Sustainable Financing of the Protected Area System in Mozambique

TERMINAL EVALUATION REPORT

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Abbreviations

AFD	Agence Française de Développement
ANAC	Administração Nacional das Áreas de Conservação
AWP	Annual work plan
BAU	Business-as-usual
BIOFUND	Fundação para a Conservação da Biodiversidade
CGRN	Comité de Gestão de Recursos Naturais
CNA	Companhia Nacional de Algodão
CPD	Country Programme Document
CSO	Civil Society Organization
DNAC	Direcção Nacional de Áreas de Conservação
DUAT	Direito de Uso e Aproveitamento de Terra
EC	European Commission
EML	Envirotrade Mozambique Limitada
EOP	End-of-project
ETS	Emission trading schemes
FFEM	Fonds Français pour l'Environnement Mondial
FNDS	Fundo Nacional de Desenvolvimento Sustentável
FRELIMO	Frente de Libertação de Moçambique
FSS	Financial Sustainability Scorecard
GDP	Gross domestic product
GEF	Global Environmental Facility
GNP	Gorongosa National Park
GoM	Government of Mozambique
GRP	Gorongosa Restoration Project
GTA	Grupo de Trabalho Ambiental
IGF	Fondation Internationale pour la Gestion de la Faune
INE	Instituto Nacional de Estatística
IP	Implementing Partners
KfW	Kreditanstalt für Wiederaufbau
Masl	Meters above sea level
MITADER	Ministério da Terra, Ambiente e Desenvolvimento Rural
MICOA	Ministério para a Coordenação da Acção Ambiental
MITUR	Ministério de Turismo
MozBio	Mozambique Conservation Areas for Biodiversity and Development Project
Mt.	Mount, Mountain
MTEF	Medium term expenditure framework
MTR	Midterm review
MZN	Mozambican Metical
NBSAP	National Strategy and Action Plan of Biological Diversity
NIM	National Implementation Modality
NCP	National Conservation Policy
NGO	Non-Government Organization
NPP	N'hambita Pilot Project
NSPA	National System of Protected Areas
OE	Orçamento do Estado
PTO	Project technical officer

PA	Protected areas
PARP	Plano de Acção para a Redução da Pobreza
PEDD	Plano Estratégico de Desenvolvimento Distrital
PIR	Project implementation review
PM	Project manager
PMU	Project management unit
PRODOC	Project document
PROFIN	Sustainable Financing of the Protected Area System in Mozambique
PQG	Programa Quinquenal do Governo
REDD	Reducing Emissions from Deforestation and Forest Degradation
RENAMO	Resistência Nacional Moçambicana
SDAE	Serviços Distritais de Actividades Económicas
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
SO	Strategic objective
SP	Strategic plan
SPEED	Support Program for Economic and Enterprise Development
TE	Terminal evaluation
TFCA	Transfrontier Conservation Areas and Tourism Development
ToR	Terms of reference
UNCT	United Nations Country Team
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USFS	United States Forest Services
WB	World Bank
WCS	Wildlife Conservation Society

Title of UNDP supported GEF financed project	Sustainable Financing of the Protected Area System in Mozambique
GEF Project ID	3753
UNDP GEF PIMS:	3938
Evaluation time frame	June-October 2017
Date of evaluation report	October 2017
Region	Africa
Focal Area	Biodiversity
Trust Fund	GEF Trust Fund
GEF Focal Area Strategic Objective	BD-SP1: Sustainable financing of protected area system at the national level
Coordinating agency	UNDP
Executing agency	Ministry of Land, Environment and Rural Development
Implementing partner 1	National Administration of Conservation Areas (ANAC)
Implementing partner 2	Gorongosa Restoration Project (GRP)
Implementing partner 3	WWF Mozambique
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Project Summary Table

Project Title	Sustainable Financing of the Protected Area System in Mozambique
GEF Project ID	3753
UNDP GEF PIMS:	3938
Country	Mozambique
Region	Africa
Focal Area	Biodiversity
Trust Fund	GEF Trust Fund
GEF Focal Area Strategic Objective	BD-SP1: Sustainable financing of protected area systems at the national level
PIF approval date	November 2008
CEO endorsement date	August 2010
PRODOC signature date	December 2011
Inception workshop	November 2012
Planned closing date	December 2016
Actual closing date	December 2017
Coordinating agency	UNDP
Executing agency	Ministry of Land, Environment and Rural Development
Implementing partner 1	National Administration of Conservation Areas (ANAC)
Implementing partner 2	Gorongosa Restoration Project (GRP)
Implementing partner 3	WWF Mozambique
GEF grant	US$ 4,850,000
Co-financing total	US$ 13,868,190
GEF agency fees	US$ 485,000
Total project cost	US$ 18,868,190.00

Executive Summary

The project Sustainable Financing of the Protected Area System in Mozambique was implemented between 2012 and 2016. The project was conceived and implemented as four different project brought together under one administrative umbrella to establish synergies and cut transaction costs. Thus, four quasi-independent implementing partners independently implemented activities towards the achievement of three outcomes: 1. *Sustainability of the protected area system institutionalized* referred to the institutional strengthening of the National Administration of Conservation Areas, in charge of most of Mozambique's protected area and management of biodiversity outside protected areas. The outcome involved developing organizational capacities through strategic documents and staff training and equipment. 2. *Co-management-models in demonstration sites* intended to test protected area benefit sharing approaches. Under this outcome, a tourism

joint venture, hiring of buffer area community members as rangers and extension workers and provision of agricultural extension services was to be evaluated in terms of socio-economic benefits against costs. Outcome 3 *Business planning and revenue generation* referred to the evaluation of four different alternative funding sources for the protected area system: a conservation trust fund, improved user fees collection and management pilot carbon sequestration project in mangrove forests and implementation of biodiversity offset and compensation mechanisms. The implementing partners were the government agency National Protected Area Administration, and the NGOs Gorongosa Restoration Project and World Wild Fund (WWF) Mozambique.

During project implementation was transformed from a directorate of the Ministry of Tourism, the National Direction for Conservation Areas (DNAC) to a parastatal agency called National Administration for Conservation Areas (ANAC), attached to the new Ministry of Land, Environment and Rural Development (MITADER). Gorongosa Restoration project emerged from a long-term agreement, now reaching up to 2041 between the Government of Mozambique and the US-based Carr Foundation for the management of the Gorongosa National Park (GNP). WWF has implemented numerous environmental projects in Mozambique since the late nineties. A result of WWF's components was the establishment of a trust fund for the financing of protected areas, BIOFUND, which, during the last two years of implementation 2015 and 2016 acted as a semi-independent implementing partner.

Project delivery was slow for components 1, specially during the first three years of project implementation and component 2. Component 1 was affected by the reorganization of the implementing partner and conflicts on contractual modalities with the implementing agency (UNDP) which were eventually resolved by 2014 with the consolidation of ANAC under a new leadership and the recruitment of a chief technical advisor to support the project management units. Political violence, particularly for the years 2014-2016 affected severely the implementation of component two and forced the termination of the tourism joint venture output. Instead, GRP concentrated efforts in the agricultural component which allowed the outcome to catch up with expected delivery rates by 2016.

Monitoring of project indicators was weak and monitoring data reviewed for the terminal

evaluation was partially contradictory and/ or missing. This was due to the learning curve needed for implementing partners to adjust to and internalize project results and indicators, which was significantly strengthened after the 2014 midterm review. Thus, enough data was made available to draw conclusions on the project's effectiveness. However, deficient or insufficient data did not enable a satisfactory evaluation of the project's actual impact, especially in terms of reliable capacity measures at ANAC, degree of implementation of effectiveness measures at individual protected areas (METT) and socio-economic changes at adjacent communities of the Gorongosa National Park. On the later, the political violence in the district of Gorongosa had a greater and negative effect on the GNP buffer zone population than any positive effect this project my had. However, the presence of the project MozBio in support of ANAC, the activities of BIOFUND as repository of protected area data and the ceasefire in Gorongosa will undoubtedly contribute to the generation of reliable data on this dimensions in the midterm.

Project implementing partners (IPs) and implementing agency had important differences, notably on the contractual situation of the PMU staff, but also on timely submission of financial reports and annual work plans for approval, and on mechanisms for disbursement of funds. However, all conflicts were positively resolved by the pro-active engagement of the IPs and the UNDP.

Total project costs amounted to US$ 4.69 million or 93% of the GEF grant, to which additional US$ 0.23 million from UNDP TRAC funds must be added. The project also managed to mobilize not quantified or documented in-kind support from the implementing partners ANAC, GRP and WWF. Moreover, the project could mobilize funds amounting to US$ 24.27 million for the BIOFUND component, mostly as donations for BIOFUND's endowment fund, but also for BIOFUND's operation support and grants for protected areas through BIOFUND. Thus, the co-finance amount was 177% over the originally committed US$ 13.87 million.

In terms of effectiveness, the project financed the development of strategic documents for ANAC, including a strategic plan, a financial plan and a business plan template for protected areas. However, the strategic plan development was detached form the project early on, and was only finalized by 2015. Currently, only 0.5% of the budget of ANAC is directly linked to the strategic objectives of the plan. Moreover, ANAC has since been

attached to the newly created MITADER and lost its parastatal character, on which the strategic plan was based. The financial plan did gather relevant information on costs and revenues from protected areas, and made clear recommendations that are being implemented: division of protected areas in two categories according to their revenue potential and significant improvements in the fee collection system, this supported by another study funded by the project, which is expected to rationalize and significantly increase revenue generation for protected areas. However, the business plan template fell short of expectations as the study cannot be used to develop individual protected area business plans, which only three protected areas of Mozambique possess. Instead component 1 contributed to the development of four PA management plans, which could be expanded to include business plans in the future. ANAC's new political situation, as quasi-directorate of MITADER and the fact that its most important financial support, the World Bank's project MozBio would be shifting towards supporting the more overarching goals of the newly established Sustainable Development Fund means that ANAC will need to redefine its role as effective management of biodiversity inside and outside of protected areas.

GRP was forced to abandon plans to develop tourism at Gorongosa Mountain due to the increasing political violence in the area which also affected its own staff. However, GRP could establish the basis for sustainable coffee production in the Mountain's buffer zone, by establishing a yet small but consolidated core of coffee farmers which GRP intends to support beyond project end with its own funds and committed external aid, on the basis set by this project. Coffee producers are expected to be supported by GRP at least till 2021. Reforestation efforts were also hampered by the violent political conflict, and many volunteers have been since displaced or simply desisted. However, some advances were made in river bank protection and the forestry nurseries and forestry extension workers engaged under this project are expected to continue reforestation efforts in the buffer zone profiting from the now seemingly stable ceasefire. In this regard, activities of GRP seem to have gained considerable acceptance among population and traditional authorities of the GNP mountain buffer zone and awareness on importance of biodiversity and forest cover seems to be growing.

The establishment of BIOFUND, now with a total capital amounting to US$ 24.27 has been an outstanding success for this project. While other projects and organizations greatly contributed to the consolidation and current activities of BIOFUND, notably the

project MozBio and BIOFUND principal financier KfW, this project set the basis for that enabled the start of BIOFUND operations, and constituted hence a necessary condition for its existence. With an endowment fund amounting to US$ 21.56 million already generating interests that have been channelled to protected areas through grants, and gaining support as implementing partner from international donors wishing to contribute to the protected area system of Mozambique, sustainability of BIOFUND seems to be guaranteed for the next five years at least, and likely more.

However, the other two endeavours of component three, the development of functional pilot projects on carbon credits and biodiversity offsets yielded only study reports, which, while systematizing existing information on the topic, fell short of the expected revenue stream from these sources. However, said revenue streams were not realistic given that 1. The carbon market did not develop at the expected pace and 2. The legal basis and the necessary awareness among government and private operators needed for the establishment of a functional biodiversity offset mechanism is only now slowly developing.

In summary, the project Sustainable Financing of the Protected Area System in Mozambique leaves behind a more solid protected area system by catalysing a more efficient and sustainable revenue stream from protected area fees, setting the basis for sustainable agriculture in the buffer zone of Mount Gorongosa and establishing BIOFUND, which will not only contribute to finance protected areas but will also act as a repository of information on biodiversity and protected areas in Mozambique.

Evaluation Rating Table

Rating Project Performance		
Criteria	**Comments**	
Monitoring and Evaluation: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		
Overall quality of M&E	Moderately satisfactory	The project's indicator framework was comprehensive and SMART, but implementation was not optimal, although it improved after the MTR
M&E design at project start up	Satisfactory	24 SMART indicators, including GEF tracking tools
M&E Plan Implementation	Moderately satisfactory	Inconsistent, contradictory reporting, weak baselines and missing documentation. IP with insufficient technical capacity to measure the indicators
IA & EA Execution: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		
Overall Quality of Project Implementation/Execution	Satisfactory	Disbursement and administration performed without major problems
Implementing Agency Execution	Satisfactory	UNDP provided sufficient technical and administrative support
Executing Agency Execution	Satisfactory	All IPs engaged proactively to solve implementation challenges
Outcomes: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)		
Overall quality of project outcomes	Satisfactory	Significant achievements that strengthened the financial sustainability of the PA system
Relevance: relevant (R) or not relevant (NR)	Relevant	Project supported national policies
Effectiveness	Satisfactory	Several financial sustainability mechanisms in place
Efficiency	Satisfactory	Investment left PA system better off than in the business-as-usual (BAU, no project) scenario
Sustainability: Likely (L), Moderately likely (ML), Moderately Unlikely (MU), Unlikely (U)		
Overall sustainability	Likely	Average of the four risk dimensions. See below
Financial resources	Likely	State and donor support for the next five years assured, both at central (ANAC) despite scarce state budgets, and field level (main protected areas and Gorongosa National Park)
Socio-economic	Likely	Increased awareness on importance of PAs among GNP adjacent communities. National capacities at central level sufficient for effective PA management while more effort should be made to implement existing management and monitoring tools (e.g. METT and management plans)
Institutional framework and governance	Moderately likely	Change of institutional status of ANAC and donor attention diverted towards FNDS may impact ANAC relevance and capacities if the agency does not proactively engage with the new institutional setting.
Environmental	Likely	Wildlife populations in PAs have the potential to recover, provided threat levels do not increase. This seems likely for GNP, but is less so for other PAs. Climate change still a threat, and is being addressed by development actors and PA implementers.

Impact: Significant (S), Minimal (M), Negligible (N)		
Environmental status improvement	Significant	Potential important impact of shade coffee at Gorongosa mountain and new established funding source (BIOFUND)
Environmental stress reduction	Significant	Increased awareness and pride of GNP communities
Socio-economic	ND	No data allows quantification of socio-economic impact, but shade coffee has potential
Overall project results	Significant	Project results are a net positive over the BAU situation

Summary of conclusions, recommendations and lessons learned

Conclusion	Recommendation	Lesson learned
Well-designed strategy, based on an exhaustive analysis of the situation	NA	NA
Risk evaluation seems to have been rather incorporated without much thought to complete the project document, rather than being a central component of the project design. Thus, some important risks were not identified	Risk assessments must be properly conducted with relevant stakeholders, government and that robust mitigation strategies are incorporated in the project design.	NA
Changes in implementing partner's teams often involve losing a historical perspective on the project design and objective: new team members often ignore the linkages and contributions to and with other projects	Project history documentation to be taken more seriously by all implementing partners in Mozambique, at government, civil society and international organization level, including transparent and publicly accessible information on the objectives, finances and results of the implemented projects	NA

Conclusion	Recommendation	Lesson learned
Project implementation suffered by the fact that the key implementing partner, ANAC, was being established during the first two years of project implementation, against a more agile implementation by the two NGO IP which had access to funds to solve disbursement delays.	Newly created organizations or organizations being restructured must not take the leading role in project implementation and be rather beneficiaries of capacity development efforts	Implementing partners should be organizations with a proven record of successful fund management and project implementation, backed by a corresponding long-term legal agreement to operate in the country.
Insufficient documentation of some indicators: methods used to establish baseline and target, year of establishment and intended construct that the indicator was supposed to measure, led to confusion and disregard by implementing partners. Moreover, tracking tools were poorly documented, with missing information.	Project document and logical framework must contain information on methodologies, sample sizes, and assumptions made to develop the indicator framework	To engage partners in monitoring sufficient resources for its conduct must be provided, for instance, through the recruitment of a monitoring and evaluation expert, to guarantee documentation, dissemination and learning from project achievements and/ or failures.
Monitoring and documentation of disbursement of committed co-finance by implementing partners was absent, except for UNDP	Co-financing commitments must be properly documented and included in the project's annual implementation reviews and audits.	NA
ANAC capacities and financial sustainability have not yet significantly increased over the former DINAC. Currently ANAC still needs to exert leadership over protected areas and wildlife, beyond the implementation of the external projects that still constitute its lifeline	ANAC should operationalize the strategic and financial plan, reviewing and correcting them to fit the new institutional setting. ANAC's vision must be complementary with FNDS and BIOFUND to assist protected areas to adopt management tools such as METT and, together with BIOFUND, maintain and operational database on protected areas and biodiversity, and help PAs without tourism development and management capacities to catch up with the revenue generating protected areas.	NA

Conclusion	Recommendation	Lesson learned
Political violence is the single greatest threat to the restoration of Gorongosa National Park and the successful establishment of income generating activities in its buffer zone. However, instead of the challenging situation, the project could perform satisfactorily	UNDP, the World Bank and other multilateral and bilateral partners must seek opportunities to facilitate dialogue and constitutional development between FRELIMO and RENAMO and thus help avoid the destruction of the outstanding recovery of the iconic Gorongosa National Park.	Peace and stability are necessary conditions to set-up ecological, social and financially sustainable community-based enterprises. However, the presence of a committed, sustainable organization can help surmount the challenges posed by political turmoil.
GRP's yield and participation targets for shade coffee remain modest in relation to the area available.	Participation in a certification scheme could help expand current yield and area targets, by enabling access to markets and premium prices. GRP needs to keep engaging traditional authorities, considering the role they play in land allocation and use. Moreover, GRP should consider extending support or coordination with the district's services of economic activities (SDAE)	NA
BIOFUND is now a reliable partner for international partners. An important factor contributing to its success was the investment in high quality national human resources and the creation of a relevant and representative governance board which allowed BIOFUND to absorb technical assistance, establish important international partnerships and transmit reliability and trust to stakeholders and investors.	NA	Investment in high-quality human resources is necessary to establish trust and effective management in a newly established organization

1. Introduction

1.1 Purpose of the evaluation

The purpose of the terminal evaluation (TE) of a UNDP-supported, GEF-funded project is to promote accountability and transparency in the implementation of projects, by systematically and impartially assessing and disclosing the extent of project accomplishments, synthesizing lessons that can help to improve the selection, design and implementation of future GEF financed UNDP activities. Evaluations must be conducted by an independent third party with the appropriate expertise and experience, to enable a qualified, unbiased assessment of the project. Evaluators must comply with the evaluation guidelines of the United Nations Development Program (UNDP) and Global Environmental Facility (GEF), as well as the United Nations Evaluation Group (UNEG) ethical guidelines[1], which includes confidentiality and protection of informants, and sensitiveness to cultural practices and beliefs. To this effect, the evaluation team has subscribed and signed a code of conduct attached to this report as annex 5.

1.2 Scope & Methodology

The TE gives answer to evaluation questions linked to the five OECD's Development Assistance Committee criteria of relevance, effectiveness, efficiency, impact and sustainability[2]. The research questions/ sub-questions that correspond to these criteria are:

i. **Relevance**. How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?
ii. **Effectiveness**. To what extent have the expected outcomes and objectives of the project been achieved?
iii. **Efficiency.** Was the project implemented efficiently, in-line with international norms and standards?
iv. **Sustainability**. To what extent are there financial, institutional, socio-economic, and/ or environmental risks to sustaining long-term project results?
v. **Impact.** Has the project contributed to, or enabled progress towards, reduced environmental stress or improved ecological/ socio-economic status?

Each research question was converted into a set of operational questions or hypothesis that can be tested based on data collection and analysis:

The project is relevant if it:

[1] (UNEG, 2008)
[2] (Development Assistance Committee, n.d.)

- supports national environmental or poverty reduction objectives as expressed in relevant policy documents and by national environmental actors and agents, as well as included and involved all relevant stakeholders

- fits within the biodiversity focal area strategy and programming for GEF 4 and supports specific outcomes of the UNDP Country Program Document (CPD) and United Nation's Development Assistance Framework (UNDAF) and contributes to its indicators

The project is efficient if it:

- complied with incremental cost criteria (business as usual against global environmental benefits of GEF alternative) and has secured co-finance, as well as completed or exceeded outcomes within its budget and time frames

The project will be considered effective if it:

- developed capacities of the National Administration of Conservation Areas to prepare a financial plan for the protected area system (PAS) and ANAC strategic plan
- developed the capacities of the Gorongosa Restoration Project (GRP) to halt deforestation and land degradation by identifying areas for reforestation and rehabilitation, establishing nurseries for native tree species and contracted workers from buffer zone communities, improving management effectiveness and efficiency, as well as improved productivity and sustainability of cultivated areas adjacent to GNP
- Enabled the financial sustainability of the protected area system by:
    - facilitating the establishment of a trust fund (BIOFUND) and its capitalization
    - updating user fees policy and legal instruments through evaluation of prices, expected expenditures and services provided by the protected areas
    - assessing the legal and market conditions for the introduction of biodiversity offset mechanisms
    - supporting WWF in the development of a pilot carbon sequestration project in mangrove areas

The project will be considered to have a significant positive impact if it:

- Has increased average household income in three villages in Gorongosa district
- Has reduced the financial gap of protected areas by 50% of the 2008 baseline value (measured by the financial gap and the score of the Financial Sustainability Scorecard)

The project will be considered sustainable if it:

- Contributed to increase central government allocation for protected areas and strengthened ANAC so that its budgetary and political position is secured.
- GRP can continue supporting communities through employment and improved agricultural practices and community perception in three villages in Gorongosa district is favorable to the existence of GNP
- Wildlife populations are recovering and impacts or drivers of anthropogenic threats, including climate change have been reduced.

In addition to answer the research questions, the terminal evaluation has also assessed the performance of the implementing agency (UNDP) and implementing partners (ANAC, GRP and WWF) by examining the support provided by both agencies to the project management unit (PMU), the quality of the work plans and project report, as well as the communication strategy. The agencies will be considered to have performed adequately if they assured that work plans were developed and monitored according to the project log-frame and disbursed project funds in a timely manner in accordance with the work plans and project document, as well adequately managed risks to prevent delays in implementation.

The terminal evaluation report gives answers to the questions above by a thorough review of project documents, and relevant grey and peer reviewed literature. Most statements of the terminal evaluation report are referred to these documents listed in annex 5. The accuracy of the project's reports, the quality of its outputs and the perspective of the implementing partner's teams has been validated with independent assessments, evaluations and interviews with development partners, community members and local government representatives. The two evaluators independently reviewed all documents and took separate interview and field notes to prevent biases. Partners and beneficiaries interviewed are listed in annex 3, but the identities and authorship of the statements on which the evaluation conclusions are based have been kept concealed, following the evaluation ethical guidelines. Annex 2 contains a description of the itinerary and a summary of the independent field observations made by the two researchers. The evaluation team was composed of a team leader with experience in protected area management and UNDP project implementation and evaluation, and a national wildlife management expert. Both experts were independently recruited. The terminal evaluation report has been reviewed by all relevant stakeholders, particularly the implementing partners who have given their vision and offered comments, suggestions and corrections, which have been incorporated or rejected by the evaluation team. Changes, corrections and incorporation can be tracked at annex 8, audit trail, attached to this report.

Finally, the project's dimensions of relevance, effectiveness, efficiency, sustainability, agency performance, and impact must be rated according to the following scales:

Ratings for Progress Towards Results: (one rating for each outcome and for the objective)

6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (HU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets, and is not expected to achieve any of its end-of-project targets.

Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co- finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.

Ratings for Sustainability: (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

Limitations

The terminal evaluation intended to conduct a survey among communities of the buffer zone of the Gorongosa National Park, based on a random selection of households in coordination with the traditional authorities of the project communities, as well as email survey of ANAC staff who attended project trainings. Moreover, the TE team intended to randomly select project reforestation and rehabilitation areas at Gorongosa to conduct direct observation or transects to verify project reports. However, the conflict situation at the buffer zone around Mt. Gorongosa, as well as the displacement of much of its populations due to the still recent armed conflict between the government and the main opposition party has prevented the terminal evaluation team to move freely and randomly select households or transects. Moreover, the TE inception report submitted on June 2017 underestimated both the population of the buffer zone, the vastness of the area and the logistical challenges involved in the conduct of a survey, so that even if access to communities was granted, conduct of a survey would have entailed more resources than

those available for the conduct of the TE. Instead, the evaluation team conducted in-depth group interviews with different community groups involved in the implementation of different sub-components of the project's field phase, including farmers, extension workers, community rangers and reforestation volunteers. The limited timeframe of the TE also prevented the conduct of an online interview with ANAC and PA staff involved in project's trainings. Instead the TE conducted several interviews with ANAC's coordination team, as well as reviewed all reports produced by the Project Management Unit (PMU).

1.3 Structure of the evaluation report

The evaluation report follows the UNDP-GEF terminal evaluation guidelines and is divided in four sections, including this introduction, numbered 1 to 4. Section 2 describes the project history and development context, including the problems the project intended to address and a description of its strategy. Section three exposes the evaluation's findings, in terms of project implementation, management arrangements and implementing partner's performance, as well as effectiveness and efficiency of the project, sustainability of its outcomes and observed impacts. Section four contains the conclusions, ratings and recommendations based on the evaluation findings. Finally, several annexes are attached to this report, including, the terms of reference of the evaluation, the evaluation matrix (summary of research questions, methods, and results), list of documents reviewed, persons interviewed, mission itinerary and evaluators agreement with UNEG's evaluation ethical guidelines.

2. Project description and development context

2.1 Project start and duration

The project, Sustainable Financing of the Protected Area System in Mozambique (PROFIN) was consolidated around negotiations led by the UNDP Mozambique country office to present a joint proposal for GEF-4 in 2007. The project identification form (PIF) was completed in 2008, collating several independent initiatives championed by different actors in the Mozambican conservation scene, particularly the World Wildlife Fund Mozambique (WWF) and Carr Foundation's Gorongosa Restoration Project (GRP), under one project document, with the expectation of developing synergies and coordination, as well as of reducing transaction costs (one approval process, one project management unit, etc.). After approval by the GEF Council, a project preparation grant of US$ 150,000 was disbursed to prepare the project document, which was ready and

approved by August 2010[3]. The project implementation started in 2012 after the inception workshop was held in June and the project management unit recruited by October that year.

2.2 Problems that the project wants to address and development objectives

Mozambique's natural assets include vast tracts of dry and moist woodlands, such as Miombo and Mopane woodlands, patches of montane forest, remnants of East Africa coastal forest, flooded grasslands, mangrove forests and coral reefs, which contain some of the most emblematic members of East Africa's terrestrial and marine fauna[4]. However, Mozambique's mostly rural (68%) population of 27,977,863 people is afflicted by high levels of prevalence of extreme poverty (69%), undernourishment (25.3%), HIV (11%)[5] and a weak institutional framework[6]. In this context, the national protected area system is affected by severe threats, including slash and burn agriculture in woodlands, poaching (trafficking and bushmeat) and illegal logging, mostly driven by poverty, compounded by weak monitoring and policy capacities[7]. Protected areas should serve to curb threats to biodiversity and protect sufficiently large representative areas of all the biomes represented in the country. However, insufficient funds and capacities of the government agencies responsible for the administration of protected areas mean that many protected areas in Mozambique are not effective in protecting biodiversity.

Funding of protected areas in Mozambique depends largely on official development aid flows, that accounted for 90% and of all annual investment in protected areas in 2010[8] and still does for 81% in 2015[9]. In response to these challenges, a new conservation policy was developed and approved in 2009, which this project was designed to support. The Conservation Policy of 2009 called for a new parastatal national protected area agency, increased participation of communities and private sector in the management of protected areas and to strengthen the financial sustainability of the national protected area system. Specifically, the project was designed to surmount systemic and institutional barriers for the sustainable financing of protected areas, including the absence of transparent budget allocations and financial accountability, important gaps in coordination, reporting and budgeting, and weak financial and management capacities of individual protected areas

2.3 Changes in the institutional context

[3] (GEF, 2017)
[4] (UNDP, 2010)
[5] (World Bank, 2017)
[6] (World Bank, 2017)
[7] (UNDP, 2010)
[8] (UNDP, 2010)
[9] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)

Both the original project's executing agency and the main implementing partner, the Ministry of Tourism (MITUR) and its National Directorate for Conservation Areas (DNAC) changed in structure and function. MITUR lost competences on protected areas to the new Ministry of Land, Environment and Rural Development (MITADER) in 2015. DNAC, transformed into a new independent agency, the National Administration of Conservation Areas (ANAC) in 2013 and, effectively, in 2014. The implications of these changes for the project are described in section 3.2.1 and 3.3.5. Moreover, there have been changes in the extent and number of protected areas and their legal framework. At project inception, the protected area system of Mozambique extended over 139,418 km^2, or 17% of the national territory and included 6 national parks, 6 national reserves, 1 biological reserve, 12 hunting blocks, 13 forest reserves, 1 marine reserve and 2 community-based reserves[10]. By 2017, protected areas had expanded to cover 216,278 km^2 or 26% of the national land area, comprising 7 national parks (addition of the Mágoè national park), 10 national reserves (this category now including marine and fresh water protected areas), 20 hunting blocks, 2 community-based protected areas (*Áreas de Desenvolvimento Comunitário*), 50 game farms, and 13 forest reserves[11].

With regards to the policy and legal framework, after the approval of the conservation policy and its implementation strategy in 2009, a new conservation law was enacted in 2014 (Law nº 16/2014 of 20th June) and finally reformed in 2017 (Law nº 5/2017, of 11th May)[12] that partially repeals the Forest and Wildlife Act of 1999, on categories of protected areas and definition of sport hunting, as well as penalties, and the Environmental Law of 1997, on its provisions on protected areas[13]. The conservation policy and law support the financial sustainability of protected areas, particularly by calling for the need to identify alternative and innovative sources of revenue (e.g. compensation for biodiversity efforts, biodiversity offsets, carbon markets), strengthening partnership with the private sector and local communities in the development of tourism and other income generation activities. The law also established heavy fines against illegal harvesting of wildlife and other natural resources, as well as changing the classification of protected areas. However, the new act needs yet to have its arrangements for implementation ready and approved, which took three years for the regulations for the Forest and Wild Life Act of 1999[14], but it may be completed much earlier in this case as the drafting of the regulations is in an advanced stage supported by the MozBio project[15].

The peace and order situation at PROFIN's field area changed dramatically during project implementation. The civil unrest in the district of Gorongosa (Province of Sofala) started in 2012, as disagreements over composition of the election committee for the 2013

[10] (UNDP, 2010)
[11] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[12] (Assembleia da República, 2017)
[13] (Assembleia da República, 2017)
[14] (Conselho de Ministros, 2002)
[15] (World Bank, 2017)

municipal election between opposition party Mozambican National Resistance (RENAMO) and the ruling party, the Mozambique Liberation Front (FRELIMO) led RENAMO to withdraw its candidates for the municipal election, relocating its leadership to their traditional grounds in Sadjungira, at Mt. Gorongosa. Skirmishes between the parties' armed forces started in 2012, and continued throughout 2013, when even GRP staff became targets of attacks[16]. The conflict escalated further after the 2014 general elections. While it participated in the latter elections, RENAMO contested the results, insisting in controlling those provinces, including Sofala, where it had won the popular vote. Attacks and counterattacks resumed and intensified through 2015 and 2016[17], until a ceasefire was declared by mid-December 2016. Between 2012 and 2016, the conflict had caused the displacement of thousands of people, up to 6,700 people, according to the government[18], including direct project beneficiaries, who moved away from the mountain seeking refuge in the lowlands, losing their means of livelihood, crops and domestic animals, hence becoming poorer. This might have increased deforestation for charcoal production (a source of income) in lowland safer areas. The implications of this development for the implementation of PROFIN's second component, are described in section 3.3.3.

2.4 Main stakeholders

The project's main stakeholders were the National Directorate of Protected Areas, called National Directorate of Conservation Areas (DNAC), a division of the Ministry of Tourism (MITUR), the Gorongosa Restoration Project (GRP) and the World Wildlife Fund (WWF) of Mozambique, both civil society organizations (CSO). Also, the district of Gorongosa, and the *regulados* (chiefdoms) of Canda, Tambarara and Sadjungira, and their people.

DNAC was the institution of the Government of Mozambique (GoM) responsible for the management of protected areas. It was created in 2001 following the Ministerial Diploma Nº 17/2001 of 7th of February that determined the transfer of conservation areas from the National Directorate of Forests and Wildlife (DNFFB) at the Ministry of Agriculture and Rural Development (MADER) to the Ministry of Tourism (MITUR). The organizational structure of DNAC consisted of a National Director supported by heads of several departments and divisions. However, like all other national directorates, DNAC lacked financial, administrative and patrimonial autonomy, as all decisions were taken at the Permanent Secretary or Minister level. The main source of budget for DNAC was the State Budget but several donors contributed to the strengthening of protected areas management, including the World Bank (WB), GEF, Agence Française de Développement (AFD) and Kreditanstalt für Wiederaufbau (KfW).

[16] (PROFIN Board, 2013)
[17] (PROFIN Board, 2016)
[18] (NSNBC, 2014)

The GRP was the result of a 20-year agreement between the US-based Carr Foundation, a private charity and the government of Mozambique for the management of the iconic Gorongosa National Park (GNP). The GNP, declared in 1960, was one of Africa's best known national parks prior to the war for independence of Mozambique and its subsequent civil war (1977-1992) that left the country in ruins[19], including the park's infrastructure and wildlife populations, which were decimated, with many of Gorongosa's large animal populations reduced by 90% or more[20]. In 2010, 367 km^2 of Gorongosa Mountain (above 700 m above sea level), including most of the montane forest landscape[21], were added to the 3,668 km^2 historical park (composed mostly of lowland miombo woodland)[22], extending the park's buffer zone to partially include the *regulados* (chiefdoms) of Tambarara, Sadjungira and Canda, in the district of Gorongosa, which (including areas outside the buffer zone) had a total population of 73,633 people (in 2004)[23].The estimated population of the Mountain buffer zone was of approximately 3,000 people in 2006[24]. The total buffer zone now comprises 5,333 km^2, bringing the total park area to 9,419 km^2 [25].

WWF started operations in Mozambique in 2001 and supports biodiversity conservation through four programs: freshwater conservation, marine conservation, forest conservation, biodiversity and a specific program for the Rovuma region of northern Mozambique. WWF has been a leading supporter of financial sustainability of protected areas, advocating for the creation of BIOFUND since the national conference on financial sustainability of protected areas called by the GoM in 2007, with WWF, AFD, KfW, USAID, World Bank and IUCN assistance. WWF provides technical assistance to the management of protected areas, specifically the two coastal and marine national parks of Quirimbas and Bazaruto to improve their capacities to monitor biodiversity. WWF also supported the creation of the Area of Environmental Protection of Ilhas Primeiras e Segundas. Within its forests program, WWF supports research on management and sustainable use of mangrove areas countrywide, including in the Zambeze Delta, community-based forest management and strengthening of forest governance[26]. WWF Mozambique employs 42 contracted staff and an average annual budget of approximately US$ 5 million with an execution rate of nearly 100% for the period 2009-2015[27].

The Foundation for the Conservation of Biodiversity (BIOFUND) is a duly registered public non-profit institution (instituição de utilidade pública) first conceptualized at the 2007 sustainable financing of protected areas conference. Interest in the initiative was

[19] (World Bank, 2017)
[20] (MITADER, 2016)
[21] (Stalmans & Beilfuss, 2008)
[22] (MITADER, 2016)
[23] (Administração Distrital de Gorongosa, 2006)
[24] (Carr Foundation, 2006)
[25] (MITADER, 2016)
[26] (WWF Mozambique, 2017)
[27] (WWF Mozambique, 2016)

advanced by several donors, including AFD, KfW, USAID and the World Bank (WB) whose support materialized once its structure was in place with financial support from KfW, World Bank (project MozBio), AFD, Conservation International, WWF and, decisively, PROFIN funds[28]. Thus, BIOFUND was both a project output and a stakeholder of PROFIN, as it was developed under component three implemented by WWF but became administratively independent by 2016. BIOFUND counts currently with an annual operational budget of US$ 673,577 and an endowment fund of US$ 21.6 million[29].

Rural communities adjacent to the GNP occur mostly in the district of Gorongosa (over 30% within the national park), as well as smaller portions of the districts of Muanza, Cheringoma, Nhamatanda, Dondo and Maringue. The Gorongosa district has an estimated population of 170,400 people, of which over 16% live in its main settlement and capital, Vila Gorongosa[30]. The district is divided in traditional chiefdoms, *regulados*, which are led by traditional authorities, *regulos* and administered by *chefes de posto*, political positions accountable to the district administration. *Regulos* are rooted in pre-colonial political structures and are responsible for conflict mediation and settlement of disputes, distribution of land, approval of land uses and support the implementation of government policy. *Regulos* are the top of a traditional authority hierarchy of which also village chiefs and big men, or *nfumos* are part.

Regulados have legal rights over their lands duly granted by the central government that allows traditional authorities to negotiate in the name of communities with government, non-government and private agents, as well as to allot parcels of land to individual households[31]. It is unclear to which extent the recent episodes of violence have altered the position of the *regulos* (chiefs) but interviews with traditional leaders showed that 1) political violence has eroded their authority 2) there are differences between *regulos* in terms of their power to convene negotiations and represent their communities.

2.5 Expected Results

The project expected to significantly strengthen the new, parastatal agency, the protected area agency, the National Administration of Conservation Areas (ANAC), providing it with the necessary tools to efficiently manage protected area finances and increasing revenues, while new funding sources, including a trust fund, carbon trading schemes and biodiversity offsets will consolidate investment flows towards conservation in Mozambique. At the same time, expected spill over of protected area benefits in terms of jobs and increased agricultural productivity was expected to be tested and eventually

[28] (BIOFUND, 2017)
[29] (BIOFUND, 2016)
[30] (INE, 2010)
[31] (Anjos, 2001) (Marzoli & Lungo, 2009)

exported to other areas, hence increasing population support for conservation and generating much needed income in impoverished communities adjacent to protected areas.

Thus, from project design, PROFIN was composed by three independent components, linked in that they would all contribute to the ultimate sustainability of the protected area system. A first component would strengthen ANAC through strategic development of capacities, training and equipment. A second component would test community participation in protected area conservation and benefits, together with the management of the Gorongosa National Park, by 1) participating in a tourism joint-venture, 2) participating as workers and volunteers in reforestation efforts around Gorongosa mountain 3); participating as recipients of technical assistance to improve agricultural productivity in the buffer zone of Gorongosa Mountain. A third and last component would test three separate alternative sources of revenue for protected areas: 1) a trust-fund financed by international and private donors 2) participation in carbon trading schemes 3) introduction of biodiversity offsets for international investors operating in Mozambique.

2.6 Baseline indicators

PROFIN's logical framework included 24 indicators, with four indicators for project objective, seven indicators for component 1, nine indicators for component 2, and four indicators for component 3. All indicators were provided with baselines and targets, and complied with SMART criteria, as they were measurable, achievable, relevant and time-bound. All indicators were also specific, if other factors contributing to, for instance, socio-economic indicators or protected area budget were accounted for. However, there were important issues regarding documentation of methodologies or sources used for the baselines, which had a significant effect on the project's monitoring efforts, as described in section 3.2.2.

3. Findings

3.1 Project Design / Formulation

3.1.1 Analysis of LFA/Results Framework

The project strategy was divided in three components, each corresponding to one outcome. The first outcome: *Sustainability of the protected area system institutionalized* referred to the institutional strengthening of ANAC, through three project outputs: 1.1 Financial plan for Mozambique's protected area system, 1.2 Strategic plan for ANAC and 1.3 Financial management processes and systems. The last output included the completion of guidelines and templates for protected area business plans.

Despite the fact of being conceived independently by different development actors, all three outcomes are coherent with the project objective and permitted their eventual independent, yet coordinated, implementation. The outcomes were formulated following SMART criteria[32] in that they used change language, were provided with measurable indicators (see section 3.2.2), were deemed achievable by the implementing partners and relevant for the financing sustainability of the national protected areas system and fitted within GEF-4 biodiversity strategy (see section 3.32), and of course had to be accomplished within the project's timeframe.

3.1.2 Assumptions and Risks

The project document (PRODOC) identifies and rates 6 risks to project success, three risks involving the institutional and legal framework, two related to capacities to implement and one risk referred to resistance to accept new PA fees. The only risk rated as high was the risk that the establishment of ANAC would be delayed. The mitigation strategy suggested banked on the then new coordination mechanism Inter-Institutional Conservation Policy Working Group (GTA) and the synergies offered by the implementation of the World Bank-funded Transfrontier Conservation Areas (TFCA) project. The GTA was also suggested as the mechanism to mitigate the risk of limitations of the legal framework hampering implementation of PROFIN's outputs (financial mechanisms). The GTA is indeed mentioned in strategy papers of the former Ministry for Coordination of Environmental Affairs (MICOA)[33], contemporary with the project document, but it is not mentioned in the most recent NBSAP[34], more recent strategic assessments[35] or by any of the stakeholders interviewed for this TE. While there was

[32] (UNDP, 2012)
[33] (MICOA, 2009)
[34] (MITADER, 2015)
[35] (Sal & Caldeira Avogados, 2014)

some degree of information exchange between the implementing units of both PROFIN and TFCA no real coordination existed, to the point of making conflicting claims on their role played in the set-up and strengthening of ANAC. When this risk did in fact materialize, as the creation of ANAC, first authorized in 2011 became only effective in 2013 and then with important weaknesses (described in section 3.2.4), this was mostly due to political dynamics and administrative processes which would had been beyond the control of institutional or inter-project coordination mechanisms.

For the other risks identified but rated as low risks, delays in the expansion of the Gorongosa National Park (GNP), failure to capitalize BIOFUND, insufficient capacities by communities at GNP to sustain tourism ventures and the risk of PAs or tourism operators resisting reforms of the entrance fee structure, the mitigation strategy consisted in the implementation of PROFIN itself, what entails that these factors are in fact aspects of the barriers and problems this project was trying to solve.

As to assumptions, the project theory of change: that a strong protected area agency that would support monitoring and enforcement, improved capacities by protected areas to source and manage funds and existence of such potential fund sources will improve financial sustainability and management effectiveness, rest solidly within the assumptions and framework of GEF-4 (and 5 and 6) biodiversity strategy, and the Convention for Biological Diversity Program of Work for Protected Areas.

3.1.3 Lessons from other relevant projects (e.g., same focal area) incorporated into project design

Prior or during the implementation of PROFIN, other projects funded by bilateral and multilateral donors such as the Agence Française de Développement (AFD), the French Facility for Global Environment (FFEM), the German Development Bank (KfW), the United States Agency for International Development (USAID), Global Environmental Facility (GEF) and the World Bank (WB) were implemented. Lessons from these projects were incorporated in the design of PROFIN to some extent, including the following:

- Engaging communities and promoting tangible benefits and development for communities around CAs is essential. Poverty and dependency on natural resources for subsistence and income generation is the main threat to biodiversity. The sustainable management of protected areas should focus on providing economic alternatives, clarifying communities' land rights on areas adjacent to protected areas, and offering incentives for better management of resources.

- Integrated landscape management approaches are essential to address economic, social and ecological objectives inside and in the surroundings of the protected areas. Protected areas are just one land use in a landscape with other types of land use

including those incompatible with biodiversity conservation. Most threats to biodiversity often come from areas adjacent to the protected area. Therefore, the management of protected areas requires collaboration across several entities and multiple stakeholders and land users in the landscape, including communities, smallholder farmers and large-scale private land owners.

- Biodiversity conservation in landscapes with humans require a long-term vision, donors should work with organizations well established in the area and with qualified human resources to ensure rapid and competent response to project implementation needs.
- Innovative partnership. These are promising governance models for the sustainable and long-term management of protected areas. These include partnerships between the State (public) with private sector, NGOs and communities around natural assets, tourism and wildlife management entities. Partnering with NGOs and private sector can be critical to complement the management capacity of protected areas, by leveraging funding towards financial sustainability, bring in specialized human resources and secure communities' interests, whereas partnerships with local communities strengthen the capacity and effectiveness of law enforcement.
- Nature-based tourism is not the only mean to generate sustainable financing for protected areas and tangible benefit to local communities. Biodiversity offsets, payments for environmental services and forest carbon programs such as REDD+ are other options of financing mechanisms to be explored.

3.1.4 Planned stakeholder participation

PROFIN's main stakeholders were to actively participate at the level of project board, with closer coordination directed by the project management unit (PMU). The project board included not only the project's three implementing partners (IPs) but also an array of related government agencies, including the ministries of planning, finances, fisheries and agriculture. The project document (PRODOC) expected BIOFUND to become an implementing partner, and it eventually did (section 3.3.3). At field level, project component 2 was to closely engage with communities through local government and traditional authorities to develop the co-management models envisioned in the project document (PRODOC). No specific guidelines were given in the PRODOC for community engagement. Actual stakeholder participation is described in sections 3.2.1, 3.3.3 and 3.3.6.

3.1.5 Replication approach

The project intended to provide solid basis for the sustainable financing of protected areas (PA) in Mozambique by strengthening the PA agency and establishing a trust fund. Critically, the project intended to evaluate and thus **catalyse the replication** of successful models of co-management, and benefit sharing with PA adjacent communities, as well as successful alternative funding sources, such as biodiversity offsets and emission trading schemes (ETS). Progress towards co-management models, biodiversity offsets and ETS are described in section 3.3.3.

3.1.6 UNDP comparative advantage

UNDP has implemented five GEF-funded projects in Mozambique since 1997 with a total funding of USD US$ 10.7 million (GEF grant only). While PROFIN is the first GEF biodiversity project to be implemented by the UNDP in Mozambique, its global GEF portfolio includes 780 biodiversity focal area projects with a total value of US$ 2.5 billion (GEF grant only)[36].

3.1.7 Management arrangements

The project management structures were arranged according to UNDP's national implementation modality. All relevant actors for the implementation of the project were part of the project governing structures, which included the Project Board and a later and short-lived technical committee. Protected areas at the time of project inception were under the jurisdiction of the National Directorate for Protected Areas (DNAC), a department of the Ministry of Tourism (MITUR). Hence, MITUR took over the role of project executing agency, responsible for the overall implementation and achievement of results. GRP and WWF (see section 2.4) took the lead in the implementation of component one and three, as they were the main agencies behind the conception of said components. All three IPs, MITUR, GRP and WWF made substantial financial commitments and indeed provided staff and funds for the implementation of the project. However, their contributions were not sufficiently monitored (section 3.2.2).

The project design would have a wider array of government ministries, from Finance to Fisheries, participating in meetings of the project board, as they were all related in the broader sense to protected areas or their financing. This would not be realized (section 3.2.1).

Actual management arrangements differed little from the original design, but board members, and critically, the project's executing agency underwent significant changes during project implementation as described in section 3.2.1.

[36] (GEF, 2017)

3.1.8 Linkages between project and other interventions within the sector

PROFIN was not the only project implemented with involvement by the three IPs. The main funding partner of DNAC/ ANAC has been the World Bank, starting in 1998 with its flagship project Transfrontier Conservation Areas and Tourism Development (TFCA) with a total funding of US$ 35.1 million including a US$ 21.4 million credit and a US$ 10 million grant[37] and its successor, or third phase, the US$ 46.5 MozBio project (2016-2021). In fact, the World Bank attributes the creation of ANAC, the enactment of the conservation policy (2009) and conservation law (2014), as well as the establishment of BIOFUND to TFCA support[38]. TFCA's investment into the policy, legal, and institutional framework (component 1), which includes support to DNAC through development of strategic documents (business plan in 2011, administrative and financial procedures and terms of reference for staff recruitment) amounted to US$ 915,540, out of an original budget of US$ 1.15 million[39]. Support provided under this component mirrored the one proposed in PROFIN's strategy, as TFCA funded training, equipment and several management tools, including a business plan for DNAC, and manuals on tourism concessions, community enterprises and an operations strategy for protected areas[40]. TFCA technical capacity was tapped by the UNDP country office as they were included in a technical group that worked briefly (three months) in 2014 to try to boost the weak performance of PROFIN's PMU not only but also of individual components works , albeit with reduced positive results[41]. MozBio, which started implementation in 2015 has been providing support to the national protected area system in the same line as TFCA and PROFIN: strengthening ANAC, facilitation of co-management, and develop capacities to improve PA management effectiveness, thus, how this project will contribute to the sustainability of some PROFIN outcomes will be discussed in section 3.3.5. MozBio includes a substantial GEF grant (GEF-5) of US$ 6,319,635[42].

French-funded initiatives to support Mozambique's national system of protected areas, are centred around the National Reserve of Gilé, Quirimbas National Park and Limpopo National Park, where both the FFEM and the AFD have been involved in funding implementation of co-management, management effectiveness, as well as development of tourism and other alternative livelihood for communities in buffer zones. Among these, WWF has been providing technical assistance to the € 9.2 million FFEM funded project to support development of tourism and management effectiveness at the Quirimbas National Park. The AFD has supported several biodiversity initiatives, including the 2007 conference/ workshop on sustainable financing of protected areas that set the bases for the development of PROFIN. AFD supported ANAC when it was first established to

[37] (World Bank, 2014)
[38] (World Bank, 2014)
[39] (World Bank, 2014)
[40] (World Bank, 2014)
[41] (PMU PROFIN, 2014)
[42] (GEF, 2017)

develop policies and strategies, improved community co-management of protected areas and management of hunting blocks with funds amounting to € 500,000 between 2012 and 2013[43]. Moreover, AFD has supported protected areas in Mozambique with investments amounting to € 15 million in equipment to improve management at the Quirimbas and Limpopo national parks and the Gilé national reserve for the period 2007-2015[44]. AFD has also made contributions to financing of protected areas via BIOFUND, a key output of this project, as described in section 3.2.3.

USAID has funded several projects to support management of protected areas and tourism, focusing on forging private-public partnerships. Between 2008 and 2014, USAID provided US$ 5.5 million to the Carr Foundation to implement the Gorongosa Restoration Project (GRP), which focused on biodiversity conservation in the core zone of the Gorongosa National Park (GNP) and human development in the buffer zone. Through the SPEED project, between 2010 and 2015, USAID invested US$ 19.4 million supporting the national government, including technical assistance through an advisor for tourism development and the development of a strategic plan (originally to by supported by PROFIN), as well as supported BIOFUND to develop a manual for the implementation of the conservation law (2014)[45]. For the period 2015 – 2020, the biodiversity portfolio of USAID includes site specific actions in two locations: (1) support to Wildlife Conservation Society (WCS) in a public-private partnership with ANAC for the management of the Niassa National Reserve, including the preparation of the management plan, infrastructure development, patrolling and law enforcement to reduce wildlife crime. The budget for this project is US$ 9.8 million for a period of 5 years. WCS has a leverage funding in the partnership; (2) support to the Carr Foundation from 2015 – 2020 for a budget of US$ 10 million, for the management of the Gorongosa National Park in partnership with ANAC. The Carr Foundation also contributes US$ 10 million. Interventions include park management and human development in the buffer zone, including health and environmental education.

KfW has invested € 57 million in biodiversity conservation in Mozambique since 2001, mostly at the Limpopo National Park by supporting infrastructure development (e.g. park's headquarters and staff houses, roads and tourism camps), equipment (e.g. vehicles), and resettlement of communities outside the park and support to sustainable livelihoods of resettled communities. KfW has been a main partner of BIOFUND since its creation and a major contributor to its endowment fund, as described in section 3.3.5.

Additionally, other partners were supporting the government or non-government organizations in Mozambique for the implementation of its REDD strategy. For instance, the FFEM funded with € 2.2 million a project to combat deforestation and land degradation and implemented by International Foundation for Wildlife Management

[43] (AFD, 2017)
[44] (AFD, 2015)
[45] (USAID, 2015)

(IGF) that aims to estimate the potential of the National Reserve of Gilé and its buffer zone for REDD+ initiatives.

A direct antecedent for the reforestation and carbon sub-components of PROFIN was the N'hambita Pilot Project (NPP), a US$ 2 million project, funded by the European Commission a (80% of funds) and implemented between 2003 and 2008 by the University of Edinburgh's School of Geological Science that worked in partnership with a private company, Envirotrade UK. This project worked together with the GRP to support the reconstruction of GNP, to address the needs of the park's adjacent and resettled communities and to stop deforestation and unsustainable use of the miombo woodland, which constitutes the most important GNP landscape. The project was implemented in the *regulado* of N'hambita, were the GTZ-funded project PRODER and its associated NGOs had worked to strengthen community associations and governance, including land titling (see section 3.3.2). NPP's design was based on PRODER experiences and lessons learned. NPP included reforestation, watershed protection (tree planting in river banks), improved agricultural practices (improved fallows, intercropping, agroforestry, orchards, composting, bee keeping and livestock). The NPP mapped woodland and agricultural area and estimated carbon stocks for each category and produced a forest management plan, which included sustainable logging based on forest growth estimations, fire management and charcoal production (the latter with WWF involvement) and managed to sell carbon credits through a voluntary carbon trading scheme for a total revenue of US$ 1.33 million[46], which however could not be sustained over time (see section 3.3.3).

GEF Blue Forests program is implemented by WWF Mozambique in the Zambezi Delta, the area with the most extensive mangrove forest of the country, under increasing pressure for wood products by local communities. The blue carbon forest project focuses on valuing carbon and other ecosystem services and highlights the potential opportunities for the use of different ecosystem services provided by mangrove forests for the subsistence of local communities. This will motivate the commitment of local communities in the conservation and sustainable use of mangroves. This project contributes to the implementation of the national REDD+ strategy. PROFIN created the basis for the blue forest program by developing two studies, namely the carbon stocks study and socio-economic assessment on Mangrove Forests in the Zambezi River Delta.

Coordination among project implementers is weak or non-existent, and there are conflicting claims by agencies on results attribution. However, biodiversity conservation actors maintain information flow through informal exchanges and occasional meetings of the environmental working group, a forum of development partners, mostly donors or implementation agencies. PROFIN's output BIOFUND prompted intense coordination among UNDP, WWF, and BIOFUND team itself and AFD and KfW as BIOFUND contributors.

[46] (Marzoli & Lungo, 2009)

3.2 Project Implementation

3.2.1 Management arrangements

The project was implemented under UNDP's national implementation (NIM) modality, which entails national ownership of the project: it is the national government, through its designated agency (called executing agency) that assumes responsibility for project execution, procurement and recruitment. However, UNDP can provide support services, including recruitment of project personnel and procurement of good and services, under strict observance of UNDP rules and regulations[47].

Each PROFIN component was independently executed by three implementing partners (IP): DNAC/ ANAC, GRP and WWF Mozambique. Following NIM procedures, PROFIN's project board included UNDP, MITUR, the three IPs and representatives from the ministries of MPF/MEF, MINAG/MASA, MP AND MICOA/MITADER, although attendance to board meetings was always reduced to UNDP, executing agency and most IPs[48]. Board meetings were held up to three times a year, with the review and approval of the annual work plan (AWP) left for the board's last meeting of the year. Only the fifth (2013), eighth (2014), ninth (2015), tenth (2015), eleventh (2015), twelfth (2016) and thirteenth (2016) board meetings are documented with their minutes.
A project technical committee also met several times in 2015, composed of the three IPs and BIOFUND to enhance components coordination and deal with implementation issues[49], as well as prepare the annual work plans. Technical meetings did not take place in 2016[50].

During project implementation, the executing agency underwent significant changes during the implementation of PROFIN. As a government agency, DNAC's procurement, recruitment and disbursement needed lengthy ministerial authorization process, which affected the effectiveness of protected area system. The conservation community (donors and CSOs) had long lobbied for a reform of the protected area agency, in line with most of the countries of the South African region, to improve the flexibility in administrative and financial processes. A new agency, the National Administration of Conservation Areas (ANAC) was created by the Decree nº 9/2013 of 10th Abril, as a public institution with administrative, patrimonial and financial autonomy. The creation of ANAC was approved in 2011 by Decree 11/2011 of 25th of May and its establishment planned for Jan 2012. However, it was only established after the issue of the decree 9/2013 of 10th Abril. As an autonomous agency, the General Director of ANAC had the power to sign contracts

[47] (UNDP, 2017)
[48] (PROFIN Board, 2016)
[49] (PROFIN Board, 2014) (PMU PROFIN, 2014) (PMU PROFIN, 2015)
[50] (PROFIN Board, 2016)

and make payments without the involvement of higher ministerial positions. This improved the institutional environment for the implementation of PROFIN. However, ANAC only started to implement its mandate and competences after the approval of its organic statutes by the Resolution 8/2014 of 13th June and subsequent appointment of a General Director and other senior staff. However, in 2016, decree 9/2013 of 10th Abril was revoked and decree 8/2016 of 15th April was published, which restricts grants ANAC only administrative autonomy. Resolution 8/2014 of 13th June was also revoked and replaced by Resolution 3/2017 of 14th April. As part of Government reforms following the 2014 general elections, a new Ministry of Land, Environment, and Rural Development (MITADER) was created and ANAC was transferred from MITUR to MITADER. This Ministry hosts most of the government institutions with mandates for the conservation and sustainable use of biodiversity. Therefore, the creation of MITADER has improved coordination among previously split institutions. However, the separation of protected areas from tourism, which is the main source of revenue for the auto financing of protected areas has affected coordination and planning among relevant institutions previously under the umbrella of MITUR (e.g. National Institute of Tourism-INATUR and National Directorate of Tourism - DINATUR). ANAC acquired new competencies over wildlife outside protected areas but was soon dispossessed of its financial autonomy, thus neutralizing the reforms of 2011-14.

A central project management unit (PMU) based at the executing agency was intended at project design and inception to ensure cohesion between the three components of the project, as well as implementing the first component. Each component was implemented independently, having each its own AWP and direct financial disbursement direct from UNDP and individual auditing. Coordination was based on the common monitoring and evaluation processes, including the collection of project data and reports from each component.

The project document foresaw a PMU composed of a project manager (PM), project administrative assistant (PAA), a project technical officer (PTO) and a part-time chief technical advisor (called senior project advisor, SPA). The PMU recruitment was completed by October 2012 by DNAC, and composed by the PM, a DNAC official, a national PTO and a PAA[51]. The position of the UNDP-recruited SPA was only filled by 2014. There was a significant conflict around the position of the PTO, as the recruitment process did not comply with UNDP rules in that a full-time position was occupied on a part-time basis, and could therefore not be supported with project funds. This situation caused a great deal of tension between the implementing and executing agency throughout 2013 and ultimately, to a weaker PMU as the technical officer left his post. However, by 2014, the new leadership of ANAC, with the support of the SPA catalysed an improvement in delivery by the PMU. Although the subjacent tensions around this issue subsided, they were never completely removed. The PTO position was left vacant and its functions were absorbed by the extended terms of reference (ToR) of the SPA.

[51] (PMU PROFIN, 2013)

This project board decision[52], was based on a cost-benefit analysis and agreed upon by the leadership of ANAC and UNDP but was contested by the PMU in project reports[53]. The extension of the ToR of the SPA prompted a new recruitment process by 2015, which caused a 6-month hiatus, till a new SPA could be posted to support the PMU for a period of further 6 months till mid 2016.

3.2.2 Monitoring and evaluation

Monitoring data was collected by the IPs and collated by the project management unit (PMU) in the annual project implementation reviews (PIR).

The objective's indicators were the three standard GEF biodiversity tracking tools that measure financial sustainability of a protected area system, management effectiveness tracking tool (METT), applied to Gorongosa National Park (GNP), as well as number of protected areas (PA) applying METT, capacity development scorecard to assess capacities of the protected area agency together with a fourth indicator: the expected increase in protected area funding, both government budget and external aid, because of the improved capacities brought about by this project.

For each component, the indicators captured the expected outcomes. Thus, component one's indicators referred to adoption and implementation of the project's outputs (indicators # 5, 6 and 7) capacity of ANAC to perform its duties, measured by the ratio of human resources to operational expenditure (#8), number of staff appointments and training (#10 and 9), as well as fund management capacities, measured by the number of adequate responses to audit queries (#11). Indicators for component two referred to improvements in management effectiveness (METT score, #20 and cost per area, #15) socio-economic (household income, #18 and engagement in alternative livelihood activities #19), enforcement, extent of deforestation and reforestation, clearings and fire for the buffer zone around Mt. Gorongosa (#12, 13, 14, 16 and 17). Component three indicators referred to the performance and capitalization of BIOFUND and actual investment flows from alternative funding sources. While all indicators included a baseline and an end-of-project target, the PRODOC offers no documentation on how the baselines were calculated, what caused methodological challenges for the monitoring, and evaluation of the project as described below. The project's midterm review of 2014 also identifies the same weakness at the baselines[54]. Moreover, baselines as fundamental for a project of this nature, such as an estimation of protected area funding, costs and revenues are given different values, for the same year in the project document (see section 3.3.1).

[52] (PROFIN Board, 2014)
[53] (PMU PROFIN, 2015)
[54] (Huntley, 2015)

In fact, there were significant challenges in the monitoring and reporting of progress towards the indicators. The project's annual implementation reviews (PIR) show doubts, inconsistencies and contradictions in reporting three of the four objective indicators. For the first indicator, scores of the financial sustainability scorecard, three applications are reported in 2014, 2015 and 2016, but only two documented (2013 and 2016), missing many notes on the changes behind the scores. For the indicator *scores of the capacity development scorecard* (indicator #2) two applications are recorded but none documented. The reporting of results is contradictory as "approaching target" and "no significant changes from baseline" are reported for the same year, and changes of up to 152% in scores between 2014 and 2015 are not justified. Moreover, the last PIR (2016) does not report any scores of the capacity development scorecard.

Different values are also reported for indicator three, *Total budget (including operational, HR and capital budget)* for protected area management, with values changing from US$ 3 million to US$ 26 million. This was caused by changes in the variable measured, as MITUR budget, ANAC budget and total budget for PA (including external funds) are reported for 2013, 2014 and 2015 respectively. For 2016, the total budget for ANAC amounted to US$ 1.3-2.4 million according to different sources (see table 6). Also, reporting in indicators of components 1 and 2 reveals differences in the understanding of the purpose of some indicators, unresolved methodological issues, including application of monitoring tools and uncertainty on methodology used to establish the baseline value.

Component 1 indicators *number of PAs with a business plan* (indicator 5 of the logframe), *achievement of performance targets detailed in the annual performance plan* (indicator 6), *number of protected areas with business plans* (indicator 7), *ratio of human resources to total expenditure* (indicator 8), *recruitment of* [ANAC] *staff to approved posts* (indicator 10) and *rate of response to audit queries* (indicator 11) are not reported in a consistent manner, particularly in the first three years of implementation and, in the case of indicators number 8 and 10, with notes by the IP on the inadequacy of the indicators, showing that the IP did not concur or did not own, initially, the project strategy expressed in the PRODOC that strengthening ANAC through provision of a strategic and business plan would result in an improved financial management (response to audit queries) and recruitment success (number of posts covered). Thus, the PIR show confusion between ANAC's annual performance plans and the project's annual work plans and project audits and state audits. Moreover, the number reported as number of protected areas with business plans refers to protected areas with management plans, not business plans. For the case of the ratio between human responses to total expenditure, the indicator is reported without any reference to project results, as there is no explanation in the PRODOC as to why the targeted ratio of 40:60 is desirable[55]. Inadequate progress in the achievement of the indicators and in reporting registered in the first three years of the project could be explained by the then ongoing structuring of ANAC.

[55] (PMU PROFIN, 2013)

Methodological and security issues hampered collection and reporting of monitoring data for component 2. For indicator *ratio of deforestation on Mount Gorongosa, expressed as % of original evergreen [rainforest] forest extent* (indicator 13 of the logical framework), the project document does not include information on the methodology used to calculate the baseline or the baseline year. Consequently, GRP reports two different values, 25% and 11% of forest loss between 1970 and 2016 and 2013 respectively, due to differences in remote sensing technology and definition of evergreen forest. Moreover, both values contradict the baseline value of 36% forest loss by 2010, compared with the 1970s. Definition and methodology issues also affected the indicator *number of agriculture clearings* (indicator 14), *cost of enforcement and compliance* (indicator 15), *number of wildfires* (indicator 16) and *number of employed community members in reforestation activities* (indicator 19). For these indicators, reports show that methodologies for their monitoring and analysis were still being developed during project implementation[56], which is inconsistent with the clear-cut baseline values given in the project document. Methodological issues were positively resolved for indicator 16 (wildfires), but monitoring of indicator 14, together with the indicator *average household monthly income* (indicator 18) was affected by the violent conflict that peaked during 2014-2016 and prevented the conduct of the necessary ground truthing for analysis of remote sensing imagery and survey work respectively. For the case of indicators 12, 16 and 19, number of trees planted, number of community guards hired and number of community members employed, figures reported are significantly different from the ones obtained from the IP during the evaluation's field mission.

Besides the indicator issues mentioned, the four annual project implementation reviews (PIR) of 2013, 2014, 2015 and 2016 contain a healthy debate between the executing and implementing agencies on issues pertaining to factors contributing to the delays experienced in project delivery. Two of the implementing partners, WWF and GRP did not fully participate in the preparation of PIRs. Although they provided data, they did not contribute to the rating assessment. Moreover, the national GEF operational focal point provided neither ratings or comments to the annual reports. Quality of reporting improved from 2014 onwards, with more precise assessments, better description of the progress accomplished during the reporting period and more involvement of the implementing partners in reporting.

Table 1. Difference in magnitude of reported indicators and tracking tool documentation

Indicator	Source	2010	2011	2012	2013	2014	2015	2016	2017
Financial sustainability scorecard	PIR	21% (baseline)	ND	ND	ND	35%	ND	63%	
FSS documented	FSS	Yes	No	No	No	Yes	No	Yes	
Capacity Development scorecard	PIR	42% (baseline)	ND	ND	ND	ND	ND	ND	
CDS		Yes	No	No	No	No	No	No	

[56] (PMU PROFIN, 2013)

documented									
Total budget for management of PAs	PIR		ND	ND	ND	3,063,161	25,900,000	ND	
	Fin. Plan						26,000,000		
	PRODOC	22,051,669							
	PRODOC	14,897,402							
	FSS				12,964,820			29,433,682	
	FSS							21,591,626	
#PA METT adopted	PIR	0 (baseline)	ND	ND	7	10	10	17	
	Fin. Plan					13			
	BIOFUND				6	10			
	MozBio						14	11	
% of the original extent of evergreen forest deforested	PIR	36% (baseline)					25%		
	PIR						11%		
	GRP						30%		
# of trees planted	PIR				20,000	742,000	880,944	936,144	991,344
	Project board				66,514				
	GRP	28,234	850,000	707,444	515,112	11,500	143,119	90,000	4,202
Community rangers	PIR				20	20	24	24	
	GRP			24					19
Community employed	PIR				75	51	55		
	GRP			47					34
METT score (Gorongosa)	PIR	65 (baseline)	ND	ND	ND	70	ND	ND	ND
	PRODOC	57 (baseline)							
	BIOFUND				62				
	MozBio						66		

One of the most important monitoring tools of the project, the project midterm review (MTR) was conducted in late 2014, when combined project delivery had only reached 37% of total project funds after two and a half years of implementation. The midterm review conducted an analysis of the factors behind the low project delivery and made 22 recommendations, most of which related to measures to strengthen the PMU, whose weakness (leadership, vision, initiative) was identified as a main factor hampering project delivery and to improve communication and coordination between the PMU, the executing and implementing agency and the other two IPs. Project delivery ratio improved dramatically after the MTR, reaching 60% by the end of 2015, which were driven by the posting of an international special project advisor who significantly strengthened the PMU but also by the new leadership of ANAC.

3.2.3 Project finances and co-finance

Project funds were advanced by UNDP Mozambique to the implementing partners, who submitted a financial report including the status of the advance, a list of disbursements/payments made since the previous financial report and a request for a new advance to UNDP Mozambique, on a quarterly basis. The IPs were accountable for the disbursement and all supporting documentation. On request by the implementing partner, UNDP effected direct payments. For PROFIN, UNDP made direct payments amounting to 30% of total expenditure, ranging between 46% in the second year of implementation to 18% in 2017.

Delivery rate, combined and per component

PROFIN's budget amounted to US$ five million and fifty thousand (5,050,000.00) including a GEF grant of US$ 4,850,000.00 and a cash contribution from UNDP TRAC funds amounting to US$ 200,000.00, for component 1, excluding US$ 150,000.00 project preparation grant costs and the UNDP fees of US$ 485,000.00.

Total expenditure had reached over US$ 4.9 million by June 2017 or 3% short of full delivery. The project experienced a very slow delivery rate for the first three years, and an important recovery by 2015. Thus 2012 saw a delivery rate of only 4% and the combined delivery rate had only reached 37% by 2014. By the end of 2015 the combined delivery rate had reached 60%, and 95% by the end of 2016.

Per component, the delivery rate history of component 1 (including project management expenditure) and 2 is similar, having reached 34% and 25% respectively by 2014, then raising to 64% and 38%, 100% and 85% by 2016. In June 2017 component 1 had exceeded its original budget by 2%, after receiving a US$ 150,000 transfer from component 2, which had by then reached a delivery rate of 91%. Component three shows a linear evolution of delivery rate, which was of 52% by 2014, 79% in 2015 and completed by 2016. Project management was executed according to planned delivery, with negligible deviation. By 2014, components 2 and 3 registered higher delivery rates than component 1 because the IP had their own resources to make advance payment to start the implementation of project activities.

The main factors affecting project delivery rate were, for component one, delays and errors in the preparation and submission of terms of reference and other documentation for recruitment and procurement processes, as well as late submission of financial reports[57]. For 2013, changes in the UNDP team and the fact that the project board met late in the year caused a significant delay in the work plans and fund disbursement[58]. For component 2, initial low delivery was caused by the delicate peace and order situation at the project's field sites.

Figure 1. Total project delivery planned and actual. Budget's firs year adjusted to actual start (2012)

[57] (PROFIN Board, 2014) (PROFIN Board, 2016)
[58] (PROFIN Board, 2013)

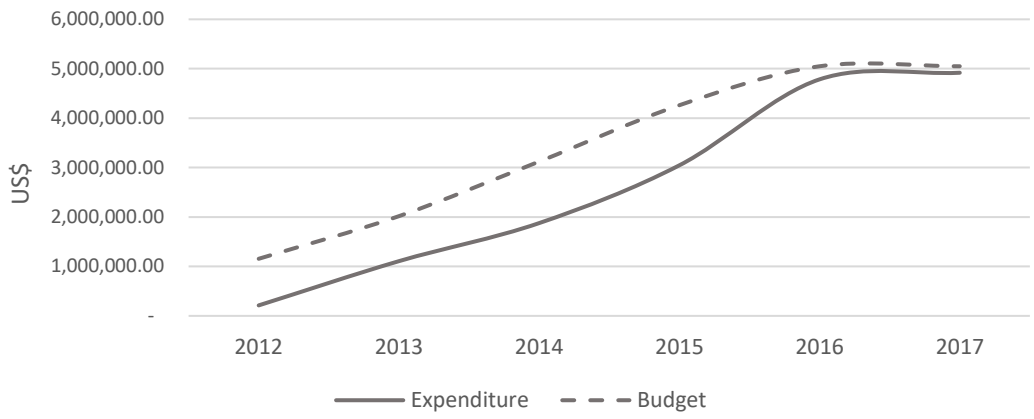
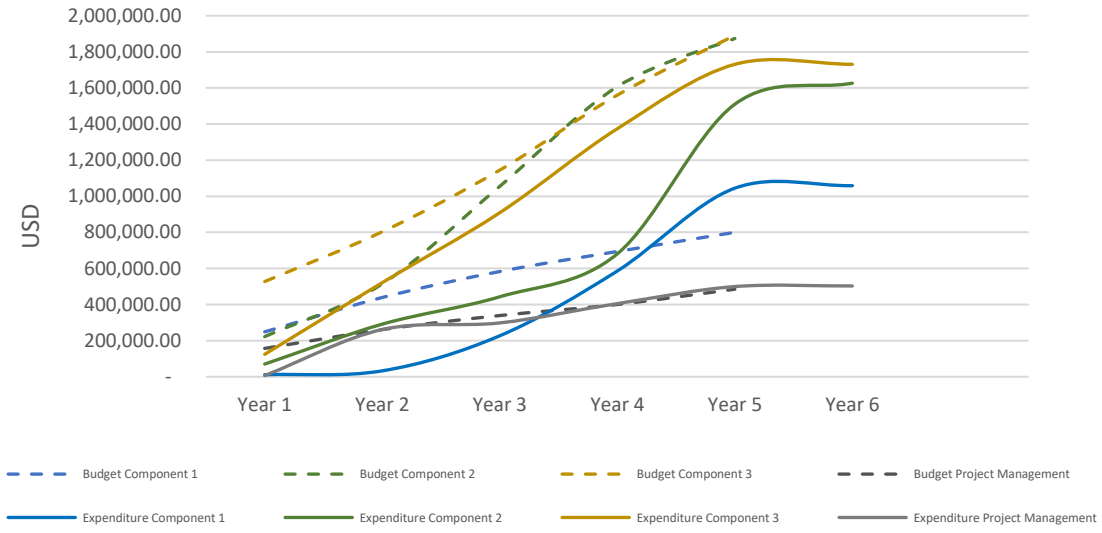


Figure 2. Planned and actual delivery per component, adjusting year of start of implementation

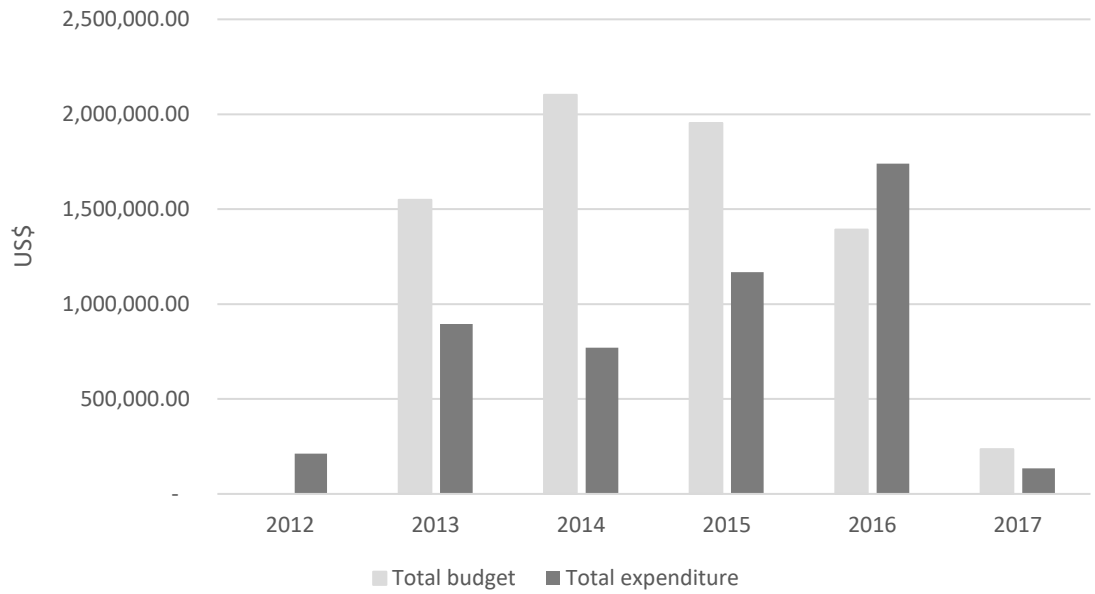


Changes in budget and actual expenditure

Annual budgets were released upon completion and approval of an annual work plan, which was based on the project's logical framework. Work plans examined by the terminal evaluation team were in accordance with the project logical framework and with sufficient notes to track back proposed budget to activities, outputs and project outcomes, a conclusion also reached by the five audit exercises completed for each project component.

Annual expenditure amounted to 60% of the annual work plans for all components, with a lowest delivery in 2014 (37%) and highest in 2016 (88%). Expenditure in 2016 exceeded that year's annual budget for components one, two and project management. This difference is due to payments done in 2016 for actions initiated in previous years.

Figure 3. Actual expenditure against annual work plan budget. Budget for 2012 not available for components 1, 3 and 4. 2012 budget for component 2 transposed to 2013.



There were significant differences cost categories at the original budget and actual expenditure, as some expenditure categories, such as materials and goods, training and workshops or maintenance of equipment were not included in the PRODOC budget and others were over or underestimated in the original budget. The PRODOC budget was rather general and included 11 cost categories, and most of the funds were allocated to contractual services with companies (77%) and contractual services with individuals (10%). As project implementation progressed, annual budgets were modified to adjust to actual implementation challenges and needs, and thus diverged from the original budget. For instance, travel costs were underestimated by 2206% and contractual services with companies overestimated by 91% in the PRODOC with respect to actual expenditure.

However, there were also divergences between cost categories budgeted in the annual work plan and expenditure for the same year. All components were affected by this, with differences in planned to actual expenditures reaching up to over one million percent (table 2). Differences were due to wrong coding of budget categories[59].

As for project management expenses, they constituted around 10% of the total expenditure, as foreseen in the PRODOC, amounting to US$ 0.50 million by June 2017 and thus merely 5% over the original PRODOC budget.

The ratio of human resources to total expenditure and ratio of project management expenditure to total expenditure reached 35%, only considering long-term contractual services and 45% if local and international consultants are included in the calculation.

The project obtained an unexpected gain of over US$ 75 thousand due to the increasing inflation rate and fall of the Mozambican metical in front of the US dollar, experienced by Mozambique as the 2014 economic crisis developed.

[59] (MITADER, 2015)

Table 2. Cost categories, annual work plan budgets and total expenditure. Exp=expenditure, AWP= annual work plan budget, C=component, PM=project management

ATLAS cost categories	Exp. C1	AWP C1	Exp. C2	AWP C2	Exp. C 3	AWP C3	Exp. PM	AWP PM
Audio visual and print production	49,036.25	16,000.00	5,509.80	42,000.00	34,770.70	7,345	2,202.97	
Communication equipment	7,464.94				15,985.72	5,600	5,639.09	
Contractual services companies	253,816.89	919,620.00	28.66	415,000.00	93,902.75	77,410	1,297.26	169,000.00
Contractual services individuals	173,584.54	220,500.00	1,045,959.25	625,870.00	786,560.18	87,3360	92,015.48	343,400.00
Equipment and furniture	22,027.58	65,000.00	376,261.14	200,000.00	8,270.76	4,821	115,724.66	
Foreign exchange currency loss	-4,296.49		-59,555.71		-11,248.40		-2.90	
Information technology equipment	15,805.96	15,000.00			20,968.63	4,815	52,236.28	
International consultants	63,612.92	681,800.00		144,000.00	14,937.67	170,470	19,900.00	
Local consultants	233,927.47	120,000.00	11,763.72	262,290.00	142,591.05	332,470		
Materials and goods	30,133.66		151,283.35	203,526.00	8,506.32	21,593	78,011.25	
Miscellaneous costs	4,524.90		607.59		14,112.13	39,658	3,567.80	
MDTF/ BDS				10,836.70				
Premises alterations					20,299.81			
Professional services	11,981.00	18,000.00	55,489.41	699,000.00	18,261.83	118,733	39,849.77	
Provisions and write offs					250.43			
Maintenance of IT equipment	2,471.66				739.72			
Maintenance of other equipment	14,143.77				11,080.63		34,269.52	
Rental and maintenance of premises	1,871.25			75,000.00	298,387.13	207,572	9,946.98	
Supplies	27,407.76	26,000.00	5,834.17	156,000.00	62,048.92	74,714	26,571.03	35,000.00
Training, workshops and conferences	90,727.84				107,383.44		2,322.33	
Transport, shipping and handling	305.00						569.96	
Travel	60,158.01	37,600.00	33,313.59		72,250.91	174,622	18,724.70	25,303.00
No data				19,900.00		11,875		40,303.00
TOTAL	**1,058,704.91**	**1,722,600.00**	**1,626,494.97**	**2,842,586.00**	**1,730,897.03**	**2,125,058.00**	**502,846.18**	**467,303.00**

Co-finance

Besides the GEF grant of US$ 4,850,000 and the UNDP TRAC funds of US$ 0.2 million, the project was expected to have mobilized additional US$ 13.89 million from different development partners, including the three implementing partners, KfW, ADF and WWF US.

Table 3. Co-financing commitments by implementation partners and other commitments. AFD commitment was subject to approval by its governing bodies.[60]

Co-financier	US$	Type	Description
KfW	210,000	Cash	Contribution to BIOFUND
AFD	5,600,000	Cash	Contribution to BIOFUND
WWF Mozambique	272,510	Kind	Staff time dedicated to project
WWF US	245,680	Kind	Staff time dedicated to project
GRP	6,840,000	Cash	Projected GRP expenses at Mt. Gorongosa
MITUR	500,000	Kind	Staff time dedicated to project, infrastructure
UNDP Mozambique	200,000	Cash	Direct support to project activities
TOTAL	**13,868,190**		

Estimation of actual co-finance was not possible for in-kind contributions of WWF and cash contribution from GRP as no documentation was made available and no information on these costs included in project reports or audit reports. ANAC/MITADER contributions were estimated at US$ 83,333, including two vehicles, stationery, office furniture and maintenance of 4 vehicles. However, only US$ 35,543 corresponding to the acquisition of a vehicle by MITUR in 2013 appears in the component's 2016 inventory[61]. In-kind contribution from ANAC included management infrastructure and unpaid staff time at beneficiary or pilot conservation areas, which contributed to the implementation of project activities.

Both GRP and WWF advanced funds for execution of project activities, particularly in 2013, when fund disbursement was delayed by five months, due to late submission of the year's annual work plan. These costs were later recovered by the two IPs from project funds. Moreover, UNDP and WWF Mozambique received part of the GEF grant in concept of administration/ management fees. UNDP fees amounted to US$ 485,000. WWF budgeted a management fee of US$ 11,875 and office costs and supervision and assistance charges amounting to US$ 41,000 in 2016. For component one, implemented by MITUR then MITADER, all salaries and office expenses of the project management unit were paid with project funds. However, in 2013 the PTO was not paid salary because

[60] (UNDP, 2010), annex VIII, co-financing letters
[61] (PwC, 2017)

the recruited PTO was a full-time staff of a public institution, hence not eligible according to UNDP recruitment rules. In 2013 PM and PFA were also not paid salaries by the project, as evident in the project's financial reports,[62] also due to deviations from NIM contractual procedure. Disbursement of said salaries were conditional to a favourable resolution of the State Administrative Court and an agreement between UNDP and MITUR[63]. As a result, the position of the PTO was cancelled and the salaries of the PM and PFA were effected but not retroactively. The issue, which supposed a serious threat for the project is weakly documented in project report and project board meetings.

UNDP cash contribution is duly documented in the project's financial reports and exceeded the expected amount, having reached US$ 226,348 by June 2017, all invested in support for activities of component one and project management expenses.

AFD, KfW and additionally the World Bank (through the MozBio project) contributed to operational costs and grant making of BIOFUND. Moreover, KfW, Conservation International, and the World Bank have also contributed to the BIOFUND's endowment fund, thus constituting additional funds mobilized by PROFIN[64].

Table 4. Contributions to operational and endowment fund of BIOFUND (2012-2015)[65]. Operational support includes funds used for facilities, human resources and equipment. Sinking fund would be used to fund protected areas.

Co-financier	Operational support	Endowment fund	Sinking fund	Total
KfW	255,000.00	17,365,645.00		17,620,645.00
World Bank	117,000.00	3,196,347.00		3,313,347.00
AFD	77,000.00		2,217,294.90	2,294,294.90
Conservation International		1,000,000.00		1,000,000.00
Others	42,000.00			42,000.00
TOTAL	491,000.00	21,561,992.00	2,217,294.90	24,270,286.90

Thus, the total documented co-finance for project costs, that is operational support and grants, including UNDP-TRAC contribution, has reached US$ 2.93 million or 21% of committed co-finance but US$ 24.50 million or 177% of the committed funds if the total of additionally mobilized funds is considered. The evaluation team believes the total mobilized funds should be considered as co-finances, as contributions to BIOFUND endowment's fund were part of the project strategy since its conception.

[62] (UNDP, 2013)
[63] (PROFIN Board, 2013)
[64] (BIOFUND, 2016)
[65] (BIOFUND, 2016)

Table 5. Co-finance table

Co-financing (type/ source)	UNDP own financing (mill. US$)		Government (mill. US$)		Partner agency* (mill. US$)		Total (mill. US$)	
	Planned	actual	Planned	actual	planned	actual	planned	actual
Grant	0.20	0.23		0.04	12.65	24.27	12.85	24.54
Credits	-	-	-	-	-	-	-	-
Equity	-	-	-	-	-	-	-	-
In-kind	-	-	0.50	-	0.52		1.02	-
Non-grant Instruments	-	-	-	-	-	-	-	-
Other Types	-	-	-	-	-	-	-	-
Total	0.20	0.23	0.50	0.04	13.17	24.27	13.87	24.54

*sum of commitments and actual disbursement from KfW, AFD, WWF and GRP

3.2.4 UNDP and Implementing Partners: implementation, coordination, and operational issues

Implementation of PROFIN was coordinated by the Environmental Unit of the UNDP country office (CO) in Mozambique, composed of a head of unit, program officer and administrative assistant. The CO is also supported by UNDP's regional technical advisor for biodiversity and ecosystems who provided technical inputs and orientation for the execution of the project. The structure of the UNDP was consolidated during project implementation as a new program officer and head of unit assumed their positions in 2013. The consolidation of the UNDP team ensured that UNDP could fulfil its role including ensuring that the yearly work plans were developed according to the project's logical framework and disbursed project funds for the execution of said work plans. UNDP also addressed risks and challenges to implementation by advancing solutions and pro-actively engaging the executing agencies and implementing partners to solve delivery bottlenecks. UNDP prompted action by the executing agency to strengthen the project management unit, and safeguarded correct procedure in recruitment processes, as well as facilitating the development of an agreement between WWF and BIOFUND to allow for the independent handling of funds by the latter organization. However, UNDP could not recruit the key position of SPA, foreseen since project design, till 2014, the selection and recruitment procedure having taken significantly longer than expected.

The conflictive situation that seriously threatened the implementation of PROFIN's component two was beyond the reach of UNDP to control or influence.

The executing agency, MITUR and later MITADER through first DNAC and later ANAC overall showed some degree of weakness in providing sufficient support for the implementation of the project during the first three years of implementation. DNAC performed satisfactorily in the preparation of the project. However, the start of implementation coincided with the transformation of DNAC, a government agency, into ANAC, a parastatal agency. This included changes in the organic structure and in the leadership of the institution, weak supervision of project implementation by ANAC

leadership in its initial years and a not very robust appropriation of project results. Additionally, there were vacant project positions (e.g. PTO and SPA), which weakened the PMU and resulted in excessive workload for PM and PFA. This is documented in project reports throughout the implementation timeframe. Consolidation of the structures and leadership of ANAC and the project management structures by 2015, including the project's technical committee, provided new impulse to the PMU that managed to achieve a remarkable recovery of project delivery in the last two years of implementation. However, the executing agency, while appreciating some results brought about by the project such as the financial and strategic plans and the fee collection mechanism, recognizes that the preparation of detailed studies and protected areas management plans (see section 3.3.3), although in use in the respective protected areas, should not have been given priority over the development of business plans.

WWF was the implementing partners for component three. Component three included three independent initiatives long supported by WWF: the establishment of a trust fund for protected areas (BIOFUND), the development of funding sources from carbon trading schemes and the development of funding sources from biodiversity offsets. WWF adequately managed its component leading to the successful set-up of BIOFUND and conduct of studies and development of synergies for the two other results. WWF and BIOFUND also managed to enter an agreement for the independent management of funds by BIOFUND by 2015, a necessary condition set by potential donors to make BIOFUND eligible as recipient of funds. BIOFUND intended to access project funds directly from UNDP, but this option would have entailed a long formal procedure to craft an agreement, needing approval at the highest levels and formal capacity assessments, which would have probably exceeded the project's timeframe.

GRP implemented the project's field component in very difficult circumstances and proved to be resilient in the face of direct threats to its staff and project beneficiaries. Thus, as attacks and skirmishes made access to the project sites in the mountain only possible at very high personal risk for GRP staff, casual workers and community members involved, GRP corrected course, favouring the development of sustainable shade coffee, and reforestation to tourism, as the conditions for the former (nurseries, trainings, machinery and facilities) could be prepared in safe locations and be ready as the situation improved. GRP operates within the frame of a 20-year long-term agreement (2008-2028) with the government of Mozambique for the management of the Gorongosa NP, extended for another 25 years in 2016[66]. GRP counts with an administration department that includes a finance and operations director, and an accountant.

3.3 Project Results

[66] (GNP, n.d.)

3.3.1 Overall results (attainment of objectives)

The project's objectives were to leave a strong, capable, financially sustainable ANAC, a more systematic management of protected areas, using instruments to measure management effectiveness, and the reduction of the financial gap for the system of protected areas. These constructs were to be measured by the score of the capacity development scorecard, the number of protected areas using METT to track effectiveness and the score of the financial sustainability scorecard. As the last documented application of the financial sustainability scorecard dates back from 2013 and the last documented application of the capacity development scorecard is the one included in the project document, the terminal evaluation has used information from several sources.

ANAC's capacities in terms of staff, equipment and budget have been raising since the agency's inception in 2014. Thus, ANAC has been firmly established, staffed and budgeted with PROFIN and MozBio support, with a total of US$ 1.05 million and US$ 12.20 million respectively. State budget allocations to ANAC seem to have been raising or remained stable since 2014, having reached US$ 1.3-2 million in 2016 according to different sources. Moreover, ANAC is currently implementing an annual budget of over US$ 15 million (mostly MozBio funds).

Table 6 ANAC annual budget from the state general budget.

The financial plan for protected areas (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015), *an output of PROFIN, and source for 2014 and 2015, had an implicit exchange rate of MZN 31 per US$, which has been used to convert the 2014 and 2015 budget, given in MZN in the financial plan. For 2016, all state budget allocation for ANAC, including ANAC annual work plan, MITADER annual work plan and economic and social plan activities (annual expression of the government's five-year plan) have been added to reach the presented figure. ANAC's AWP figures were given in US$.*

	2014	2015	2016
ANAC annual budget (USD)	**1,307,910**[67]	**1,609,128**[68]	**2,094,278**[69]
	1,280,000[70]		**1,314,000**[71]
			2,389,197[72]

However, overall funding for protected areas has not risen much, amounting to US$ 26 million by 2015[73] (all sources) from the 2010 baseline of US$ 22 million[74], if both sources correctly estimated the state budget and external project support for protected areas in Mozambique.

[67] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[68] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[69] (ANAC, 2016)
[70] (World Bank, 2017)
[71] (World Bank, 2017)
[72] (UNDP, 2017)
[73] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[74] (UNDP, 2010)

In terms of management effectiveness of protected areas, ANAC has adopted the METT management tracking tool, which is now being used by 13 or 16 protected areas nationwide[75]. Capacity measures applied to ANAC show mixed results: the UNDP-GEF capacity development scorecard shows that individual capacity has risen to 76% from a baseline of 35%, achieving 152% of the EOP target of 50%. However, for the systemic and institutional scores, the rise has been not significant at just 0.3% over the baseline of 0.46%, given a total average score by 2015 of 58%[76], baseline value being 42%[77]. The World Bank's Institutional Capacity Tool shows a modest increase of three percent points by 2017 since 2015[78]. Measures of capacity have not been properly documented, particularly the project's own tracking tool and therefore their accuracy cannot be assessed. Moreover, ANAC's capacity to implement PROFIN has been limited and the project's first component and monitoring and evaluation has not been all too consistent (see section 3.2.2 and 3.3.3).

The last application of the Financial Sustainability Scorecard (FSS) dates from April 2014, and was reviewed already at the midterm review. The FSS shows a 32% score, or an improvement of 100% over the baseline value of 21%, with the establishment of ANAC and BIOFUND, and the new management plans supported by PROFIN significantly contributing to the score. A value of 43% is reported in the project's 2016 annual report, nearly equal to the EOP target of 45%.

The financial gap, or the difference between protected area funding and costs is estimated at US$ 4.94 million in the project document. However, the 2008 financial sustainability assessment attached to the project document and supposed source of the figure estimates the funding gap at US$ 5.51 million. Moreover, according to the estimation of annual PA revenues and costs for 2010 included in the same section of the project document as the funding gap statement, annual revenues amounted to US$ 22.05 million, while the costs were US$ 20.78 million or US$ 32.30 million for the basic and optimal cost scenarios, that is, either a surplus of US$ 1.27 million or a gap of US$ 10.25 million. The 2013/2014 financial sustainability scorecard estimates the annual PA revenues/ funding at US$ 12.96 million, equal to actual expenditure, but includes a cost estimation of US$ 38.81 million and US$ 46.57 million under a basic and optimal cost scenario respectively. The funding gap estimation would be of zero, US$ 25.85 million or US$ 33.61 million. The 2015 ANAC Financial Plan, an output of PROFIN, assesses the actual protected area costs at US$ 41.98 million, and the total funding at US$ 26 million, resulting in a funding gap of US$ 15.98 million. However, the last application of the Financial Sustainability Scorecard (FSS) in 2016 includes a US$ 21.50 million estimation of PA budget (central government amounting to US$ 2.4 million) and expenditure equal to revenues. Since the FSS estimates the basic and optimal PA financing scenarios at US$ 94.93 and US$ 150.53

[75] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015) (BIOFUND, 2017)
[76] (PMU PROFIN, 2016)
[77] (UNDP, 2010)
[78] (World Bank, 2017)

million respectively, the current funding gap would amount to US$ 73.34 and US$ 118.94 million.

3.3.2 Relevance

PROFIN can be viewed as an instrument for the implementation of the Conservation Policy of the government of Mozambique (GoM), which, among other issues, calls for: (1) the need to develop national capacity (human, technical and financial) for effectiveness of protected areas management; (2) the need to increase the generation of revenues for conservation through the identification of sustainable and diversified mechanisms, such as the establishment of a trust fund, access to carbon markets and payment for ecosystem services. For its effective implementation, the Conservation Policy, among other strategies, identified the establishment of a parastatal agency, ANAC, and the strengthening of governance of protected areas through the establishment of partnerships and co-management with the private sector, local communities and civil society organizations. GoM's vision of protected areas as a potential engine for rural development can be traced back at least to the conception of the Transfrontier Conservation Area Program in 1998, and the creation of a Ministry of Tourism and development and the tourism Act of 2004[79], which established tourism development at protected areas as a tangible socio-economic benefit from effective management and connectivity of protected areas. Moreover, The Environmental Act of 1997 and Forest and Wildlife Act of 1999 established protected areas as fundamental tools to protect biodiversity[80], and the new conservation act of 2014 (modified in 2017) includes co-management, trust funds, sustainable use fees and payments for ecosystem services, including carbon sequestration and biodiversity offsets as financing mechanisms for protected areas[81]. PROFIN was also aligned with the national conservation and poverty reduction priorities expressed in legal instruments, National Strategy and Action Plan of Biological Diversity (NBSAP), the poverty reduction strategy paper (PARP) and the Government's Five Year Plan (PQG). Both 2003-2010 and 2015-2035 NBSAPs have management effectiveness, rehabilitation of degraded ecosystems, sustainable use of agricultural resources, co-management and sharing of benefits of protected areas among their objectives[82]. The 2011-2014 PARP does not mention protected areas, but had among its priorities the sustainable management of natural resources, and included reforestation and carbon trading, as well as conservation-compatible agriculture among the actions towards said goal[83]. The PQG 2015-2019 does explicitly include the financial sustainability of protected areas as part of the second strategic objective on sustainable development and conservation of ecosystems of the fifth national priority[84].

[79] (Assembleia da República, 2004)
[80] (Assembleia da República, 1999) (Assembleia da República, 1997)
[81] (Assembleia da República, 2017)
[82] (MICOA, 2003) (MITADER, 2015)
[83] (GoM, 2011)
[84] (GoM, 2015)

PROFIN was specifically designed to and does indeed contribute to the GEF-4 biodiversity strategy long term objective 1, *to catalyse sustainability of protected area systems* and its strategic program 1, *sustainable financing of protected area systems at the national level*[85], strategic focus that is continued in GEF-5 and GEF-6[86].

However, PROFIN is only marginally aligned with the 2012-2015 United Nations Development Assistance Framework (UNDAF) and the UNDP Country Program Document (CPD), which focused on food security, social protection and disaster risk reduction, considering sustainable management of natural resources a strategy to mitigate disaster risks[87]. Conservation of biodiversity or protected areas are not mentioned. Protected areas are cited in the new 2017-2020 UNDAF as both conservation and development tools and, while maintaining the social protection, and disaster risk reduction objectives, adds an outcome on sustainable management of natural resources including development of capacities for natural resource governance. However, it does not include conservation areas or ANAC in its logical framework[88]. The current UNDP CPD (2017-2020) does include number of *hectares of land under conservation regime* and number of elephant as performance indicator, but does not specifically mentions the role of conservation areas[89].

The ecological uniqueness and importance of Gorongosa Mountain in maintaining water flows in the historical park, and how forest cover at the mountain was under threat by encroachment of slash and burn agriculture was early recognised[90] and established almost as soon as Carr Foundation got involved with the Gorongosa National Park. The GRP intended from the beginning that the mountain be included in the national park[91]. Inclusion of the mountain in the national park was initially opposed by residents and traditional authorities of surrounding communities, who saw it as a continuation of a process of dispossessing them of their land by government agents, be them colonial or not[92]. The district of Gorongosa and particularly the communities living at or around the mountain have maintained a complex agricultural system, which, while affecting the mountain's montane forest, have also sustain rather resilient communities who have kept most of the forest, sufficient food and survived colonial policies and the civil conflict to this day.

After the conclusion of the Mozambican civil war, several external projects intended to re-construct and develop both the national park and the district of Gorongosa. FAO

[85] (GEF Council, 2007)
[86] (GEF, 2011) (GEF, 2014)
[87] (UNCT, 2011) (UNDP, 2011)
[88] (UNCT, 2016)
[89] (UNDP, 2016)
[90] (Tinley, 1977)
[91] (Carr Foundation, 2006)
[92] (Schuetze, 2015)

project GCP/MOZ/056/NET launched in 1997 supported the activation of the community natural resource management committees provided by the 1997 Environmental Law, and started their community ranger program, as well as facilitating the development of community natural resource management plans. Thus, the Canda natural resource management plan of 2001, zoned the regulado in areas dedicated to tourism (higher mountain slopes and top), forestry, agriculture and housing, and included the goals of sustainable use of forestry species, particularly *Pterocarpus angolensis(umbila), Afzelia quazensis (chanfuta)* and *Millettia stuhlmannii* (panga-panga) for timber production and construction, promotion of household-based livestock and improvement of agricultural productivity in homesteads.[93]

The GTZ project PRODER, also implemented from 1997 till 2006 supported the enactment of community development plans, strengthening of community organizations and land ownership, through Land Use and Benefit Rights (DUAT). DUAT is a private right over land, granted by the Land Act of 1997 to confer security of tenure while keeping the ownership of the land in the hands of the state. The project included reforestation efforts by planting of forestry and fruit tree species by households for cash payments by the project and constitution of community organizations able to receive the due allocation of revenues generated by the national park[94]. Thus, working with the Mozambican NGO ORAM, PRODER succeeded in securing land use rights for the *regulados* of Canda and Chicale (N'hambita)[95]. PRODER left behind a partially unfinished housing project and administration facilities which have been partially re-used by the GRP to implement PROFIN's second component.

Moreover, the government of Mozambique, through parastatal companies has also invested in the development of cash cultures, primarily tobacco and cotton through the nineties and early two thousand. Nearly 7,000 households were assisted by the national cotton company (CNA) to promote cotton culture in homesteads, along with other government and private organizations' support for tobacco, sunflower, sesame and other cash crops[96]. No assessment has been conducted to our knowledge to evaluate the amount invested and/ or the results of said initiatives, but the strategic development plan (PEDD) of the District of Gorongosa refers to the need of continued technical assistance needed to improve agricultural productivity, hampered by "*inappropriate agricultural practices*"[97]. The plan includes the objectives of improving productivity and processing of produce in agriculture and livestock, by application of appropriate technologies, improve conservation of natural resources by controlling fire and poaching, along with improving infrastructure and other government services. The district administration welcomes and would accommodate any project, governmental or otherwise that supports development of the district along the lines presented in the 2005 PEDD. Moreover,

[93] (Anjos, 2001)
[94] (Trusen, Calengo, & Rafael, 2010)
[95] (Marzoli & Lungo, 2009)
[96] (Administração Distrital de Gorongosa, 2006)
[97] (Administração Distrital de Gorongosa, 2006)

traditional authorities rate the results of these agricultural interventions as overall positive, but curtailed by the resurgence of violence.

3.3.3 Effectiveness & Efficiency

Component One

Component one's strategy involved providing ANAC with the necessary tools and capacity to establish its financial sustainability as an organization and subsequently develop the tools to help ensure financial sustainability of the protected area system. Thus, a financial plan for ANAC should had been developed first, identifying and quantifying the financial gap at ANAC and the protected area system and proposing solutions to improve efficiency and total revenue. The implementation of the proposed solutions should had been detailed in a strategic plan, which should have included as an outcome the preparation of guidelines and templates to develop business plans at individual protected areas and the development of efficient tools for entrance fee collection, as well as individual capacity development (trainings) and equipment. The expected result would have been a strong ANAC that would have most of its staff positions filled with an appropriate ratio of human resource to total expenses, effectively implementing an annual plan (based on the strategic plan) and with an efficient and transparent administration (as shown in their responses to audit queries). By June 2017, three strategic documents have been produced by different consultant teams for the PMU using mostly PROFIN funds: a strategic plan, a financial plan and a template for business plans for protected areas, as well as two operational documents: identification of funding sources and entrance fee collection systems and four PA management plans (the latter part of component three in the project structure). The strategic plan (SP) is structured around four strategic objectives (SO): institutional development, biodiversity conservation, economic and financial, and community development. The strategic objective of the economic and financial pillar identifies generation of revenue by PAs as the main challenge as current levels are negligible compared to actual operational costs. The SP proposes promotion of tourism, including hunting and tourism investment in protected areas, involvement of local communities in alternative and sustainable income generation activities, raising external funds for biodiversity conservation and implementation of sustainable financing mechanisms (e.g. strategies to collect and reinvest fees in the protected area, strategies to set different fees among protected areas based on their level of tourism development, etc.). The SP was a key element of PROFIN's strategy, but in 2013, ANAC entrusted this development to the USAID funded SPEED project[98]. The strategy was developed throughout 2013 and 2014 and was finally published using MozBio funds, omitting any reference to PROFIN or SPEED[99]. The document has been printed but has not been widely disseminated and awareness of its

[98] (PMU PROFIN, 2014) (USAID SPEED, 2013)
[99] (ANAC, 2015)

existence outside ANAC is low. However, by 2016, ANAC had prepared its second annual work plan (AWP) based on the SP, linked to the PQG and funded by the general state budget (OE), and separate from PROFIN and MozBio work plans. The OE plan includes activities to build basic infrastructure at PAs (e.g. guard houses), restock wildlife populations and awareness campaigns for the SO Biodiversity Conservation, trainings for ANAC and PA staff, as well as ranger salaries and acquisition of equipment under SO Institutional Development, transfer of 20% of PA revenues to communities and strengthening community natural resources management committees (CGRN) and facilitate relocation of populations under SO community development. The work plan has a total budget of US$ 72,523. No evaluation of the accomplishments of the 2016 work plan has been completed yet, but accomplishment of targets was reported as 50% for the 2015 AWP in the 2016 PIR[100]. Also by 2016, 200 staff members had been hired by ANAC, over 72 initially planned positions, thus exceeding plans by 270%[101]. This is linked to the support provided by MozBio, which has secured the development and approval of a human resource strategy for ANAC, as well as supporting the salaries of 18 staff members, all linked to the execution of that project, with an amount of US$ 0.8 million in 2016. Moreover, MozBio also continues the short-term capacity building activities for ANAC and PA staff started by PROFIN. The ratio of human resources to operational expenses has varied significantly from year to year, between 0.3 in 2016 and 1 in 2014 due to different estimations used to calculate the ratio. In terms of administrative capacities measured by the degree to which ANAC could respond to queries, ANAC underwent successfully five audits related to the implementation of the project.

The financial strategy for ANAC was only finalized in 2015. This document is aligned with the Economic and Financial Pillar of the ANAC Strategic Plan, whose objective is to attain financial sustainability of protected areas and increase their contribution to the national economy, which is expected also to result in increased State budget allocation to protected areas. Being a parastatal institution, with administrative and financial autonomy, ANAC should produce 2/3 of its financial resources (SISTAFE *Law nº 9/2002* of 12th February). The financial plan is well structured and comprehensive, including important recommendations that, if implemented, will allow ANAC to generate financial resources and reduce the current financial gap between expenditures and revenue and meet the requirement of 2/3 of its financial resources to maintain its administrative and financial autonomy. These include the need of establishing a department responsible for fundraising at ANAC, an issue yet unresolved by the recent human development strategy developed by MozBio, or in the short term, the task of fundraising should be of the department of accounting and finances. Other recommendations include the implementation of measures to reduce the deviation of fees (misappropriation of funds) collected in the field (introduction of modern mechanisms of collecting fees) and categorization of protected areas according to their potential to generate revenue from tourism and adjustment of tourism fees accordingly. In this regard, proposals for a

[100] (PMU PROFIN, 2016)
[101] (PMU PROFIN, 2016)

rationalization of fees and tariffs for protected areas improved collection of entrance fees included in the two other studies funded by PROFIN have been successfully adopted by ANAC. The first study, Identification of Funding Sources, proposed a division of PAs into two categories, depending on number of visitors and infrastructure. Thus, areas with significant tourism development would be allowed to set their own tariffs for sustainable use and concessions, as well as entry fees, while less developed areas would be maintaining a reduced, unified fees and tariffs. A PA could "graduate" to the next category if it manages to attract significant numbers of visitors, which is expected to work as an incentive for PA managers and a signal to direct investment for ANAC and development partners. The measure is pending approval by the council of ministers, having been successfully passed through the non-binding technical council, and a final resolution is expected before year end (2017). The second study, electronic Systems of Collection and channelling revenue tourism fees, designed a collection system that minimizes opportunities for fraud and would feed information directly to ANAC, enabling real-time monitoring of visitors to the protected area system. This system is being currently tested in two relatively well developed conservation areas in terms of tourism facilities, the Maputo Special Reserve and the Bazaruto Archipelago National Park, in an effort funded by MozBio. The main challenges so far are related to connectivity problems, which entail a technological, not political, solution. This project output was included in the third component of the project strategy, on alternative funding sources, as improved efficiency in collection and fund transfer was considered one of the approaches, together with the trust fund, carbon trading and biodiversity offsets.

The last element of the component's strategy, the business plan guidelines and their implementation in individual protected area was not realized. A document titled business plan template (*Plano de Negócios Padrão*) was produced, but it has little incremental value as most of its content is covered by the strategic plan and financial plan. The objectives of this output were only marginally achieved, as it does not clearly identify the ecosystem goods and services that can be sustainably used to generate revenue for the financing of protected areas. The recommendations presented are general and extracted from the Biodiversity Conservation Act, and ANAC's strategic and financial plan. Moreover, while the four protected area management plans produced with project funds, Pomene and Marromeu national reserves, Bazaruto and Mágoè national parks do contain all key components of a management plan, namely: values of the area, vision, threats or management challenges, management objectives and realistic actions, they don't have a business plan that would guide the efforts towards financial sustainability. By 2015, only 6 out of 17 protected areas (not counting hunting blocks, game farms and community protected areas) had developed business plans, independently from PROFIN. Yet, management plans are an important management tool, and a necessary condition to develop a business plan. Moreover, with PROFIN support, more protected areas have adopted the METT tracking tool. At project inception, no protected area used the METT,

but 13[102] 14[103] or 16[104] PAs, depending on sources, had applied it by 2015 and at least 11 by 2016[105].

The project invested a total of US$ 1,058,704.91 in this component over five years, mostly in consultants and consultancy companies 52%, human resources (24%) and nearly US$ 50,000 (5% of expenditure) in printing production costs. In August 2017 ANAC launched its new webpage, http://www.anac.gov.mz, which includes the four management plans funded by the project, as well as the Strategic Plan.

In return, ANAC capacities have been strengthened, in terms of technical skills by its staff and capacity to implement improved tariff and fee rates and collection methods, what is expected to increase revenues by a significant, but not yet quantified, amount[106]. It is not clear, however, if other recommendations of the financial plan will be implemented. Moreover, on top of PROFIN's investment, the approximately US$ 6 million (out of a total cost of US$ 12 million) disbursed by MozBio to strengthen ANAC has shown little, if any, significant change in that project's performance or impact indicators, which include the amount of state budget allocation for ANAC and capacity development scorecard score[107].

While the project strategy intended to support the development of business plans, not management plans, these do constitute an important management tool and a key element of ANAC's strategic and annual working plans. MozBio has allocated US$ 15.30 million for the improvement of management of protected areas, including the development of 3 management plans[108], while PROFIN expended US$ 0.15 million on the completion of 4 management plans. PROFIN did not provide funding for the implementation of management plans. However, their preparation was a foundation from which the Government and other projects can contribute to the management of these areas by sourcing funding for implementation.

Component 2

Component 2 intended to implement and evaluate three different approaches to share benefits generated by the protected area, the Gorongosa National Park (GNP) with adjacent communities, specifically, people living at the buffer zone of Gorongosa

[102] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[103] (ANAC, 2015)
[104] (BIOFUND, 2017)
[105] (ANAC, 2016)
[106] (ANAC, 2016)
[107] (World Bank, 2017)
[108] (World Bank, 2017)

Mountain (Serra de Gorongosa), added to the historical park in 2010. This should have been accomplished by 1) engaging communities in reforestation, setting up nurseries and contracting, training and equipping community members as park rangers and forestry staff, 2) setting up a tourism venture, were a private operator would source either human resources or goods and services from the buffer zone and 3) provision of technical assistance to develop sustainable agriculture in the buffer zone. The expected results were increased awareness on the park's direct (employment) and indirect (productivity) benefits among the population resulting in reduction of agricultural clearings and forest fires. This, in turn, combined with reforestation efforts above the 700-meters above sea level (masl) line should have caused decreased erosion and soil degradation, which, together with the technical assistance provided should result in increasing productivity on the lower slopes of the mountain.

Component two was directly affected by frequent episodes of political violence and civil unrest, which included destruction of plant nurseries, and **GRP staff and volunteers were kidnapped, threatened or, in one instance, killed**. Thousands of people were displaced, including household engaged in project activities. Refugees lost their means of livelihood, mainly cultivated crops and domestic animals and hence become poorer. This might have increased deforestation for charcoal production (a source of income) in lowland, safer areas

The tourism initiative started well enough: the project engaged the African Safari Foundation to train communities and set-up community-based tourism activities at Gorongosa Mt[109] to set the basis for an envisioned tourism lodge and a series of camps to accommodate what was presumed to be significant flow of quality adventure and ornithological tourism[110]. As the political and military situation quickly deteriorated through 2013 and 2014, the initiative was first postponed to minimize exposure of GRP workers and beneficiaries and then definitely abandoned in favour of the two other models[111]. Project expenditure on this initiative was negligible, as only once audit fees amounting to US$ 12,806 were ever recorded under this output. However, GRP still intends to develop tourism both at the mountain and at the historical park with community participation, and intends to use its own funds to develop a camp near one of the main park gates intended to receive late visitors.

Funds originally intended to set-up the tourism venture were added to promotion of sustainable agriculture in the buffer zone. GRP chose to promote shade coffee as a crop that would perfectly fit the agro-ecological conditions of the buffer zone (montane forest), and could be practiced avoiding forest clearing, as well as having potential to generate additional income. A 2,000-hectare area was identified between 900 and 1,000 masl. on

[109] (PMU PROFIN, 2013)
[110] (Carr Foundation, 2006)
[111] (PROFIN Board, 2015)

degraded or cultivated land, adjacent to forest patches with high density of settlements[112]. An initial coffee nursery was set-up, and planting began in 2014 on a 9-hectares GRP-owned demonstration plot and later, on smaller farmer's plots volunteered by community members. Technical assistance was provided to farmers by GRP's department of community relations, strengthened by an international agricultural expert hired with project funds. Coffee nurseries and plantations were periodically abandoned due to episodes of violence and an alternative nursery was established at the GRP facilities in Vila Gorongosa (district capital), which was mostly free from violence. Administration and coffee processing facilities were prepared there in 2016. Despite the periodic abandonment of the plantations, coffee plants proved resilient and by 2017 44,794 plants survived on 85 family plots, or 15% of the 569 households documented in 2006[113]. Plots had an average size of 0.16 hectares, covering a total area of 22.4 hectares, including GRP's demonstration plot[114]. Household coffee plantations would constitute 7% of the typical average homestead size of 0.94 hectares, in Gorongosa[115]. Households may use several plots distributed across two or more agro-ecological zones, divided between several cultures (maize, cash crops and vegetables). The total size of family land depends on the household size, which, in the case of a polygamous society like this, would depend on the number of wives per household.

The plants are now over two years old, the first crop about to be collected in June 2017. The first crop would be entirely used to test the processing machinery and procedure, and to provide samples to coffee exporters. GRP expects to access both commodity and premium markets, the latter by roasting part of the crop and developing a *Café da Gorongosa* brand. Processing, roasting and marketing costs will be covered by GRP at least till 2021. Moreover, to safeguard producers from price fluctuations, GRP will set up a fund which would compensate farmers when commodity prices are low. Contributions for the fund would come from coffee sales proceedings.

Traditional wet coffee-processing to remove the coffee pulp generates important quantities of wastewater, threatening aquatic ecosystem and health of downstream communities. Thus, GRP, using PROFIN funds, has acquired machinery for dry-processing of coffee berries, and use the pulp by-product to make organic fertilizer.

Total investment in agriculture amounted to US$ 1,626,495 mostly in staff salaries (41%), construction of facilities (23%) and coffee processing equipment (19%). GRP projects a growth in participants up to 500 farmers and 106 hectares (5% of the suitable area) by 2021. GRP assumes that productivity would increase from 0.25 to 2 tonnes per hectare in the same period and a constant price per tonne of green bean equivalent of US$ 3,500, so

[112] (GRP, 2013)
[113] (Carr Foundation, 2006)
[114] (Haarhoff & Jordan, 2017)
[115] (Jindal, 2004) (Marzoli & Lungo, 2009)

that projected revenues by 2021 would amount to US$ 699,544[116]. Comparing the assumptions to literature values, productivity for farms under Rainforest Alliance certification in Central and South America in 2010 ranged between 0.374 to 2.808 tonnes/ hectare, but on much larger farms than the project area, averaging 64.4 hectares. Productivity in Guatemala, where coffee was mostly produced by smallholders on plots of average size of 2.9 hectares reached 1.475 tonnes/hectare[117]. In terms of prices, average prices paid to growers in 38 countries for which data exist, between 2010 and 2016 ranged between US$ 559 and 6,547 per tonne, with a total average value of US$ 2,472 per tonne[118]. Premium payments, expected for organic or certified coffees were estimated for Rainforest Alliance certified coffee to average US$ 200 per tonne[119], which would bring the total expected price to around US$ 2,700 per tonne. Overall, it seems GRP productivity and expected price projections are within literature values, while their objectives in terms of area remain modest compared with the total area available.

Reforestation efforts planned to plant over 80,000 montane forest trees in degraded areas over the 700 masl. The project mobilized community members as volunteers, casual workers and forestry workers, setting up a total of 43 community nurseries that produced 3,670,575 plants, of which 64% or 2,351,597 were effectively planted over 2,880.6 hectares between 2009 (prior to PROFIN) and 2016, of which 2/3 were planted between 2011 and 2012. In response to the displacement and insecurity caused by the armed conflict around the mountain, GRP moved plants to 7 alternative sites in lowland safe locations. Moreover, plant species used for reforestation had to be changed from the predominantly mountain species planned to miombo woodland species and riverine plant species. The most common species grown and planted by the GRP were *Afzelia quanzensis, Millettia stuhlmanii, Breonadia salicina, Khaya anthoteca* and *Pterocarpus angolensis*, which are important forestry species in the district[120]. Planting was concentrated mostly in river banks. Moreover, GRP reports very low incidence of encroachment and deforestation on montane forest areas since project inception[121], the highest estimate for forest loss since the late 70's being 25% of the original forest area.

The reforestation initiative involved the participation of forestry workers, casual workers (day labourers) and volunteers, as well as park rangers and volunteer community rangers. Forestry workers and technical agents were sourced from the three *regulados* (communities) of the mountain's buffer zone, Canda, Sadjungira and Tambarara, except for two key technical officers, whose profile and educational background could not be found there. Casual workers and rangers were completely hired from those communities. By 2012, the project had 47 forestry and agriculture agents, 275 forestry volunteers, 25 formal rangers and 24 volunteer rangers, as well as having conducted fruit tree trainings

[116] (Haarhoff & Jordan, 2017)
[117] (Tuinstra & Deugd, 2011)
[118] (International Coffee Organization, n.d.)
[119] (Tuinstra & Deugd, 2011)
[120] (Anjos, 2001) (Administração Distrital de Gorongosa, 2006)
[121] (PMU PROFIN, 2013) (PMU PROFIN, 2014)

for 60 households. However, by 2017, violence and displacement have severely reduced those numbers; in 2017 participant's lists included 34 forestry officers, 53 forestry volunteers, 19 volunteer rangers, and 32 households involved in fruit tree activities and not a single ranger left. GRP expects some recovery of the numbers as the situation stabilizes.

Reforestation efforts had a total project cost of US$ 573,694, mostly in salaries (68%), vehicles (10%), and goods and materials (8%), which, against 2,880 hectares planted equals a cost of ca. US$ 200 per hectare.

Interviews with traditional authorities show that perceptions about GNP and GRP have changed compared to the opposition identified in earlier ethnographic work[122].

Without trees, water supply suffers, as well as people will suffer without shade. This has been known for a long time, since the colonial days. Then, however, that prohibition, coming from the colonial masters, was not accepted. Now, people understand why [the logging ban is needed]

The traditional leaders' main current concern was the situation of dispossession and poverty that the recent bouts of conflict have left behind, but manifested that:

1) peace would allow development, exemplified by the recent extension of the road network and power network to communities at the base of the mountain:

Two months ago, electricity reached our community, we have hopes of power access up the mountain and more development, schools, hospitals, shops and roads

2) that degradation was affecting natural resources and thus measures needed to be taken to prevent it:

The mountain is a volcano [sic] *and must be kept cool [with trees]*

Look [there] where the grass is gone, the soil has been eroded

Now there are trees everywhere providing shade and calling the rains

3) that the park would contribute to development through tourism:

The water falling down the mountain resembles a shower and keeps the area cool and attractive for people to have pick-nicks

[122] (Schuetze, 2015)

and that 4) the presence of wildlife in the park and the arrival of visitors gave communities and sense of pride:

It [the park] brings tourism and (therefore) income. The National Park is important for the children, for future generations. There is a sense of pride when we can show the big animals to children. Those animals were almost gone, now they are coming back.

However, traditional authorities also referred to the mistrust generated by the recent conflict, which makes people reluctant to participate in project activities, including meetings, as participation can be mistaken as political activity:

Your mouth can kill you!

People [would] sometimes cut trees out of spite

As well as the complex social and spiritual connections and balance between people, the mountain and the spirits of the mountain and how easily that balance can be disturbed:

Ignorance cause people to accuse projects/ authorities of selling the Serra (mountain) to foreigners!

Thus, beyond politically-linked violence, encroachment of foreign people, installations and/ or facilities, such as a meteorological station, communications antenna and or visitors violating mountain protocol has also led to threats of violence:

Superstition makes people believe that positive developments, like a communication antenna, would stop rains!

People involved as community rangers or forestry causal workers, also shown their pride and satisfaction at contributing to defend their communities' natural resources:

We became community rangers to protect our natural assets

But also, frustration at their decreasing numbers, GRP insufficient support for volunteers and recurrent groups of consultants, like this evaluation mission, pestering them with questions:

We used to be 20 [community] rangers, now merely 8!

We are tired of people coming here with questions, but no solutions

The Management Effectiveness tracking tool has been applied to the Gorongosa National Park in 2014, obtaining a 70-point mark or 68% of the maximum score. This entails an improvement of 20% over the baseline score of 58. By all measures, GNP is a well-managed park, which maintains an important enforcement force and has forged important

links with communities inside and adjacent to the protected area and buffer zone. However, the fact that the METT has only been applied twice shows that the park management does not see the usefulness of said tool. With a score of 70 or 68%, the METT indicates that Gorongosa is by far the best managed national park and protected area in Mozambique: the average METT score for the 16 areas assessed between 2013 and 2014 is 38, ranging between 6 and 62. However, the score stated in the BIOFUND database on protected areas is 62, instead of 70 reported in the project's 2014 METT[123], yet the best mark of all assessed PAs. Moreover, with over 351 people employed in 2014[124], GNP is not only the best manned PA in the country, but only second to the state administration as the biggest employer in the province of Sofala.

A reduction in costs per km^2 of conservation was expected to be reduced because of improved compliance with park regulations by adjacent communities following the implementation of the benefit sharing projects listed in the project document. The baseline value given in the PRODOC and annual reports is US$ 185 per km^2, and the final estimation, dating to 2016 amounted to US$ 258 per km^2. This is in line with literature values for average protected area cost per area, which averaged US$ 355 per km^2 for South and East Africa, although the figure was just US$ 133 per km^2 if South Africa was excluded[125]. The BIOFUND database includes cost by km based on a 2013-2014 assessment of protected areas, where the GNP has the highest costs, at MZN 80,910 per km^2 against an average cost by km^2 of MZN 9,174[126]. At 2014 official exchange rate this would mean that GNP had an average cost of US$ 2,609 per km^2, similar to the US$ 2,129 per km^2 reported for South Africa in 2002[127].

Component 3

Component three intended to pilot different financing mechanisms and explore their feasibility and impact in sustaining protected areas financing. PROFIN focused on the national protected areas system level, through working for the creation of a Conservation Trust Funds (Foundation for Biodiversity Conservation, BIOFUND) and piloting financing mechanisms that can be unscaled for the entire protected area system and beyond, such as carbon markets from mangrove forests and biodiversity offsets.

The objective of the start-up phase (2010-2012) was to establish a functioning biodiversity foundation. BIOFUND was legally registered in December 2011. PROFIN contributed US$ 1.1 million from 2012 for the establishment of BIOFUND, including the recruitment of executive team, office space, office and communication equipment and

[123] (BIOFUND, 2017)
[124] (BIOFUND, 2017)
[125] (Eagles, McCool, & Haynes, 2002)
[126] (BIOFUND, 2017)
[127] (Eagles, McCool, & Haynes, 2002)

development of instruments (operational and strategic plans, investment plan, manual of procedures, business plans or fund-raising strategy)[128]. In 2014, the statutes of BIOFUND were approved, enabling it to receive the first contribution from donors to its endowment fund in the amount of € 10 million (US$ 10.6 million) from KfW. In 2015, other donors contributed to BIOFUND, such as: donation of € 2 million (US$ 2.23 million) from AFD as sinking fund to support protected areas, additional contribution of KfW with € 6 million (US$ 6.72 million) for the endowment fund, US$ 1 million from Conservation International for the endowment fund, contribution of the World Bank/GEF with US$ 3.2 million for the endowment and of the World Bank/IDA US$ 1.8 million for institutional support. In 2015, BIOFUND was officially launched, where the Government of Mozambique at its highest level showed support to biodiversity conservation initiatives and the need of sustainable financing through the involvement of the private sector and other stakeholders. The capitalization of the BIOFUND as a conservation trust fund has provided a much-needed diversification of income streams for protected areas. Through the *Abelha* project, BIOFUND piloted the disbursement of funds using BIOFUND's own funds from endowment revenues to cover operational costs of protected areas by allocating US$ 0.20 million to support the management of the Limpopo National Park in 2016 to meet its conservation objectives and enable local communities to access funds for biodiversity-friendly small development projects. For the period 2017-2020, Limpopo National Park and four additional protected areas (Quirimbas National Park, Gilé National Reserve, Ponta de Ouro Marine Partial Reserve and Zone of Total Protection of Cabo São Sebastião) will be funded using BIOFUND's own funds from endowment revenues and sinking funds from AFD. BIOFUND is a registered member of the Consortium of Africans Funds for the Environment (CAFÉ) and receives mentorship from FUNBIO from Brazil. The support from KfW included a contract of a consortium formed by GITEC (Germany), Verde Azul (Mozambique) and FUNBIO (Brazil) to provide technical assistance to BIOFUND to increase protected areas management effectiveness. Because of its establishment as a conservation trust fund, rapid capitalization, independence, accountability and flexibility in decision-making it has become attractive for use by donors to channel financial resources to the protected areas, including the World Bank, which is the main donor for biodiversity conservation in Mozambique. In addition to channelling funds to protected areas, BIOFUND has also organized awareness campaigns in Maputo and Gaza to contribute to environmental education and public awareness about the importance of biodiversity conservation, in collaboration with government, universities and conservation professionals.

A National Strategy for Adaptation and Mitigation of Climate Change was approved by the Government of Mozambique in 2012 to guide the country towards a low carbon development approach. Subsequently, in 2016, a National Strategy for the Reduction of Emissions from Deforestation and Forest Degradation (REDD+) was approved[129]. One of the strategic objectives of the REDD+ strategy is to strengthen the protected areas

[128] (BIOFUND, 2016)
[129] (MITADER, 2016)

system and identify mechanisms to generate revenue to increase protected areas management effectiveness and improve the livelihoods of local communities. The Conservation Policy and its Implementation Strategy as well as the Law for the protection, conservation and sustainable use of biological diversity, determine the need of payment for ecosystem services and for compensation for conservation efforts.

Mangroves are an important carbon sink, therefore are part of national climate change adaptation and mitigation strategies. Carbon sequestration is an ecosystem services with market value (the blue and wet carbon) hence the PROFIN project intended to pilot the development of business from carbon to generate revenue, protect and restore mangroves. Local communities would benefit from the revenue generated from carbon market, hence adopt sustainable mangrove use practices to avoid deforestation and be engaged in mangrove restoration through reforestation.

A key element of carbon market is that the project intending to sell carbon must demonstrate the reduction of carbon emissions (for example, through preventing deforestation) or demonstrate the increase in carbon sequestration (for example, through reforestation) that results from project activities. Only the credits or the difference between carbon stocks without and carbon stocks with project activities are marketed. At the inception of the PROFIN project there was no baseline data on carbon stocks, deforestation rates and socioeconomic value of the mangrove forest for local communities and there were no supporting policies related to carbon markets.

The single carbon market project in Mozambique was implemented in the buffer zone of the Gorongosa NP between 2003 and 2008, the N'hambita project, funded by the European Commission (EC) and locally implemented by Envirotrade Mozambique Limitada (EML) and its international partners (ex: University of Edinburg, Edinburgh Centre for Carbon Management – ECCM, World Agroforestry Centre -ICRAF). The project made cash payments to local farmers in small communities to prevent deforestation, promote agro-forestry and reduce poverty. This project did not conduct a baseline forest inventory to determine carbon stocks, therefore the carbon credits sold were not realistic and the effect of the project in increasing carbon stocks in the ecosystem could not be determined[130]. The project made cash payments to farmers based on their activity of planting trees in their farms or protecting natural forests, but without quantifying the carbon storage achieved through the implementation of these activities. Two percent of the cash paid to farmers, and to cover other project costs, was generated from carbon credit sales. Farmers were paid upfront over seven years, thus making a significant contribution to farmer's livelihood, but then payments ceased. The project assumed that the benefits from the planted trees would provide enough incentives for farmers to protect the trees for the next 93 years. This was unrealistic and over optimistic. As payments stopped, farmers lost motivation and retook interest in felling the trees for timber or charcoal. The project failed to achieve its goals of securing a long-term

[130] (Kill, 2013)

protection of miombo woodland for carbon sequestration and sustainably increase the income of local communities, due to flaws in project design, implementation and monitoring[131]. Therefore, at the beginning of PROFIN there was no functional model for carbon markets in Mozambique, but the N'hambita project could have provided lessons for the design and implementation of carbon market by PROFIN.

PROFIN's carbon pilot underwent an in-depth feasibility analysis, which included the establishment of baselines by conducting the following studies:

- Carbon stocks (USFS, 2014): WWF MCO collaborated with international (United States Forest Services – USFS) and national (Eduardo Mondlane University) organizations to conduct a study on carbon sequestered (carbon stocks) in the mangrove forest of the Zambezi Delta. The methodology used can be replicated to other mangrove forests as part of the implementation of the REDD+ strategy. In addition to comprehensively estimating the carbon pool of the ecosystem, the project contributed to build national technical capacity through the engagement of Government employees and students from Eduardo Mondlane University in field sampling as well as by providing training sessions and seminars on methodology for carbon assessment and international carbon markets[132].

- Social and economic assessment of the drivers of deforestation (WWF MCO 2016): WWF MCO also conducted a socioeconomic assessment on Mangrove Forests in the Zambezi River Delta, with the objective of determining the impact of human activities in the mangrove forest as part of the baseline for piloting the carbon market[133].

- Policy assessment (IUCN and WWF, 2016). WWF MCO produced a report on the analysis of legal support to initiatives to protect, restore and promote sustainable use of mangrove forests and other sources of blue carbon[134].

Although comprehensive in the quantification of current carbon stocks, the study does not provide information on the potential for carbon market and revenue generation, i.e. it did not quantify or make projections of carbon credits. There was no piloting of carbon market, hence there was no revenue generated. At international level, there was a drastic reduction in the market prices of carbon compared to what was expected in the PRODOC, which made the expected output outdated and unrealistic. The intent of piloting a carbon market was therefore abandoned and WWF MCO shifted focus to the valuation of other ecosystem services through the blue forest project. The blue forest project valued ecosystem services to generate revenue for local communities to prevent destructive uses

[131] (Kill, 2013)
[132] (USFS, 2014)
[133] (WWF MCO, 2016)
[134] (WWF MCO, 2016) (IUCN and WWF, 2016)

of mangroves. The ecosystem services valued included the use of clay for the construction of houses and prevent the cutting of mangrove trees for poles, sustainable agriculture, aquaculture in cages, crab fattening for trade, apiculture, sustainable fishing and fish processing, community ecotourism and establishment of mechanisms for sustainable mangrove extraction. BIOFUND and WWF have pioneered the work on biodiversity offsets as a potential business opportunity to generate revenue for protected areas financing. At the onset of the project, the concept of biodiversity offsets was mostly unknown by institutions and conservation professionals and there was neither basic information nor supportive legislation for biodiversity offsetting.

Finally, BIOFUND and WWF mapped the habitats of Mozambique according to the criteria of the International Finance Corporation (IFC)[135]. This study recommended that protected areas be high priority sites for biodiversity offsets, which would result in income for the protected area or other form of support from developers (mainly private sector) to protected areas management. To create an enabling environment to operationalize offsets, WWF and BIOFUND provided training, organized workshops and created the offset working group involving representatives from government institutions, universities, private sector and civil society organizations. The project successfully advocated for the inclusion of biodiversity offsets in the new Regulation of the Process of Environmental Impact Assessment (Decree 53/2015, of 31st December). However, by the end of the PROFIN project there was no piloting of revenue generation from biodiversity offsets. Considering the scant knowledge about the concept, lack of a spatial database on biodiversity to guide the offsetting and the lack of supportive legal framework, this output could be considered unrealistic when PROFIN was designed. WWF and BIOFUND partnered with and were complemented by other institutions. For example, the World Bank developed the Biodiversity Offset Road Map, WCS is implementing the COMBO project involving four participating countries (Mozambique, Madagascar, Uganda and Guinea) supported by FFEM and AFD. The COMBO project, among other outputs, will produce a more detailed database of spatial biodiversity data, which will complement the habitat map developed by BIOFUND and WWF, and initiate the development of a legal framework for biodiversity offsets in coordination with MITADER. BIOFUND will continue work on offsets by undertaking a feasibility study for biodiversity offsets (Project K) funded by RedLAC and CAFÉ (Conservation Trust Funds Networks for Latin America and Africa).

3.3.4 Country ownership

National government agencies and civil society organization actively participated in the design and implementation of PROFIN. National participation is described in sections 3.2.1 and 3.2.4. Summarizing this section, the TE found that outcomes of the project have become important an actor in protected area financing (BIOFUND and outputs of

[135] (CEAGRE, 2015)

component 1 are being incorporated into the official protected area financing strategy (rationalization and efficiency of fee collection). Financial commitment by partners to BIOFUND and the protected area system seems guaranteed in the midterm (5 to 10 years), although there are challenges in how the primary institutional project beneficiary (ANAC) would deal with institutional changes, scarce budgets and the shift in focus to a more holistic view of biodiversity and rural development (section 3.3.5).

3.3.5 Mainstreaming

Project terminal evaluations must assess how evaluated projects contribute to mainstreaming other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and women's empowerment[136]. PROFIN intended to make contributions to poverty reduction efforts that will be discussed in section 3.3.6.

Gender did not figure prominently in either project design, implementation or reporting, besides a mention in an annual report of ANAC staff being trained for gender sensitiveness[137]. Gender relations are complex in the mountain communities of the three *regulados* of the district of Gorongosa where the project acted. Society is patriarchal, polygamous, and wives live under the authority of the husband, who is the head of household and lead decision-maker[138]. This does not mean, however, that women do not participate in decision-making at household level or in public life: women were present in all group interviews conducted during this terminal evaluation's mission and were as vocal and articulated (in their local language, Chi-Gorongosa) as the men. In fact, Chi-Gorongosa society possesses a complex, sophisticated network of social, ecological and spiritual relationships, rights, duties and obligations[139] which transcend the "male-dominated society" simplification. This notwithstanding, the department of community relations of the Gorongosa Restoration Project (GRP) has been involved in education for girls together with schools and youth groups in the buffer zone, with an aim of promoting gender equality and reducing violence in the home, school, and workplace, with USAID[140]. Moreover, GRP is currently starting implementation of a new USAID-funded program to promote education, health and food security in the park's buffer zone, in coordination with activities funded by the GEF-6 project *Strengthening the conservation of globally threatened species in Mozambique* through improving biodiversity enforcement and expanding community conservancies around protected areas. The education component focuses on girl education and empowerment, with a view of enabling young women to take control over their own life.

[136] (Evaluation Office, 2012)
[137] (PMU PROFIN, 2016)
[138] (Igreja, Dias-Lambranca, & Richters, 2008)
[139] (Convery, 2006) (Igreja, Dias-Lambranca, & Richters, 2008)
[140] (GRP, 2013)

3.3.5 Sustainability

Sustainability of ANAC

ANAC is still dependent on external funds to a high degree: in 2016, ANAC handled a total budget of amounting to US$ 15.5 million, of which 87% was provided by the World Bank and GEF through MozBio, 12% from MITADER as contributions for the protected area system and 0.5% from the general state budget for the implementation of ANAC's performance plan (aligned with the strategic plan). Key functions of the agency, like the salary of some management and technical staff are sustained by MozBio[141], which, together with PROFIN had been the only source of funds for training, furniture and equipment since the agency's inception. MozBio support is granted till 2019, with a total financial support of US$ 46.3 million over that project's implementation timeframe (2015-2019), of which just over half have been disbursed to date[142]. ANAC's average annual budgetary needs have been estimated to reach US$ 1.94 million for the next seven years (2017-2014), with a ratio of human resource to operational expenses of 120%[143], well within current external support.

In 2016, the Council of Ministers created the National Fund for Sustainable Development (FNDS) by the decree 6/2016 of 24th February. FNDS is a public institution, under the umbrella of MITADER, with administrative, financial and patrimonial autonomy. Its main attribution is to promote and fund programs and projects to support the sustainable development. In the context of biodiversity conservation, the role of activities of FNDS include mobilization, generation and management of funds and investment of those funds in conservation, restoration, environmental management, adaptation and mitigation to climate change, research activities, among others. There is an overlap between the role of FNDS with the financial autonomy of ANAC, both under the umbrella of MITADER. This has resulted in the removal of the financial autonomy of ANAC. Currently, all major financial investments for environmental conservation are channelled through and managed by FNDS, including the World Bank's MozBio project. The Strategic Plan of ANAC was prepared considering its autonomy from the umbrella ministry. A key component of the implementation mechanism of ANAC Strategic Plan is that MITADER continues to create an enabling environment for the establishment and consolidation of ANAC as to materialize its vision as the institution of reference for biodiversity conservation in the country. The removal of financial and patrimonial autonomy contrasts with the objective of creating ANAC as an institution with administrative, financial and patrimonial autonomy to improve its efficiency in the management of protected areas. With only administrative autonomy as indicated in the Decree nº 8/2016 of 15th April,

[141] (ANAC, 2016)
[142] (World Bank, 2017)
[143] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)

fewer decisions can be made at ANAC, which will limit its capacity to decide and implements its own priority activities, indicated in the Strategic Plan.

In 2015, the annual investment in the protected area system amounted to US$ 26 million, of which US$ 4.8 million was provided by the general state budget and central, provincial and district level. State support for ANAC and the protected area system has shown a positive trend in 2014 and 2015[144]. However, continuation of increasing support for ANAC would depend on how the Mozambican economy recovers from the 2014-2016 crisis[145], as well as if ANAC can find its role in the new institutional context. Additionally, ANAC has not been competitive in recruiting and retaining highly qualified human resources to fulfil its mandate better than former DNAC.

International donor's support for the protected area system still constituted 81% of the total funding committed to the Mozambican protected area system in 2015[146], down from 89% in 2009[147]. The total funding committed has also been on the rise, from a total of US$ 18.38 million in 2008 to US$ 21.20 million in 2015[148]. Numerous projects to strengthen the national system of protected areas are being implemented, mostly directly supporting individual or clusters of protected areas rather than the central administration (ANAC).

Protected area own revenues, primarily generated through user fees and tariffs, for visitors and operators have been rising steadily for the period 2005-2013 (albeit figures differ from the estimation included in PROFIN's project document), driven mostly by hunting fees (over 53%) and five protected areas, Limpopo, Bazaruto, Quirimbas and Gorongosa and, Maputo Special Reserve (contributing 16%, 11%, 3%, 6% and 7%, respectively). The average annual revenue from user fees at hunting blocks has amounted to US$ 0.61 million, and US$ 0.53 million for tourism fees[149]. New estimates for 2013-2017 have not yet been released. Hunting fees seem to be in risk of suffering a severe cut, caused by the current decline in hunting tourism in Mozambique. Sport hunting areas occupy 17% of the national territory. However, poaching reduces the profitability of this industry by reducing the population of wildlife populations because hunting quotas are set according to population sizes. A restriction in the hunting of some game species (e.g. elephants, lions, hippos) imposed by national authorities or by CITES to ensure species survival further reduces the income generated by this industry. Moreover, the national currency (Metical) depreciated in relation to the main transaction currencies (US$, South African Rand and Euros). For example, it depreciated from an average of 30MT/US$ in 2013 to 80MT/US$ in 2016. Civil unrest might have discouraged the arrival of sport hunters in

[144] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[145] (World Bank, 2017)
[146] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[147] (UNDP, 2010)
[148] (UNDP, 2010) (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[149] (Rylance, 2014)

some areas. Due to a combination of the above factors, the overall revenue generated from sport hunting declined from US$804 493 to US$622 162 in 2016[xxxiv].

Sustainability of GRP

GRP and its work with communities in the buffer zone of the GNP is backed by a renewed long-term agreement between the GRP and the government of Mozambique which would extent till at least 2041[150]. In terms of financial backing, GRP own funding amounts to US$ 6.8 million annually[151] provided by the Carr Foundation, used for the basic running of the park's operations, and will count with support from USAID and other partners in the amount of US$ 6.2 annually for the period 2017-2023 on top of a GEF grant of US$ 7.03 million for the same period to support law enforcement[152].

Tourism development in Gorongosa, which is expected to be the main mechanism to generate revenues for the park and adjacent communities (through employment, transfer of entrance fee revenue and business opportunities) seems to be recovering and new investments to expand the number of beds are being prepared by the GRP and private investors.

The biggest threat that tourism, and other development initiatives supported by the GRP, including reforestation, agroforestry and other agricultural developments, face in the district is a resurgence of political violence.

Sustainability of Gorongosa coffee

GRP expects *Café de Gorongosa* to gain access to a market segment like certified coffees. Certified coffee is a fast-growing segment of the market, achieving 8% market penetration level in 2009 and was projected to had reached 20%-25% of the global coffee trade by 2015[153]. By 2014, certified coffee exports from the two biggest export countries, Brazil and Vietnam, had reached 13% of the total estimated 10 million tonnes traded coffee[154]. In terms of production, certified coffee under different labels, the most important being Nespresso AAA Sustainable Quality, 4C, Starbucks Coffee and Farmer Equity (C.A.F.E.), Fairtrade, Organic, Rainforest Alliance and UTZ, accounted for 40% of global production and 12% of sales in 2014[155]. Requirements are different across certification schemes, with some more focused on production practices (organic), farmer's prices (fair trade) and a combination of working standards and environmental

[150] (GRP, 2017)
[151] (UNDP, 2016)
[152] (UNDP, 2016)
[153] (International Trade Centre (ITC), 2011)
[154] (CBI, 2016)
[155] (Potts, et al., 2014)

friendly practices (Rainforest Alliance), including ecosystem conservation, wildlife protection, water conservation, working conditions, occupational health, community relations, integrated crop management, soil conservation, and integrated waste management[156]. Price premiums paid for certified coffee vary with country of origin and certification, ranging between US$ 0.83-0.11 per kg of coffee exported for RA-certified coffee from several Latin-American countries, including Brazil and Colombia[157]. Coffee prices are notoriously volatile and determined by environmental factors, e.g. droughts and oversupply. However, certified coffee seems to be a more stable bet: sustainable certification was promoted to enable producers to obtain better prices after the coffee price fall of the late 90's and early 00's[158]. Certification involves costs, including housing (farmers and workers), latrines, tanks, and other infrastructure. Certification costs paid for RA-certified coffee in Guatemala, like Gorongosa in terms of farm size, additional costs for amounted to US$ 94 per hectare and US$ 0.07 per kg of coffee[159]. Farmers associations or cooperatives seem to be a necessary condition in developing coffee culture for export. For instance, the presence role of the national coffee growers' association has been critical for the success of the coffee certification scheme in Colombia, by providing technical assistance to member smallholders and act as the link between the certifying organizations, coffee growers and exporters[160]. Tenure issues may hamper exporting or obtaining a certification, thus negotiation with the traditional leadership and DUAT holders in the area may be necessary before engaging in coffee export, certified or not.

Climate change will likely cause a gradual rise in average temperature and maximum temperature extremes, as well as evapotranspiration over the 21st century, increasing the risk of drought and fire[161]. Effects on coffee crops are being studied by the scientific division of the GRP with the aim of selecting coffee varieties better adapted to a hotter future climate.

Sustainability of BIOFUND

BIOFUND has developed its investment policy, which has as a key principle an informed and prudent investment[162]. BIOFUND manages financial contributions from donors as: (1) endowment fund to achieve long term objectives or (2) non-endowment contributions (e.g. sinking funds) to ensure adequate liquidity to meet the short and medium-term objectives for which the funds were contributed. Most of the funds managed by BIOFUND are endowment funds, deposited in a foreign bank (Deutsche Bank – New

156 (Rueda & Lambin, 2013)
157 (Tuinstra & Deugd, 2011)
158 (Castro, Montes, & Raine, 2004)
159 (Rueda & Lambin, 2013)
160 (Rueda & Lambin, 2013)
161 (Anderson, Samuelsson, & Kjellström, 2010) (Chemonics International Inc., 2008) (MICOA, 2014)
162 (BIOFUND, 2014)

York) to generate interest continuously and to perpetuity. BIOFUND seeks to increase its endowment fund to increase the revenue generated through bank interest. The interest or revenue is channelled to protected areas to increase its management effectiveness and to sustainably improve the livelihoods of local communities. BIOFUND is demonstrating its capacity to manage with transparency and channel funds to protected areas to donors, as well as showing capacity to build public awareness about the importance of biodiversity conservation. Since the establishment of a functional structure, there is growing trend in the number of donors contributing as well as in the total amount of endowment fund. The target was to reach an endowment of US$ 20 million, which was eventually surpassed by US$ 1.6 million by 2015[163], which has resulted in a return of US$ 0.4 million. BIOFUND provides training to staff of beneficiary protected areas on accounting and financial management to ensure funds are prudently used and satisfactorily reported/justified. The mentorship from FUNBIO, the technical assistance provided by the consortium between the Germany Consulting company GITEC, Verde Azul (Mozambique) and FUNBIO (Brazil), its membership of the Consortium of Africans Funds for the Environment (CAFE) strengthens the capacity of BIOFUND to support protected areas management effectiveness, adopt international practices and standards, and attract more donors to contribute to its endowment. Therefore, an enabling environment is established for the sustainability of BIOFUND as a mechanism to generate funds to protected areas

Sustainability of wildlife populations

There has been a rapid increase in the size of wildlife populations at GNP, mainly due to natural increases following better protection through strengthened law enforcement. The reintroductions have played a relatively minor role in the growth of wildlife numbers (except for establishing a viable population of buffalo, blue wildebeest and zebra). The estimated recovery rate of key herbivore species towards the pre-war (1977) numbers are as follows: elephants (>20%), buffalo (<5%), hippo (15%), warthog (>100%), waterbuck (>100%), sable (>100%), red hartebeest (>75%), lion (>25%)[164]. This recovery rate of wildlife populations is phenomenal, and the highest of any recovery attempts in the world.

Despite this phenomenal recovery rates, the highest recorded in the entire globe, the structure of wildlife communities still suffers the effects of the decimation that the park's wildlife experienced during the Mozambican civil war. Smaller herbivores (waterbuck, warthog, sable) dominate both animal numbers and animal biomass in the ecosystem instead of the larger herbivores (elephants, hippos, buffalo) dominate animal biomass typical of other African parks, and the pre-war GNP. Larger herbivores have a slower growth rate than smaller herbivores, which explains the differences in recovery rates. The scarcity of predator adds to this unbalance. The lion population is recovering despite the

[163] (BIOFUND, 2016)
[164] (Stalmans, Peel, & Massad, 2014)

snares and traps set by poachers still causing significant lion mortality. Re-introduction of smaller predators, such as leopards and hyenas is being considered, as they could help restoring community structure by targeting the now dominant smaller herbivores.
Patrolling and law enforcement combined with the increase in environmental awareness of local communities has reduced threats to wildlife and its habitats, including poaching, uncontrolled fires and habitat conversion to agriculture. However, an estimate of 160000 of rural people that depend on land and natural resources for subsistence live in the buffer zone of the park. This suggests that for the sustainability of positive results, protection measures, environmental education and community development programs will need to be supported.

Poaching and trafficking of wildlife products for Asian markets is the main threat to iconic wildlife species nationwide, such as elephants and rhinoceros (extinct in Mozambique, but poached in the bordering South Africa). In most protected areas, local communities are either the origin of poachers or collaborate with poachers (ex: provide housing, guide poachers to areas with target animal species, etc.) in exchange of payments. Insufficient or lack of access to economic benefits from wildlife conservation by local communities is the primary reason for community involvement in poaching. Ecotourism and trophy hunting are the main sources of revenues to share with local communities. However, total revenues generated had reached only an annual average of US$ 1.14 million by 2013[165] and revenue allocation for buffer zone communities would entail only 16% of that amount[166], or US$ 0.18 million, compounded by inefficient transfer mechanism[167], a clearly insufficient funding source for community development. The hotspots of poaching for large mammals are the Niassa National Reserve, Quirimbas National Park, West of the Tete province including the national parks of Mágoè and Limpopo. While larger and iconic species are pressured by illegal international trade, small and medium sized wildlife species are poached for bushmeat, both for self-consumption and/or trade in local markets. Thus, poaching threatens development of wildlife based ecotourism, which is the main source of revenue in most protected areas of the country.

Habitat conversion is another important threat to wildlife populations in Mozambique. This is caused mainly by the rapid population growth (average of 2.3%/year), which results in the need of converting natural habitats into areas of housing and development of social and economic infrastructure. Additionally, rural people depend on natural habitats as sources of building materials (e.g. poles, grass), which results in deforestation or in the selective extirpation of preferred tree species. The predominant form of subsistence agriculture is slash and burn, with additional natural habitats cleared yearly in search for unexploited and fertile soils. The low use of inputs (irrigation, fertilizers, pesticides, improved crop varieties, drought resistant crops or crop varieties, among other

[165] (Rylance, 2013) in (Falcão & Nazerali, 2016)
[166] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)
[167] (Nazerali, Vaz, Bechtel, Távora, & Flores, 2015)

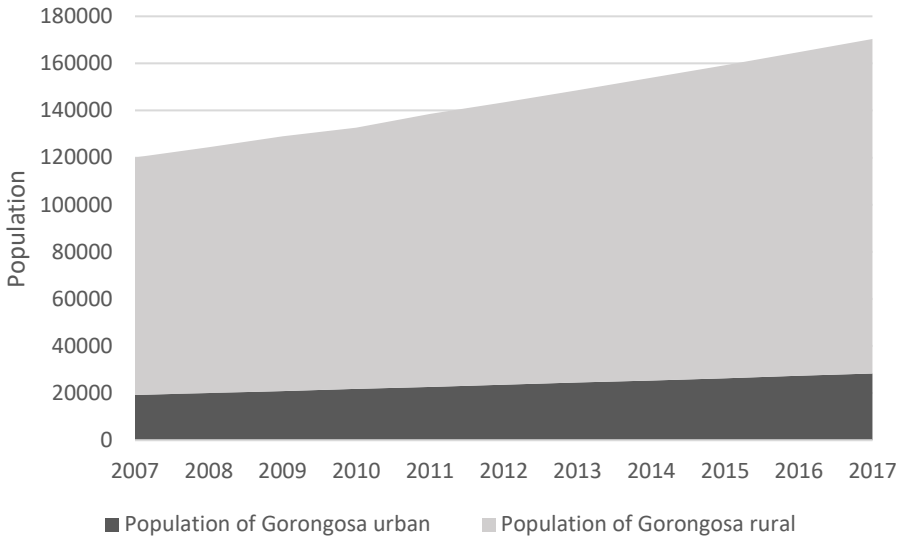
technologies) results in low productivity, which means that each household require large cultivated areas to produce adequate amount of food, which caused habitat loss and decline in the abundance and distribution of wildlife species.

Population of the district of Gorongosa grew from 92,555 people in 2005 to 98,848 or a growth rate of 2% annually, mostly in the semi-urban areas of Vila Gorongosa[168]. There are currently no estimations of the population size at the Gorongosa Mountain buffer zone, which was estimated in 2006 at 569 households[169], or 2,844 people at a rate of five persons per household[170]. An unknown but significant number of these people fled to other areas, including Vila Gorongosa during the recent violent episodes in 2014-2016. Development scenarios foresee population in the district of Gorongosa, especially at Vila de Gorongosa to continue[171]. The national statistical institute projected an annual growth rate of urban population in Gorongosa district to be at 3%, which entails a current (2017) urban population of over 28,000 people, out of a total population of over 170,000[172].

Charcoal and firewood are the main energy sources for both urban and rural households in Mozambique, but charcoal is mostly consumed by urban households. Estimations of charcoal production in the district of Gorongosa give a conversion rate of 1.36 m^3 of wood per tonne of charcoal, including wastage, which, for miombo woodland stocking rates of 0.79 tonnes per m^3, and considering that only a third of the tree species can be used for production (especially *Periscopsis angolensis, Cobretum fragrans, Brachystegia boehmii* and *Erythrophleum lasanthum*)[173], charcoal production needs 0.06 hectares of woodland per tonne of charcoal[174]. With an estimated annual consumption of 57 kg of charcoal per person[175], at least 102 hectares of woodland, with an annual increase of 3% should be dedicated to charcoal production for urban population alone, which would be supplied from the surrounding rural areas, including the park's buffer zone. If we add agricultural plot size of almost 1 hectare per household, and an estimated need of 0.1 hectares for housing[176], the total size of land print of the population of the Gorongosa Mountain buffer zone would be of 625 hectares in 2017, which is modest, considering the total area identified as potential shade coffee plantation area (2,000 hectares) and the total size of the buffer zone.

Figure 4. Projections of population growth in Gorongosa District

[168] (Administração Distrital de Gorongosa, 2006)
[169] (Carr Foundation, 2006)
[170] (Administração Distrital de Gorongosa, 2006)
[171] (Cunliffe, 2004)
[172] (INE, 2010)
[173] (Administração Distrital de Gorongosa, 2006)
[174] (Herd, 2007)
[175] (Brouwer & Falcaõ, 2003)
[176] (Administração Distrital de Gorongosa, 2006)



3.3.6 Impact

The terminal evaluation intended to evaluate impact by assessing project effects on household income in the buffer zone communities of Gorongosa Mountain, and in terms of the reduction of the financial gap for protected areas nationwide.

The financial gap is discussed in section 3.3.1 with inconclusive results, as figures of costs and revenues of protected areas vary significantly across sources, which does not allow to compare how the "gap" has evolved in the last five years. In terms of protected area finance, the most significant change brought about by the project has been the establishment of the trust fund BIOFUND (also claimed by the World Bank-GEF project MozBio), described in section 3.3.3.

Average monthly household income data was supposed to be collected as part of PROFIN monitoring activities, as this was also one of the project's indicators. However, the armed conflict at mountain communities prevented the GRP from conducting any survey later than 2012. Prior socio-economic data collected by the GRP has not been made available for analysis. The project document stated that the average household monthly income in 2010 amounted to US$ 45, ranging between US$16-75, which was expected to increase to US$ 112 (range of US$75-US$150) because of project support[177]. However, the project does not include any reference on how these figures were estimated. Other estimates for average monthly household in the district of Gorongosa, include a range from US$ 400 to US$ 80-120 for employed and unemployed head of household respectively, at the *regulado* of Chicale (lowland)[178]. Even if socio-economic data from Mt. Gorongosa buffer zone communities was available, any analysis of such data would only be relevant to study the effects of the traumatic situation experienced by buffer zone communities

[177] (UNDP, 2010)
[178] (Herd, 2007)

and the presumably significant reduction in their incomes resulting from the destruction of habitation and livelihoods, and not for any effect that the project has not yet have. The introduction of shade coffee and potential tourism development described in section 3.3.3 has the potential to improve income for buffer zone households, as well as to generate environmental benefits, especially when coffee is grown within a certification scheme. The most frequently mentioned economic benefits from certified shade coffee are (1) greater efficiency and profitability due to better organization of farm administration and documentation, (2) better prices for coffee sold and (3) better markets to which to sell the coffee[179]. Increased income can spill over in other social benefits and positive externalities. In the Colombian province of Santander for instance, children of certified farmers had significantly higher educational levels that those of noncertified ones and certified farmers were more likely to be members of associations and producer groups[180].

Moreover, shade coffee is known to support biodiversity conservation by replicating a natural forest ecosystem. Studies in the Neotropics, South Asia and East Africa have shown that bird and primate abundance and diversity in shade coffee plantations is like adjacent natural forest[181]. Moreover, there are other benefits from shade coffee cultivation, especially if associated with certification schemes that impose strict standards, including downstream water quality, soil quality and forest conservation[182]. For instance, in Colombia, coffee farmers have adopted significantly more environmentally friendly practices than noncertified farmers, such as watershed protection through fencing and reforestation, and infrastructure for water-use efficiency and wastewater management, as well as through adoption of integrated pest management strategies to reduce the quantity of pesticides and herbicides applied, resulting in better climate and soil quality in response to increased number of trees[183].

4. Conclusions, Recommendations & Lessons learned

The strategy of PROFIN was well designed and based on an exhaustive analysis of the situation of the protected area system by relevant national stakeholders. However, and while the national government through the National Directorate of Conservation Areas and the Ministry for Coordination of Environmental Affairs did collaborate in the conception and design of the project, their participation was not as active as the non-

[179] (Tuinstra & Deugd, 2011)
[180] (Rueda & Lambin, 2013)
[181] (Guzmán, Link, Castillo, & Botero, 2015) (Smith, et al., 2015) (Perfecto, Vandermeer, Masa, & Soto, 2002) (Komar, 2012)
[182] (Tuinstra & Deugd, 2011) (Takahashi & Todo, 2013) (Haggar, Jerez, Cuadra, Alvarado, & Soto, 2012) (Hughell & Newsom, 2013)
[183] (Tuinstra & Deugd, 2011)

government actors, particularly WWF and the GRP, who were able to completely integrate their own vision and project concepts into the project design. Thus, these NGOs were also more active partners in the implementation of PROFIN than the new protected area agency (ANAC) which was only established after project inception.

The most important external factor, political violence, affecting project implementation was not even identified, despite the fact of Gorongosa being the historical epicentre of the civil war and still having deep unresolved traumas and divisions among the population and political structures. For the other important risk, late establishment of ANAC, which indeed materialized, the risk mitigation strategy involved inter-institutional coordination based on then newly created coordination structures which failed to have any relevant role. Moreover, most of the risks identified by the project design were not actual risk, i.e. external factors beyond the implementer's control, but rather part of the barriers the project was intending to address. Thus, the risk evaluation seems to have been rather incorporated without much thought to complete the project document, rather than being a central component of the project design.

The terminal evaluation recommends that risk assessments are based on likelihood and impact of external factors properly identified and consulted with national stakeholders, government and international partners, and that robust mitigation strategies are incorporated in the project design.

The project document did incorporate most lessons identified after the implementation of other conservation projects in Mozambique, including community participation in benefits from protected areas and a more flexible, efficient approach to funding. Implementation of PROFIN was also linked and constituted the basis of several important projects, including MozBio, Blue Forests and COMBO. However, coordination among implementers, even within the same NGO, government institution or donor remains poor, with conflicting claims of attribution of outcomes, notably the establishment of BIOFUND or the support for the development of ANAC strategic plan. Moreover, changes in implementing partner's teams often involve losing a historical perspective on the project design and objective: new team members often ignore the linkages and contributions to and with other projects. The history of failed coordination initiatives is because both national and international partners disregard the important transactions costs involved in coordination, including human resources, publication and sharing, equipment, venues and organization of workshops and conferences.

The terminal evaluation recommends that project history documentation to be taken more seriously by all implementing partners in Mozambique, at government, civil society and international organization level, including transparent and publicly accessible information on the objectives, finances and results of the implemented projects. A coordination mechanism must be designed by the executing agency, provided with sufficient funds to develop its coordination mission. The coordination mechanism should

also include platforms for data and information sharing among government organizations, donors, CSO and private sector.

The management arrangements included in the project design were robust and included all relevant partners. However, project implementation suffered by the fact that the key implementing partner, ANAC was being established during the first two years of project implementation. Frequent changes in leadership, insufficient human resources and lengthy government procedures compounded implementation of the first project component, against a more agile implementation by the two non-government partners which advanced funds to solve disbursement delays and clearly showed a commitment to the project. ANAC's PMU significantly improved performance after being supported by the new leadership of ANAC, from 2014 onwards.

The terminal evaluation report recommends that the role of implementing partners be only assigned to organizations with a proven record of successful fund management and project implementation, backed by a corresponding long-term legal agreement to operate in the country. This would necessarily exclude newly created organizations or organizations being restructured from being project implementing partners. For instance, DNAC could perfectly implemented a large, complex project like TFCA, but the reforms it underwent in 2011-2013 severely curtailed its capacities, now as ANAC, to manage PROFIN till 2014.

All implementing partners, including the newly created BIOFUND, eventually solved the initial challenges and pro-actively worked and coordinated through the project management structures to ensure the accomplishment of project targets. Project partners, particularly UNDP, ANAC, WWF and BIOFUND had sometimes conflicting visions on each other's roles and responsibilities, which led to a degree of conflict and tensions among them. However, all implementing partners succeeded in finding solutions for the tensions which enable the continuation of the project.

GRP was only marginally involved in monitoring and reporting. However, GRP implemented this project and the overall management of the Gorongosa National Park under extremely difficult conditions, as the peace and order situation at Gorongosa Mountain deteriorated and even GRP staff and beneficiaries became targets of armed attacks. GRP devised mitigation strategies that allowed the realization of the project's core outcomes.

Thus, in view of the interest and pro-active attitude repeatedly demonstrated by the three main implementing partners, **the terminal evaluation rates their performance as satisfactory**.

The terminal evaluation recommends that UNDP intensifies efforts to explain National Implementation Modality rules and the need for such rules with a client-oriented approach

to avoid misperceptions and wrong interpretation of its role and responsibility by other implementing partners.

The project monitoring framework was very comprehensive, including 24 SMART indicators. However, documentation of some indicators, specially targets and baselines was very deficient in terms of methods used, year of establishment and intended construct that the indicator was supposed to measure, leading to confusion and disregard by implementing partners. Moreover, reported values of the indicators were inconsistent, outdated and even contradictory at the project document, project reports, and other partners' reports and databases, to the point of making impossible to conclude anything on fundamental things such as capacity development scores, financial sustainability scores, METT scores and financial gap. Tracking tools were poorly documented, with missing information. Moreover, tracking tool scores were reported in annual report without any documental basis. Monitoring and reporting was conducted poorly in the first two years by the Project Management Unit at ANAC, with intermittent availability of SPA and lack of submission of reports to the PMU by the other two implementing partners. However, from 2014 onwards there was an improvement in reporting and monitoring. Therefore, **the terminal evaluation rates the project's monitoring and evaluation as moderately satisfactory**. A major factor behind this situation is the lack of integration of the indicator framework with the project strategy. Although some were ambitious considering the capacity of the IPs, the indicators were appropriate to measure progress towards the project's objectives, but this was not sufficiently documented and transmitted to implementing partners, resulting in a general disregard for the relevance of the indicator framework in the first two years of the project. However, progress was registered after the recommendations of the MTR. It is imperative to engage partners in monitoring and provide sufficient resources for its conduct, for instance, through the recruitment of a monitoring and evaluation expert, to guarantee documentation, dissemination and learning from project achievements and/ or failures.

Project finances were almost completely disbursed by June 2017, albeit with considerable delay regarding the original plan. Despite the initial delays, implementing partners could catch up with planned delivery rates by 2014. Expenditure corresponded to annual work plans and all three IPs were audited, annually with only minor recommendations made by auditors, which were implemented by the IPs. The project mobilized a total co-financing amount of US$ 21.56 million or 182% of the committed amount. However, monitoring and documentation of disbursement of committed co-finance by implementing partners was absent, except for UNDP.

The terminal evaluation recommends that co-financing commitments be properly documented and included in the project's annual implementation reviews and audits.

Quantification of PROFIN contribution is challenged by different claims of outcome attribution, particularly by World Bank's projects. Moreover, indicator values cannot be established and thus quantification of actual achievement against project targets is not

possible. Uncertain or absent values included all the project's objective indicators: protected area financial gap, number of PAs using METT, and the scores of the financial sustainability and capacity development scorecards. However, PROFIN has undoubtedly and significantly contributed to a more sustainable finance landscape for the protected area system in Mozambique: ANAC has been firmly established, PA management tools (METT) have been adopted and a trust fund for PA financing has been created and capitalized.

PROFIN is rated as a very relevant project, as it was explicitly designed and implemented to support national biodiversity conservation objectives, it is aligned with the country's poverty reduction instruments, and it is firmly framed within GEF-4's biodiversity strategy. However, through 2012 – 2016, biodiversity conservation has only received marginal attention within UNDP country program document and the United Nations Development Assistance Framework (UNDAF 2012 – 2015), which, since project inception have focused intensely in social protection and disaster risk reduction. However, this drawback has been addressed in UNDAF & CPD 2017-2020, which, in alignment with Five-Year Government Program (PQG, 2015-2019), recognizes sustainable management of natural resources and the environment as a key development outcome.

After four years of technical and financial support ANAC capacities and financial sustainability have not yet significantly increased over the former DINAC. Currently ANAC still needs to exert leadership over protected areas and wildlife, beyond the implementation of the external projects that still constitute its lifeline. Moreover, ANAC must adapt quickly to its new institutional role within MITADER and the surge of FNDS and BIOFUND.

Therefore, the evaluation rates the effectiveness and efficiency of PROFIN component one as marginally satisfactory and its sustainability as moderately likely.

It is recommended that ANAC adjusts its vision and mission for biodiversity and protected area management, accounting for the new institutional situation, which means losing financial and administrative autonomy but increased coordination opportunities. ANAC should operationalize the strategic and financial plan, reviewing and correcting them to fit its adjusted vision accordingly. ANAC's vision must be complementary with the existing financial instruments, FNDS and BIOFUND to assist protected areas to adopt management tools such as METT and, together with BIOFUND, maintain and operational database on protected areas and biodiversity, and especially help PAs without tourism development and management capacities to catch up with the revenue generating protected areas.

GRP has become an important partner of communities in the buffer zone of the Gorongosa Mountain. Traditional authorities and farmers have come to accept the benefits of the park and to see development and conservation objectives as

complementary and not antagonistic. Shade coffee has the potential to bring about important economic benefits for 500 households, as well as environmental benefits in terms of wildlife habitat and soil and water quality. However, yield and participation targets for shade coffee remain modest in relation to the area available. Participation in a certification scheme could help expand current yield and area targets, by enabling access to markets and premium prices. GRP needs to keep engaging intensely with traditional authorities, considering the role they play in land allocation and use. Moreover, GRP should consider extending support or coordination with the district's services of economic activities (SDAE) which comprises agricultural extension, to build up their capacities and guarantee coordination between their and GRP's agricultural activities.

GRP's reforestation efforts are completely aligned with populations needs, as well traditional and local authorities' goals. GRP could expand their agroforestry and forestry support to create energy forest to supply the growing population in the district with sufficient energy and materials. However, even with the high projected population growth rates, these would not be posing an overwhelming pressure on the current forestry resources of the buffer zone, both in terms of agricultural expansion and wood fuels needs. As the GRP has succeeded in renewing a new long-term agreement for the management of the Gorongosa National Park, the single greatest threat to sustainability would be the resurgence of political violence around the Mountain. While the current ongoing constitutional dialogue is encouraging, fostering partnership between the two-main national political parties goes beyond the capacities of GRP. Therefore, UNDP, the World Bank and other multilateral and bilateral partners must seek opportunities to facilitate dialogue and constitutional development between FRELIMO and RENAMO and thus help avoid the destruction of the outstanding recovery of the iconic Gorongosa National Park.

The terminal evaluation rates PROFIN's second component as satisfactory in terms of effectiveness and efficiency, in view of the circumstances in which the project had to be implemented, and its sustainability as likely.

PROFIN investment of US$ 1.1 million has resulted in the creation of a stable and sustainable trust fund, the Foundation for the Conservation of Biodiversity – BIOFUND has managed to mobilize over US$ 21.5 million for its endowment fund, which is generating annual interests amounting to US$ 0.4 million, besides having secured operational fund for the next years. Moreover, BIOFUND is currently an attractive and reliable partner for international funds for conservation of biodiversity in Mozambique. An important factor contributing to its success was the investment in high quality national human resources and the creation of a relevant and representative governance board which allowed BIOFUND to absorb technical assistance, establish important international partnerships and transmit reliability and trust to stakeholders and investors.

Therefore, the terminal evaluation rates this outcome as **highly satisfactory** in terms of effectiveness and efficiency and its sustainability as likely.

WWF mangrove carbon assessment did not set sufficient basis to access a carbon trading scheme. Even considering that the expectation of actual revenue may had been overestimated considering the fall of prices of carbon credits since project inception, PROFIN's study would need further development to enable actual payments for carbon sequestration services. Moreover, it took over four years to finish the study, even considering the additional technical assistance provided in 2014 by the USFS. The terminal evaluation rates this output as marginally satisfactory both in terms of effectiveness and efficiency, considering that an investment of US$ 0.36 million resulted in a study that needs further development. However, considering that the study is a first on mangroves in Mozambique, and the increasing global attention given to carbon sequestration services of coastal ecosystems, we rate the sustainability of the study as likely, that is, that we expect this study to be used in a future quantification of carbon credits. It is thus recommended that WWF continues to develop knowledge and scenarios to enable participation in carbon trading schemes with mangrove carbon credits, as soon as the legal and regulatory framework and market conditions allowed.

The incipient development of the concept of biodiversity offsets worldwide and in Mozambique at project inception entails that the expectation of generating income from offsets, even if the legal framework had yet to be developed was too optimistic. However, the project successfully lobbied the introduction of the concept of biodiversity offsets in the legal framework, with the inclusion of a few statements in the Environmental Impact Assessment legislation. This makes PROFIN investment of US$ 0.15 million relatively effective, but only marginally efficient. Considering current expectations for the development of extractive industries in Mozambique but also the current debt and economic crisis and the relative weakness of the environmental lobby we rate the sustainability of this output as **moderately likely**.

Establishing the impact of the project cannot be made in the absence of reliable and timely data on protected area financing, at central and protected area level and by the conduct of surveys to measure socio-economic changes in the buffer zone of Gorongosa and other national parks. The intention by BIOFUND to be a hub for information on protected areas and the support secured by the GRP to continue its important community work in the buffer zone of Gorongosa Mountain are encouraging signals of potential impact. ANAC should engage with these efforts proactively, and continue to develop more efficient and transparent collection systems, as well as take a more active role in the dissemination of information on management and finances of protected areas.

Summarizing, PROFIN was a first of its kind, a project not conceived to support capacity development of a protected area or the capacities of the central protected area administration, as prior bilateral (AFD, USAID) and multilateral (World Bank) had tried with limited success. Protected areas are being granted increasing importance by the state of Mozambique, as shown by the continuation of budget allocation and the expansion of the protected area system even during the recent political and economic crisis faced by

the country. PROFIN has not resulted in the expected consolidated and sustainably financed protected area system, but has made important contributions to strengthen finance streams for protected areas through the establishment of BIOFUND and has enable the development of a promising agricultural initiative in the buffer zone of the iconic Gorongosa National Park. Also, it has made a significant contribution to the rationalization of the collection of entrance fees and concession tariffs to national parks and reserves dependent from the central administration. However, efforts towards strengthening of the central protected area administration and innovative funding sources, such as carbon trading schemes and biodiversity offset sales did not have an enabling policy and regulatory framework for its realization. However, the pioneering character of the project has left a mark in the conservation scene in Mozambique and we expect PROFIN contributions to be consolidated through the implementation of MozBio and the new GEF-6 funded project, strengthening the Conservation of Globally Threatened Species in Mozambique through Improving Biodiversity Enforcement and Expanding Community Conservancies around Protected Areas.

5. List of annexes

i. Terms of Reference

ii. Mission itinerary

iii. List of persons interviewed

iv. Summary of field visits

v. List of documents reviewed

vi. Evaluation Question Matrix

vii. Evaluation Consultant Agreement Form

viii. Audit Trail

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