricted to 100 and is listed as Appendix I under CITES. In addition elephant trophies cannot be exported to the USA, which is the largest and most lucrative market.
- There is a high probability the lion trophies will be upgraded to CITES Appendix I. This will prevent the export of these trophies to Europe and America.

Other factors within Mozambique that directly impact on the growth of the industry include:

- Weak legislation related to the control of illegal hunting within the coutadas and reserves. This is especially relevant to the illegal hunting of elephant for ivory that has resulted in substantial numbers of trophy elephant being killed in Niassa and Tete in recent years (see Section 3.2).
- The expansion of human settlements and consequently subsistence agriculture within prime hunting areas such as the Niassa National Reserve and some coutadas is resulting in escalating human-wildlife conflict and loss of critical habitat.
- The wildlife industry is fragmented between two major ministries (Tourism and Agriculture) and there are no clear policies to guide the involvement of community based natural resource management in the tourism hunting industry.

### **6.6.2 Estimating projected growth of the industry**

For the industry to grow over the next five years, the following issues will need to be addressed:

1. Improved management and administration of the industry
2. Increase in the number of clients and hunter days i.e. improved marketing of quota
3. Increase the abate ticket cost of quota
4. Reviewing the cost of hunting in Mozambique i.e. concession agreements

#### **1. Improved Management and Administration**

The management and administrative issues impeding growth and development of the industry are known to the stakeholders, and suggestions of how to address these have been discussed in national forums. The onus is now on government to address these issues and implement them in conjunction with the industry: For example:

- The approved national quotas should be announced prior to the beginning of the next season, preferably providing the quota for a 3-year period.
- Streamline the licensing system for professional hunters and hunting clients
- Streamline the system related to the temporary import of firearms and ammunition
- Streamline the system to process the export of trophies

#### **2. Increasing clients and hunter days**

The Mozambique hunting industry showed steady growth in the number of clients visiting the country from 2003 to 2008 but there has been a decline in recent years (see Table 22). This decline cannot be attributed to the lack of quota because the key species quotas (elephant, lion, leopard and buffalo) have not been fully utilised. The areas that are not performing appear to be the fazenda bravia's.

It is possible to predict the potential growth of the industry using the assumption that the average safari of 11 days generates approximately US\$1940/hunter day. The current status of the industry suggests that 300 clients visit the country generating approximately US\$6,4 million dollars. By increasing the numbers of clients to 600 will potentially double the gross income to US\$12 million (see table below). This growth will have to come from the Coutadas and National Reserves. However, with the exception of the Niassa National Reserve, these areas do not have access to the elephant, lion and leopard quotas necessary to drive this growth. This growth will have to come from improved (and increased) use of the buffalo quotas.

<b>Number clients</b>	<b>Hunter Days</b>	<b>Gross income (US\$)</b>
1	11	\$1,940
300	3,300	\$6,402,000
400	4,400	\$8,536,000
500	5,500	\$10,670,000
550	6,050	\$11,737,000
600	6,600	\$12,804,000

### **3. Increase the abate ticket cost of the quota**

Negotiations have taken place to increase the cost of abate tickets to bring these into line with regional prices (Table 39). This required that the current abate prices be increased on average by 420% (80 – 1520%). While it was accepted that the abate ticket prices were low, the proposed increase met stiff resistance from the safari operators who argued that the industry could not absorb these increases in one year, and proposed that these be phased in over a period of three years.

In monetary terms, the overall value of the 2011 quota at current prices was MT50,465,800 (US\$1,869,104). Applying the proposed abate ticket values to the 2011 quota increases the overall value of the quota to MT363,202,622 (US\$13,488,986).

Assuming that the purchase pattern of abate tickets (43%) remains similar to that in recent years, then the potential income to government would be MT156,607,127 (US\$5,800,264) which is almost a 7-fold increase on the estimated current income of MT21,700,294 (US\$803,714).

Table 39 provides a summary of the current and proposed abate ticket increase for the various trophy species.

Table 39: Current and proposed abate prices negotiated by MITUR.

RoE: MT27: US\$1.00						
Current MITUR Abate Price			Proposed MITUR Abate Prices			
Trophy	MT	US\$	MT	US\$	Increase (MT)	%
Búfalo	15,000	556	27,000	1,000	12,000	80%
Cabrito cinzento	500	19	4,725	175	4,225	845%
Magul	500	19	6,750	250	6,250	1250%
Changane	500	19	8,100	300	7,600	1520%
Chipenhe grizalho	500	19	7,425	275	6,925	1385%
Chango	2,000	74	8,100	300	6,100	305%
Cocone	5,000	185	21,600	800	16,600	332%
Crocodilo	3,500	130	20,250	750	16,750	479%
Cudo	10,000	370	24,300	900	14,300	143%
Elande	12,000	444	27,000	1,000	15,000	125%
Elefante	120,000	4,444	270,000	9,000	123,000	103%
Facocero	1,500	56	6,075	225	4,575	305%
Francolino	100	4	270	10	170	170%
Galinha do Mato	100	4	270	10	170	170%
Gondonga	5,000	185	16,200	600	11,200	224%
Hiena-malhada	4,000	148	8,100	300	4,100	103%
Hipopotamo	11,000	407	27,000	1,000	16,000	145%
Imbabala	1,500	56	8,100	300	6,600	440%
Impala	1,500	56	6,750	250	5,250	350%
Inhacoso	6,000	222	16,200	600	10,200	170%
Leão	15,000	556	135,000	3,000	66,000	440%
Leopardo	17,000	630	54,000	2,000	37,000	218%
Macaco-cão	300	11	2,025	75	1,725	575%
Sable	9,000	333	27,000	1,000	18,000	200%
Porco bravo	1,000	37	4,725	175	3,725	373%
Zebra	13,000	481	24,300	900	11,300	187%

#### 4. Reviewing the cost of hunting in Mozambique i.e. concession agreements

Currently the cost of hunting is approximately US\$4.6/km<sup>2</sup> with highest prices paid for hunting blocks in the Niassa National Reserve. The prices paid for most coutadas is low averaging US\$10,000/year (see Table 23 and Table 24), and many of these areas have not been awarded through competitive tender.

There are options to improve these rents either through direct negotiations with the current occupants, or by offering these to the industry through competitive tender. Depending on the quality of the areas in terms of species composition and numbers (especially the key species of elephant, lion, leopard and buffalo) it should be feasible to improve the rentals of these areas on average by two or three fold i.e. to US\$20,000 to US\$30,000.

However to achieve this will require investment in:

- Better management and administration of the industry
- An improved and stabilised quota allocation
- Competitive licensing and pricing of the tourism products

- Resolution of the human-wildlife conflict issues
- Containment of illegal hunting activities.

## 6.7 Estimated 5-year growth of the Mozambique Industry

There are many unknown factors and variables that can influence the growth of the industry in Mozambique. Those that are related to government include the absence of strong political support for a robust conservation policy and legal framework to deal with human expansion and subsistence agriculture with hunting areas and weak capacity to deal with illegal hunting. The private sector is equally weak. Many of the hunting areas rely on foreign based companies, and the vast majority of the professional hunters are foreign. Local capacity to manage high class hunting operations is lacking, especially with respect to semi-skilled persons (e.g. skimmers, trackers, law enforcement).

Predicting 5-year growth scenarios is therefore extremely difficult. The table below attempts to provide a scenario under the current conditions, using an increase in the number of clients and revised concession fees to grow the industry over the next five years. Under this scenario doubling the number of clients from 300 to 600 and improving the concession rents could potentially double the income to government (i.e. US\$1.3 million to US\$2.4 million).

If the abate ticket prices are revised and implemented over a three-year period, then the potential increase could grow from approximately US\$2.6 million to US\$7.8 million.

**Table 40: Potential 5-year growth of the Mozambique tourism hunting industry**

<b>Five year growth</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Client Increase	300	400	500	550	600
Current Abate	35,581,018	41,006,092	49,207,310	56,626,571	65,054,336
Concession	1,317,815	1,518,744	1,822,492	2,097,280	2,409,419
<b>Total (MT)</b>	<b>35,581,018</b>	<b>41,006,092</b>	<b>49,207,310</b>	<b>56,626,571</b>	<b>65,054,336</b>
<b>US\$</b>	<b>1,317,815</b>	<b>1,518,744</b>	<b>1,822,492</b>	<b>2,097,280</b>	<b>2,409,419</b>
Revised Abate	52,202,376	65,252,970	81,566,212	156,607,127	172,267,839
<b>Total (MT)</b>	<b>72,485,100</b>	<b>87,669,694</b>	<b>108,893,081</b>	<b>189,165,213</b>	<b>211,098,197</b>
<b>US\$</b>	<b>\$2,684,633</b>	<b>\$3,247,026</b>	<b>\$4,033,077</b>	<b>\$7,006,119</b>	<b>\$7,818,452</b>

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## 7 Annex 1: Registered Trophy Hunting Operations in Mozambique

Number	Name of Hunting Area	Town/District	Province
1	Coutada 4, Reserva Búfalo, Lda.	Machaze	Manica, Region Centre
2	Coutada 5	Machanga	Sofala, Region Centre
3	Coutada 6	Maringue	Sofala, Region Centre
4	Coutada 7, VINSON G&G-JV	Tambara	Manica, Region Centre
5	Coutada 9, Rio Save Safaris	Macossa	Manica, Region Centre
6	Coutada 10	Cheringoma	Sofala, Region Centre
7	Coutada 11, ZDS-Zambeze Delta Safaris	Cheringoma	Sofala, Region Centre
8	Coutada 12, NYALA Safaris	Cheringoma	Sofala, Region Centre
9	Coutada 13, Stimbark	Tambara	Manica, Region Centre
10	Coutada 14, NYATI Safaris	Marromeu	Sofala, Region Centre
11	Coutada 15, G.V.-Pala-Pala Safaris, Limitada	Caia	Sofala, Region Centre
12	Nicage, Kambako Investimentos	Montepuez	Cabo Delgado North
13	Nipepe, Mabarule Hunters Mozambique	Nipepe	Niassa, Region North
14	Nacumua, Tradional Mozambique Safaris	Maua	Niassa, Region North
15	SGRN/BLOCO L7(c), Luwire	Mecula	Niassa, Region North
16	SGRN/BLOCO L1(D1), SAFRIQUE	Mecula	Niassa, Region North
17	SGRN/BLOCO L2(D2), Johan Calitz	Mavago	Niassa, Region North
18	SGRN/BLOCO L3, Sociedade de Ecoturismo de Metapiri	Mecula	Niassa, Region North
19	SGRN/BLOCO R1 (E), Niassa Hunter Safaris	Mavago	Niassa, Region North
20	SGRN/BLOCO R2, Luambeze Investimentos	Mavago	Niassa, Region North
21	SGRN/BLOCO R3, Luambeze Investimentos	Mavago	Niassa, Region North
22	SGRN/BLOCO L9(A), East African Safaris Limitada	Mueda	Cabo Delgado, Region North
23	SGRN/BLOCO L8(B), Kambako Safaris	Montepuez	Cabo Delgado, Region North
24	Tchuma Tchato-Bawa, Safaris de Moçambique	Zumbo	Tete, Region Centre
25	Tchuma Tchato-Daque, Africa Hunt & Tour Lda	Magoé	Tete, Region Centre
26	Tchuma Tchato-Chiridzi, Calm Lake Investment and Development	Chifunde	Tete, Region Centre
27	Tchuma Tchato-Muze, Mozambique Safaris Lda	Zumbo	Tete, Region Centre
28	Tchuma Tchato-Chawalo, Sociedade Chawalo Safaris e Eco-Turismo, Lda	Zumbo	Tete, Region Centre



<b>Number</b>	<b>Name of Hunting Area</b>	<b>Town/District</b>	<b>Province</b>
29	Tchuma Tchato-Thuvi, Sable Hills Safaris	Magoe	Tete, Region Centre
30	Tchuma Tchato-Chiputo, Calm Lake Investment and Development	Maravia	Tete, Region Centre
31	Tchuma Tchato-Nhenda, Nhenda Safaris	Maravia	Tete, Region Centre
32	Tchuma Tchato-Chipera, Safaris Tetense	Maravia	Tete, Region Centre
33	Tchuma Tchato-Chioco	Changara	Tete, Region Centre
34	Tchuma Tchato-Bugue	Cahora Bassa	Tete, Region Centre
35	Tchuma Tchato-Capoche	Chifunde	Tete, Region Centre
36	Chipanje Chetu, Lipilichi Wilderness	Sanga	Niassa, Region North
38	Messalo, Sociedade Nhalikanga	Marrupa	Niassa, Region North
39	Nungo, Mondzo&Concultores	Marrupa	Niassa, Region North
40	Bacia do Lureco, Majune Safaris	Marrupa	Niassa, Region North
41	Game Farm, Hunters Mozambique	Cabo Delgado	Cabo Delgado, Region North
42	Game Farm, Namoto Safaris	Cabo Delgado	Cabo Delgado, Region North
43	Game Farm, OLINAX	Cabo Delgado	Cabo Delgado, Region North
44	Game Farm, Mwirite Safaris	Cabo Delgado	Cabo Delgado, Region North
45	Game Farm, Mtsewa	Cabo Delgado	Cabo Delgado, Region North
46	Game Farm, Negomano Safaris	Cabo Delgado	Cabo Delgado, Region North
47	Game Farm, Dombawer	Sofala	Sofala, Region Centre
48	Game Farm, Lacerdonia Safaris	Sofala	Sofala, Region Centre
49	Game Farm, Mozunaf Safaris	Sofala	Sofala, Region Centre
50	Game Farm, SAPAP	Maputo	Maputo, Region South
51	Game Farm, Sabiegame	Maputo	Maputo, Region South
52	Game Farm, Artenis Safaris	Zambézia	Zambézia, Region Centre
53	Game Farm, M.G.F.	Zambézia	Zambézia, Region Centre
54	Game Farm, Muthemba	GAZA	GAZA, Region South
55	Game Farm, Imofauna	GAZA	GAZA, Region South
56	Game Farm, Mbabala	GAZA	GAZA, Region South
57	Game Farm, Gaza Safaris	GAZA	GAZA, Region South
58	Game Farm, MOZ Unlimited	Niassa	Niassa, Region North
59	Game Farm, MWA	Niassa	Niassa, Region North

## 8 Annex 2: List of mammals, reptiles and birds

Data source: Schneider, et.al. 2005

	Common Name	Portuguese	Scientific Name
Game species in Moçambique	Elephant	<i>Elefante</i>	<i>Loxodonta africana</i>
	Lion	<i>Leão</i>	<i>Panthera leo</i>
	Leopard	<i>Leopardo</i>	<i>Panthera pardus</i>
	Cape Buffalo	<i>Búfalo</i>	<i>Syncerus cafer cafer</i>
	Crocodile	<i>Crocodilo</i>	<i>Crocodylus niloticus</i>
	Hippopotamus	<i>Hipopotamo</i>	<i>Hippopotamus amphibius</i>
	Sable, Southern	<i>Pala Pala</i>	<i>Hippotragus niger niger</i>
	Sable, Roosevelt		<i>Hippotragus niger roosevelti</i>
	Kudu	<i>Cudo</i>	<i>Tragelaphus strepsiceros</i>
	Eland	<i>Elande</i>	<i>Taurotragus oryx</i>
	Hartebeest, Lichtenstein's	<i>Gondonga,</i>	<i>Alcelaphus buselaphus lichtensteini</i>
	Wildebeest, blue	<i>Cocone,</i>	<i>Connochates taurinus</i>
			<i>Connochates taurinus johnstoni</i>
	Waterbuck	<i>Piva, Inhacoso,</i>	<i>Kobus ellipsiprymnus</i>
	Nyala	<i>Inhala</i>	<i>Tragelaphus angasi</i>
	Bushbuck, Limpopo	<i>Imbambala</i>	<i>Tragelaphus scriptus</i>
	Bushbuck, Chobe		<i>Tragelaphus scriptus</i>
	Reedbuck	<i>Chango</i>	<i>Redunca arundinum</i>
	Impala, Southern	<i>Impala</i>	<i>Aepyceros melampus melampus</i>
	Zebra, Burchells	<i>Zebra</i>	<i>Equus quagga burchelli</i>
	Zebra, Crawshay's		<i>Equus quagga chapmani</i>
	Warthog	<i>Facocero</i>	<i>Phacochoerus africanus</i>
	Bushpig	<i>Porco Bravo</i>	<i>Potamochoerus larvatus</i>
	Oribi	<i>Oribi</i>	<i>Ourebia ourebi ourebi</i>
	Suni	<i>Changane</i>	<i>Neotragus moschatus</i>
	Duiker, Common	<i>Cabrito cinzento</i>	<i>Sylvicapra grimmia</i>
	Duiker, Blue	<i>Cabrito-azul</i>	<i>Cephalophus monticola</i>
	Duiker, Red	<i>Mangul</i>	<i>Cephalophus natalensis</i>
	Grysbok, Cape	<i>Chipene-grisalho,</i>	<i>Raphicerus campestris</i>
	Grysbok, Sharps		<i>Raphicerus sharpei</i>
	Hyena, Spotted	<i>Hiena-malhada</i>	<i>Crocuta crocuta</i>
	Baboon	<i>Macaco-Cão</i>	<i>Papio cynocephalus sp.</i>
	Porcupine	<i>Porco-espinho</i>	<i>Hystrix africae australis</i>
Bustard, Kori	<i>Abetarda-gigante</i>	<i>Familia Otitidae</i>	
Francolins	<i>Perdizes</i>	<i>Francolinus sp.</i>	
Guinea fowls	<i>Galinha do Mato</i>	<i>Numida meleagris/Guttera pucherani</i>	
Ducks, Geese	<i>Patos, Gansos</i>	<i>Familia Anatidae</i>	
Doves	<i>Pombos, Rolas</i>	<i>Familia Columbidae</i>	
Pigeons	<i>Pombos, Rolas</i>	<i>Familia Columbidae</i>	
Species protected in Mozambique	Roan	<i>Palapala-cinzenta</i>	<i>Hippotragus equinus</i>
	Giraffe	<i>Girafa</i>	<i>Giraffa camelopardalis</i>
	Tsessebe	<i>Mezansi, Estacatira</i>	<i>Damaliscus lunatus</i>
	Sitatunga	<i>Sitatunga</i>	<i>Limnotragus spekei</i>
	Klipspringer	<i>Cabrito-das-pedras,</i>	<i>Oreotragus oreotragus</i>
		<i>Cabrito-saltador</i>	
	Reedbuck, Mountain	<i>Chango-da-montanha</i>	<i>Redunca fulvorufula</i>
	Wild dog	<i>Mabeco, Cão-do-mato</i>	<i>Lycan pictus</i>
	Jackal, Black-back	<i>Chacal-de-costas-</i>	<i>Canis mesomelas</i>
	Jackal, Side-striped	<i>Chacal-listrado</i>	<i>Canis adustus</i>
Cheetah	<i>Chita</i>	<i>Acinonyx jubatus</i>	
Caracal	<i>Caracal</i>	<i>Felis caracal</i>	

<b>Common Name</b>	<b>Portuguese</b>	<b>Scientific Name</b>
African Wildcat	<i>Gato-bravo-africano</i>	<i>Felis lybica</i>
Serval	<i>Serval</i>	<i>Felis serval</i>
Civet	<i>Civeta-africana</i>	<i>Civettictis civetta</i>
Genets	<i>Geneta-de-malhas-pequenas, Geneta-de-malhas-grandes</i>	<i>Genetta sp.</i>
Honey Badger	<i>Ratel, Texugo-de-mel</i>	<i>Mellivora capensis</i>
Vervet Monkey	<i>Macaco-de-cara-</i>	<i>Cercopithecus pygerythrus</i>
Ostrich	<i>Avestruz</i>	<i>Struthio camelus</i>

## 9 Annex 3: Specific objectives of Terms of Reference

To present a brief comprehensive **description** of the hunting tourism industry at country level by updating and eventually completing the figures provided by the study “*Preliminary Assessment of the Current Status of the tourism hunting industry in Mozambique*” produced by the project in 2009.

To carry out a simple thorough macroeconomic **analysis** of the hunting tourism industry countrywide with particular attention paid to:

- the global contribution of the hunting tourism industry to the GNP/GDP, then compare it to the already published figures, when available, of the respective contributions of the other industries using natural resources (global tourism, wildlife viewing tourism, agriculture, livestock and forestry);
- the global contribution of the industry to the country as a source of foreign currency and rank it with the already published figures, when available, of the other sources of foreign currencies in Mozambique;
- the overall percentage of the global income generated by the hunting industry in Mozambique which remains in the country;
- the evaluation of (i) the land (surface and % of country and Provinces) which is conserved and managed through hunting tourism and (ii) the game population (population size and % according to the national wildlife census carried out in 2009 and eventually other figures) which is conserved and managed through hunting tourism.

To conduct an **analysis** of the contribution of the hunting tourism industry:

- to the Government (Central and Provincial) in terms of direct taxes (income taxes, concession fees, DNAC/DNTF trophy fees, hunting licenses, weapon permits, CITES export fees, fees for trophy inspection and movement, etc.) and indirect taxes (import taxes, VAT, immigration fees through visas and DIRE, etc.);
- to the local communities in terms of financial benefit [“20%” levy (overall and if possible detailed)] and socio-economic benefit [employment (number of jobs and amount of wages), gratuities, community development projects, etc.];
- to the private sector, i.e. the suppliers of goods (sundry equipment, fuel, food, etc.) and services (domestic flights, insurance, hotels, etc.).

To conduct a **cost and benefit analysis** of a standard hunting company in a standard coutada, being well understood that this exercise will be more a tentative evaluation than a real situation. An attempt might be made to assess the minimum quota needed for reaching the breakeven point.

To undertake a **comparative analysis** of the contribution of the tourism hunting industry in Mozambique with the already published figures, when available, of the respective contributions of the tourism hunting industry in other countries in the sub-region (e.g. Botswana, Tanzania, Zambia, Zimbabwe).

To undertake a **prospective analysis** of the potential socio-economic contribution of the tourism hunting industry to Mozambique over the next five years (2012/2016) according to different scenarios of the possible development of the industry. Such scenarios (e.g. high, medium, low) will be based upon (i) the current the current national quota and (ii) the potential evolution of the quota over the next five years.

To eventually consider any other aspects which appears to the consultant as relevant to the study during the course of his mission.