

Analysis of the Revenue Potential of Conservation Areas In Mozambique

Study 16 for the Preparation of MOZBio

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FINAL REPORT

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Acronyms

| | |
|----------|---|
| AFD | French Development Agency/ <i>Agence Française de Développement</i> |
| ANAC | National Administration of Conservation Areas/ <i>Agencia Nacional de Áreas de Conservação</i> |
| AP | African Parks |
| BIOFUND | Foundation for the Conservation of Biodiversity/ <i>Fundação para a Conservação da Biodiversidade</i> |
| CDM | Clean Development Mechanism |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CPI | Centre for Investment Promotion/ Consumer Price Index |
| DNAC | National Directorate of Conservation Areas/ <i>Direcção Nacional das Áreas de Conservação</i> |
| DNTF | National Directorate of Land and Forests/ <i>Direcção Nacional de Terras e Florestas</i> |
| DUAT | Land Use Title/ <i>Direito de Aproveitamento e Uso de Terra</i> |
| FDI | Foreign Direct Investment |
| GOM | Government of Mozambique |
| GDP | Gross Domestic Product |
| GEF | Global Environment Facility |
| GTZ | German Technical Cooperation |
| IFC | International Finance Corporation (World Bank Group) |
| INATUR | National Tourism Institute/ <i>Instituto Nacional do Turismo</i> |
| IUCN | The World Conservation Union |
| MICOA | Ministry for Coordination of Environmental Affairs/ <i>Ministério para Coordenação da Acção Ambiental</i> |
| MINAG | Ministry of Agriculture/ <i>Ministério da Agricultura</i> |
| MITUR | Ministry of Tourism/ <i>Ministério do Turismo</i> |
| MOZBio | Mozambique Conservation Areas for Biodiversity and Sustainable Development Project |
| MPA | Marine Protected Area |
| MZN | Meticais |
| NGO | Non-Governmental organization |
| NP | National Park |
| NR | National Reserve |
| PAD | Project Appraisal Document |
| PARPA II | Action Plan for the Reduction of Absolute Poverty II/ <i>Plano de Acção para a Redução da Pobreza Absoluta II</i> |
| PES | Payment for Ecosystem Services |
| PPF | Peace Parks Foundation |
| PPG | GEF Project Preparation Grant |
| PPP | Public Private Partnership |
| PWS | Payment for Watershed Services |
| REDD | Reduced Emissions from Deforestation and Forest Degradation |
| SGDRN | Society for the Management of Niassa Reserve/ <i>Sociedade para Gestão e Desenvolvimento da Reserva do Niassa</i> |
| TFCA | Trans-Frontier Conservation Areas/ <i>Áreas de Conservação Transfronteira</i> |

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| TFCATDP | Trans-frontier Conservation Areas and Tourism Development Project |
| WB | World Bank |
| WTP | Willingness To Pay |
| WWF | World Wide Fund for Nature |

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1 Executive Summary

The **Analysis of the revenue potential of Conservation Areas in Mozambique** utilises a mixture of macro-level and micro-level assessments for prioritised national parks (NPs) and national reserves (NRs) proposed by the MOZBio project. This analysis describes the current financial value of the CAs to Mozambique, their revenue generation in 2013 to (i) the economy, (ii) to the Government of Mozambique and CA Management Authorities, as well as (iii) respective CA communities. 15-year financial projections are developed for individual NPs and NRs as well as the overall CA network. Furthermore, 21 financial scenarios are described and applied to the CA network. Recommendations are provided on particular CAs to prioritise for investment and how to maximise the revenue generation of the CA network as a whole. Specific recommendations are also provided for the development of the MOZBio Component 2: 'Promotion of Tourism in CAs'.

The methodological approach utilises the WPCA (1998) Economic Values of Protected Areas: Guidelines for Protected Area Managers as its basis. It categorizes, for the purposes of the report, the value of infrastructure within CAs as the **stock** and the revenue generation from commercial direct use value, where formal tradable markets exist, such as tourism, hunting, fishing and bushmeat, as the **flows**. It does not include values where informal or regular markets exist, such as informal grazing, firewood collection, or poaching.

The report assesses the CA network in Mozambique, which at the time of writing, consisted of seven National Parks¹, of which two are coastal/marine protected areas (MPAs) and five terrestrial national parks. In addition to the National Parks there are six National Reserves, 16 *Coutadas* (hunting blocks) and 13 Forest Reserves.² There are also 50 Fazendas (privately-owned game farms), which are included here that are currently under the mandate of National Directorate of Land and Forests (DNTF) but is proposed that these be transferred to ANAC. Although not formally protected areas there are two community reserves, Tchuma Tchato (sub-divided into 5 CAs) and Chipanje Chetu³. Finally, there are two partial marine reserves, two protection zones, one biological reserve, one ecological park and two private CAs. This totals 93 assessed CAs.

The analysis determined that the **total financial value of the CA network (stocks and flows) was USD 319 million in 2013**. The **total annual revenue generation within the CA network was USD 22 million in 2013** from tourism-linked activities. However, as a comparison, INE, cited in Ministerio do Turismo (2014) estimate the total contribution of travel and tourism to Mozambique GDP was USD 222.8 million in 2013. Assuming that INE numbers include the same components as this analysis, the **CA network contributes 10% to the overall tourism contribution to GDP**. It is predicted that the contribution of the CA network would be far greater than 10% if full data on CAs were available.

The component of total revenue (of the USD 20 million), **which accrues to either national Government of Mozambique or the CA Management was USD 3.3 million in 2013** (16.5% of

¹The *Reserva Marinha Parcial da Ponta do Ouro* (67,800ha and 5km out to sea) was recently proclaimed (2009) as an MPA, bringing the total up to 7.

²UNDP (undated) Sustainable Financing of the Protected Area System in Mozambique (pg.10)

³ Forest reserves (total size of 528,907 ha) are also considered protected areas but are not included within this summary as they fall within the mandate of the Ministry of Agriculture (MINAG).

total revenue generated). **The value of financial contributions being provided to the respective CA communities in 2013 was USD 606,500.** The significant proportion of this value was derived from the 20% of abate sales received by communities from Coutadas.

Based on 15-year financial projections, **in 2028 the annual revenue generation of the CA network would equate to USD 56 million annually,** assuming current trends persist. This would providenearly **USD 11 million per annum in revenue accruing to the Government and nearly USD 2 million per annum to communities.**

Including community-based economic activities (non-tourism linked), such as harvesting marine resources, bush meat as well as forestry and no-timber forest products, that occur within or surrounding CAs the total financial value of the CA network total nearly **USD 347 million in 2013** and the total annual (gross) revenue generation within and surrounding the CAs in 2013 was nearly **USD 50 million.**

Future revenue sources that warrant further support for generating revenue for conservation management include biodiversity offsets and forest carbon.

A series of activities recommended for increasing the financial sustainability of the CA network include:

- Address the macro level constraints to tourism in Mozambique;
- Focus on existing revenue options first; and,
- Replicate the management model used by SGDRN in NNR.

Recommendations for strengthening the argument for supporting CAs include:

- Full financial audit of the CA network;
- Development of a baseline of community-based economic activities and the effects of tourism in CAs on their activities;
- Determining the true economic value of the CA network;
- Systematising green accounting with Government authorities; and,
- Support the coordination or reporting of CA financial information between Government authorities.

Finally, the results of the analysis are limited the lack of real data currently available on economic activities and investment within and surrounding CAs in Mozambique. As a consequence of a short time frame this report was dependent upon secondary data and therefore the results have not been validated within individual CAs. It also does not account for the valuation of natural capital or environmental services on the total economic value of the CA network. Should both these areas be developed further in the future, the real economic contribution of the CA network to Mozambique would be significantly higher than is presented.

2 Introduction to the Assignment

The Government of Mozambique (GoM) Ministry of Tourism's (MITUR) Trans-frontier Conservation Area (TFCA) Unit is in the process of concluding a World Bank Global Environment Facility (GEF)-funded second phase Transfrontier Conservation Areas and Tourism Development Project (TFCA TDP), and commencing a new phase: Mozambique Conservation Areas for Biodiversity and Sustainable Development Project (MOZBio). As a result, a number of consultancies have been approved to support the conclusion of TFCA TDP and the preparation for MOZBio. This report is a deliverable from one of these consultancies: a study on the Economic Potential of Conservation Areas in Mozambique (Study 16).

The objective of this assignment the Revenue Potential of Conservation Areas in Mozambique is to describe, (1) the real earning potential of each Conservation Area (CA), (2) their collective total financial contribution of the CA network to the economy of Mozambique, and (3) their capacity to be an income generating tool for the Government of Mozambique and the respective CA Management Authority. In this regard it establishes the Return-On-Investment for financial support for CAs in the country.

This study aims to assess the revenue potential of the overall park system, under the mandate of the National Administration of Conservation Areas (ANAC). The types of CA⁴s assessed include those that fall under MITUR:

- National Parks;
- National Reserves;
- Coutadas;
- Fazendas⁵;
- Community Reserves; and
- Other classifications (eg. Partial Marine Reserves, Ecological Parks, Biological Reserves)

Box 1: Difference between a protected area and a CA

Protected areas (PA) are reserves with a formal classification governed by the Mozambique Land Law (19/1997), Forests and Wildlife Law (10/1999) and the General Regulation for Maritime Fishing. These laws provide varying levels of protection for National Parks, National Reserves, Partial Marine and Biological Reserves, Coutadas and Forest Reserves. CAs (CA) includes the above protected areas as well as those not technically protected, such as community reserves and fazendas (private game farms). Therefore, this document will refer to CAs as an inclusive term rather than using PAs.

This study consists of four main sections:

⁴Note that Forest Reserves are not included here as they fall under the mandate of the Ministry of Agriculture (MINAG).

⁵Fazendas are currently under the mandate of DNTF (Direção Nacional de Terras e Floresta) but it is understood that this will be transferred to ANAC and therefore included in this analysis.

1. **Desk analysis of the economic conditions relating to tourism in Mozambique**, identifying the constraints to growth and development of CA as well as how the macro-level factors impact on the development of the tourism sector. The analysis also identifies macro-level opportunities to meet international and regional demand. It includes recommendations for tourism development in CAs supported under the TFCA TDP and proposed under the MOZBio project.
2. **Analysis of the revenue potential of CAs**, utilising a mixture of macro-level assessments and micro-level assessments for prioritised national parks (NPs) and national reserves (NRs) proposed by the MOZBio project. The analysis describes the current financial value of the CAs to Mozambique, their revenue generation in 2013 to (i) the economy, (ii) to the Government of Mozambique and CA Management Authorities, as well as (iii) respective CA communities. 15-year financial projections are developed for individual NPs and NRs as well as the overall CA network. Furthermore,²¹ financial scenarios are described and applied to the CA network. Recommendations are provided on particular CAs to prioritise for investment and how to maximise the revenue generation of the CA network as a whole. Specific recommendations are also provided for the development of the MOZBio Component 2: 'Promotion of Tourism in CAs'.
3. An **ex-post financial analysis of the TFCA TDP** and evaluation of the net present value (NPV) and economic rate of return (ERR) of the project.
4. A **financial analysis of the proposed MOZBio** project and evaluation of the net present value (NPV) and economic rate of return (ERR) of the project.

This document consists of the SECOND section of the Study 16 assignment: Analysis of the Revenue potential of CAs in Mozambique. Separate documents will be developed other sections as they are all targeted at different stakeholder groups.

The methodology that was used to determine the revenue potential of the CA network is made explicit so that ANAC/MITUR can replicate the process in the future. The excel worksheets that accompany this report will also be provided so that, as and when more data becomes available, the databases can be updated.

3 Methodology

This report utilises the WPCA (1998) Economic Values of Protected Areas: Guidelines for Protected Area Managers as its basis to develop the methodological framework. The purpose of the report is to determine stocks and flows within CAs that provide real revenue earning potential of the CA network, both in terms of (i) its contribution to the economy; and, (ii) as a revenue stream for ANAC. This report explicitly does not determine the natural capital (the stock) or the value of the environmental services (the flow), as this information is not currently available in Mozambique. In this regard the report provides a financial 'audit' of the value of infrastructure (the stocks) within CAs and the revenue generated by commercial direct use, where formal tradable markets exist, such as tourism, hunting, fishing and bushmeat (the flows). It does not include values where informal or irregular markets exist, such as informal grazing, firewood collection, or poaching.

It is crucial to note that the author acknowledges that this narrow approach substantially undervalues the true total economic value of the CA network. It was envisaged that this report would be complemented by an additional valuation of environmental services in support of the preparation of the MOZBio project, but due to time and financial constraints it was cancelled. This additional area of work remains of great value and importance to determining the total economic value of the CA network in Mozambique.

Therefore, this report represents a financial analysis of the potential of CAs in Mozambique. The valuation of environmental services, determined by the total use and non-values of CAs, is not calculated. The IUCN defines the distinction between economic valuation and financial analysis as follows (WPCA 1998:11):

- **Economic valuation**, based on economic value, measures market and non-market values that people hold for a protected area.
- **Financial analysis** is a subset of economic valuation and measures the flow only of money through a protected area.

This report adopts the framework of a financial analysis but also attempts to incorporate the stocks of capital infrastructural investment within the CAs. Section 4.4 provides a greater explanation of the categorization of the stocks and flows utilized in this analysis.

3.1 Method

Research for this report took place between 14th April and 21st August 2014. The methodology for the development of the report is described below. The methodology for Sections 3 and 4 (financial analyses of TFCA TDP and MOZBio) are provided in a separate document, as these are largely internal documents.

3.1.1 Preparation Phase

- An inception telephone meeting was conducted on Tuesday 15th April 2014 with Dr. Afonso Madope, Head of the TFCA Unit (MITUR), to clarify the terms of reference, the timeframes for deliverables and key stakeholders to consult.
- An inception visit was organised between 16th and 18th April in Maputo with identified key stakeholders to further clarify components of the TOR as well as collect relevant literature for desk analysis and the data on the revenues and costs of CAs in Mozambique. The results were documented in the Inception Report and annexed to this report (see Annex 9.3).
- A financial template was developed as a database for inputting historical and current financial data on the revenue streams and costs of the each CA. The design of the template was based on an initial analysis of information available from the following sources:

- (i) MITUR TFCA Unit Annual and Quarterly as well as the COSTAB database (a financial planning and monitoring tool of the project).
- (ii) World Bank mid-term review reports for TFCA TDP as well as Aide Memoires from World Bank supervision missions.
- (iii) An excel file of CAs Data – Working Info 2009-2010.xls provided by Nazerali, S.
- (iv) Key reports including:
 - Booth, V. (2012) Intermediate Working Paper on the Contribution of Tourism Hunting to the Economy in Mozambique, as well as background excel files that accompany the report.
 - Tua, J. and Nazerali, S. (2010) Assessment of Data on Both Sides of the Financing Equation for Mozambique’s Conservation Areas. Report prepared with support from UNDP.
 - McEwan (2005) Study of Economic Potential of Tourism in Mozambique
 - Moye, M. and Nazerali, S. (2010) Feasibility Study: Sustainable Financing of Protected Areas in Mozambique. Prepared with support from UNDP-GEF for Nature (WWF), Maputo, Mozambique.

3.1.2 *Desk analysis of the economic conditions relating to tourism in Mozambique*

- A review of available literature was conducted for the desk analysis, including consultancy reports and project documents from initiatives in Mozambique and from international analyses. A full list of materials cited can be found in the references section.
- Relevant stakeholders were contacted to provide additional material or clarifications on existing literature. A list of consulted stakeholders is provided in Annex 9.1.
- Analysis of the revenue potential of CAs
- Data from the existing literature was inputted into the financial database developed during the preparation phase. The database was checked with Sean Nazerali⁶ and Ivone Semente⁷ for approval. Gaps in the financial data as well as validity checks of data were conducted during a field visit to Maputo between 19th May and 28th May 2014. The results of the financial data available, its sources, as well as missing data is described in Table 11. A cut-off data for receiving data was applied on 13th June 2014 to allow sufficient time to conduct the analysis and write the report. A list of stakeholder consulted during the field visit and data collection phase provided in Annex 9.1.

⁶Consultant commissioned to develop the monitoring and evaluation system for ANAC.

⁷Monitoring and Evaluation specialist, TFCA Unit, MITUR.

- To determine the current revenue generation of the CA network the following approach was applied:
 - (i) The types of revenue currently generated by CAs was identified and documented (see Table 2);
 - (ii) Location of existing and missing information for specific CAs was documented (see Table 9, Table 10, Table 11);
 - (iii) Types of revenue sources accrue to specific Government departments as well as the process of distributions are documented. Where data was missing a number of economic assumptions were applied to the calculations are provided (see Table 8);
 - (iv) The current financial value, revenue generation of the CA network to both the economy and to the Government, as a revenue generating tool, as well as to the respective CA community were determined (see Table 16); and,
 - (v) The revenue accruing to Government was further broken-down by institution are provided (see Table 13).

- To determine which CAs in particular display the greatest potential for revenue generation and therefore should be prioritised for investment⁸:
 - (i) Two economic assumptions were applied to display trends, namely:
 - a. Growth of revenue sources would continue at an 8.74% rate of inflation (average Mozambique inflation rate between 2006 and 2013) for the 15-year period; and,
 - b. Registered NRs that currently are not generating income (ie. Magoe, Gile and Marromeu) will only begin receiving tourists in year 5, at which point they will follow a growth path similar to Zinave⁹.
 - (ii) All other factors were held constant and only manipulated during the development of future scenarios.
 - (iii) The results were projected over a 15-year period and documented (see Table 17).

- To determine under which future financial scenarios do the CA network pose their optimum revenue generating potential:
 - (i) The future revenue potential of the CAs was determined by applying 21 financial scenarios¹⁰. The types of variables chosen were those where the Government of Mozambique can directly influence, namely:

⁸This exercise makes recommends for prioritized investment sites based purely on a financial analysis. This should form a component of the decision-making process but should also be informed by other factors such as, level of biodiversity in a CA, the human-wildlife conflict levels, population levels within and bordering the CA, to name a few.

⁹Per Comms Sean Nazerali (13th June 2014)

- a. Number of tourists visiting NPs and NRs;
 - b. Entrance / activity fees for non-consumptive tourism;
 - c. Duration of visits of tourists to CAs;
 - d. Level and structure of concession fees for operators in NPs and NRs;
 - e. Level and structure of concession fees for operators in Coutadas;
 - f. Level and structure of DUAT license fees for Fazendas; and
 - g. Level and structure of abate tickets for hunting.
- (i) One could argue that the “number of tourists visiting” should not be included in this list because tourists determine which country they visit, not the Government. However, the Government could implement changes (i.e. Open skies access to low-cost airlines, improved road infrastructure, better promotion, improved visa processes) which would encourage more tourists to visit Mozambique. As these are critical factors in the desk analysis for improving the economic conditions for tourism in Mozambique, this variable is included in the analysis.
 - (ii) The result of the analysis are documented in Table 20 as well as the best (Table 21) and worst (Table 22) performing scenarios.
 - (iii) In addition, two separate worst-case scenarios were developed to display their effect on potential revenue generation of the CA network. Both scenarios were based on current potential challenges to consumptive and non-consumptive tourism in Mozambique (Table 24), namely:
 - (iv) The effects of political unrest occurring in central Mozambique, affecting tourism levels in Gorongosa NP, escalating and have a knock-on effect on tourism levels in the rest of Mozambique.
 - (v) A CITES ban on export of trophy species is applied to Mozambique.
- To determine which future revenue sources would generate revenue for the CA network:
 - (i) A list of future sources of revenue was compiled, based on research conducted by by Moye and Nazerali (2010), and updated on their current status in Mozambique;
 - (ii) A matrix was developed to compare and prioritise their respective level of development; and,
 - (iii) Detailed steps of what could be considered to develop these future revenue sources were provided.

¹⁰Proposed scenarios and variables were discussed in consultation with Sean Nazerali and Booth, V (27th May 2014)

3.1.3 *Documentation and reporting*

- Summaries of each of the previous sections were developed as well as elaboration on the following topics:
 - (i) The financial sustainability of the CA network; and,
 - (ii) The argument for financially supporting CAs.

- The draft report was completed and submitted to Dr. Afonso Madope on 30th June 2014.
- Comments on the draft report were received from André Rodrigues Aquino (World Bank), Vernon Booth (Consultant), Alexandra Jorge (BIOFUND) and Sean Nazerali (Consultant).
- Comments were addressed and incorporated into this final report, submitted to Dr. Afonso Madope on 22nd August 2014.

3.2 Limitations to the Research

The research was limited by:

- **The time period allowed to complete the research:** The original study was envisaged to begin in September 2013 and conclude at the end of June 2014. At that time, the TOR did not include the cost-benefit analyses of the TFCA TDP or MOZBio. However, the study was delayed whilst other preparation studies for MOZBio were conducted. When the study was commissioned in April 2014 the scope of work had increased with the two cost-benefit analyses, but the timeframes and level of effort had not been adjusted. The deadline remained the end of June 2014. Therefore, the process has had to be adjusted to utilise as much existing information as possible in order to deliver outputs on time. It was not possible therefore to collect primary data, so the study depended upon the:
 - Existing data from existing literature;
 - Data collected by other consultant studies currently taking place in the field; and
 - Development and explanation of a number of economic assumptions in order to fill data gaps.
- **No field visits to CAs to verify data:** Again, as time to complete the TOR was limited it was not possible to visit each CA (93 in total) to verify the collected data. Therefore, the data presented is secondary and has not been checked with each CA.
- **Validity of the data presented:** The validity of the data is dependent in the level of the data collection, the frequency of its collection and the capacity of those collecting data. As different CAs are managed by different organisations, the levels, frequency of data collection, and the quality of data differ significantly. In addition, the validity is also dependent on whether data presented in previous studies is based on real data findings or also based on assumptions or scenarios. This report has attempted to compare data from different CAs, but the validity of this approach is only assured where data sources are compatible.
- **Gaps in data remaining:** Significant gaps in real data still remain. Data on revenues sources missing from specific CAs is presented in Table 11.
- **Assumptions and scenarios:** The report is highly dependent on economic assumptions for the projected revenue generation of CAs. In addition, the development of the scenarios is dependent on the validity of the availability real data. Any errors in the available real data would be accentuated through the 15-year projections.

4 Revenue Potential of Conservation Areas in Mozambique

This section of the report assesses the revenue generation of the CAs in two types of revenue figures:

1. The total revenue generated within a CA; and,
2. The level of revenue that accrues to the Government and CA Management Authority¹¹ from the activity in a CA (i.e. a component of 1).

Each NP and NR is individually assessed, whilst assessing Coutadas, Fazendas and Community Reserves as collective entities. CAs referred to as “other classifications” (i.e., partial marine reserves, total protected zones, private wildlife sanctuaries etc.) are also assessed as a collective. The reason for the different approaches to assessing the CAs is that more information is available individually on NPs and NRs, whereas information on Coutadas, Fazendas and Community Reserves tends to be presented collectively within analyses of the overall hunting industry, for example. In addition, it was requested that individual assessments be conducted for NPs and NRs that are prioritised under the MOZBio project.

The objectives of this section of the report are to determine:

1. The types and value of revenue currently generated by CAs, identifying where current information exists and is missing in order to inform the monitoring system for MOZBio project;
2. The current financial contribution of the CA network to both the economy and to the Government, as a revenue generating tool;
3. Which CAs in particular display the greatest potential for revenue generation and therefore should be prioritised for investment¹²; and
4. Under which future financial scenarios do the CA networks pose their optimum revenue generating potential?

The methodological approach for this section is outlined in section 3.

4.1 Overview of CAs in Mozambique

The current system of CAs consists of 18.5million hectares (ha), which represents 23% of the country’s surface. Mozambique has over 5,500 plant species, 222 mammal species, and 600 bird species, with a high number of these species endemic to Mozambique (World Bank 2014:1-2).

At the time of writing this report, the CA network in Mozambique consists of seven National Parks¹³, of which two are coastal/marine protected areas (MPAs): Bazaruto National Park and Quirimbas National Park. The remaining five are terrestrial national parks: Banhine, Gorongosa, Limpopo, Magoe

¹¹The CA Management Authority refers to the entity that oversees the managerial operations of a specific CA. This could be MITUR or non-governmental organisation or other institution.

¹²This exercise makes recommends for prioritized investment sites based purely on a financial analysis. This should form a component of the decision-making process but should also be informed by other factors such as, level of biodiversity in a CA, the human-wildlife conflict levels, population levels within and bordering the CA, to name a few.

¹³The *Reserva Marinha Parcial da Ponta do Ouro* (67,800ha and 5km out to sea) was recently proclaimed (2009) as an MPA, bringing the total up to 7.

and Zinave. In addition to the National Parks there are six National Reserves: Gilé, Maputo Special Reserve, Marrromeu Special Reserve, Niassa, Chimanimani and Pomene. There are 16 *Coutadas* (hunting blocks) and 13 Forest Reserves.¹⁴ There are also 50 Fazendas (privately-owned game farms), which are included here that are currently under the mandate of National Directorate of Land and Forests (DNTF) but is proposed that these be transferred to ANAC. Although not formally protected areas there are two community reserves, Tchuma Tchato (sub-divided into 5 CAs) and Chipanje Chetu¹⁵. Finally, there are two partial marine reserves, two protection zones, one biological reserve, one ecological park and two private CAs. A summary of the CAs, their numbers and collective sizes are provided Table 1.

Table 1: Summary of CAs in Mozambique

| Designation | Number | Size (Ha) |
|--------------------------|---------------|-------------------|
| National Parks | 7 | 3,908,852 |
| National Reserves | 6 | 4,942,989 |
| Coutada Hunting Reserves | 16 | 6,133,300 |
| Fazendas | 50 | 579,125 |
| Community Reserves | 6 | 1,767,400 |
| Other classifications | 8 | 1,237,405 |
| Total | 93 | 18,569,071 |

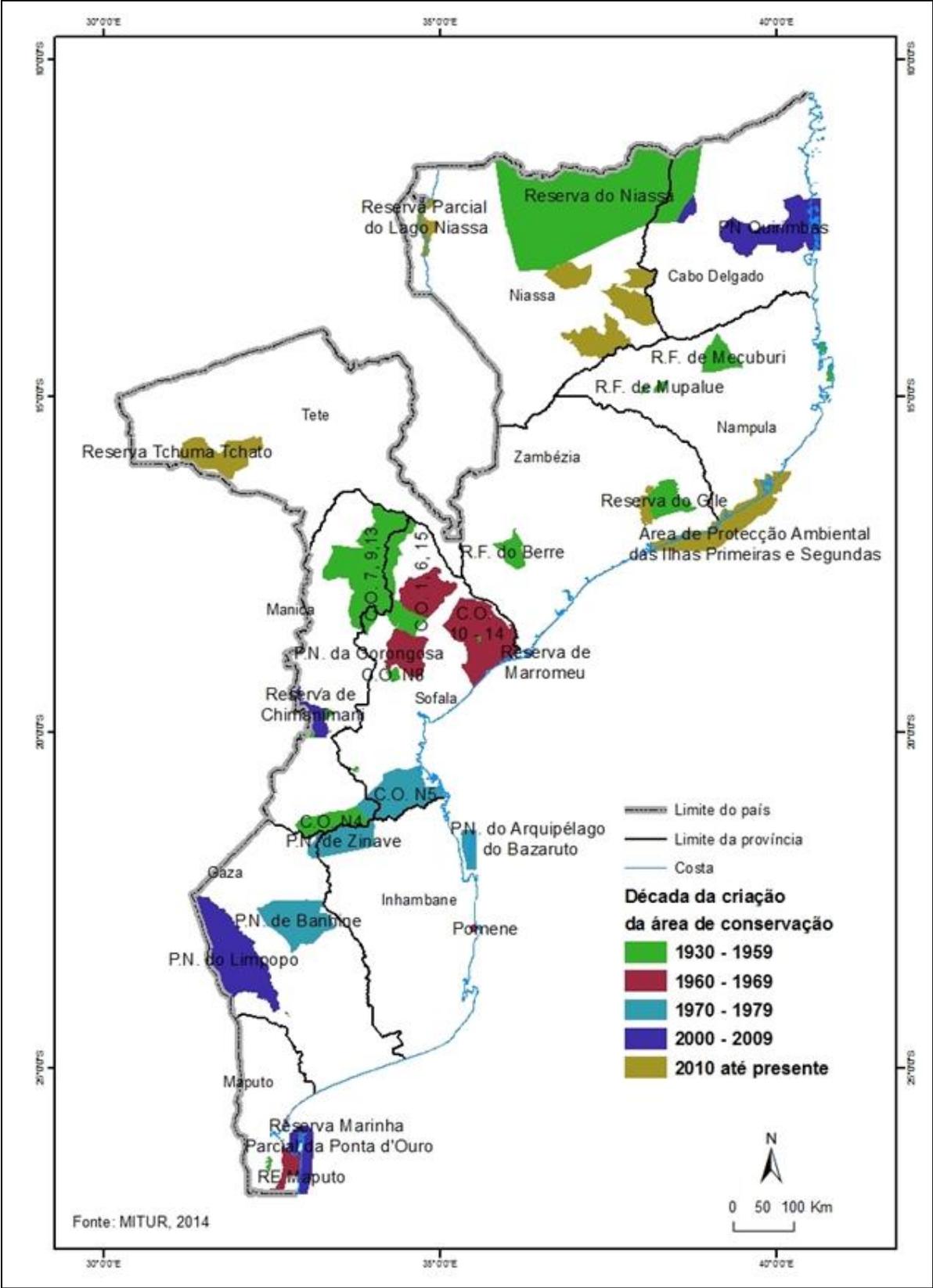
A full list of CAs, their legal designation, habitat, size and managing agency is provided in Annex 1¹⁶. It should be noted that not all of the CAs will be economically active, with some enterprises awaiting licences (i.e. Special Licences), and some will be non-income generating CAs. A map identifying the location of the land-based National Parks, National Reserves, Coutadas and Fazendas in Mozambique is provided below:

¹⁴UNDP (undated) Sustainable Financing of the Protected Area System in Mozambique (pg.10)

¹⁵ Forest reserves (total size of 528,907 ha) are also considered protected areas but are not included within this summary as they fall within the mandate of the Ministry of Agriculture (MINAG).

¹⁶List provided by Sean Nazerali (17/04/2014)

Figure 1: Location of NPs, NRs and Coutadas in Mozambique



Source: cited in Nazerali, S (2014)

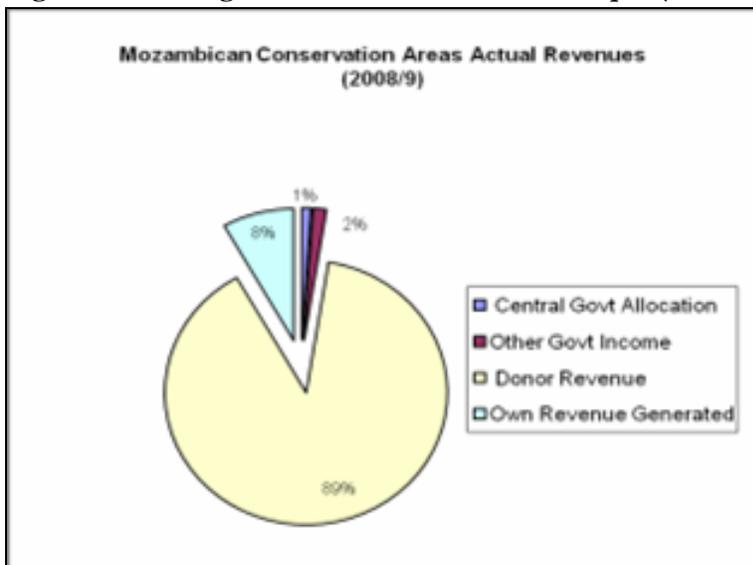
4.2 Current funding of CAs in Mozambique

In 2008/9 CAs were funded primarily from four sources:

1. Annual government budget allocation;
2. Other government allocation, including special grants;
3. Internal revenue generating activities, such as tourism; and
4. Donor funding provided by development partners.

The figure below displays the proportion of funding streams provided by these four sources. This demonstrates that the vast majority of current funding is from donors (89%).

Figure 2: Funding sources for CAs in Mozambique (2008/9)



Source: UNDP (undated: 26)

4.3 Explanation of Revenue Sources

Moye and Nazerali (2010) provide an evaluation of the current viability of potential future revenue streams for funding CAs. A summary of their findings, updated with results from more recent research, is provided below. The types of current revenue streams described by Moye and Nazerali (2010) are grouped as follows and described below:

- Central Government Allocation including other Government Allocation
- Internal Revenue Generation
- Donor Revenue

4.3.1 Central Government Allocation including other Government Allocation

Moye and Nazerali (2010) report that “there are no central statistics on public expenditure for CAs since the government accounts provide information by ministry, but not by project (except for donor funding), making it difficult to account for spending specifically on CAs” (2010:3). However, an estimate by Tua and Nazerali (2010) calculated the annual budget support for operational expenses of CAs was USD153,094 in 2010, which represented only 1% of total revenue requirements for CAs (Moye and Nazerali 2010:3). It is worth noting that the above number is an underestimation and requires updating (Pers. Com. Nazerali 2014).

UNDP state that “Government revenue allocations consist of direct government budget support, public taxes, fees and fines, revenue sharing with communities and debt relief. The government contributes general budget support for operational expenses in CAs through the provincial directorates of MITUR and the Provincial Governments” (undated: 26). Salaries of staff working in CAs are generally paid by provincial government offices or by the non-governmental organisations (NGOs) operating within or partnering with the CA.

4.3.2 Internal Revenue Generation

The four main types of income generation sources for CAs include (Booth 2012:49):

- 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 nature-based tourism concessions; and,
- Income from fines and auction sales of confiscated goods (predominantly timber).

A breakdown of type of revenue that are generated within NPs, NRs, Coutadas, Fazendas and Community Reserves is provided in the table below:

Table 2: Categorisation of Revenue Type Generated in CAs

| Type of Revenue | NP | NR | Coutadas | Fazendas | Community Reserves |
|---|----|----|----------|----------|--------------------|
| Revenue Generated within the CA | | | | | |
| Private Investment (infrastructure) | X | X | X | X | X |
| CA Infrastructure | X | X | X | X | X |
| Private Sector revenue generation (Proxy used: Total tourist spend in CA) | X | X | X | X | X |
| Direct Employment (CA Staff) | X | X | X | X | X |
| Value of Direct Employment | X | X | X | X | X |
| Value of Indirect employment (Multiplier) | X | X | X | X | X |
| | | | | | |
| Other economic activities: | | | | | |
| Bushmeat | | | X | X | X |

| | | | | | |
|---------------------------------------|---|---|---|---|---|
| Agro-forestry | | | | | |
| Fishing | X | X | | | |
| Revenue accruing to Government | | | | | |
| Concession Fee and Special Licences | X | X | X | | X |
| Land use fee (DUATs) | X | | | X | |
| Abate Tickets | | | X | | X |
| Tourism entrance fees | X | X | | | |
| Firearms and Ammunitions | | | X | X | X |
| CITES Certificates | | | X | X | X |
| Other licences, taxes, fines and fees | X | X | X | X | X |
| Professional Hunter Licences | | | X | X | X |
| Tourist hunting licence | | | X | X | X |
| Income tax payment by operators | X | X | X | X | X |

It is worth clarifying the difference between a concession, special license and Direito de Uso e Aproveitamento da Terra (DUATs). The definitions of each are provided below (Casimiro and Spenceley 2012):

- **Concession:** Commercial operation governed by a private entity, by an NGO or other not-for-profit organization, by a local government, or by a Park Agency’s employees. A concession provides public service and may require some capital investment by a concessionaire for buildings, equipment and operating costs. A concession could provide accommodation, food and beverage, recreation, education, retail, and interpretive services (Eagles et al, 2009).
- **Special License:** According to the Land legislation, it is a license issued (by the competent sectoral authority) for the performance of economical activities in protected areas. The equivalent of an operational license with conservation requirements attached.
- **DUAT:** Land legislation defines the DUAT as a titled or customary right to use and develop the land (according to an exploration plan). Property rights include (minor) rights: to (exclusively) own, possess, use, benefit from assets and resources.

Furthermore, DUATs are present within Bazaruto NP, which is uncommon for NPs as generally operators receive concessions and special licences. The GoM is in the process of converting all DUATs in Bazaruto to special licences.

4.3.3 Internal Revenue Generation

As an overview, in 2008, tourism revenues from CAs were USD 1.26 million (DNAC 2010 cited in Moyes & Nazerali 2010:4). However, Moyes & Nazerali (2010) cite a number of challenges to the fee allocation and collection system within CAs but two are the most notable:

- **Monitoring systems:** “There are 29 different fees... no CA is systematically collecting and recording” their revenue generating, making it extremely difficult to accurately calculate the financial position of each CA (2010:5); and,
- **Setting fee levels:** Concession fees are “set on a per hectare basis, regardless of whether the site is prime beachfront” and tourism entrance fees do not reflect the demand for site as “no

willingness to pay surveys have been carried out” (2010:6). In order to maximize the revenue generation potential of CAs fees need to set relatively high for areas of increased demand and less in areas of lower visitation in order to encourage more tourists. A review of the pricing structure could have a significant impact on the revenue generation of CAs.

The most recently and regularly collected data collected on the revenue generation of CAs is provided by the MITUR Department for Planning and Monitoring. Table 3 below displays the revenue received to MITUR from Coutadas and National Parks as well as specific National Reserves in Mozambique between 2005 and 2013.

Table 3: Revenue (in MZN) generated directly by CAs in Mozambique and received by MITUR (2005-2013)

| CA | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Total (2005-2015) |
|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| Coutadas * | 9,661,232 | 13,047,203 | 11,617,232 | 14,078,460 | 21,342,545 | 16,936,137 | 12,692,073 | 9,017,466 | 44,914,620 | 153,306,968 |
| PN Limpopo | 0 | 1,442,450 | 2,696,275 | 4,873,490 | 7,963,330 | 7,066,925 | 9,760,680 | 7,399,131 | 5,975,060 | 47,177,341 |
| PN Banhine | 0 | 0 | 0 | 0 | 3,200 | 25,559 | 9,065 | 20,832 | 0 | 58,656 |
| PN Zinave | 0 | 0 | 0 | 0 | 13,925 | 44,900 | 30,884 | 18,000 | 37,600 | 145,309 |
| PN Gorongosa | 120,000 | 832,800 | 1,772,479 | 743,352 | 568,515 | 1,324,446 | 1,883,677 | 1,100,345 | 1,121,865 | 9,467,479 |
| PN Bazaruto | 2,555,928 | 2,999,476 | 1,206,339 | 3,204,006 | 1,486,040 | 5,172,425 | 4,551,409 | 5,557,447 | 5,517,472 | 32,250,542 |
| PN Quirimbas | 167,000 | 310,032 | 595,830 | 1,897,900 | 1,445,004 | 2,594,844 | 3,133,298 | 1,699,468 | 6,496,623 | 18,339,998 |
| RNNiassa | | | | | | | | | 8,265,836 | 8,265,836 |
| RNPomene | | | | | | | 205,600 | 40,125 | 21,600 | 267,325 |
| REChimanimani | 0 | 0 | 0 | 42,670 | 25,737 | 39,100 | 104,825 | 52,125 | 27,350 | 291,807 |
| REMaputo | 776,287 | 1,096,672 | 1,842,930 | 1,454,717 | 1,821,383 | 3,052,652 | 2,851,450 | 2,085,815 | 4,097,074 | 19,078,979 |
| Total | 13,280,447 | 19,728,633 | 19,731,085 | 26,294,595 | 34,669,678 | 36,256,988 | 35,222,961 | 26,990,754 | 76,475,099 | 288,650,239 |

Sources: DNAC/MITUR (2014) INDICADORES DE REFERÊNCIA NA ÁREA DO TURISMO 2004-2013 (2014:5)

The total revenue generated within the CA network and received by MITUR (2014) in 2013 was nearly MZN 76.5 million (USD 2.85 million). NPs and NRs contributed 41% (USD 1.18 million) to this figure and Coutadas the remaining 59% (USD 1.67 million). However, the revenue generation of Coutadas increased by nearly 500% between 2012 and 2013, which is explained further in Table 4. Finally, the total revenue generation of the CA network, which is received by MITUR, between 2005 and 2013 is USD 10.8 million.

The above table is complex and requires clarification. Information from Fazendas is missing as currently they report to DNTF. The table below provides some clarifications of particular CAs where additional clarification is required as initial figures can be misleading:

Table 4: Clarification of nationally reported figures of revenue generation by some CAs¹⁷

| Criteria or CA | Clarification |
|-------------------------------------|--|
| Coutadas | Figures consist of concession fees for Coutadas, the abate tickets and hunting licenses (guide, professional and tourist) for Coutadas and hunting blocks within Niassa National Reserve. Fees collected from Coutadas increased by nearly 500% between 2012 and 2013. This is accounted for by the increasing of the price of licenses and abates tickets (applied in 2013) as well as the commencement of a number of new Coutadas. |
| Entrance Fees | The price of entrance fees to National Parks and Reserves doubled in 2013, which accounts for significant increases in reported revenue in specific CAs. The last price increase occurred in 2003. |
| Concession and Special License Fees | The price of per hectare concession fees within National Parks and Reserves doubled in 2013, which is also considered within the revenue increases of CAs between 2012 and 2013. |
| Chimanmani | Chimanmani experienced a 50% fall in revenue in 2013, compared to the previous year. The political unrest in the area largely accounts for this decrease. Accounting for the increase in price of entrance fees, the visitor numbers in 2013 were 26% the levels of the previous year. |
| Pomene | Pomene experienced a 50% reduction in revenue in 2013, compared to the previous year. It is predicted that tourists used to drive through the Reserve, where they purchased entrance tickets, to reach the beach. However, an alternative route is now being used that bypasses the Reserve revenue collection point. |
| Fazendas | DUAT licence fees and abate tickets are not captured for Fazendas in this table because, at present, Fazendas are under the mandate of DNTF of the Ministry of Agriculture (MINAG). |
| Niassa | Revenue from Niassa is only reported in 2013. |

Further detailed assessment of the revenue generation internally by CAs requires the subdivision of CAs into non-consumptive (photographic) and consumptive (hunting) tourism areas:

(i) Non-consumptive tourism

The process of how revenue is earned and distributed within non-consumptive tourism CAs is that 100% of entrance fees and concession fees are declared to the Ministry of Finance (under the introduction of Decree No15/2009 of April 14). 80% of which is then returned to the income-generating CA. 20% of that 80% is transferred to the neighbouring communities (i.e. equating of 16% of the original total). In addition to receiving 16% of income earned by CAs, communities also receive benefits directly from employment in tourism establishment, and indirectly through the development of local businesses supplying tourism operations (Moye & Nazerali 2010:7). In 2013, the declared revenue generation of non-consumptive tourism CAs totalled MZN31.56 million (USD 1.18 million¹⁸).

¹⁷Per comms: Cidalia Mahumane: Department of Planning and Monitoring: MITUR (26 May 2014).

¹⁸Converted by average rate of exchange (2006-2013) 26.80 MZN to USD 1.

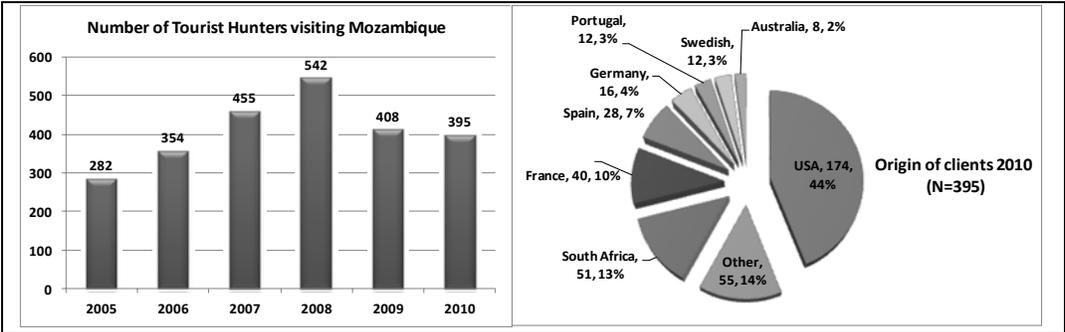
However, there have been problems historically of transferring the remaining 16% to communities as there are a number of conditions for receiving funds, including the provision of bank accounts for community associations (Moye & Nazerali 2010).

(ii) Consumptive tourism

Revenue generation from sports hunting is regulated by the Forest and Wildlife Law and Regulations (Law No 10/99 and Decree No 12/2002) and is permitted with legally-recognised hunting areas (coutadas), privately-owned game farms (fazendas), hunting blocks in the Niassa National Reserve and within two community reserves: Chipanje Chetu and Tchuma Tchato (Moye & Nazerali 2010:7). Foreigners are permitted to hunt in the mentioned areas, whereas Mozambique nationals may also conduct hunting activities in multiple use zones upon acquiring a licence (Moye & Nazerali 2010:8). In 2013, the declared revenue generation of consumptive tourism CAs (excluding Fazendas) totalled MZN 44.91 million (USD 2.85 million).

The figure below displays that between 2005 and 2010, on average, 406 tourists participated in hunting tourism, of whom 44% (in 2010) were from the United States of America. In comparison with South Africa (approx. 7000) and Tanzania (approx. 1200) the Mozambique market is relatively small (Booth 2012:39).

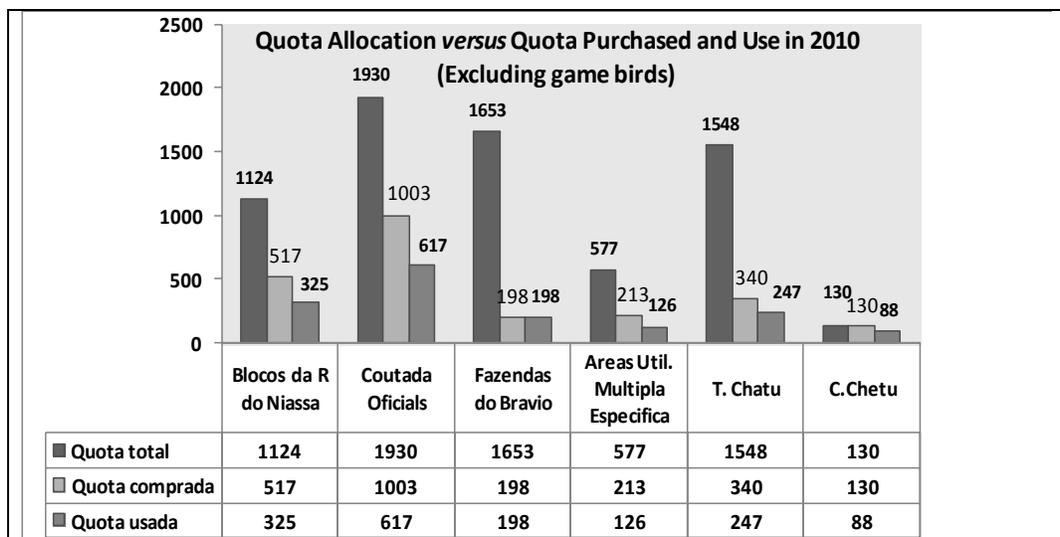
Figure 3: Volume and Nationality of Hunting Tourism Market in Mozambique (2005-2010)



Source: MITUR cited in Booth (2012:39)

Booth (2012: 39) states that in 2010, approximately 34% of the hunting quota made available by the government was purchased but only 23% of animals were utilized. The total value of abate ticket sales of animals was 43% of the total value of the overall quota in 2010 (Booth 2012:45). The figure below compares the results of quota allocation, purchase and use in 2010 across the Cotuadas, fazendas, community reserves, multiple-use areas and hunting blocks around Niassa NR.

Figure 4: Comparison of Hunting Quota Allocation, Purchase and Use in 2010



Source: MITUR cited in Booth (2012:41).

The types of revenue directly generated by the sports hunting industry 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).

Box 2: Hunting industry revenue streams collected by government departments

Booth (2012:45) states that “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)”.

This illustrates the complexity of revenue streams resulting back to government departments. Data is also incomplete on a provincial level.

In 2005 MITUR introduced regulations (Ministerial Diploma No 93/2005 of May 4) requiring 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 (Booth 2012:47). However, it is not clear whether communities also receive 20% from the concession fees paid by the Coutada operator. DUAT licence fees go directly to the Land Registry within the MINAG¹⁹ but no proportion of these fees are redistributed to the neighbouring communities.

Explanation of Fazendas

Fazendas are privately owned game farms that are permitted to apply for a Direito de Uso e Aproveitamento da Terra (DUAT) or a Mozambican state-granted land right and single form of land tenure. An operator applies for a DUAT based on an investment plan. Temporary DUATs are approved for two years, in the case of a foreign investor, or five years for a domestic investor. If the operator conforms to their investment plan during the initial period they are then extended for a 50-year lease period. 90 days after the initial approval of the temporary DUAT the operator must submit a wildlife management plan. The ongoing performance of the operator is judged against their commitments in their management plan²⁰. All of the Fazendas currently registered (50 in total) are not more than 10,000 hectares, as the approval of DUATs greater than 10,000 hectares requires approval from the Council of Ministers, which can be complex and time-consuming²¹.

The land price (DUAT) is associated with two types of fees – authorization and annual fees. The annual fees, updated in 2012, for the repopulation of game (wildlife breeding) is 5MT/ha multiplied by complex formula for adjustments. Adjustments consist of location, size, purpose of use and nationality of the operator (ACIS 2012:48-49). In reality the annual fee ranges from 25,000MT at the low end and 50,000 MT at the high end for an average 10,000ha fazenda²². The revenue from DUATs accrues to the land department and fees from abate tickets goes to MITUR. Although MINAG is currently responsible for administrating fazendas there is no data collected by MINAG on the financial performance of the fazendas or how many jobs they actually create.

Changes in fee structures for CAs

In 2012, the level of fees applied to CA activities changed in Mozambique, which account for the dramatic rise in generated revenue shown in Table 3. The table below provides further clarification on the changes in fees experienced in CAs:

Table 5: Changes in fee structures for CAs

| Type of Fees | Previous Value (MZN) | Date Implemented | New Value (MZN) | Date Implemented |
|--|----------------------|-----------------------|-----------------|------------------------|
| Tourism Entrance Fee ²³ : Adult International | 200 | 2003 (Decree 27/2003) | 400 | 2013 (Decree 204/2012) |
| Tourism Entrance Fee: | 100 | 2004 (Decree 27/2003) | 200 | 2013 (Decree |

¹⁹Per comms: Sean Nazerali 28 May 2014.

²⁰Per comms: Marcelino Foloma (DNTEF) 26 May 2014.

²¹Per comms: Marcelino Foloma (DNTEF) 26 May 2014.

²²Per comms: Sean Nazerali 28 May 2014.

²³Note that the entrance fees are charged per person, per entrance, and not for a specific period of time or in relation to the number of vehicles.

| | | | | |
|--|------|--|------|---------------------------|
| Adult National | | | | 204/2012) |
| Concession Fee (per ha) – NP and NR Operator (Tourism) | 1000 | 2005 (Decree 27/2003) | 2000 | 2013 (Decree 204/2012) |
| DUAT price | 2 | 1998 (Land Law Regulations Decree 66/98) | 5 | 2012 |

Source: Per comms Sean Nazerali (13/06/2014) and Government of Mozambique (2012) *Taxas Novas nos Parques*: Ministerial Decree 204-2012.

Table 5 above shows that fees have remained constant for ten years before effectively being doubled. Furthermore, the concession fees for Coutadas do not change systematically but are individually reviewed at the end of each contract.

Table 6 below displays the changes in abate ticket prices between 2007 and 2014.

Table 6: Changes in abate ticket fees between 2007 and 2014 (MZN)

| Species | 2007 | 2011 | % Change (07-11) | 2014 | % Change (11-14) |
|------------|---------|--------|---------------------|-------------|------------------|
| Buffalo | 7,500 | 15000 | 100% | 30,000 | 100% |
| Reedbuck | 2,000 | 2,000 | 0% | 9,000 | 350% |
| Wildebeest | 3,000 | 5,000 | 67% | 24,000 | 380% |
| Crocodile | 3,500 | 3,500 | 0% | 22,500 | 543% |
| Kudu | 5,000 | 10,000 | 100% | 27,000 | 170% |
| Eland | 6,000 | 12,000 | 100% | 30,000 | 150% |
| Elephant | 100,000 | 120000 | 20% | 27,000 0 | 125% |
| Hartebeest | 5,000 | 5,000 | 0% | 18,000 | 260% |
| Hippo | 11,000 | 11,000 | 0% | 30,000 | 173% |
| Bushbuck | 1,500 | 1,500 | 0% | 9,000 | 500% |
| Impala | 1,500 | 1,500 | 0% | 7,500 | 400% |
| Waterbuck | 6,000 | 6,000 | 0% | 18,000 | 200% |
| Lion | 15,000 | 15000 | 0% | 10500 0 | 600% |
| Leopard | 17,000 | 17000 | 0% | 60000 | 253% |
| Sable | 9,000 | 9,000 | 0% | 30,000 | 233% |

| | | | | | |
|-------|--------|--------|----|--------|------|
| Zebra | 13,000 | 13,000 | 0% | 27,000 | 108% |
|-------|--------|--------|----|--------|------|

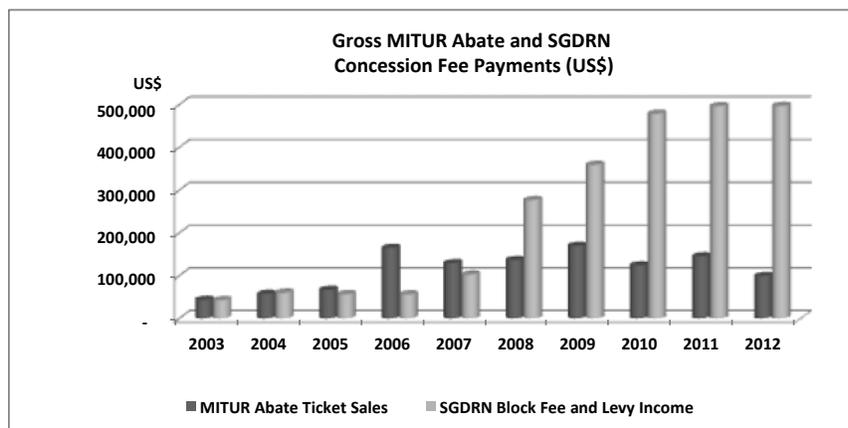
Sources: Lamarque & Mangane (2007), Booth (2012) and Booth (2014)

The prices displayed above for 2011 did not change until 2014. However, as an indication the price for a buffalo increased by 300%, elephant (170%), lion (600%) crocodile (543%) and leopard (253%) between 2007 and 2014.

Box 3: Niassa National Reserve Model

Niassa represents a unique case that is difficult to categorise as it operates both consumptive and non-consumptive tourism products as well under a different management model than other CAs. In 2012, Niassa National Reserve, then under contract with Sociedade para a Gestão e Desenvolvimento da Reserva do Niassa (SGDRN), a private entity, recovered USD328,526 in annual concession fees from 9 hunting blocks (USD11.74km²) as well as negotiating three contracts with photographic management units equating to USD 120,000 per annum (USD10.31 per km²) (Booth 2012). Therefore, in 2012, SGDRN recovered revenue of USD 448,526 (Booth 2012:44) effectively doubling the per km² value of other CAs. SGDRN had an agreement with MITUR whereby it retained 100% of concession fees and levies in order to encourage it to become self-financing. In 2012 the contract between SGDRN and the Government of Mozambique ended and the “SGDRN” model was replaced with the same model applied in other NPs and NRs (i.e. co-management). Niassa NR is now managed by the Wildlife Conservation Society (WCS).

The graph below displays the performance of SGDRN managed NNR hunting concessions between 2003 and 2013:



Source: Booth (2012) Summary of Economic Impact of Investment in NNR 2012 (Excel sheet)

4.3.4 Donor Funding

Donor funding accounts for 80% of current revenue generation by CAs. The estimated value of donor support to conservation for 2010 equated to USD 22 million, representing 16% of total foreign aid to Mozambique (Moye and Nazerali 2010:10). A full list of donor support to CA was provided in Annex 5 of Moye and Nazerali (2010:50). Whilst it is in the revenue section of the report it should not be

considered a current market-based revenue stream for CAs to become financially self-sustainable. Instead it should be considered as stop-gap budget support measure until the particular CA becomes financially self-sustainable.

Funding from donor organisations to CAs is not considered in this analysis for the following reasons:

- Donor support is unsustainable as funding is often only available within project-life cycles;
- Donors do not consider their development assistance capital as a revenue streams but as a stop-gap mechanism to strengthen the future potential of a CA;
- It would create a dependence of the CAs on NGOs and donor organisations. Should the donor organisation withdraw the CA would collapse;
- Donors are increasingly looking for “Value for Money” or an Economic Rate of Return on their investment. CAs that do not at least aim to become market-revenue generators represent high risk and are less likely to receive support; and,
- Encouraging CAs to operate like businesses, offering products that match the market, is fundamental to trying to maximise the revenue potential of the CA network.

4.4 Summary of categorisation and distribution of tourism-linked revenue streams

Based on the above, the following summary is provided to describe which types and proportions of revenue generated (linked to tourism-based activities) within a CA accrues to which stakeholder. This forms the basis for how the analysis categorises the revenue data for non-consumptive (photographic) and consumptive (hunting) tourism.

4.4.1 Non-consumptive tourism

Investment and revenue generated within CAs that promote non-consumptive tourism, such as NPs and NRs (with the exception of NNR):

- Value of infrastructure investment: Private sector (i.e. lodges) and Park Authority (i.e. roads);
- Revenue generated from tourism activities: Tourism entrance fees as well as tourist expenditure locally on products and services (i.e. accommodation, food and beverages, activities) within the CAs: a proxy for revenue generated by the private sector operating within the CA;
- Value of direct and indirect employment of CA staff (e.g. rangers) and private sector staff (e.g. waiters)²⁴;
- The 64% of tourism entrance and concession fees returned to the CA; and,
- The 16% of tourism entrance and concession fees returned to the communities.

A component of the above is revenue generated within the CA, which accrues to the central Government departments from CAs promoting non-consumptive tourism in the following forms:

²⁴Direct employment are those employed directly within the CAs as conservation or hotel staff. Indirect employment are the jobs created as a result of the revenue generated in the local economy from tourism (ie, shop keeper or bus driver). They may not necessarily service the tourism industry directly but their job is a result of the increased financial flows generated locally.

- 20% of tourism entrance and concession fees generated by the CA;
- Fees for licences (i.e. diving or boat licence) and fines paid by tourists and private operators; and,
- Income tax of employees, company tax (32% of profits) and value added tax (VAT) paid by private operators.

4.4.2 *Consumptive tourism*

Investment and revenue generated within CAs that promote consumptive tourism, such as Coutadas, Fazendas, NNR hunting blocks and Community Reserves:

- Value of infrastructure investment: Private sector (i.e. hunting camps, road construction);
- Revenue generated from tourism activities: Tourist expenditure locally on products and services (i.e. accommodation, food and beverages, activities) within the CAs: a proxy for revenue generated by the private sector operating within the CA, as well as trophy fees;
- Value of direct and indirect employment of private sector staff (i.e. guides)²⁵; and,
- The 20% of abate tickets is returned to the communities (Booth 2012:47).

A component of the above is revenue generated within the CA, which accrues to the central Government departments from CAs promoting consumptive tourism in the following forms:

- 100% of concession fees generated by the CA (with the exception of NNR where 100% was retained by the co-management partner during the agreement with SGDRN);
- 80% of abate tickets retained;
- Fees for licences (i.e. hunting licences, firearms), CITES Certificates and fines paid by tourists and private operators; and,
- Income tax of employees, company tax (32% of profits) and value added tax (VAT) paid by private operators.

It is worth noting that the value of economic activities surrounding each CA is not captured for two reasons: firstly, little information exists on these economic activities and were not collected during the TFCA TDP; and secondly, it is difficult to distinguish which economic activities in which CA can be plausibly attributed to the CA. One could argue that there is a strong case for Bazaruto, Ponta do Ouro and Vilanculos. Therefore, this study has preferred to remain conservative in its estimates and the results should be considered in this context.

4.5 *Framework for Determining Values within the CA network*

The methodological approach utilises the WPCA (1998) Economic Values of Protected Areas: Guidelines for Protected Area Managers as its basis. It categorizes, for the purposes of the report, the value of infrastructure within CAs as the **stock** and the revenue generation from commercial direct use value, where formal tradable markets exist, such as tourism, hunting, fishing and bushmeat, as the

²⁵Direct employment are those employed directly within the CAs as conservation or hotel staff. Indirect employment are the jobs created as a result of the revenue generated in the local economy from tourism (ie, shop keeper or bus driver). They may not necessarily service the tourism industry directly but their job is a result of the increased financial flows generated locally.

flows. It does not include values where informal or regular markets exist, such as informal grazing, firewood collection, or poaching. Table 7 categorizes the capital stock (public and private investment) that is sunk in a CA and the flows of revenue that is generated annually as a result of the CA and its activities. Table 7 below illustrates the breakdown provided in Section 4.4.

Table 7: Categorisation of Financial Stocks and Flows with a CA (tourism-linked activities)

| STOCK | FLOW | |
|-------------------------------|--|--|
| | Non-Consumptive Tourism | Consumptive Tourism |
| Private Capital Investment | Concession Fees | Concession Fees |
| Park Authority Infrastructure | Entrance Fees | Entrance Fees |
| | Revenue generated by tourism operators | Revenue generated by tourism operators |
| | Revenue generation local tourism-linked businesses | Revenue generation local tourism-linked businesses |
| | Employment of CA staff | Abate Tickets |
| | | Additional licenses and certificates |

4.6 The current financial contribution of the CA network to the Mozambique economy

Based on the types of revenue generated, the current financial contributions (year 2013) for all CAs were determined. Individual assessments were conducted for all NPs and NRs and collective assessments were conducted for Coutadas, Fazendas and Community Reserves as well as CAs from other classifications. Real data was inputted where possible for years 2008 to 2013 within an accompanying excel worksheet (displayed in yellow cells).

For each CA where real data was not complete for all years an increase or reduction per year based on the average rate of inflation was implemented. Where real data was not available in any year for a CA revenue type, estimates were based on CAs of similar type and size. The assumptions were checked and verified based on interviews with Sean Nazerali and Dr Anna Spenceley.

In addition, the accompanying excel workshop was developed so that where more real data becomes available it can be inputted directly into the relevant CA datasheet. The analysis pages of the document will then automatically update. However, this reports presents the findings based on data available on 17th June 2014.

This section of the report provides the following calculations for the year 2013:

- The total financial value of the CA network;
- The total revenue generated within the CA network;

- The total revenue accruing to the Government of Mozambique as well as the CA Management Authority; and,
- The revenue accruing to the respective CA community.

The calculations assume that all revenue due to the respective CA communities is distributed on time and in their entirety, which is often not the case in practice. The table below provides greater clarification of the types of revenue that form the components of each calculation as well as their associated assumptions and clarifications.

Table 8: Applied Assumptions to determine Financial Calculations

| Totals for each CA | Component of Revenue Type | Assumptions and Clarifications |
|---|--|--|
| Financial value of the CA | Capital Investment Gross Revenue Generated by Private Operators Jobs (Conservation and Private Sector (PS)) Direct and Indirect Entrance fees, concession fees, licences and fines accruing generated by Conservation Area Management | Assumes that Private Sector (PS) revenue is determined by multiplying the number of bed nights by average daily spend. Value of PS employment is not counted as it is assumed to be counted within PS gross revenue. The values of natural resource harvesting are not included here as the data is only available on a sporadic basis and is too complex to apply across all CAs. |
| Revenue generated within the CA | Gross revenue generated by the private operators Entrance fees, concession fees, licences and fines accruing generated by Conservation Area Management | Assumed that the value of private jobs are included within Private Operator revenue. Value of CA Staff jobs not included, as paid from government or NGO budgets. Not a revenue source. |
| Revenue accruing to the Government and Conservation Area Management Authority | Total revenue received by government departments or the Conservation Area Management, minus the 16% returned to the Community | Figure 5 provides a structure for distribution of received revenue to Government authorities and communities. Corporate, income and employee taxes are not counted here as no data is available on the taxable income of tourism operators. There is no available information on fines and permits, with the exception of Ponta do Ouro partial marine reserve. |
| Revenue accruing to the respective communities | 16% of Concession and tourism entrance fees | |

Figure 5 provides an illustration of the process described above in Table 8 for a CA with non-consumptive tourism. It does not include income and company taxes as well as VAT. The purpose of

the diagram is to show what proportions of generated revenue is received by the communities and the CA Authority and/or ANAC.

Figure 5: Illustration of the Clarifications outlined in Table 8 for a NP or NR

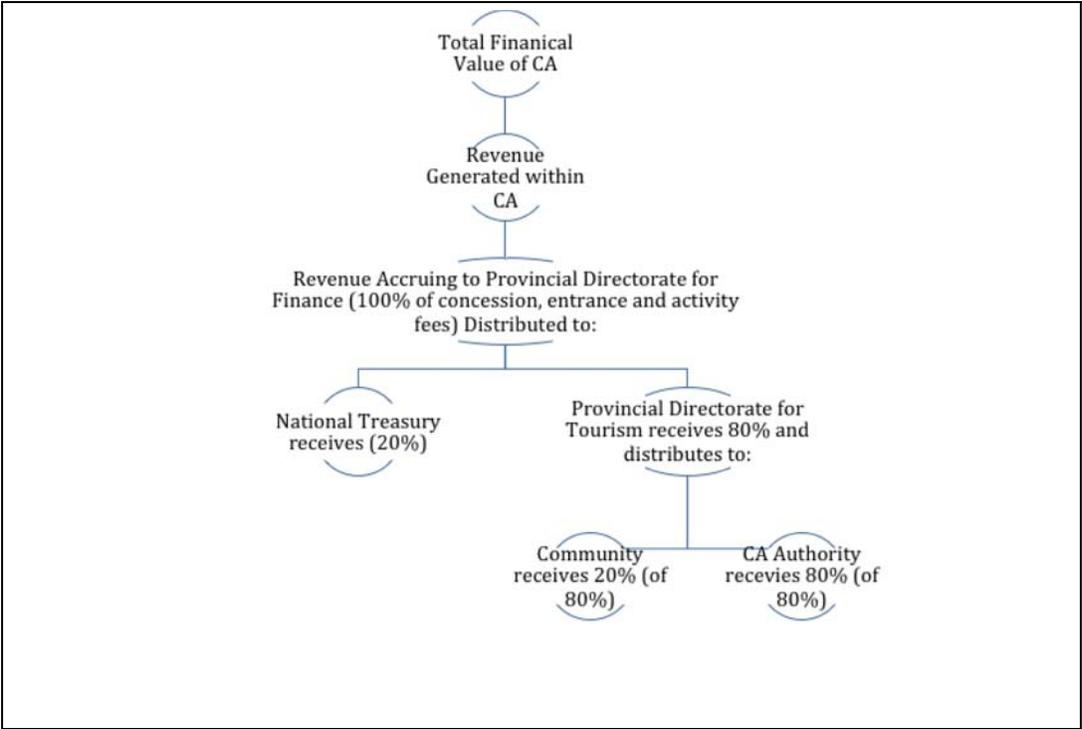


Figure 5 displays that the revenue generated within a CA (flow) is a subset of its total financial value (stock and flow). Revenue that accrues to the Government (a sub-set of total revenue generated) first goes directly to the Provincial Directorates of the Ministry of Finance, who distributes 20% to the National Treasury and 80% to the Provincial Directorate of Tourism. The Directorate of Tourism then returns 64% (80% of the 80%) to the CA Authority and 16% (20% of the 80%) to the respective CA community. This means that the CAs receives 64% of the total accruing to government authorities (Per. Coms. Nazerali, 2014). However, there are flaws and delays in the process, which mean that the CA Authorities and communities do not receive their proportions on time and in their totality. These rules apply for non-consumptive tourism CAs but different rules apply for hunting CAs (shown in section 4.4.2).

Table 9 and Table 10 systematically break down the each component (shown in Table 8) to show the data sources and CAs with corresponding data.

Table 9: Investment Generated and Sunk into CA (Stock)

| Type of Revenue | Components of Revenue Type | Data Source | CA with Available Source Data |
|---|--|--|----------------------------------|
| Value of Infrastructure within CA (Private and non-Private) | Private Sector Investment (Immovable Assets) | Batey (2011:35) PS Capital Investment for Vilankulos and Bazaruto | Bazaruto |
| | | Breen (2014:27) TFCATDP Final Evaluation Draft 4 May 2014 | Limpopo, Maputo SR, Chimanimani, |
| | | Both (2011) Investment and Concession Fee_NNR Tender 2011 (Excel document) | Niassa NR |
| | Park Authority Infrastructure (Immovable Assets) | Nazerali (2010) CA Working Data | All (bar Magoe and Pomene) |

Table 10: Revenue Generated within or surrounding the CA (Flow)

| Type of Revenue | Components of Revenue Type | Data Source | CA with Available Source Data |
|---|----------------------------------|--|---|
| Revenue Generated from Tourism Activities within CA | Number of Tourist Entries to CA | Booth & Matos (2013) Base do Dados 2012: Working Excel File | Bazaruto, Gorongosa, Quirimbas, Niassa NR, Pomene |
| | | Breen (2014:24) TFCATDP Final Evaluation Draft 4 May 12 - Table 7a | Banhine, Zinave, Maputo SR, Chimanimani |
| | | PNL Stats and Revenue 2006-June 2013.xls | Limpopo |
| | | Magane (2013) Performance of the Hunting Industry in Mozambique (presentation) | Coutadas, Fazendas, Community Reserves |
| | Average Daily Spend of a Tourist | Batey (2011:43) | |
| | Total bed nights within CA | Breen (2014:24) TFCATDP Final Evaluation Draft 4 May 12 - Table 7a | Banhine, Zinave, Maputo SR, Chimanimani |

| | | | |
|--|--|---|--|
| | | PNL Stats and Revenue 2006-June 2013.xls | Limpopo |
| | | Tapper (2009:2) Quirimbas NP Tourism Investor Pack (3000 tourists spending an average of 3.36 nights) | Quirimbas |
| Value of Direct and Indirect Employment within CA | Number of CA employees (Park Authority) | Booth & Matos (2013) Base do Dados 2012: Working Excel File | All NPs and NRs |
| | | MITUR (2013) Park Inventories: Excel File | All NPs and NRs |
| | Number of employees within Private Operations | TFCA (2013) 2013 TFCA Annual Report (Figure 5: Pg 23) | Limpopo, Maputo SR, Chimanimani, |
| | | Booth (2012:47) Intermediate working document on the contribution of tourism hunting to the economy in Mozambique, Report to the AFD | Coutadas, Fazendas, Community Reserves |
| | Average annual wage of a Private Sector Employee | Batey, E. Tourism VCA Study 2011:35. Average monthly wage of those employed in the tourism sector (not including management level as 90% were non-Mozambican) 2011 in Vilanculos | Applied to All CAs |
| | Average annual wage of a Park Authority Employee | MITUR (2013) Mozambique National Reserve and Park Inventory | Applied to All CAs |
| | Standard Multiplier for Indirect Employment | UNEP (2011:427) Tourism: Investing in energy and resource efficiency (http://www.unep.org/greeneconomy/Portals/88/documents/ger/ger_final_dec_2011/11.0-TOU-Tourism.pdf) | Applied to All Cas |
| Value of Revenue retained by Park Authority (64% of Total) | | Calculated from MITUR (2013) | |
| Value of Payments made to the relevant CA Community (16% of Total) | | Calculated from MITUR (2013) | |

Tables Table 9Table 10 are intended to serve two purposes: firstly, to provide a series of data sources in order to update baseline figures; and secondly, demonstrate the number of CAs missing data. The results should therefore be viewed in this light. Table 11 shows the number of CAs with missing data for each component of revenue.

Table 11: CAs with missing data

| Type of Revenue | Components of Revenue Type | CA without Data |
|---|--|--|
| Value of Infrastructure within CA (Private and non-Private) | Private Sector Investment (Immovable Assets) | Banhine, Gorongoza, Quirimbas, Zinave, Marromeu, Pomene, Magoe, Fazendas |
| | Park Authority Infrastructure (Immovable Assets) | Magoe, Pomene |
| Revenue Generated from Tourism Activities within CA | Number of Tourist Entries to CA | Marromeu |
| | Total bed nights within CA | Banhine, Gorongoza, Marromeu, Pomene, Niassa NR |
| Value of Direct and Indirect Employment within CA | Number of employees within Private Operations | Bazaruto, Niassa NR, Banhine, Gorongoza, Quirimbas, Zinave, Marromeu, Pomene |

The following assumptions have been made to fill the gaps in real data should in **Table 11**.

- Value of Infrastructure within CA:** A number of the CAs missing data may not actually have any capital infrastructure at present. Where it is assumed infrastructure does exist an average from CAs with data is provided. However, it should also be noted that the value of infrastructure (where data does exist) only has one data point. Therefore, it is not possible to track historical changes in investment and thereby realistically project future trends. This area of research is particularly weak due to data gaps in private infrastructure investment (stock) and should be treated as a treated as a significant underestimation.
- Number of employees within Private Operations:** Missing data does not affect calculations as it is assumed that the value of employment is captured within “Revenue generated from Tourism Activities” as operators pay their staff from a component of this revenue.
- Total bed nights within CA:** Revenue generated within the CA (excluding entrance and activity fees charged by the CA management) is calculated, in the absence of real data, by multiplying the number of bed nights by the average daily spend of a tourist. It is acknowledged that this does not take into account the spending of day visitors but the number of day and overnight visitors is not available at this disaggregated level. Where “bed night” numbers do not exist it is assumed that the number of entrants to CA stay, on average, one night. This is also not accurate but, in the absence of real data, it is hoped that as some stay long and some do not stay overnight, one night per entrants may be suitable average.

- **Average daily spend:** This number includes accommodation, activities, entertainment and food and beverages. It does not include transport or flights, as these would be unlikely to accrue to entities based within or nearby a CA.

Table 12 shows where data held by Government Departments is missing, which would be assist in augmenting the existing data.

Table 12: Outstanding information from Departments

| Organisation | Required Information |
|---|---|
| DNTF | Individual data on Fazendas (level of investment, employment created), DUAT fees per operator, 2014 Quota for Fazendas. |
| Department of Planning and Monitoring (MITUR) | Breakdown of the collective numbers presented in the annual tourism revenue for NPs, NRs and Coutada (tourism revenues, concession fees, fines for each CA) Details of the level of infrastructure investment provided for each NP and NR. |
| Ministry of Fisheries | Value of licences, fine and permits issued to tourists within relevant CAs between 2008 and 2013. Value of artisanal fishing within marine CAs between 2008 and 2013. |

4.6.1 Revenue Accruing to the Government of Mozambique

Table 13 provides a breakdown of the types of revenue that accrue to government, their associated data sources and for which CAs data is currently available.

Table 13: Revenue Accruing to the Government

| Type of Revenue | Data Source | CA with Available Source Data |
|---|--|--|
| Value of Concession Fees (retained by MITUR) | Booth (2012) and Magane (2008-2013) Performance of Hunting Industry in Mozambique | Coutadas, Fazendas, Community Reserves |
| | Calculated from MITUR (2013) | All NPs and NRs |
| Land use fee (DUAT) (retained by Land Administration) | Booth (2012) and Magane (2008-2013) Performance of Hunting Industry in Mozambique | Fazendas |
| Abate Tickets | Booth (2012) and Magane (2008-2013) Performance of Hunting Industry in Mozambique | Coutadas, Fazendas, Community Reserves |
| Value of Tourism Revenue retained by MITUR (20% of Total) | Calculated from MITUR (2013) | |
| Firearms and Ammunitions (retained by Ministry of Interior) | Interview with MINT | Coutadas, Fazendas, |

| | | |
|--|--|--|
| (MINT) | | Community Reserves |
| CITES Certificates (retained by MICOA) | Magane (2008-2013) Performance of Hunting Industry in Mozambique | Coutadas, Fazendas, Community Reserves |
| Other licences, taxes, fines and fees | Per Comms: Miguel Goncalves | Ponta do Ouro Partial Marine Reserve |
| PH Licences | Magane (2008-2013) Performance of Hunting Industry in Mozambique | Coutadas, Fazendas, Community Reserves |
| Tourist hunting licence | Magane (2008-2013) Performance of Hunting Industry in Mozambique | Coutadas, Fazendas, Community Reserves |

Corporation tax, income tax as well as value-added tax (VAT) are not included in this analysis, although all three components accrue to the government. The actual revenue declared by operators within CAs was not available and therefore it was not possible to calculate the above government revenue components. Any estimates would be grossly inaccurate and irresponsible to include here.

4.7 *Applied Economic Assumptions*

The following assumptions have been applied in order to either fill gaps in existing data or norm inflation and exchange rates to display trends (see table below).

Table 14: Economic Assumptions applied to the Analysis

| Assumption | Explanation | Value | Unit | Assumption Source |
|--------------------------------|--|----------|------|--|
| Average Inflation Price | Average Inflation used between 2006-2013 | 8.43% | % | World Bank Indicator Data: http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG |
| Daily spend of a tourist | \$235 (2011) converted into MTS (rate of 1 USD :30 MTS) in 2011 prices, increased by inflation rates for 2013 prices | 8288.73 | MTS | Batey, E. Tourism VCA Study 2011:43. Average daily tourist spend 2011 in Vilanculos |
| Average Annual Wage (CA Staff) | Average annual salary of staff from Limpopo, Gorongosa, Ponta Do Ouro, Banhine, Quirimbas and Chimanimani (2013) | 92265.98 | MTS | 2013 Mozambique National Reserve and Park Inventory |
| Average Annual Wage (PS Staff) | US\$ 195 per month (2011) converted to an annual wage | 82534.60 | MTS | Batey, E. Tourism VCA Study 2011:35. Average monthly wage |

| | | | | |
|---|--|---------|-----------------|--|
| | (USD 2340) and converted into MTS (rate of 1 USD :30 MTS) in 2011 prices, increased by inflation rates for 2013 prices | | | of those employed in the tourism sector (not including management level as 90% were non-Mozambiquean) 2011 in Vilanculos |
| Average Exchange Rate (Conversion between MTS and USD) | The Mozambique exchange rate has fluctuated significantly between 2006 and 2013. An average of USD:MTS exchange rate has been calculated to provide some consistency of numbers and display trends. | 26.80 | MTS | http://www.oanda.com/currency/converter/ (2006-2013) |
| Indirect Employment Multiplier | Number of jobs created indirectly from every direct job in the tourism sector. Average taken between range of countries (Table 1 pg. 427). | 3 | Number | UNEP (2011:427) Tourism: Investing in energy and resource efficiency (http://www.unep.org/greenecology/Portals/88/documents/ger/ger_final_dec_2011/11.0-TOU-Tourism.pdf) |
| Private Sector Capital Investment in Coutadas, Fazendas and Community Reserve (Hunting) | Average capital investment by private operators within hunting concessions. Number based on evaluation from Niassa hunting blocks: \$ Capital Investment over five-year period per km2. Number converted as MTS per hectare per year | 11.7384 | MTS per hectare | Booth (2011) Investment and Concession Fee_NNR Tender 2011.xls (Per ha value of investment within hunting concessions) |

4.8 Current revenue performance of the CA network in Mozambique

The previous section has provided the framework for how the analysis has been conducted. This section presents the results of the analysis. Raw data and calculations are available on the excel sheet that accompanies this document.

This section aims to determine the values of the below for the year 2013:

- The total financial value of the CA network;
- The total revenue generated within the CA network;
- The total revenue accruing to the Government of Mozambique as well as the CA Management Authority; and,
- The revenue accruing to the respective CA community.

4.8.1 The total financial value of the CA network in 2013

The **total financial value of the CA network (stocks and flows) was USD 319 million in 2013**. Bazaruto contributes 87% (USD 278.5 million) to this total. This is a result of missing private infrastructural (stock) investment data (see Table 11) from seven of the NPs and NRs as well as all 50

Fazendas. Therefore this is a significant underestimation of the reality and should be considered in this context.

4.8.2 *The total revenue generation within the CA network in 2013*

The **total annual revenue generation within the CA network was USD 22 million in 2013**. It is worth noting that for ‘other CAs’ (as indicated in Table 16) very little information is currently available. The CAs that constitute the ‘other’ category include: Ponta do Ouro, Lake Niassa, Archipelago das Primeiras e Segundas, Inhaca, Cabo de São Sebastiao, Malhazine, North Quirimbas and Vilanculos Coastal Wildlife Sanctuary. The only available data, at the time of writing, were the level of fines and licences issued within Ponta do Ouro in 2013.

However, as a comparison, INE, cited in Ministerio do Turismo (2014) estimate the total contribution of travel and tourism to Mozambique GDP was USD 222.8 million in 2013. Assuming that INE numbers include the same components as this analysis, the **CA network contributes 10% to the overall tourism contribution to GDP**. It is predicted that the contribution of the CA network would be far greater than 10% if full data on CAs were available.

4.8.3 *The total revenue accruing to the Government of Mozambique as well as the CA Management Authority in 2013*

The component of total revenue (of the USD 20 million), **which accrues to either national Government of Mozambique or the CA Management was USD 3.3 million in 2013** (16.5% of total revenue generated). Table 16 provides a breakdown of how the USD 3.3 million is distributed between government authorities.

Table 15: Breakdown of CA revenue accruing to relevant institutions (2013)

| Type of Revenue | Authority to which Revenue Accrues | Revenue Value (USD) in 2013 |
|---|---|-----------------------------|
| Concession and Tourism Entrance Fees from NPs, NPs | MITUR (64% of concession, entrance and activity fees) | 804,310 |
| | National Treasury (20% of concession, entrance and activity fees) | 201,078 |
| Concession Fees and Abate Tickets from Coutadas and NNR hunting blocks | MITUR (100% of concession fees and 80% abate tickets) | 1,420,250 |
| Land use fees (DUAT) | Land Administration | 108,046 |
| Value of Abate Tickets and Hunting Licences from Fazendas | DNTF | 200,511 |
| Concession Fees, Abate Tickets and Hunting Licences from Community Reserves | T.Tchetu (100% of concession fees, 100% of hunting licences and 80% of abate tickets) | 482,111 |
| Fishing Licences and Fines | Maritime Authority | 27,098 |
| Firearms and Ammunitions | MINT | 87,237 |

| | | |
|---------------------|-------------|-----------|
| CITIES Certificates | MICOA | 5,028 |
| | Total (USD) | 3,335,669 |

Missing data include fines from NPs and NRs related to illegal logging fines, tourist and operator fines, as well as fishing and boating licences and fines from coastal CAs (with the exception of Ponta do Ouro).

4.8.4 The revenue accruing to the respective CA community

The value of financial contributions being provided to the respective CA communities in 2013 was USD 606,500. The significant proportion of this value was derived from the 20% of abate sales received by communities from Coutadas.

4.8.5 Comparison of CAs revenue performance in 2013

The results of the financial contribution of the CA network in 2013 (USD) are displayed below. The specific breakdown of each component of revenue per CA is provided in the excel document that accompanies this report.

Table 16: Current financial contribution of the CA network to the Mozambique Economy (USD) in 2013

| Conservation Area | Total Revenue Generated within the CA | Total Revenue Accruing to the Government and CA Management Authority | Total Revenue Accruing to the Community |
|--|---------------------------------------|--|---|
| Bazaruto Archipelago | 9,131,616 | 172,936 | 32,940 |
| Banhine | 5,417 | 653 | 124 |
| Gorongosa | 349,595 | 35,163 | 6,698 |
| Limpopo | 2,006,500 | 202,804 | 38,629 |
| Quirimbas | 3,359,964 | 203,625 | 38,786 |
| Zinave | 23,362 | 1,179 | 224 |
| Magoe | - | - | - |
| Gilé | - | - | - |
| Maputo Special Reserve | 830,820 | 128,416 | 24,460 |
| Marromeu Special Reserve | - | - | - |
| Niassa | 471,933 | 259,078 | 49,348 |
| Chimanimani | 22,979 | 857 | 163 |
| Pomene | 181,735 | 677 | 129 |
| Sub-Totals (NPs and NRs): | 16,383,921 | 1,005,388 | 191,502 |
| | | | |
| Coutadas, Fazendas and Hunting Blocks (NNR and Community Reserves) | 5,662,174 | 2,303,183 | 415,008 |
| | | | |
| Other Conservation Areas | 27,098 | 27,098 | |

| | | | |
|--------------|-------------------|------------------|----------------|
| | | | |
| Total | 22,073,193 | 3,335,669 | 606,511 |

Table 16 shows that Bazaruto, Limpopo, Quirimbas as well as the collective hunting industry makes significant contributions to the tourism revenue generation within and surrounding CAs.

4.9 Future revenue performance of the CA network in Mozambique

15-year financial projections have been developed in order to inform decision-making on which CAs supported now would generate the greatest return on investment in the future. The projections assumed that:

1. Growth of revenue sources would continue at the average rate of inflation (8.74%) for the 15-year period;
2. Assumed that Bazaruto has nearly reached its investment capacity²⁶, thereby private sector investment increases by only 1% per annum during the 15-year period; and,
3. Registered NRs that currently are not generating income (Magoé, Gile²⁷ and Marromeu) will only begin receiving tourists in year 5, at which point they will follow a growth path similar to Zinave²⁸.

All other factors have been held constant from 2013, in order to determine the value of CA network if there are no structural changes in tourism development and tourism continues on its same growth trajectory. The scenario planning section of the report will display the impact of specific market changes to the revenue potential of the CA network. The table below displays the revenue generation (USD) of the CA network over a 15-year period (2028).

It is estimated that based on the above assumption in 2028 the financial value of the CA network in Mozambique will be more than USD 500 million. The table below (Table 17) shows compares the results of each CA related to revenue generation and the associated distribution to government departments and respective CA communities.

Table 17: Annual revenue generation of the CA Network in 2028(15-year period) (USD)

| Conservation Area | Total Revenue Generated within the CA | Total Revenue Accruing to the Government and CA Management Authority | Total Revenue Accruing to the Community |
|--------------------------|--|---|--|
| Bazaruto Archipelago | 12,289,953 | 232,749 | 44,333 |
| Banhine | 18,237 | 2,198 | 419 |
| Gorongosa | 1,177,084 | 118,393 | 22,551 |

²⁶Per Comms Dr Anna Spenceley (23rd June 2014)

²⁷ Gile: the hunting area in the Buffer Zone has been declared in July 2013 and, up to now, is not yet operation, so no revenues. There is also currently no revenue from tourism (Per. Coms. Fusari. 2014)

²⁸Per Comms Sean Nazerali (13th June 2014)

| | | | |
|--|----------------------|----------------------|---------------------|
| Limpopo | 6,755,866 | 682,839 | 130,065 |
| Quirimbas | 11,312,965 | 685,605 | 130,591 |
| Zinave | 78,659 | 3,968 | 756 |
| Magoe | 52,481 | 2,647 | 504 |
| Gilé | 52,481 | 2,647 | 504 |
| Maputo Special Reserve | 2,797,362 | 432,375 | 82,357 |
| Marrromeu Special Reserve | 52,481 | 2,647 | 504 |
| Niassa | 1,588,995 | 872,315 | 166,155 |
| Chimanimani | 77,372 | 2,886 | 550 |
| Pomene | 611,901 | 2,280 | 434 |
| Sub - Totals: | 36,865,838 | 3,043,549 | 579,724 |
| | | | |
| Coutadas, Fazendas and Hunting Blocks (NNR and Community Reserves) | 19,064,484 | 7,754,796 | 1,397,330 |
| Other CAs: | 91,238 | 91,238 | - |
| Totals (USD): | 56,021,559.34 | 10,889,583.47 | 1,977,053.25 |

The table above demonstrates that the **revenue generation of the CA network in year 2028 would equate to USD 56 million annually**, assuming current trends persist. This would equate to **nearly USD 11 million per annum in revenue accruing to the Government and nearly USD 2 million to communities**. It should be noted that any data gaps that provide present revenue values lower than expected will be accentuated as they are aggregated by 15 years. This therefore presents a significant underestimation of the real values.

4.10 Operating Costs of CAs

It is not within the scope of this report to accurately determine the investment and operating costs of CAs. Such an exercise would require a detailed costing of CA inventories, which is not possible within this scope of work. However, the UNDP (undated:29) document on “Sustainable financing of Protected Areas in Mozambique” provides indicative costing under basic and optimal management scenarios. These are described in Table 18 below:

Table 18: Estimated Annual Costs (2010 US dollars) for Mozambique’s Conservation Areas

| Conservation Areas | Cost | Cost per km ² | Cost | Cost per km ² |
|---|---|--------------------------|---|--------------------------|
| | Basic management scenario ²⁹ | | Optimal management scenario ³⁰ | |
| National Parks | 7,143,098 | 207/km ² | 12,354,710 | 358/km ² |
| National Reserves | 4,243,882 | 84/km ² | 6,771,492 | 133/km ² |
| Forest Reserves ³¹ | 535,225 | 101/km ² | 711,257 | 134/km ² |
| Coutadas | 5,677,413 | 101/km ² | 7,544,688 | 134/km ² |
| Community Reserves | 467,131 | 55/km ² | 700,696 | 82/km ² |
| 1-yr TOTAL | 18,066,749 | 116/km ² | 28,082,844 | 181/km ² |
| 10-year TOTAL ³² | 216,911,327 | | 337,165,637 | |
| 1-yr TOTAL (incl. central level mgmt & monitoring) | 20,776,762 | 134/km ² | 32,295,271 | 208/km ² |
| 10-year TOTAL (incl. central level mgmt & monitoring) | 249,448,026 | | 387,740,483 | |

Source: UNDP (undated:29).

The table above shows that the cost of basic management of the CA network was USD 20.8 million. However, the revenue generated by Government institutions, which could go back to funding management of CAs was only USD 3.3 million, 16% of the required amount. This is also an inaccurate calculation as the UNDP estimate includes Forest Reserves (not captured in this analysis). It does, nevertheless, demonstrate the severity of the revenue gap required to help CAs become financially self-sustainable.

4.11 Additional Sources of Revenue for Communities

In addition to the above there are a number of additional economic activities (non-tourism linked) that generate income for the communities within and surrounding CAs. It should be noted that information on additional sources of revenue is extremely limited. It is understood that during TFCA TDP additional (non-tourism related) community-based incomes, that were not directly supported by the project, were not monitored. It would be recommended for the implementation of MOZBio all revenue sources are at least monitored in order to provide the greatest revenue value of CAs.

4.11.1 Bushmeat

Only one study was identified on the value of the bushmeat trade by Linsey and Bento (2011). The report identifies the value of traded bushmeat received by the community from the hunting activities

²⁹ Minimum necessary to undertake core conservation activities

³⁰ Amount CAs would have the capacity to spend effectively on enhanced/expanded conservation activities

³¹ Costs for Forest Reserves and Coutada Hunting Grounds were estimated using a simple proxy average of costs per km² for Banhine and Zinave National Parks

³² Based on average annual inflation of 4%

within Coutada 9. Based on estimates for Coutada 9 the price per kilo of bushmeat was 37 MZN and the average quantity of meat from one Coutada was 5,676kg per annum. If Coutada 9 is considered typical, the maximum potential revenue generated from all Coutadas, Fazendas and Niassa NR hunting blocks (n=66) would be USD 515,000. This assumes that all hunting areas allow communities to remove and sell any hunting wildlife remains not used as trophies.

4.11.2 Fisheries

No information was received on the value of community fishing within CAs. However, a report by Palha de Sousa et al (2013)³³ there has been a significant decline in the economic performance of the fisheries since 2008. The significant collapse in catches throughout 2012 and 2013 suggests that many fishing enterprises may never be financially viable (2013). Information on the value of fishing in Ponta do Ouro was not available. However, there is a considerable fishing community at Inhaca Island and Machangulo Peninsula³⁴. Information may be available Small Scale Fisheries Development Institute (IDPPE), but none provided at the time of writing.

Suich (2006) places values economic benefits generated at a household-level use of natural resources within three sites in Mozambique, namely Chirindzene Sacred Forest, Barauto and Vilanculos. The table below illustrates the types of marine, forestry and non-timber forest products utilised by communities in selected sites, as well as their volumes (kg) and value (MZN):

³³Original Portuguese translated through Google translate, so inaccuracies may appear.

³⁴Per Comms: Miguel Gonvalves: Park Warden, Ponta do Ouro Partial Marine Reserve (25th May 2014)

Table 19: Volume and Value of Marine and Forestry resources in selected Mozambique sites (MZN)

| | Bazaruto (n=105) | | Chirindzene (n=125) | | Vilanculos (n=95) | |
|------------------------------------|---------------------|------------------|------------------------|------------------|----------------------|------------------|
| | Amount | Value | Amount | Value | Amount | Value |
| Marine resources | | | | | | |
| Boat building wood (bundles) | 2,540 | 93,667 | - | - | 1,748 | 20,333 |
| Crab (t) | 28 | 288,787 | - | - | 11 | 110,604 |
| Fish (t) | 116 | 1,370,095 | - | - | 90 | 1,152,148 |
| Lobster kg | 80 | 12,000 | - | - | 20 | 3,000 |
| Sand oysters (t) | 17 | 167,404 | - | - | 11 | 112,795 |
| Squid (t) | 16 | 354,970 | - | - | 1 | 30,330 |
| <i>Sub-total</i> | <i>n/a</i> | <i>2,286,923</i> | | | <i>n/a</i> | <i>1,429,211</i> |
| Forestry resources | | | | | | |
| Birds | - | - | 1,660 | 12,450 | - | - |
| Building poles (poles) | 60 | 2,700 | 3,986 | 179,370 | - | - |
| Fencing/kraal wood (bundles) | 180 | 6,300 | 3,264 | 112,320 | 12 | 660 |
| Firewood (t) | 264 | 353,087 | 662 | 549,128 | 247 | 325,099 |
| Fruit (t) | 7 | - | 2 | - | 0.02 | - |
| Furniture wood (t) | - | - | 0.05 | 4,320 | 2 | 166,500 |
| Honey (kg) | - | - | 19 | 2,360 | - | - |
| Leaves and herbs (kg) | 266 | - | 6,162 | - | 8 | - |
| Medicinal plants (veterinary) (kg) | 24 | - | - | - | 2 | - |
| Medicinal plants (human use) (kg) | 130 | - | 103 | - | 84 | - |
| Mushrooms (kg) | - | - | 72 | 360 | - | - |
| Other edible plants (kg) | 21 | - | - | - | 372 | - |
| Other use plants (branches) | 336 | - | 192 | - | - | - |
| Other wood (t) | 0.36 | - | - | - | 2 | - |
| Palm (baskets) (t) | 1 | - | - | - | 1 | - |
| Palm wine (l) | 13,462 | 67,310 | - | - | - | - |
| Other plants (utensils) (kg) | 53 | - | 0.08 | - | - | - |
| Reeds (bundles) | 3,092 | 58,601 | 4,492 | 86,562 | 24 | 240 |
| Roots and tubers (kg) | 880 | 8,800 | - | - | - | - |
| Seeds and nuts (t) | 4 | - | - | - | - | - |
| Small game | - | - | 663 | 49,725 | - | - |
| Thatching grass (rolls) | 3,197 | 61,823 | 8,251 | 174,950 | 2,156 | 35,136 |
| Timber (t) | - | - | - | - | 0.5 | 21,750 |
| <i>Sub-total</i> | <i>n/a</i> | <i>558,621</i> | <i>n/a</i> | <i>1,171,545</i> | <i>n/a</i> | <i>549,385</i> |
| Total | <i>n/a</i> | <i>2,845,544</i> | <i>n/a</i> | <i>1,171,545</i> | <i>n/a</i> | <i>1,978,596</i> |

Source: Suich (2006:30).

For marine resources Suich estimates that in 2006 gross income of between USD 535 and USD 844 per household was derived(2006:36). Data collected during the Project Appraisal Document (PAD) for the World Bank-funded MOZBio project estimated that 167,700 people live within and around coastal CAs supported through MOZBio. Those not supported are either Niassa NR or others with little economic activity. If an average of the each of the two averages from Suich (2006) is applied (USD 450.50) per household and extrapolated depending on the proportion of supported households (assuming eight people per household) in coastal CAs (20,962 households) total value of marine resources utilised (accounting for inflation) in 2013 was approximately USD 25 million.

4.11.3 Forestry and Non-timber forest products

Suich also identified that the value of forestry and non-timber forest products per household in 2006 was between USD 200 and USD 224 (2006:36). If the same approach is applied for forestry resources in the inland areas supported by MOZBio (4,537 households based on the same assumptions on

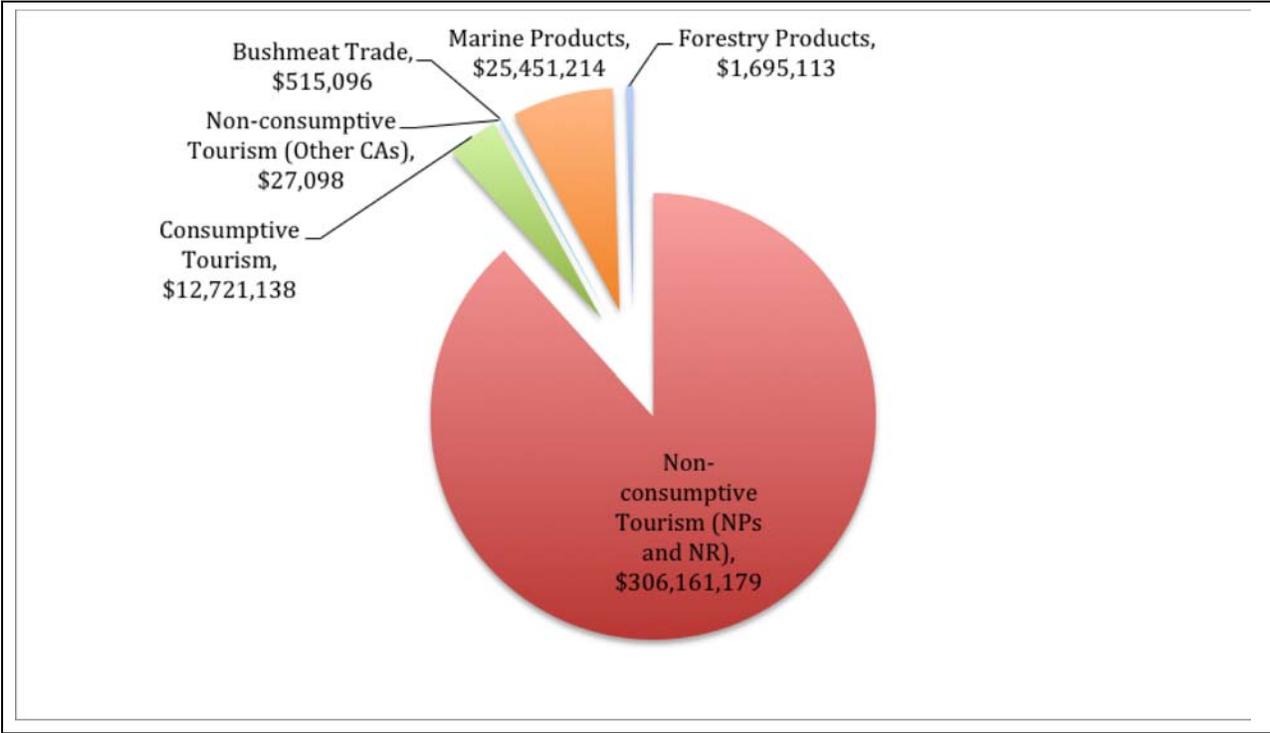
household size) the total value of timber and non-timber forest products utilised (accounting for inflation) in 2013 was USD 1.7 million.

However, the Suich (2006) does state that “care should be used if utilising the results of this study to extrapolate across a larger area of Mozambique, as the study areas are not necessarily ecologically or socio-economically representative of other regions of the country” (2006:22). Therefore the numbers presented should be treated indicative of the potential value and not as an absolute number.

4.12 Summary of existing economic activities within CAs

This report has estimated the total financial value of tourism (consumptive and non-consumptive) in the CA network, as well as determined the annual revenue generation of tourism in the CA network collectively and by individual CA performance. In addition, it has identified additional (non-tourism linked) livelihood activities that generate income for communities within and surrounding CAs. The following series of charts aims to aggregate these numbers and show their components. Figure 6 displays the total financial value of the CA network in 2013, which include all tourism-related activities (consumptive and non-consumptive) as well as livelihood activities of local communities operating within and around CAs in Mozambique. It does not include the value of mining around the CAs.

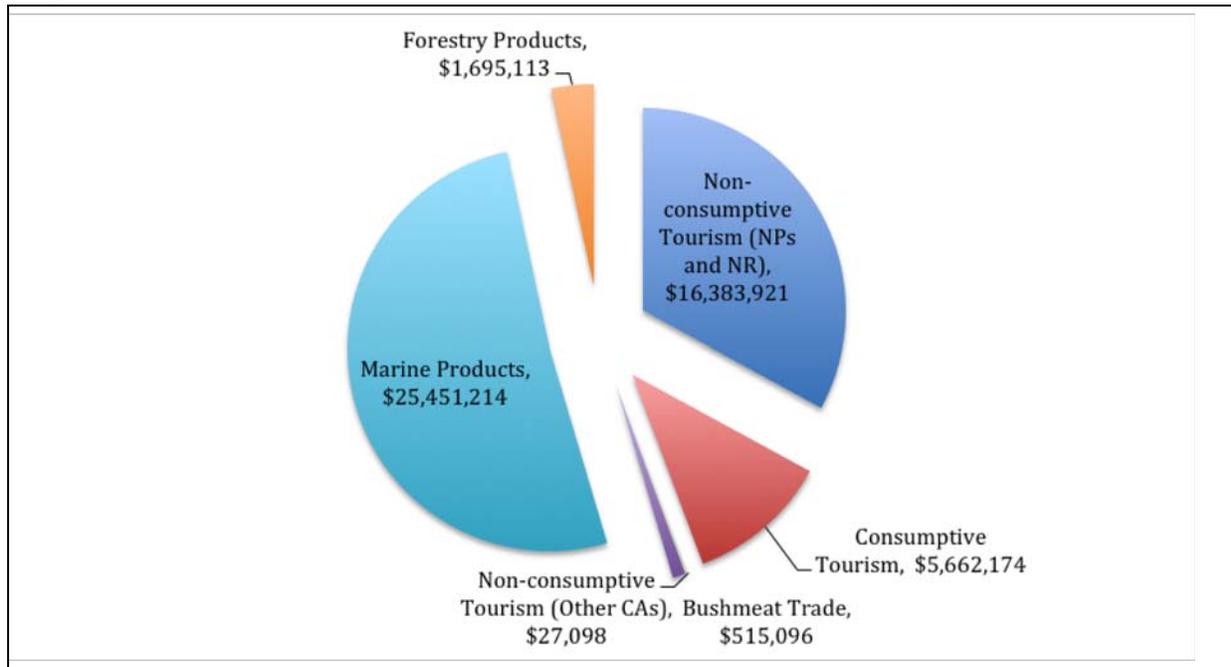
Figure 6: Total Financial Value of CA Network in 2013, USD (Stocks and Flows)



The graph shows that the total financial value of the CA network total nearly **USD 347million in 2013**. This is largely dependent upon the level of capital infrastructure (the stock) within the CAs (public and private). It is, however, still a significant underestimation as Table 11 shows the number of CAs where information is missing.

If the stock is removed from the above calculations, shows the annual flows of revenue generated by all tourism-related activities (consumptive and non-consumptive) as well as livelihood activities of local communities operating within and around CAs in Mozambique.

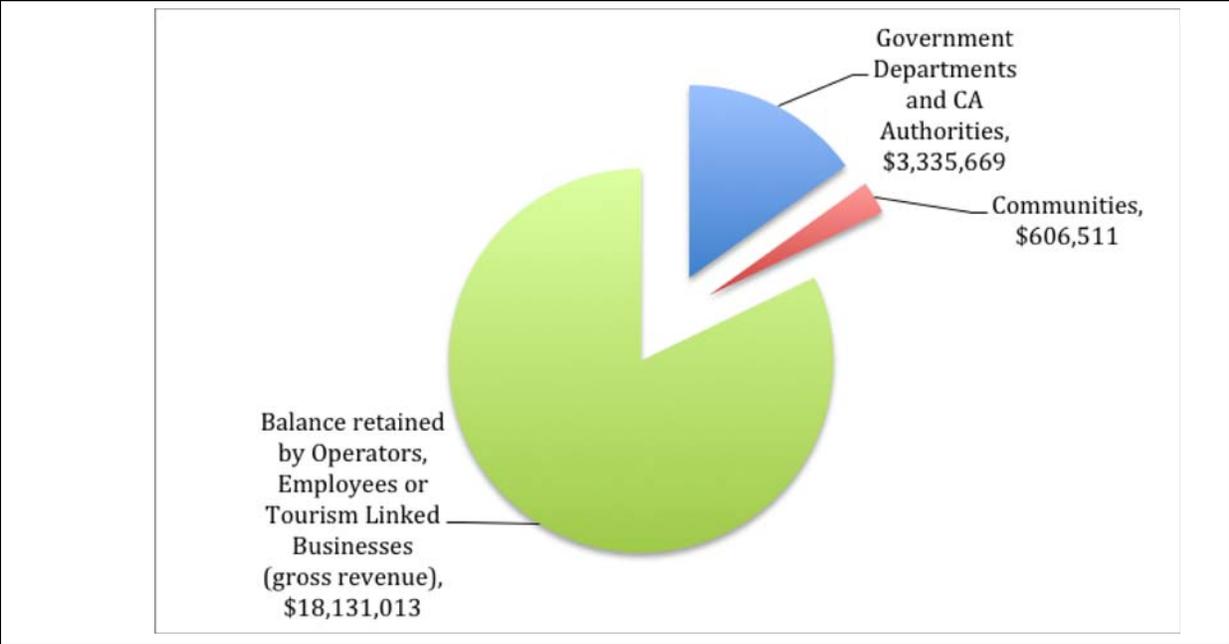
Figure 7 Annual Revenue Generation of CA Network in 2013, USD (Flows)



The graph above shows that the total annual (gross) revenue generation within and surrounding the CAs in 2013 was nearly **USD 50 million**. It should be noted that the numbers for bushmeat trade, marine and forestry products are highly extrapolated from micro-level studies and should be treated with caution. It does also not consider the effects of harvesting natural resources beyond their maximum sustainable yield levels.

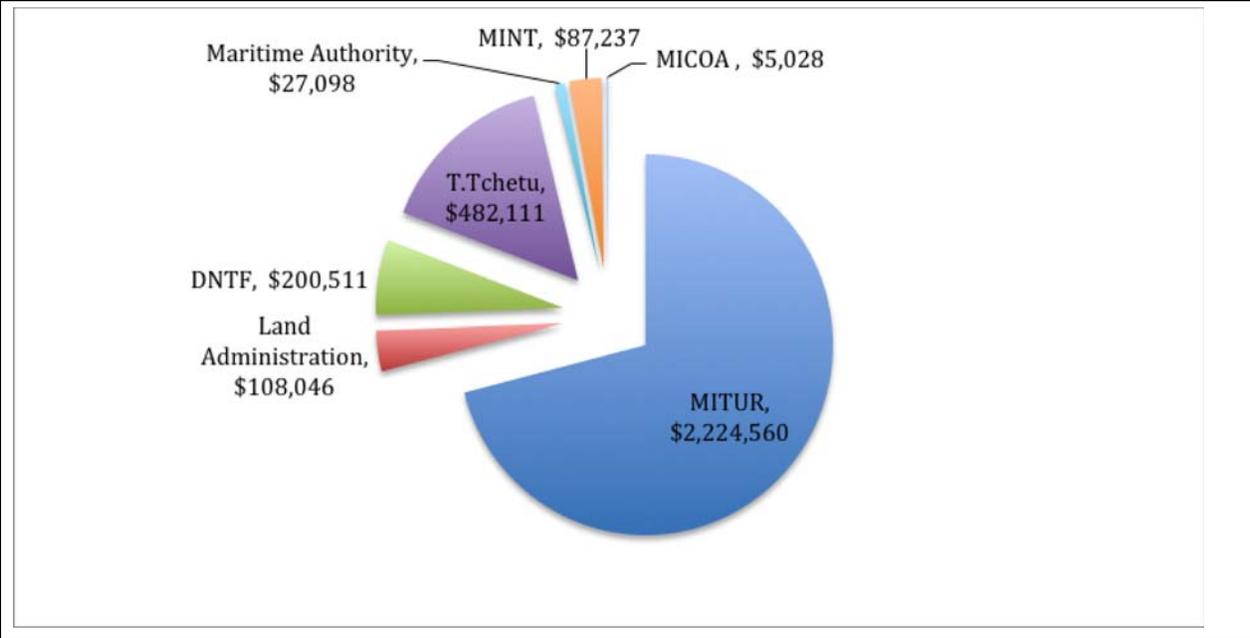
Figure 8 displays the values, from the annual total revenue generation that accrues to either (i) government, (ii) communities as benefit sharing, or (iii) is retained by operators, paid as salaries to employees, or income to community members from tourism-linked economic activities.

Figure 8 Revenue Accruing to Government and Communities from tourism-linked activities in 2013, USD



In 2013, the total value of revenue accruing to the Government or CA Management Authority equated to USD 3.3 million with an addition USD 606,000 accruing to communities neighbouring CAs. Figure 9 displays how the USD 3.3 million is distributed between institutions.

Figure 9: Distribution of revenues accruing to Government institutions (2013) USD



The results of the above graph are a reflection of Table 13.

4.13 Under which future financial scenarios do the CA network pose their optimum revenue generating potential

The 15-year financial projections are intended to demonstrate the value of the CA network if all variables are held constant (i.e. number of tourists, concessions or changes in entrance, concession, licence and abate fees) except for inflation. The projections include a stable inflation rate of 8.43% per year (an average inflation between 2006 and 2013). The following section develops 16 hypothetical scenarios where one variable is changed. Endogenous variable (generated from within the system) were chosen to demonstrate strategic options that the Government of Mozambique could pursue to increase the revenue generation of its CA network. The only exception is “number of tourists visiting CAs” which is exogenous but one could argue that implementing good policies (i.e. increased air transport competition or improved road infrastructure) would encourage a change in the variable. It is also an important variable as tourism is, obviously, highly dependent on tourists. Other exogenous variables were not considered as it is important to show what proactive options are available to MITUR rather than depending on outside market forces to change the situation in Mozambique.

It is also possible to combine strategic options to maximise their earning potential. Therefore, an additional five combination scenarios have are developed to show this impact. The intention of the scenarios is to provide an indicative comparison of a limited range of options. It is not intended to be a comprehensive set of scenarios as the number of possible variations are infinite, so other potential scenarios should not be discounted. In addition, these scenarios are not recommendations for specific immediate changes and should be treated with extreme caution. No final decision should be made without a willingness-to-pay survey for each potential scenario. Revenue generation in CAs should have strategic objective: to maximise potential revenue streams without acting as a deterrent for investors and visitors.

The table below provides an explanation of each scenario, the variables changed, which factors are held constant or excluded and their potential impact over a 15-year period. An excel document accompanies this table which enables the user to changes the variables in order to test different outcomes.

Table 20: Explanation and 15-year projections of Financial Scenarios

| Variable | No | Explanation of Scenario | Factors Held Constant or Excluded | Year 0 (2013) MZN | Year 15 (2028) MZN | % Change over Period |
|---|----|---|---|----------------------|-----------------------|----------------------------|
| Number of tourists visiting NPs and NRs | 1 | Annual 7% increase of tourists visiting NPs and NRs (excluding hunting in NNR). 7% is the average increase of tourists visiting Mozambique stated in Tourism Reference Indicators (MITUR 2014) Table 3.1 | Level of entrance fees (400 MZN) per visitor, daily spend not included | 8,594,200.00 | 23,711,668.87 | 176% |
| | 2 | Annual 12% increase in tourists visiting NPs and NRs (excluding hunting in NNR). | Level of entrance fees (400 MZN) per visitor, daily spend not included | 8,594,200.00 | 47,040,918.85 | 447% |
| | 3 | Annual 2% increase in tourists visiting NPs and NRs (excluding hunting in NNR). | Level of entrance fees (400 MZN) per visitor, daily spend not included | 8,594,200.00 | 11,566,661.67 | 35% |
| Entrance / activity fees for non-consumptive tourism | 4 | Status quo situation of level entrance fees and doubling prices in 2022 (current process of fee structuring) assuming annual 7% increase in numbers | Level of entrance fees (400 MZN) per visitor until 2022, daily spend not included | 8,594,200.00 | 47,423,337.73 | 452% |
| | 5 | Annual increase of tourism entrance fees by average rate of inflation (8.74%) assuming annual 7% increase in numbers. | Daily spend of tourist not included | 8,594,200.00 | 79,836,959.33 | 829% |
| Duration of visit of tourists | 6 | Tourists stay one night within the NPs or NRs, spending the average daily spend (increased per annum by annual rate of inflation), assuming number of tourists remain constant. | Number of tourists held constant, entrance fees excluded | 178,087,524.63 | 599,618,969.87 | 237% |
| | 7 | Increase of average length of stay by non-consumptive tourists within CA from 1 to 2 nights (number of tourists remain constant, value of spend increases per year by average rate of inflation) | Number of tourists entering held constant, entrance fees excluded | 178,087,524.63 | 1,199,237,939.73 | 573% |
| | 8 | Increase of average length of stay by hunting tourists within Coutadas, Fazendas and NNR to 2 nights (number of tourists remain constant, value of spend increases per year by average rate of inflation) | Number of hunting tourists remain constant | 4,894,671.60 | 10,034,955.87 | 105% |
| Concession fee (NP and NR) | 9 | Retain level concession fees but double in 2022 (Current Situation). | Number of concessions remain constant. | 22,966,279.15 | 45,932,558.30 | 100% |
| | 10 | Annual increase in the concession fee by the average rate of inflation (8.74%). | Number of concessions remain constant. | 22,966,279.15 | 77,327,239.37 | 237% |

| | | | | | | |
|----------------------------------|----|--|--|---------------|----------------|------|
| | 11 | Increasing number of concessions by two concessions per year within the total of 13 NPs and NRs (fees remain constant and double in 2022). | Level of concession fee held constant. | 22,966,279.15 | 195,213,372.78 | 750% |
| Concession fee (Coutadas) | 12 | Increasing the concession fee annually by the average rate of inflation. | Number of concessions remain constant | 10,655,037.71 | 35,875,408.74 | 237% |
| | 13 | Increasing the number of Coutadas by one concession every two years | Level of concession fee held constant. | 10,655,037.71 | 15,316,616.71 | 44% |
| Abate Tickets | 14 | Retain level abate tickets but double in 2022 (Current Situation). | Quota and off-take levels remain constant. | 55,611,136.91 | 111,222,273.82 | 100% |
| | 15 | Annual increase in abate prices by the average rate of inflation (8.74%) | Quota and off-take levels remain constant. | 55,611,136.91 | 187,242,159.14 | 237% |
| | 16 | Minimum utilisation of 50% of total quota by Coutadas, Fazendas, CRs and NNR. Quota levels remain constant, with a doubling of abate prices in 2022. | Quota levels remain constant. | 88,655,009.12 | 177,310,018.24 | 100% |

The three scenarios that generated the greatest financial return within the model are displayed in the table below:

Table 21: Best three ranking scenarios

| High Ranking | Scenario No. | Explanation of Scenario |
|--------------|--------------|---|
| 1 | 5 | Annual increase of tourism entrance fees by average rate of inflation (8.74%) assuming annual 7% increase in numbers. |
| 2 | 11 | Increasing number of concessions by two concessions per year within the total of 13 NPs and NRs (fees remain constant and double in 2022). |
| 3 | 7 | Increase of average stay by non-consumptive tourists within CA to 2 nights (number of tourists remain constant, value of spend increases per year by average rate of inflation) |

The table above shows increase in potential total revenue but does not determine the value for the state or the respective CA community. It demonstrates that increasing the number of tourists, their entrance fees, their duration of stay and the number of private operators where they are able to stay are all important factors in maximising revenue generation from CAs. Factors that would prevent these scenarios from becoming reality would include not:

- (i) Implementing the macro recommendations for improving the conditions for tourism in general (ie, visas, competition between airlines, road infrastructure, improving the behaviour of police and border control officials towards tourists);
- (ii) Improving the access, quality and marketing of existing tourism products available to tourists; and
- (iii) Increasing the range of tourism products available to tourists in order to encourage greater spending and length of trips.

In contrast, the table below displays the scenarios that generated the least financial returns over a 15-year period. The table displays five, as three are equal third.

Table 22: Worst three ranking scenarios

| Low Ranking | Scenario No. | Explanation of Scenario |
|-------------|--------------|--|
| 1 | 3 | Annual 2% increase in tourists visiting NPs and NRs (excluding hunting in NNR). |
| 2 | 13 | Increasing the number of Coutadas by one concession every two years |
| 3 (equal) | 14 | Retain level abate tickets but double in 2022 (Current Situation). |
| 3 (equal) | 9 | Retain level concession fees but double in 2022 (Current Situation). |
| 3 (equal) | 16 | Minimum utilisation of 50% of total quota by Coutadas, Fazendas, CRs and NNR. Quota levels remain constant, with a doubling of abate prices in 2022. |

Interestingly the current abate and concession fee structures are some of the scenarios that generate the least financial return. In addition, increasing tourism numbers by 2% per annum to NPs and NRs creates the least increase in revenue, whereas increasing the number of Coutadas³⁵ without addressing attracting an increased number of hunting visitors also generates little financial return. Finally, a minimum 50% utilisation of the hunting quota, without addressing the current pricing structure also make a relatively low impact over a 15-year period. The main lesson here is that inaction would generate the lowest potential return.

³⁵In reality, it may not be possible to increase the number of Coutadas but rather potentially amalgamate a number of existing Fazendas.

4.13.1 Combination Scenarios

Combining scenarios provides a more complete, multi-faceted representation of different strategic options to inform decision-making. Scenarios to be combined were chosen to display the knock-on effects of different decision-making options. For example, if tourism demand within CAs increased this will impact, the level of entrance fees as well as the amount of money in total by tourists. If the number of tourism products within CAs then also increase to match this demand, the length of stay of tourists may increase as well as the average daily spend of each tourist. The five scenarios below are not the only options available but are intended to demonstrate the multiplier effects of strategic decisions to promote economic activities in CAs.

Table 23: Explanation and 15-year projections of Combined Scenarios

| Combined Scenarios | No | Explanation of Scenario | % Change over Period | % Change of Total Revenue in 2028 | % Change of Government Receipts in 2028 (22.26% of Total) | % Change of Community Receipts in 2028 (4.04% of Total) |
|---|----|--|----------------------|-----------------------------------|---|---|
| Increased number of tourists (Scenario 1) and increased duration of stay (Scenario 6) | 17 | Effect of 7% annual tourism increase in NPs and NRs on revenue generated through tourism expenditure and collected entrance fees (no change in fee price) | 799% | 3331% | 742% | 135% |
| Increased number of tourists (Scenario 1), increased duration of stay (Scenario 7), and increased entrance fee (Scenario 5) | 18 | Effect of 7% annual tourism increase and increased stay (2 nights per person) in NPs and NRs on revenue generated through tourism expenditure and collected entrance fees (with an price of fee increase by inflation) | 39329% | 6828% | 1520% | 276% |
| Increased number of tourists (Scenario 1), increased duration of stay (Scenario 7), increased entrance fee (Scenario 5) and increased number of concessions (Scenario 11) | 19 | Impact of Scenario 18 including the contributions of the growth of tourism concessions as tourism demand and stays increase. | 11255% | 7227% | 1609% | 292% |
| Increased number of hunting concessions (Scenario 13) and increased duration of hunting experiences | 20 | Effect of increasing the length of stay of hunting tourists on the economy and resulting growth of Coutada concessions as demand | 133% | -26% | -6% | -1% |

| | | | | | | |
|--|----|--|------|------|-----|-----|
| (Scenario 8) | | increases. | | | | |
| Increased number of hunting concessions (Scenario 13), increased duration of hunting experiences (Scenario 8) and and increased annual price of abates (Scenario 15) | 21 | Effect of Scenario 20 including the increase of abate prices based on annual inflation | 214% | 357% | 79% | 14% |

The table above shows four key issues:

- The total percentage change in revenue generation over a 15-year period;
- The percentage increase in revenue generation above the expected over a 15-year projection shown in section 4.9;
- The percentage change in revenue accruing to government departments or CA Park Authority (as a percentage (22.26%) of total revenue generated in 2028; and,
- The percentage change in revenue accruing to respective CA communities (as a percentage (4.04%) of total revenue generated in 2028.

The scenarios described above provide some interesting results but are all dependant on one single factor: tourists. The significant percentage increases are a result of low baseline figures. The financial analysis provides possible scenarios based on focused decisions affecting CAs but the results are entirely dependent upon macro decisions (i.e. Visas, cost of doing business, transportation costs, road infrastructure) that impact tourism in general, not just CAs.

4.13.2 Worst case financial scenarios

The above scenarios aim to show the impact of good decision-making on the revenue generating potential of the CA network. However, two real-life possibilities were noted as possible worst-case scenarios. The following analysis aims to determine the impact of poor decision-making resulting in the following two scenarios:

- (i) The effects of political unrest in Mozambique, affecting tourism levels in Chimanimani NP, escalating and have a knock-on effect on tourism levels in the rest of Mozambique; and,
- (ii) A CITES ban on export of trophy species is applied to Mozambique.

The table below provides explanations of the scenarios as well as determining the financial loss to the current generation of the CA network. The excel datasheet that accompanies this report provides the background calculations for these numbers.

Table 24: Worst cast financial scenarios

| Scenario | Explanation of Scenario and its Impact | Net loss of revenue to the CA network (USD) | % Change in 2013 total revenue generation of CA Network |
|--------------------------------|--|---|---|
| Escalation of political unrest | The effects of political unrest in Mozambique, affecting tourism levels in Chimanimani NP, escalating and have a similar impact on tourism levels in the rest of Mozambique. All CA experience the same reduction in visitor numbers and spend as Chimanimani (-600%) per annum | 18,923,154.75 | 83% |
| Export ban on hunting trophies | A CITES ban on export of trophy species is applied to Mozambique. Very few, if any, hunters would be willing to hunt in Mozambique if they are not able to return home with their trophies. Therefore, the result would be the total net loss of the hunting industry to the Mozambique economy. | 5,662,173.57 | 25% |

The table above demonstrates that a total loss of the revenue generated by the hunting industry accounts for 25% of the current revenue generation of the CA network. In addition, if all CAs reflected the same current performance of Chimanimani, as a result of the continued political unrest, 83% of current total revenue generated by the CA network would be lost. It is worth noting that both scenarios are not pie-in-the-sky thinking but real potential realities. Furthermore, political unrest does not even have to spread to other parts of the country in order to affect this change. Purely perceptions of tourists that there is

continued political unrest and that it is unsafe to travel is sufficient to create the change. The impact of isolated terrorist attacks on overall tourism travel to affected African countries in recent years is sufficient evidence of this scenario. This may affect the non-consumptive tourism sub-sector more than the consumptive tourism sub-sector.

4.14 Alternative Fee Structures

The above provides indicative estimates based on a range of scenarios. There are an additional four types of fee structures that could also be applied to the analysis. However, these require data that is not currently available and should also be treated with caution until a fill willingness-to-pay survey has been completed. Below is a narrative explanation of the five fee structures:

1. *Implementation of a new visitor fee structure* based on existing models used in other SADC countries. Examples could include purchasing annual visitor cards for domestic tourists (e.g. South Africa) or vehicle fees (e.g. USA).
2. *Implementation of a new concession fee structure* that categorises the footprint of the actual concession operation weighted with the value of the land, depending on whether it is coastal or terrestrial, and whether it is for exclusive use of an area or not, for example. This would address the extremely low fees for coastal concessions (requiring little space) and high fees for terrestrial concessions that require significant traversing areas but have a small infrastructure footprint. The effect is an undervalued coastal area and overvalued terrestrial one. The pricing is critical to generate the greatest potential return without acting as a hindrance to investment. It does, however, assume that any existing concession agreements can be amended.
3. *Applying a new structure for additional conservation fees linked to tourism hunting licences.* The Mozambique hunting industry is relatively small compared to its neighbours. Mozambique should aim to retain their existing hunting operators by avoiding placing additional financial pressure on them. However, increasing fees for payments made by hunting tourists, such as for hunting licences, does not directly affect the operator, unless the fees are so high hunting tourists decide to choose another hunting destination. If a ‘conservation levy’ is added to the tourist hunting licence this would be advisable as long as the levy is then clearly used for conservation, rather than department budget support.
4. *Licence fees for companies driving tours into national parks and reserves.* An additional fee could apply to tourism operators that transport tourists into national parks and reserves (including marine trips). They would have to apply for a licence to operate a service.
5. *Sport fishing permits.* Mozambique has some of the best sport fishing in southern Africa. It should be possible to “sell” permits to fish for key game fish such as marlin in a similar way to selling abate tickets for buffalo.

5 Assessment of Future Revenue Sources

The previous section of the report has developed a financial analysis CAs based on existing sources of revenue generation. This section aims to identify:

1. What future sources of revenue generation have been identified in Mozambique;
2. What is the current status of these future revenue sources; and,
3. What steps should be taken to develop these future revenue sources.

5.1 Future revenue sources and their current status in Mozambique

A number of alternative revenue generating options for CAs in the future are proposed by Moye and Nazerali (2010). The table below briefly identifies each source, its present status in Mozambique as well as projects that currently exist in Mozambique.

Table 25: Assessment of future revenue sources

| Revenue Generating Option: | Present status in Mozambique | Existing projects in Mozambique |
|---------------------------------------|---|--|
| Conservation Trust Funds | A BIOFUND has been developed to manage public and private sector contributions to support CAs. This is not a revenue stream in itself but a mechanism through which funds can be channelled into conservation. | BIOFUND is established and should be operational with an endowment fund of USD 15 million by 2015. |
| Payments for Ecosystem Services (PES) | The step in the PES process is to systematically catalogue and value the natural capital in Mozambique, which has not occurred as yet. Some small-scale pilots have been developed. | Sofala Community Carbon Project ³⁶ |
| Payments for Watershed Services | Little progress has been made except for the changes in the Water Tariff Policy to encourage a more commercially-orientated approach (including promoting cost recovery mechanisms). | No existing projects at present |
| Bioprospecting | The legal framework for bio-prospecting in Mozambique is established through the Convention on Biological Diversity and the Carthage Protocol on Biosecurity, as well as relevant national policies (Traditional Medicine 2001) | No existing projects at present |

³⁶World Agroforestry Centre (2013) <http://www.worldagroforestry.org/downloads/publications/PDFs/WP13001.PDF> (accessed 23 June 2014).

| | | |
|---|---|--|
| | and regulations(Decree No 19/2007 of 8 August and the Industrial Property Code). | |
| Carbon Markets | Carbon markets are in their infancy in Mozambique. To date, only one project has been submitted by Mozambique to the CDM for validation (Cimentos do Moçambique, Matola Gas Fuel Switching). Mozambique has limited capacity to engage with carbon markets, especially the Clean Development Mechanism ³⁷ . | Mozambique has one CDM project at the validation stage, recently approved. This project involves switching from coal to natural gas at the rotary kiln of a clinker manufacturing plant outside of Maputo, Mozambique. |
| Forest Carbon (a sub-set of Carbon Markets) | Forest carbon projects that integrate afforestation and reforestation (A/R) and REDD activities offer the potential to address deforestation in Mozambique, while protecting biodiversity and providing economic benefits to community “stewards” of forests. There is currently only one project by EnvironTrade on forest carbon but this is failing to generate a profit at present. There are also a number of micro initiatives at the initial stages. It is expected that the number of REDD+ initiatives will increase in the near future. | <p>Pilot for mangrove carbon in Zambeze Delta in project development stage, expected by end 2014).</p> <p>Niassa reserve carbon project under development in cooperation Flora and Fauna International.</p> <p>There have been advances in the legal framework with a new decreto, N°70/2013, " Decreto que aprova Regulamento dos Procedimentos para Aprovação de Projectos Redução de Emissões por Desmatamento e Degradação Florestal (REDD+)"</p> <p>A REDD+ Readiness process is being led by MICOA and MINAG with support from the World Bank through the Forest Carbon Partnership Facility.</p> <p>In addition, there are various other initiatives currently being designed, including IIED-led REDD+ project in the Beira Corridor, and the FFI-led Niassa Reserve RED+ project.</p> |
| Mangrove Carbon (a sub-set of | Mozambique’s estimated 390,000 hectares of mangroves extend over one of the largest | WWF project in Zambeze Delta in the project development phase, |

³⁷UNDP, CDM Opportunities and Challenges in Mozambique: http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/strategic_themes/climate_change/carbon_finance/CDM/mozambique_opportunities/ (accessed 23 June 2014).

| | | |
|--|---|---|
| Carbon Markets) | areas in Africa, with a large number protected in CAs. Little feasibility work has taken place in this field in Mozambique but the potential warrants further investigation. | expected to be finalized by end of 2014. |
| Compensation and Biodiversity Offset Mechanism | Mozambique’s Environmental Law (Law No20/1997 of July 30) is “Responsibility, on the basis of which whoever pollutes or in any way degrades the environment shall always have the obligation to repair or compensate the resulting damage” (article 4, paragraph 7). However, little practical work on biodiversity offsets has been developed in Mozambique. | The changes in the Conservation Law (April 2014), in which all economic activities inside CAs and their buffer zones are obliged to be no net loss) as well as the establishment of the BIOFUND have created opportunities for biodiversity offsets to become a potentially significant source of funding CA activities. Also important are the updating of the environmental assessment regulations that have been initiated. NICOA has begun this process but is not expected to be completed until after the forthcoming elections. The World Bank is currently developing a roadmap for the implementation of biodiversity offsets in Mozambique. |

Source: Adapted from Moyes & Nazerali (2010:12-20) and Per Comms Sean Nazerali (18th June 2014)

The above is not a comprehensive list but is based on available information at the time of writing. In order to compare which potential future revenue generating options have existing systems in place to support their development an evaluation matrix has been developed below to prioritise future revenue sources:

Table 26: Evaluation matrix of future revenue sources

| Revenue Generating Option: | Validation Questions | | | | | | | | | |
|----------------------------|-------------------------------------|------------------------------|-------------------------------------|--------------------------|--------------------------|------------------------------|--|--|-----------|--|
| | Is the legal framework established? | Have studies been conducted? | Feasibility studies been conducted? | Do pilot projects exist? | Do pilot projects exist? | central government funding)? | Is there a potential viable market (not central government funding)? | Is there a potential viable market (not central government funding)? | Reserves? | Can it be used in National Parks and Reserves? |
| Conservation Trust Funds | X | X | X | X | X | X | X | X | X | X |

| | | | | | | |
|--|-----------|---|---|---|---|---|
| Payments for Ecosystem Services | | | | | X | X |
| Payments for Watershed Services | | | | | X | |
| Bioprospecting | X | | | | X | X |
| Carbon Markets | X | X | X | | X | X |
| Forest Carbon | X | X | X | | X | X |
| Mangrove Carbon | X | | X | | X | |
| Compensation and Biodiversity Offset Mechanism | Partially | X | X | X | X | X |

Source: Per Comms Sean Nazerali (18th June 2014)

Based on the tables above there are two possibilities for the future, which is already being considered during the MOZBio preparation phase:

1. Combining the use of the BIOFUND with the recent change in the Conservation Law to develop the market for biodiversity offsets.
2. Forest carbon presents great possibilities with processes already taking place and being led by MICOA and MINAG.

These have received support from the World Bank and further development of the market should be investigated.

5.2 Required steps to develop identified future revenue sources

The table above provides a broad overview of the current systems in place to support future revenue sources. The main next step is to ensure all feasibility studies for future revenue sources are conducted. This will inform a prioritisation of supported revenue sources. Sources where all criteria are totally or partially met are Conservation Trust Funds, Compensation and Biodiversity Offset Mechanisms as well as Forest Carbon. These should therefore be considered for prioritised support.

5.2.1 Combining BIOFUND with Biodiversity Offsets

A conservation trust fund, named “BIOFUND”, was created in August 2011 after approval from the Council of Ministers and confirmation of Public Benefit Status in March 2012. The expressed aim of the BIOFUND is to “support the conservation of aquatic and terrestrial biodiversity and the sustainable use of natural resources, including the consolidation of the national system of conservation areas” (Nazerali 2013:4). The four strategic objectives of the BIOFUND in the first five years are:

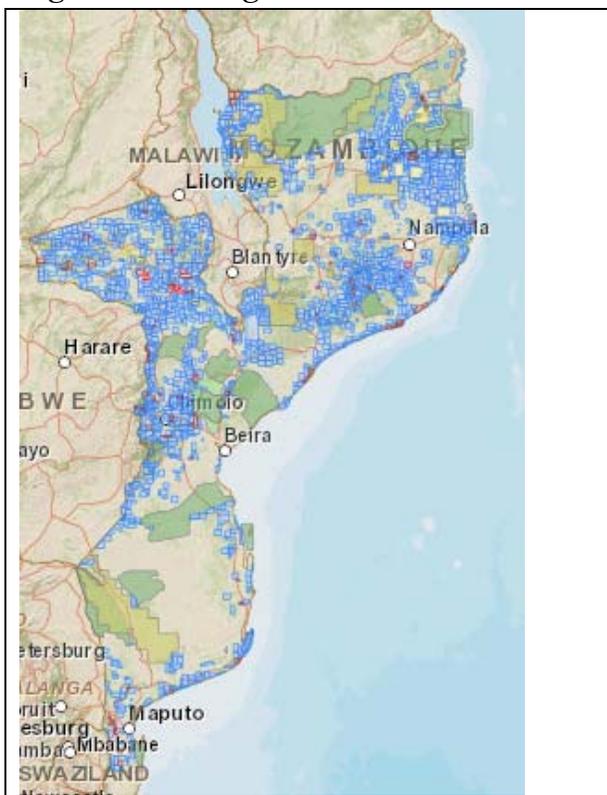
1. The BIOFUND is the preferred mechanism for non-state financing of conservation;
2. National Parks and Reserves have operational management systems;
3. The establishment of a Centre of Knowledge on Biodiversity; and,
4. To raise awareness of biodiversity and the importance of its conservation.

One of the key opportunities for the use of the BIOFUND is as a mechanism for biodiversity offsets from the private sector, predominately the mining sector. Article 11 (Compensation Mechanisms for Conservation Efforts) of the New Conservation Law of 2014 stipulates that³⁸:

1. The public or private entity, exploiting natural resources in the conservation area or its buffer zone, to which the protection provided by a conservation area, should contribute financially to the protection of biodiversity conservation in their area.
2. A public or private entity, exploiting natural resources in the conservation area or its buffer zone, should compensate for their impacts to ensure no net loss of biodiversity.
3. Right to use and enjoyment of existing carbon stocks in a conservation area and its buffer zone belong to the respective entity manages its conservation area, your marketing may be done in collaboration with other public or private entities.

Essentially the new law provides a mechanism to encourage the private sector to offset the impacts of their mining operations. The figure below shows the number and distribution of mining licences and concessions (blue dots) in relation to existing CAs (in green).

Figure 10: Mining Licences and Concessions (2013)



Source: Nazerali (2014)

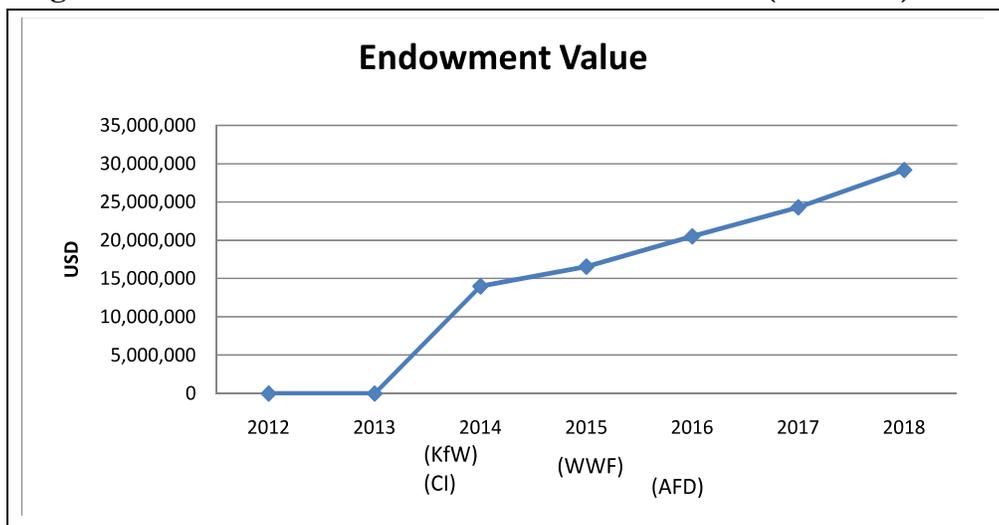
The figure above displays the size of the potential market of mining operations that would, legally under the new Conservation Law, have to contribute to the development of biodiversity offsets. It further

³⁸Translation from the original Portuguese (Google Translate)

demonstrates a number of mining operations taking place within and/or bordering CAs. Given the number of mining operations it provides a significant, and untapped, avenue of sustainable financing and diversifies its self-financing from being solely focused on tourism revenues and utilising an innovating mechanism (the BIOFUND) to fund biodiversity conservation.

Initial financial projections for the BIOFUND display the estimated endowment value of nearly USD 30 million by 2018 (see graph below) the fund would be able to generate an average 4% return, which would be used to fund conservation management efforts.

Figure 11: Estimated Endowment Value of BIOFUND (2012-2018)



By 2018, it is estimated that the fund would be distributing USD 3.5 million per annum to the CA network (Nazerali 2013:26). In addition, and most importantly, it provides a mechanism for the private sector to comply with the amendment of the Conservation Law. Although the size of the potential market is not known as yet, Figure 10 provides a clear indication of the number of customers for the BIOFUND.

It should be noted that at the time of writing the BIOFUND business plan was being updated and therefore it is likely that the numbers presented in this report will change. The purpose therefore is to demonstrate that there is a viable financial mechanism to generate and distribute financing to conservation management in a sustainable way. Should such a model prove successful its principles would be replicable to other countries.

In order to support the development of the BIOFUND Nazerali (2013) identifies a series of activities:

Box 4: Next steps for the development of the BIOFUND

- Ensure that all the major Environmental impact companies doing work in Mozambique are aware of the BIOFUND and its potential role in any offsets planned;

- Participate regularly in public EIA consultations, particularly at the pre-viability stage to ensure that offsets are considered in the terms of reference for EIA studies, and that impacts are quantified in terms of types of biodiversity loss;
- Help influence the CA system to ensure that the current quality of habitats in the CAs are quantified within the three IFC classifications of Modified, Natural, and Critical habitats, in order to be able to serve as offset areas;
- Lobby for or arrange funds to finance an inventory of biological information in the existing CAs using this classification, identifying the gaps in current knowledge that need to be filled;
- Work with ANAC to ensure that these gaps are considered when updating or elaborating CA management plans;
- Work with the CA managers and EIA companies to evaluate the gains in quality that could be achieved with better management and what the expected costs of doing so would be;
- Work intensively with the World Bank in developing the Roadmap for offsets in Mozambique;
- Work with FFEM in the elaboration and later implementation of their pilot project, possibly including hosting the project in the BIOFUND offices,
- Work with the current UNDP-GEF pilot project on offsets; and,
- Lobby and advocacy with MICOA, MITUR and the Ministry of Finances to ensure that any legislative updates continue to facilitate the regulatory environment for offsets and continue to provide for a role to be played by private financial institutions such as the BIOFUND.

Source: Nazerali (2013:24)

5.2.2 REDD+ and Forest Carbon

Mozambique is endowed with forest, woodland resources and other vegetation covering 70% of its territory. The annual loss of these resources amounts to 0.58% or 219,000 ha according to the inventory report of 2007. This represents more than double the deforestation reported in 1994 (0.21%) (UN-REDD 2013:9)

MICOA, DNFT and MINAG have proposed the development of a Technical REDD+ Unit. This would act as a meeting forum at central level to ensure sector coordination in policy development as well as facilitating implementation of REDD+ at sub-national level. The Technical Council of the National Council for Sustainable Development (CONDES) would comprise of national directors, representatives of academia, private sector, NGOs and prominent individuals, as the National Council for REDD+. The intention is that the forum and National Council would provide strategic direction and ensure political buy-in of key cross-sector interventions to reduce emissions from current land use practices. The development of pilot projects has also been proposed in order to demonstrate the viability of REDD+ initiatives, test models and REDD+ systems. Given the level of government level buy-in supporting such

an initiative would be complementary to objectives of the CA network (UN-REDD 2013). It is anticipated that this project will be implemented at the same time as MOZBio and would be thereby complementary.

6 Discussion

This section of the report aims to highlight some of the key issues from the analysis, relating to the revenue potential of the CA network in Mozambique.

6.1 *The revenue potential of the CA network in Mozambique*

Addressing specific technical points within CAs without improving the larger, more general tourism issues will not improve the financial position of CAs. In fact, purely supporting the economic conditions for investors, in general, and improving the process for a tourist to visit Mozambique will make a significant impact of the CA network. Any of the technical analysis and recommendations provided in this report are irrelevant if tourists choose not to visit Mozambique. This point is obvious but critical. Explicitly addressing “Mozambique fatigue” by tourism investors (Batey 2014), harassment by police and Army towards tourists,³⁹ political instability or even the international perception of instability, challenges and delays at border posts and Mozambique consulates for visas are fundamental to improving Mozambique’s image to tourists. Within a competitive tourism environment Mozambique’s neighbours are easily to access (air and road travel), cheaper to enter (visa prices) and have a higher quality of tourism product (especially wildlife safari tourism). Such factors influence a tourist’s decision where to visit and MITUR should actively pursue improving the conditions for tourists as well as its current tourism investors. Therefore, it is important to review this document in conjunction with other document linked to this assignment, namely: Analysis of the economic conditions relating to tourism in Mozambique.

However, assuming the above issues are addressed, the following specific points would improve the revenue generation of the CA network.

6.1.1 *Amendment of the concession and entrance fee structure in NPs and NRs*

At present terrestrial concession fees are fixed at a per hectare basis. There are four main problems with this approach: (i) it does not take into account inflation, meaning the real annual fee actually decreases each year, (ii) it places the same value on pristine beachfront location as remote, inaccessible terrestrial areas (beachfront lodges requiring low hectare areas are significantly undervalued and remote terrestrial areas where operators require large portions of land are overpriced) and (iii) it relates to the entire concession area which can be extensive, rather than the infrastructure footprint area, (iv) payments start from the concession agreement date, rather than from when the commercial operation begins (and is generating revenue to pay the concession fee). Whilst the first challenge can be resolved relatively easily, the others require a greater degree of consideration.

³⁹Note that the consultant had first hand experience of this harassment by the Army during the field visit to Maputo in May 2014.

Proposed responses:

- Increase concession fees by inflation, and include this variable within concession contracts.
- A categorisation of concession sites is required to address this issue that factors in the purpose of the site, land size required to conduct stated operations and market value of the land.
- Whether the land is exclusive use or not is also a factor in determining when a premium price should be placed on the concession.
- A phased approach to concession fee payments at the start, increasing at a date of operation (which can relate to the concessionaires proposal and be flexible).

The prices of entrance fees are updated, at present, every 10 years (see Table 5). Although consumer prices increased by inflation annually in Mozambique the price of entrance fees remain level. Therefore, tourists are being charged less (in real terms) every year. They are then met with a 100% price increase when the relevant decree is passed. This sudden and dramatic price increase would have an impact on a tourist's decision whether to visit a CA or choose an alternative location. Increasing the price of entrance fees by an average rate of inflation would be a sensible approach, or at least every three years if the systems are not in place to implement and monitor these changes effectively. In addition, improving the collection of fees and blocking the leakage. ANAC will need to consider innovative ways to collect entrance fees efficiently.

6.1.2 Increasing the length of stay of hunting tourists whilst maintaining sustainable hunting levels

The strategic objective of the hunting industry is to incentivise hunting operators to increase the number of tourists, increase the number of days spent hunting by their tourists whilst maintaining sustainable hunting levels. There are ways to incentivise this approach: (i) increase concession fees for Coutada operators; or (ii) improve the conditions for hunters to visit Mozambique and improve the marketing of the hunting industry to promote Mozambique more widely.

Under the first approach the operator pays the concession fee from income generated from the price of the hunting tour. The price of a hunting tour is dependent on the length of time spent hunting (i.e. accommodation fees) and the existing demand to hunt a particular species (i.e. price of the elephant trophy). An increase encourages the hunting operator to increase the number of tourists and/or increase the number of days they spend hunting. However, the concession fee increase cannot be too extreme as there would be a tipping point between incentivising improved business performance and encouraging withdrawal of hunting operators from Mozambique. An alternative reaction could be that the operator aims to exploit the wildlife as quickly as possible to recoup their investment before withdrawing rather than aiming to sustain their wildlife.

Under the second approach the Government aims to support the hunting industry by streamlining the process to acquire sufficient permits and licences, as well as improve the international marketing of the hunting industry. The strategic objective, beyond increasing the number of hunting days, is to encourage hunting operators to view their investment in Mozambique as long-term. In this regard it incentivises appropriate use of the quota, fair declaration of trophies as well as taxes and employment of local communities members.

One approach that has been discussed but should be treated with caution is creating a minimum quota system. It could be argued that it encourages the operator to make use of its quota. However, it would potentially have two damaging consequences: (i) it can lead to over-hunting than would otherwise take place; and (ii) in order to achieve a percentage value of the quota they would be incentivised to hunt the higher value, and limited number species. As an illustration, 100% of the lion quota would be used but only 10% of warthog. Over time excessive hunting of specialised species would have a serious consequence for the biodiversity of the ecosystem, as well as the future marketing of Mozambique as a hunting destination. One could argue that the quota would adjust annually to ensure sustainable levels but this assumes that species numbers are known centrally and monitoring takes place. It is understood that, at present, if the operator does not declare a specific abate there is little capacity to verify abatements. Therefore providing conservative quota numbers is important.

The hunting industry is a high-level repeat business. A hunter maintains a relationship with the hunting operators. Therefore, Mozambique will need to attract and retain hunting operators with a strong and established client base. This also means incentivising hunting operators to Mozambique rather than competing destinations. MITUR can support their hunting operators by improving the efficiency of processes linked to hunting tourists applying for visas, receiving hunting licences, carrying out hunting activities and exporting trophies out of the country. As the hunting industry in Mozambique is smaller and less developed than neighbouring countries, providing increased customer service is the most viable option of assisting operators to be more willing and able to pay for an increase concession fee.

6.1.3 Prioritising CA investment sites

Table 16 shows which CAs are currently and will continue to be the best financial performers but given that all, bar Bazaruto, have relatively low levels of private investment it is difficult to accurately predict their projected growth forecasts. Furthermore, given the negative current economic environment for investors described by Batey (2014) it seems unrealistic to expect significant changes in current growth trajectories.

Based on the financial analysis the priority sites for investment are:

- Limpopo NP
- Bazaruto Archipelago
- Maputo Special Reserve
- Qurimibas NP

- Coutadas, Fazendas and Community Reserves (as a collective)
- Gorongosa NP
- Niassa NR

However, there are qualitative insights that the quantitative data does not display, mainly because of a lack of data or disaggregation of the data, namely:

Road development to Ponta do Ouro: The completion of a tarmac road to Ponta do Ouro will make the area accessible to non-4x4 vehicles, including a bridge from Maputo to Catembe, will undoubtedly increase the number of tourists and reduce tourist travelling times. Given that Ponta do Ouro already has a relatively well developed (though ad-hoc) tourism product with a strong reputation, it would be reasonable to assume that construction and tourism development in this area will increase significantly. This will have an impact on tourism accommodation and trade but also negative affects on sustainable fishing levels and biodiversity levels. In anticipation for this, support to the partial marine reserve should be considered as a potential significant revenue generator to the CA network. Amended concession and entrance fee structures (recommended in Section 6.1.1) could be piloted in this CA.

Niassa NR: It is the management model, rather than its financial impact, that is important. Developing essentially a public-private partnership (PPP) to improve the performance of CAs which are costly for the government to operate and currently generate little returns should be considered. It is an important decision as it balances a temporary loss of control (within the contractually negotiated limits) of a CA versus the return of a functioning and revenue generating CA in the future. This model should be further assessed from a cost-benefit perspective.

Gorongosa NP: Gorongosa is not on the MOZBio list for receiving support. However, it is currently being supported by the CARR Foundation as well as support from USAID, which would explain their absence. Given the present situation in the area as a result of the current political unrest the current estimates for the NP are low. These could significantly change if there is no further political unrest in the future, access for tourists improves and the support from the CARR Foundation continues.

Total economic value of CAs: Section 3 shows that this report has adopted a relatively narrow view of the value of the CA network because of three reasons: (i) the scope of work in the assignment did not request a valuation of environmental services; (ii) the lack of current data in Mozambique on value environmental services; and, (iii) the limited time for completion of this research. However, in order to demonstrate the true and full value to the Mozambique economy a valuation of environmental services is critical. It is difficult to place an approximation of the value at this stage and to attempt a guess without any numbers would be irresponsible. More importantly though, in order for the numbers to mean anything to national level Government the introduction of ‘Green Accounting’ or valuing natural capital within a country is critical. This approach achieves three objectives:

1. Generates a significantly higher value of a CA network;

2. Justifies greater financial and political support for CAs as it shows a greater return on investment and,
3. Converts a nature-based conservation to a financial conservation, which is understood by financial and economic Ministries.

More information on a World Bank-led approach to value natural capital within Ministries is provided below:

Box 5: Wealth Accounting and the Valuation of Ecosystem Services (WAVES): Value of Natural Capital

The Wealth Accounting and Valuation of Ecosystem Services (WAVES) is a global partnership, which World Bank President Robert B. Zoellick announced in Nagoya, Japan, in 2010. It has been supporting a number of countries as they prepare to implement natural capital accounting. **Natural capital is a critical asset, especially for low-income countries where it makes up a significant share (36%) of total wealth.** For these countries, livelihoods of many subsistence communities depend directly on healthy ecosystems. Incorporating natural capital into national accounts can support better decisions for inclusive development.

Natural capital accounting can provide detailed statistics for better management of the economy. For example land and water accounts can help countries interested in increasing hydro-power capacity to assess the value of competing land uses and the optimal way to meet this goal. Ecosystem accounts can help biodiversity-rich countries design a management strategy that balances tradeoffs among ecotourism, agriculture, subsistence livelihoods, and ecosystem services like flood protection and groundwater recharge. Ecosystems accounting not only provides a tool to maximize economic growth but is also a means to measure whom benefits and bears the cost of ecosystem changes, helping governments gauge whether their growth is inclusive.

Source: Waves Partnership: <http://www.wavespartnership.org/en/frequently-asked-questions-natural-capital-accounting-nca?active=2> (accessed 20th June 2014).

6.1.4 Synergistic effects⁴⁰ of improved or reduced performance of specific CAs

Results from scenarios above were aggregated and compared as a contribution gross domestic product (GDP) growth in Mozambique. The analysis identified key investment sites for continued, based purely on

⁴⁰It should be noted that the original TOR requested the development of macro, regional and micro parameters to test the robustness of individual variables (Task 6) as well as the application of standard sensitivity analyses (Task 8). However, given the time constraints it was agreed between representatives of the World Bank and MITUR (TFCA Unit) that these tasks could be deleted in replacement of the alternative scenario forecasting explained above. It was agreed that the above process would add greater value to ANAC's future operations.

the financial returns. The synergistic effects⁴¹ of improved or reduced performance of specific CAs are largely subjective as based on qualitative interviews.⁴²

Limpopo NP: If the road network between bush and beach areas are improved as well as the facilities for tourists and wildlife in the NP more people will want to stay. A result may be increased travel of tourists from Kruger NP (in South Africa) through Limpopo NP and potentially via Banhine or Zinave to the coast of Vilanculos, Bazaruto and Pomene. This was the initial concept: the bush-beach link for the Greater Limpopo TFCA. However, this requires good roads, good wildlife and safety for tourists. It currently it takes too long to travel on this route in addition to the harassment of tourists by Mozambique Police and Army, making it not an attractive option.

Bazaruto NP: Improved linkages between Bazaruto and the mainland are required. Co-marketing of destinations would be possible to encourage tourists to stay longer on Bazaruto before then travelling to Pomene, Inhassoro or Vilanculos. However, this would require some level of product differentiation to offer the tourists something different at each location.

Maputo Special Reserve and Ponta do Ouro: Bush-beach linkages could be developed through day trips from Maputo or Ponta do Ouro to Maputo Special Reserve, providing a good circuit. This would require good access roads interlinking them as well as within the reserve. However, the terrain is highly sensitive to erosion and may not be able to transport high numbers of tourists without significant damage (Per. Coms. Booth 2014). Improved visitor facilities would also lead to an increased tourist demand. The problem here is that.

Quirimbas NP: The development of the mining industry in the area and the increased number of expatriates in Pemba town make linkages between the mainland and Quirimbas viable. However, reducing the price of flights to the area as well as providing more affordable accommodation and cheaper flights between Pemba and Quirimbas would be important.

⁴¹It should be noted that the original TOR requested the development of macro, regional and micro parameters to test the robustness of individual variables (Task 6) as well as the application of standard sensitivity analyses (Task 8). However, given the time constraints it was agreed between representatives of the World Bank and MITUR (TFCA Unit) that these tasks could be deleted in replacement of the alternative scenario forecasting explained above. It was agreed that the above process would add greater value to ANAC's future operations.

⁴²Per Comms: Dr Anna Spenceley (23rd June 2014)

7 Recommendations on the development of the MOZBio project Component 2: Promotion of Tourism in Conservation Areas

The final section provides recommendations specifically for the development of the MOZBio project, focusing on how the above analysis can improve the impact of its implementation. There are two main areas of recommendations relating to the MOZBio project which will be unpacked further:

1. Increasing the financial sustainability of the CA network; and,
2. Strengthening the argument for supporting CAs.

7.1 Recommendations for increasing the financial sustainability of the CA network

Address the macro level constraints to tourism in Mozambique: The complementary report “Analysis of the economic conditions relating to tourism in Mozambique” provides a series of recommendations on both a macro and individual CA level to develop tourism in the country as a whole. Although the MOZBio project is focused on tourism in CAs they are entirely dependent on greater tourism issues.

Focus on existing revenue options first: Given the lack of capacity within CA management teams it would be advisable to focus on a limited number of revenue sources of income, maximise their potential before diversifying. Diversifying beyond capacity would result in ineffectively implementing a broad range of income generating activities with limited return. Any changes to fee structures should first be subject to willingness-to-pay assessments in order to determine the correct structure and value.

Inaction generates the lowest revenue growth of the CA network: The future scenarios showed, with the exception of worst-case scenarios, that following any of the scenarios described would generate a greater revenue generation that is currently predicted. Therefore, the inaction generates the least financial return. MITUR and ANAC should strongly investigate which future scenario option to pursue, in line with full willingness-to-pay surveys.

Utilise the BIOFUND as a mechanism for channelling private sector or donor organisation funding into conservation management. The implementation of the new Conservation Law provides an opportunity to link private sector funding to biodiversity offsets. Such a financial mechanism would be more attractive to private companies than funding through a government institution. Nazerali (2013) states for each 1% of the country transformed through biodiversity offsets approximately USD5.5 million will be required annually for optimal management (2013:23). Although these numbers are speculative they provide an indication of the level of revenue generation such a mechanism could provide to supporting conservation management in Mozambique.

Replicate the management model used by SGDRN in NNR for costly CAs that generate limited current financial return. The effectiveness of Niassa National Reserve management, then SGDRN, to negotiate contracts with concessionaires resulted in doubling per km² value of CAs compared to those managed by MITUR. This is generally because that SGDRN had a greater internal capacity and experience to structure and negotiate contracts with private operators. This is a model that would be worth further investigation, especially for NPs and NRs, which currently generate little revenue for

MITUR but have significant operational and investment costs. However, it is understood that there are a number of potential challenges to this approach, namely⁴³:

- It may be considered that continued concessioning areas to private operators reduce Mozambique's sovereignty, especially if it involves international investors. The development of an institution called Mozico de Indico, which was developed during the concessioning process as a government company to partner with the private operator on concession sites, may be considered a reaction to this concern.
- Previous attempts to negotiate management agreements with private companies had failed. In Zinave, MITUR held negotiations with Dubai World but the company withdrew because of the effect of the recession. Negotiations then took place with African Parks (AP) but was unsuccessful as the respective roles and responsibilities could not be agreed between AP and the Government of Mozambique.

7.2 Recommendations for strengthening the argument for supporting CAs

One interesting question posed during this research from stakeholders was how do you justify financially supporting CAs instead of converting them to agricultural land, which would create greater employment? Beyond the obvious conservation-based arguments, from a financial perspective it is difficult if you do not have an immediate "cash cow" product. The second concern is whether you are counting properly – the total value of CA, not just the infrastructure investment and jobs. This requires a change in perspective over what is considered valuable: the immediate things that are visible or also the things that provide greater services to other industries (ie, water quality, sanctuaries for juvenile fish species etc). The following activities are required to address this situation:

Full financial audit of the CA network: The data sheets that accompany this report should be used as a basis to be completed at the start of the MOZBio. This will create a baseline and structured for continued monitoring. This report significantly underestimates both the investment and annual revenue generation because of a lack of real data. Capturing and monitoring financial data will support more effective decision-making.

Baseline of community-based economic activities and the effects of tourism in CAs on their activities: It is understood that during TFCA TDP additional (non-tourism related) community-based incomes, that were not directly supported by the project, were not monitored. It would be recommended for the implementation of MOZBio all revenue sources are at least monitored in order to provide the greatest revenue value of CAs.

Determine the true economic value of the CA network: This report explicitly does not determine the natural capital (the stock) or the value of the environmental services (the flow). This would be valuable piece of information that would undoubtedly increase the financial argument for supporting the CA network.

Systematising green accounting into Government authorities: Green accounting and valuing environmental services are not mutually exclusive exercises. Placing a value on the services is purely academic if the information is not understood and used by Ministries that determine budgets, generally a Ministry of Finance. If the MOZBio projects want to demonstrate the increased return on investment

⁴³Per Coms: Dr. Anna Spenceley 06-05-2014

of supporting the CA network improving accounting and acknowledgement of those numbers is important.

Use financial information to inform decision-making, not control it: This exercise makes recommends for prioritized investment sites based purely on a financial analysis. This should form a component of the decision-making process but should also be informed by other factors such as, level of biodiversity in a CA, the human-wildlife conflict levels, population levels within and bordering the CA to name a few.

Support coordination or reporting of CA financial information between Government authorities: A number of Government authorities receive revenue from activities within the CA network. How much is received and how this is used is not always clear. This report has attempted to create a clearer picture but questions still remain. Improving the coordination and communication of how CA revenues are used would be helpful to maximise benefit to the CAs.

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9 Annex List:

9.1 Annex 1: List of Stakeholders Consulted

| Name | Institution |
|---------------------------------|---|
| Afonso Madope | TFCA Unit, MITUR |
| Ivone Semente | TFCA Unit, MITUR |
| Vasco Acha | TFCA Unit, MITUR |
| AndréRodrigues Aquino | World Bank |
| Claudia Sobrevila | World Bank |
| Ben Garnaud | World Bank |
| Cidalia Mahumane | MITUR Department of Planning and Monitoring |
| Samiro Magane | MITUR TFCA Unit |
| Filipe Guidane | MINT – Ministry of Interior (Principle Inspector of Police) |
| Marcelino Foloma | DNTF MINAG – Ministry of Agriculture |
| Mike Fabricus | UNWTO Consultant for Strategic Tourism Plan |
| Richard Tapper | Consultant, Author of Quirimbas Tourism Development Plan |
| Vernon Booth | Consultant |
| Madyo Couto | Consultant |
| Professor Charles Breen | Consultant |
| Dr Anna Spenceley | Consultant |
| Sean Nazerali | Consultant |
| Miguel Goncalves | Ponta do Ouro Partial Marine Reserve |
| Mike Marchington | Gorongosa Restoration Project |
| Maria Celeste Onions Chitara | Biofund |

9.2 Annex 2: List of Conservation Areas in Mozambique

| # | Conservation Area Name | Legal Designation (National Park, National Reserve, Forest Reserve, Coutada Hunting Reserve, Community Reserve) | Agency (Government Department) | Habitat (Marine, Coastal, Inland, Wetland) | Size (ha) | Year Established |
|----|--------------------------------------|--|-----------------------------------|---|--------------|------------------|
| 1 | Bazaruto Archipelago | National Park | DNAC | Marine | 143,000 | 1971 |
| 2 | Banhine | National Park | DNAC | Inland | 560,000 | 1973 |
| 3 | Gorongosa | National Park | DNAC | Inland | 537,000 | 1960 |
| 4 | Limpopo | National Park | DNAC | Inland | 1,000,000 | 2001 |
| 5 | Quirimbas | National Park | DNAC | Marine, Coastal, Inland | 913,000 | 2002 |
| 6 | Zinave | National Park | DNAC | Inland | 400,000 | 1973 |
| 7 | Magoe | National Park | ANAC | Terrestrial | 355,852 | 2013 |
| 8 | Gilé | National Reserve | DNAC | Inland | 210,000 | 1960 |
| 9 | Maputo Special Reserve | National Reserve | DNAC | Marine, Coastal | 104,000 | 1960 |
| 10 | Marrromeu Special Reserve | National Reserve | DNAC | Wetland | 150,000 | 1960 |
| 11 | Niassa | National Reserve and Associated Hunting Blocks | DNAC | Inland | 4,220,000 | 1964 |
| 12 | Chimanimani | National Reserve | DNAC | Inland | 238,989 | 2003 |
| 13 | Pomene | National Reserve | DNAC | Coastal | 20,000 | 1964 |
| 14 | Ponta do Ouro | Partial Marine Reserve | ANAC | Marine | 67,300 | 2009 |
| 15 | Lake Niassa | Partial Marine Reserve | Fisheries | Freshwater/Terr | 48,563 | 2011 |
| 16 | Archipelago das Primeiras e Segundas | Área de Protecção Ambiental | | Marine, Coastal | 1,040,930 | 2012 |
| 17 | Inhaca | Biological Reserve | University of Eduardo Mondlane | Marine | 5,100 | |
| 18 | Coutada 4 (Manica) | Coutada Hunting Reserve | DNAC | Inland | 1,230,000 | |
| 19 | Coutada 5 (Sofala) | Coutada Hunting Reserve | DNAC | Inland | 686,800 | |
| 20 | Coutada 6 (Sofala) | Coutada Hunting Reserve | DNAC | Inland | 456,300 | |
| 21 | Coutada 7 (Manica) | Coutada Hunting Reserve | DNAC | Inland | 540,800 | |
| 22 | Coutada 9 (Manica) | Coutada Hunting Reserve | DNAC | Inland | 433,300 | |
| 23 | Coutada 10 (Sofala) | Coutada Hunting Reserve | DNAC | Inland | 200,800 | |
| 24 | Coutada 11 (Sofala) | Coutada Hunting Reserve | DNAC | Inland | 192,800 | |
| 25 | Coutada 12 (Sofala) | Coutada Hunting Reserve | DNAC | Inland | 271,300 | |
| 26 | Coutada 13 (Manica) | Coutada Hunting Reserve | DNAC | Inland | 568,300 | |
| 27 | Coutada 14 (Sofala) | Coutada Hunting Reserve | DNAC | Inland | 135,300 | |
| 28 | Coutada 15 (Sofala) | Coutada Hunting Reserve | DNAC | Inland | 200,000 | |
| 29 | Nicage (Cabo Delgado) | Coutada Hunting Reserve | DNAC | Inland | 669,700 | |

| | | | | | | |
|----|---------------------------------------|-------------------------|-------------|-------------|---------|---------------|
| 30 | Tchuma Tchato (Maravia) | Community Reserve | | Inland | 310,300 | |
| 31 | Tchuma Tchato (Bawa) | Community Reserve | | Inland | | |
| 32 | Tchuma Tchato (African Hunting) | Community Reserve | | Inland | 250,000 | |
| 33 | Tchuma Tchato (Calm Lake) | Community Reserve | | Inland | 376,800 | |
| 34 | Tchuma Tchato (Chawalu) | Community Reserve | | Inland | 223,800 | |
| 35 | Chipanje Chetu | Community Reserve | | Inland | 606,500 | |
| 36 | Messalo | Coutada Hunting Reserve | DNAC | Inland | 122,700 | 2013 |
| 37 | Nungo | Coutada Hunting Reserve | DNAC | Inland | 328,800 | 2013 |
| 38 | Lureco | Coutada Hunting Reserve | DNAC | Inland | | 2013 |
| 39 | Mulela | Coutada Hunting Reserve | DNAC | Inland | 96,400 | 2013 |
| 40 | Cabo de São Sebastiao | Zona de Protecção Total | MITUR | Coastal | 43,926 | 2003 |
| 41 | Malhazine | Parque Ecologico | | Inland | 586 | |
| 42 | North Quirimbas | | Private ??? | Marine | 23,000 | 2008 |
| 43 | Vilanculos Coastal Wildlife Sanctuary | | Private ??? | Coastal | 8,000 | 2000 |
| 44 | Hunters Mozambique | Fazenda de Bravio | Private | Terrestrial | 9,445 | em tramitacao |
| 45 | Mtsewa | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 46 | Olinax | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2009 |
| 47 | Vasco Lina | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2012 |
| 48 | Muangaza | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2012 |
| 49 | Tybio Takwa Ngwane | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2012 |
| 50 | Namoto | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2009 |
| 51 | Negomano Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | nao tem DUAT |
| 52 | Mozambique Unlimited | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 53 | Mozambique Wild Safaris | Fazenda de Bravio | Private | Terrestrial | 80,000 | nao tem DUAT |
| 54 | Monte Mosale | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 55 | Tropic Sun Mozambique | Fazenda de Bravio | Private | Terrestrial | 9,990 | 2012 |
| 56 | Niassaland Safaris | Fazenda de Bravio | Private | Terrestrial | 9,990 | 2012 |
| 57 | Sociedade Nhalikanga | Fazenda de Bravio | Private | Terrestrial | 7,400 | 2012 |
| 58 | Chengene Safaris | Fazenda de Bravio | Private | Terrestrial | 9,400 | 2012 |
| 59 | TCT Industrias Florestais | Fazenda de Bravio | Private | Terrestrial | 9,900 | 2012 |
| 60 | Dombowera | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2012 |
| 61 | Ngalamo Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2012 |
| 62 | Mozunaf Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2012 |
| 63 | Lagoa Gada | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 64 | Sambazo | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 65 | KKH | Fazenda de Bravio | Private | Terrestrial | 10,000 | emtramitacao |

| | | | | | | |
|----|-------------------------------|-------------------|---------|-------------|--------|------------------|
| 66 | Lacerdonia | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2008 |
| 67 | Biriranhe | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 68 | SAPAP | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2006 |
| 69 | Safari Mondzo | Fazenda de Bravio | Private | Terrestrial | 10,000 | has DUAT |
| 70 | Gestur | Fazenda de Bravio | Private | Terrestrial | 10,000 | has DUAT |
| 71 | Mucavele Invest | Fazenda de Bravio | Private | Terrestrial | 10,000 | has DUAT |
| 72 | Sabie Investment | Fazenda de Bravio | Private | Terrestrial | 10,000 | has DUAT |
| 73 | Sabie Game Park | Fazenda de Bravio | Private | Terrestrial | 23,000 | has DUAT |
| 74 | Gaza Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 75 | Ndluvu Interprise | Fazenda de Bravio | Private | Terrestrial | 5,000 | 2012 |
| 76 | Khaya Investments | Fazenda de Bravio | Private | Terrestrial | | 2012 |
| 77 | Kambaku Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2012 |
| 78 | Investcom | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2012 |
| 79 | Mbabala Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2006 |
| 80 | Paul & Ubisse | Fazenda de Bravio | Private | Terrestrial | 19,000 | 2006 |
| 81 | Massingir Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2009 |
| 82 | Massingir Game Reserve | Fazenda de Bravio | Private | Terrestrial | 10,000 | 2009 |
| 83 | Ngweneya project | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 84 | Muthemba Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 85 | Gonarezhou Transfrontier Park | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 86 | Micuane EcoTurismo | Fazenda de Bravio | Private | Terrestrial | 9,400 | 2012 |
| 87 | Pro-Hunters | Fazenda de Bravio | Private | Terrestrial | 9,600 | 2012 |
| 88 | Artemis Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 89 | Mahimba Game Farms | Fazenda de Bravio | Private | Terrestrial | 17,000 | has DUAT |
| 90 | Real Safaris | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 91 | Sicose-Cagtamo | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 92 | Chaba Ingwe | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |
| 93 | Massambanzou | Fazenda de Bravio | Private | Terrestrial | 10,000 | em tramitacao |

9.3 Annex 3: Approved Inception Report