



COMMUNITY ACTION PLAN FOR THE MAPUTO SPECIAL RESERVE AND PONTA DO OURO PARTIAL MARINE RESERVE

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Republic of Mozambique, Ministry of Tourism - National Administration of Conservation Areas



Copies of this Report can be obtained from:

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EXECUTIVE SUMMARY

Summary of Projects

1) *Alternative Livelihoods*

a. **Agriculture**

- Beekeeping
- Chilli Production
- Essential Oils
- Eucalyptus Harvesting
- Improved Livestock Production
- Poultry Production
- Vegetable Production
- Wildlife Production

b. **Fisheries**

- Aquaculture and Mariculture Research

c. **Tourism: Lodges, Camps and Facilities**

- Chemucane Concession
- Lago Nela Rest Camp
- Membe Pan Rest Camp
- Ponta Membene Beach Camp
- Futi Lodge
- MSR Visitor Centre
- Airstrips

d. **Tourism: Trails and Activities**

- Milibangala and Dobela Concessions
- 4x4 Route Network and Campsites
- Mobile Safaris
- Maputaland Marine Seafari
- Turtle Trail
- Turtle Walks
- MSR Adventure Trail
- Maputaland Beach Trail
- Inhaca Island Adventure Trail

2) *Community Development Support*

a. **Services and Infrastructure**

- Water Provision
- Agricultural Assessment
- Pooling Depot

b. **Training and Education**

- Machangulo Agriculture Co-operative and Training Project
- Conservation Agriculture Programme
- Guide / Camp Attendant Training
- Environmental Education Programme
- Expanding Skills Base of other Operators

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ABBREVIATIONS / ACRONYMS

ANAC	National Administration of Conservation Areas
CAP	Community Action Plan
CBE	Community Based Enterprises
CDF	Community Development Facility
CLE	Community Legal Entity
CPPP	Community Public Private Partnership
FLG	Farmer Learning Groups
HWC	Human Wildlife Conflict
MITUR	Ministry of Tourism
MoU	Memorandum of Understanding
MSR	Maputo Special Reserve
PAMT	Protected Area Management Team
PPEM	Piri Piri Elefante Mozambique
PPF	Peace Parks Foundation
PPMR	Ponta do Ouro Partial Marine Reserve
SEPPA	
TFCA	Transfrontier Conservation Area

1 INTRODUCTION

1.1 PURPOSE OF DOCUMENT

The Purpose of this document is to lay the foundation for funding for all projects that will be funded under the Community Development Facility (CDF). The projects shall encompass all possible projects within the Maputo Special Reserve (MSR) and Ponta do Ouro Partial Marine Reserve (PPMR) conservation areas (refer Figure 1) that have a specific focus on improving the income and food security of the local communities as well as those that primarily promote conservation or natural resource management and tourism. The projects will therefore specify the beneficiary communities, the rationale and description of the project, the operational arrangements, budget and timeframes.



Figure 1. Maputo Special Reserve and Ponta do Ouro Partial Marine Reserve

Partnerships among different levels of government, communities, civil society organizations and private sector are at the heart of the CDF programme. In particular private sector partners are essential for all community economic development projects as they bring in business management expertise as well as vital financial resources and market networks. Their particular responsibilities and contributions will be additional resources which will not necessarily come from CDF.

The document therefore becomes the master plan for all intended projects providing the basis for budget allocation. Thus the document becomes the guide for overall financial management for all projects under CDF assisting the facility to monitor and evaluate progress against value for money. The budgets for some projects will cater for the initial research only till a full business plan is produced. The budget allocation for these projects will therefore be indicative only. A review of the document is needed at least twice a year during the steering committee meeting.

The document has been drawn up through a consultative process involving the respective park authorities and the affected local communities, and has been aligned with the management and other relevant plans of both MSR and PPMR.

1.2 BACKGROUND

One of the underlying fundamentals of protected area management within Mozambique is the sharing of benefits with local or host communities. The primary mechanism utilised is a 20% revenue sharing arrangement, where the 20% stands for revenue from protected areas or use of natural resources. Sharing of 20% revenue is set by the Decree of the Council of Ministers. As with other protected areas in Mozambique, the communities surrounding and within the MSR and PPMR are entitled to a 20% share of the protected areas' revenue (gate entrance fees) and that the recipient communities can utilise these funds for projects and activities that they deem necessary and opportune. The projects of the CAP are additional to the 20% share.

Background on the Community Development Facility

The CDF is a joint initiative between the government of Mozambique, COMON Foundation and Peace Parks Foundation intended to serve as a financing mechanism to unlock community enterprise and socio-economic development opportunities in the Mozambican component of the Usuthu-Tembe-Futi Transfrontier Conservation Area (TFCA) that forms part of the broader Lubombo TFCA. The CDF will target those community development opportunities that align with the strategic objectives of the TFCA and further support the development objectives of the Mozambican government.

The CDF is structured as a multi-year project funding initiative. Phase 1 will be implemented as a grant funding phase that will run for a period of three years, starting in 2013. CDF will seek to invest in and promote viable and sustainable community-based projects in agriculture, conservation or natural resource management and tourism related areas. The CDF is to be implemented within the Mozambique components of the Lubombo TFCA (refer Figure 2)

CDF supports projects that promote community development through the award of a “once-off”, limited duration grant that is intended for those communities participating in the TFCA and who reside in proximity to the Protected Areas incorporated in the TFCA. The fund is intended for community groups, civil society organizations, institutions and the private sector working in partnership and who wish to make meaningful contributions to the improved welfare and socio-economic development of communities surrounding the Lubombo TFCA, primarily through the identification, introduction and implementation of viable and sustainable community-based agriculture, conservation and tourism related projects, the focus being on securing tangible community benefits through partnership based initiatives and the creation of linkages between these foci.

1.3 OBJECTIVES

1.3.1 Objectives of Maputo Special Reserve and Ponta do Ouro Partial Marine Reserve

The long-term strategic objectives for the development of TFCAs are to conserve the biodiversity and natural ecosystems that they encompass, and to promote economic growth and development, based on the sustainable use of the TFCAs' natural resources by local communities. The establishment of the Lubombo TFCA, a joint initiative between the governments of Mozambique, South Africa and Swaziland, supports the broader aims of socio-economic upliftment on the southern African subcontinent, while improving the conservation and management of regional ecosystems.

Both the MSR and PPMR Management Plans envisage the protection, conservation and sustainable utilisation of habitats and biota in the protected areas through co-management strategies.

For the effective co-management of the MSR and PPMR the following Key Performance Areas have been identified:

- **Biodiversity:** based on both natural and cultural resources aimed at ensuring the protection and viability of the ecosystems that underlie the ecosystems and biodiversity of the MSR and PPMR
- **Business:** ensuring that the MSR and PPMR generates sufficient income to augment the conservation contributions of the Government of Mozambique
- **Benefits:** to the region and its people ensuring that the value of conservation is well understood and appreciated, and therefore supported
- **Governance:** to ensure that the legislative, policy and support framework enables the conservation activities to be effective.

1.3.2 Objectives relating to Community Benefits

Specific objectives pertaining directly to community benefits are:

- Reductions in Human Wildlife Conflict (HWC)
- Engagement in alternative livelihood options that enhance ecosystem services
- Deliberate capacity development through partnerships in tourism development opportunities
- Support to local and economic development.



Figure 2. Lubombo TFCA

2 SITUATIONAL ANALYSIS

2.1 COMMUNITIES OF THE MAPUTO SPECIAL RESERVE AND PONTA DO OURO PARTIAL MARINE RESERVE

The District Matutuine located in southern Mozambique, and has its headquarters in the village of Bela Vista. The district is divided into five administrative posts (Bela Vista or Missevene, Catembe Nsime, Catuane, Machangulo and Zitundo), and 12 locations. The Administrative Post of Bela-Vista has four (4) locations: Madjuva, Missevene (Headquarters Bela Vista), and Salamanga Tinonganine. The Administrative Post Catembe-N'sime has two (2) locations: N'sime and Mungazine. The Administrative Post Catuane has two (2) locations: Manhanganine and Phazimane (Catuane Headquarters). The Administrative Post Machangulo has two (2) locations: Ndelane and Nhonguane. The Administrative Post Zitundo has two (2) locations: Manhoca and Zitundo Headquarters.

The MSR and the PPMR affects 28 communities, some of which live within the MSR, yet most reside outside these protected areas. Figure 1 shows the location of the affected communities while Figure 2 shows the areas that fall within the influence sphere of these communities. These communities are located within the Matatuine District of the Maputo Province and fall within three Administrative Regions (*Posto Administrativo*) - Machangulo, Zitundo and Madjadjane (refer Figure 3 and Figure 4).

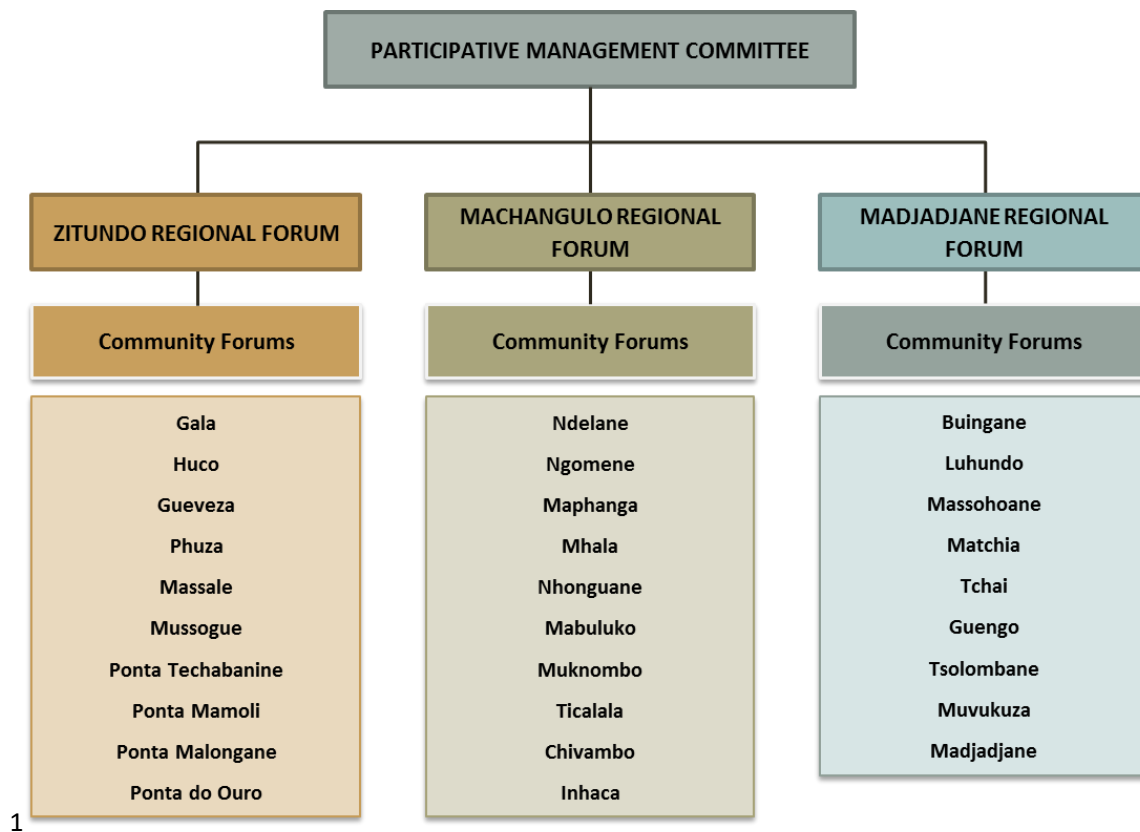


Figure 3: Affected Communities

There are 27 communities on the mainland of the MSR and PPMR. There is only one community on Inhaca Island. However this has been included due to its tourism importance and its unique biological diversity, with about 12 000 species recorded, including about 150 coral species, over 300 bird species and four species of turtles that nest there. The entire coastal zone, a consolidated dune with natural vegetation, is protected as an integral

reserve, as well as the nearby island of Portuguese (formerly known as Elephant Island), under the responsibility of the Marine Biological Station, an organ of the University Eduardo Mondlane.

The communities that reside within the MSR are Buíngane, Lihundo, Tsolombane and Muvucuza.

All the other communities either have fields within MSR or utilise resources within the reserve as part of their livelihood strategies. Effective management of the protected area will impact on these activities and thus necessitates the need for mitigation. Regarding the core area of the MSR and PPMR, these include:

- Massuene
- Madjadjane
- Guengo
- Gala
- Ponta Techabanine
- Ponta Mamoli
- Ponta Malongane
- Ponta do Ouro.

Communal areas affected by the Futi Corridor component of the MSR are:

- Matchia
- Tchia
- Massale
- Mussongue
- Huco
- Gueveza
- Phuza.

The PPMR affects several mainland communities as well as the Inhaca Island community. The mainland communities fall under two Regional Forums:

Machangulo-

- Santa Maria
- Maphanga
- Nhonguane
- Ndelane
- Machangulo
- Chivambo.

Zitundo-

- Ponta Mamoli
- Ponta Malongane
- Ponta do Ouro
- Ponta Techabanine.



Figure 4. Location of Affected Communities

Data on the socio-economic profile of the affected communities reveal that the main activities of income are rainfall agriculture and irrigation (the latter on a small scale due to equipment difficulties faced by Most farming); livestock; beekeeping; artisanal fishing; the exploitation and marketing of natural resources (wood, coal, building material shacks, medicinal plants); the hunting (an activity prohibited in recent years by the administrative authorities); the gathering in and small-scale trading of various goods as a survival strategy and accumulation of capital.

Further information on the socio-economic context of the communities of this area can be gleaned from the Socio-economic Baseline Study and reviews.

The main sources of income (refer Figure 5) for the local populations include agriculture, fishing, and the preparation of traditional beverages, while the main means of sustenance (*Principal Sustento*) includes fishing – marine, lagoon and river-based, agriculture including livestock, hunting within and outside of MSR and cutting of reeds.

While most households sell fish, the other main commercial activities within households include:

- Commercial activities via a store
- Commercial activities without a shop
- Selling of drinks
- Selling of agricultural products
- Selling of meat.

Current land and resource use patterns are limited to the following:

- Agriculture
- Grazing
- Fishing
- Hunting
- Wood collection
- Honey
- Medicinal plants
- Water.

Figure X illustrates the impact areas of the various communities within and adjacent to the MSR and PPMR.

Even though subsistence agriculture is widely spread, only five communities practice agriculture within the MSR – Buíngane, Lihundo, Tzolombane, Mvukuza, and Madjadjane. The land cover assessment shows that this activity is limited, probably due to the low nutrient content of the soil or the high levels of salinity in the water.

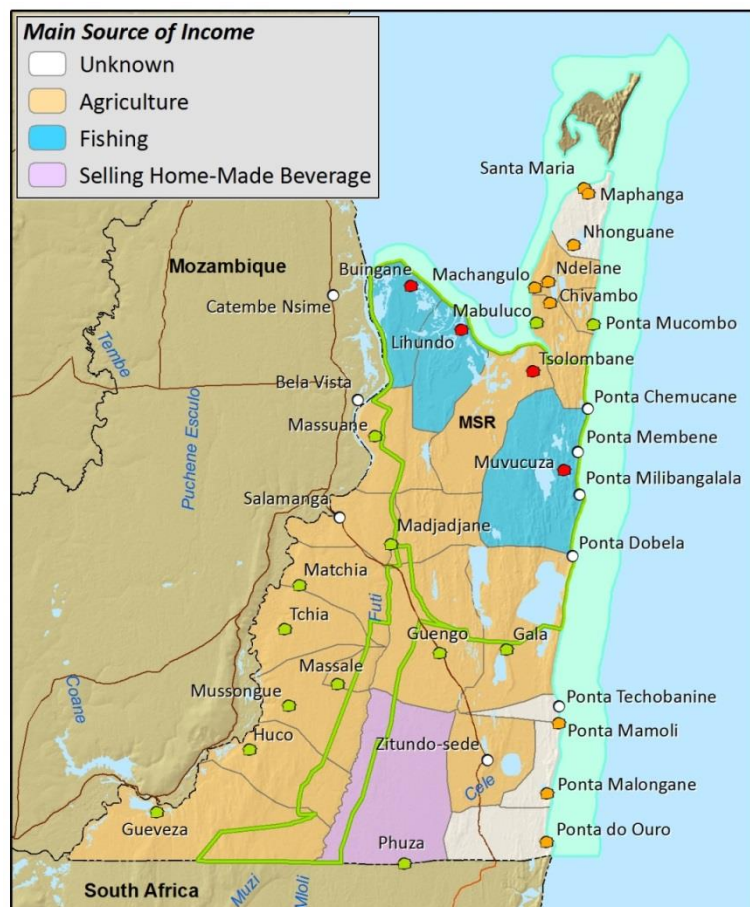


Figure 5. Main Source of Income

Most of the agricultural activity on the Machangulo Peninsula is also limited due to the sandy nature of the soils, while the main agriculture activities within the region is practiced by the communities situated along the Maputo River where the alluvial soils have higher yields.

Widespread grazing of domestic livestock with the region does occur, except for the Mabuluco, Muvucuza and Huco areas, where very limited or no grazing occurs. Numbers of livestock are limited due to the occurrence of diseases, lack of water and the relatively low carrying capacity of the area.

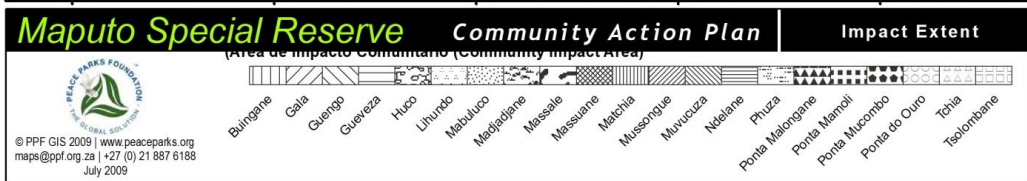
Fishing is the dominant resource use with the Tsolombane and Mabuluco areas targeting marine species, Ndelane, Chivambo, Gala, and Ponta do Ouro and Ponta Malangane both lagoon and marine species, and the Muvucuza community targeting river and marine species. Most of the remaining communities use the Maputo River for fishing.

Despite hunting within the MSR being illegal most communities admit that hunting is a form of resource use that they practice. Exceptions are the Matchia, Tchia, Buigane, Machangulo, and Mabuluco communities. Hunting is widespread in the areas surrounding the MSR, yet this is subject to licence conditions.

Firewood is utilised by all the communities throughout the region as is the collection of wood for construction, and the use of medicinal plants.

Honey production and collection is practiced by some but not all the communities. Communities that utilise this as a resource include Madjadjane, Matchia, Gala, Huco, Gueveza, and Phuza.

The commonest source of water use is from boreholes, with a few communities augmenting this with river and other sources to a minor degree.



2.2 KEY CHALLENGES

There are two main categories of challenges. On one hand there are challenges pertaining to community's perception of development and on the other challenges about tourism development within MSR and PPMR. There are strong cultural beliefs about the land and the link of the communities to their history as well as their livelihoods. These strong beliefs have led to resistance to change and movement out of Maputo Special Reserve. There are therefore communities still living inside the protected area. On the other hand funding for community development has not contributed to higher and appropriate skills to build capacity for communities to engage in activities that lead to sustainable livelihoods. They are still seen as limited to hand-outs which are temporal and unsustainable. Members of communities in the community association therefore lack commitment to the long term 'vision' of project implementation. The projects do not change their attachment to the land that provides them with a livelihood albeit at a subsistence level.

On the tourism development side there is slow development of tourism facilities in the concessions areas and campsites within MSR and PPMR. There is need to address the road network and signage in the park for the sake of the tourists.

2.3 KEY OPPORTUNITIES

There are good opportunities for both parties, MSR and PPMR on the one hand and the communities on the other. Communities are looking for opportunities for increasing income and food security while MSR and PPMR are looking for protection of the ecosystem services for the benefit of wildlife populations with the park as well as the tourism development sector. There lies the opportunities to build strong Community Public Private Partnerships (CPPP) based on the natural resources within and outside MSR and PPMR.

The community game farm such as Manhoca, community lodges or rest camp or community enterprise development in the core areas of MSR or PPMR present good win-win opportunities to build community public private partnerships where the private sector brings in expertise in management and business operations as well as financial resources while the communities bring in land and human resources with a strong component of capacity building for a long time. Thus communities gain access to income and food security while benefiting from capacity building to run the facilities in 20 to 40 years' time.

On the other hand individual community members can be engaged in enterprise development providing fresh produce, crafts, marine products or village based tourism opportunities. Other community individuals can be trained as guides or facility managers. The greatest opportunity is the change of mind set from viewing the natural resources as a basis of primary sources of sustenance to income generation through non-consumption options.

2.4 THE LEGAL REQUIREMENTS OR RESTRICTIONS PERTAINING TO LAND AND RESOURCE USES

In the Republic of Mozambique, natural resources are state property. Conservation Areas are "areas for the maintenance of ecological processes, ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural places"

The 63/2009 of November 2nd resolution approved the implementation of the Conservation Policy and Strategy whose vision statement was "Conserving biological natural resources and their ecosystems consisting of a wide biodiversity of healthy flora and fauna, for the human benefit, contributing to the sustenance of life, economic growth and the eradication of poverty in Mozambique". The Conservation Policy adopts the participatory co-management for conservation areas for the sustainable use of natural resources in order to provide the benefits and services needed for sustainable development for local communities.

According MITUR (2010), conservation areas are delineated territorial areas representative of the national natural heritage, for the conservation of biological diversity of fragile ecosystems of animal or plant species. These are set aside to ensure the conservation of representative ecosystems and species. They are also considered to be conservation areas in for the benefit of the state, private and communities, subject to permissible levels of resource extraction while respecting sustainable limits according to the management plans of MSR followed under this type of protected areas.

Since few alternatives exist for communities regarding resource use it is necessary that restrictions be applied to ensure that the impacts of resource use are appropriate. Certain restrictions affect the manner and technique regarding resource use, while other restrictions enable communities to continue using resources within current levels.

Restrictions apply to the following activities:

Agriculture

Restrictions regarding agriculture within the MSR are aimed at improving yields while reducing the impact of slash and burn agriculture due to the nutrient poor nature of the soils. Through the introduction of conservation agriculture practices aimed at conserving soil moisture content and soil nutrients it is believed that the need to open new fields can be negated.

Specific restrictions are:

- No new fields
- Subsistence yet sustainable agriculture (food security) – vegetable and grain crops
- Promotion of small scale commercial agriculture in those areas out the [park boundaries with good soils and abundant water supply.

Livestock Grazing

It is illegal to graze livestock within a protected area, thus no livestock will be allowed within the MSR. Within clearly defined enclaves or exclusion zones livestock will be allowed in limited numbers. Outside the park boundaries CDF will promote controlled and managed grazing schemes that enhance improvement in ecosystem services.

Fishing

Fishing will be limited to licensed fishermen only and will include controlling gill net sizes and fishing seasons. Within the MSR fishing is only allowed on Piti, Xingute and Maunde lakes. Within the PPMR restrictions are implemented according to the zonation and local rules of the PPMR. CDF will promote mariculture in designated coastal zones where alternative livelihood options are otherwise limited.

Veld and Forest Resources

The use of veld and forest resources is limited to medicinal plants, reeds and grasses, construction timber, firewood and beekeeping. These activities are only allowed in designated areas and seasons, through agreed access points, in close proximity to the affected communities and subject to Resource Use Permits issued by the relevant Community Forum. Monitoring of the resource use is to be undertaken jointly by the Community Forum and the protected area management authority.

Beekeeping entails the use of hives, both traditional and commercial, and excludes the harvesting of wild honey by chopping down trees.

Hunting

In compliance with legislation, no hunting is allowed within the MSR. This activity is totally restricted. Hunting in the areas surrounding the Reserve is subject to licence conditions.

Water

Access to drinking water is not restricted, yet this is limited to personal use, and the watering of livestock where this is allowed within enclaves. No water may be pumped for agriculture.

Vehicular and Pedestrian Access

Vehicular access by local community members is limited to vehicles registered with the Community Forum and protected area management authority, and need to be identifiable. All other vehicles are treated as tourist vehicles, subject to the normal access protocols.

All vehicular access to the beaches is subject to the restrictions within the PPMR Management Plan.

Pertaining to pedestrians it is recommended that a pedestrian study be undertaken to ascertain the movement patterns and how this impacts on the Reserves, both from a safety and ecological perspective, as well as from a psychological perspective.

Pedestrian safety will require attention as the game numbers increase and as the diversity of wildlife broadens. Once the patterns are known, appropriate mitigation measures such as shuttles, clear paths, and indemnities can be implemented.

The impact of pedestrians on the tourist experience within the MSR and PPMR must not be overlooked. Guests paying access fees, complying with safety protocols etc. could be marginalised if the local community has unlimited and unrestricted access to the entire reserve. Through zonation, restrictions and law enforcement this can be managed.

2.5 CURRENT ACTIVITIES AND PROJECTS

There are four projects that are under implementation. These are:

- Chemucane Community Lodge
- Matchia Chilli Project-dedicated to production and commercialisation of this crop
- Bindzu Agribusiness Project
- District Water Supply Project.

The first three projects are aimed at enhancing both income and food security. In addition they are also aimed at capacity building in the areas of technical and management knowhow for agriculture and tourism facilities. The Matchia chilli project is a three year project aimed at increasing income for 30 farmers in the Matchia community. They have technical and management backstopping from a technical partner who also assists them with market access.

Chemucane Community lodge is a good example of a community public private partnership venture. The Ahi Zameni Community Association who co-owns the Chemucane Lodge has sent its young members to undergo hospitality training at the SA College for Tourism to equip them with skills needed to work at the Chemucane community lodge. The construction of the 22-bed Chemucane community lodge is now nearing completion. It will feature nine exclusive guest suites, with two family and seven double-bedded units, as well as the necessary additional infrastructure for staff. The local communities supplied the materials for the lodge, which provided them with a valuable opportunity to earn an income. The construction team grew to 32 people, 26 of whom are members of the three communities comprising the Ahi Zamene Chemucane community association. While the lodge was being constructed, community members were trained at the SA College for Tourism. These are back at the lodge. An additional ten community members will be trained in 2015.

The Matchia chilli project is an extension of a previously World Bank funded project. In 2013, six tonnes of chillies were harvested and sold and the money paid into the community's account. During the year, the area was extended by an additional 1.5 ha to a total of 4 ha under drip irrigation. The farmers divided the project area into smaller plots and allocated them to individual community members to ensure equitable ownership of the project. A section was also set aside as a training plot. The expansion will provide full-time employment to 25 community farmers who will produce chilli and other cash crops, as well as crops for own consumption within the communities.

The Bindzu and Tchia Association's agricultural project is for training community members to produce vegetables in greenhouses throughout the year using drip irrigation. Implementation started in September this year. The funds will be used to procure all the necessary material for a greenhouse and drip irrigation system, fertiliser, pesticides and seed; to facilitate linkages to the market, and to promote networking with agricultural service providers and suppliers. Training of community members will focus on staggering vegetable production throughout the year, using the greenhouse and drip irrigation system, and improving the production management and negotiation skills of community members.

The water supply project for the Matatuine communities aimed to supply a total of 1 727 households (10 362 people) with fresh drinking water. As a quid pro quo, the communities will no longer need to enter the reserve with their cattle to access water. The project includes the training and establishment of water management committees; the installation of water troughs for cattle; the drilling of boreholes in nine communities; the installation of solar panel systems in nine communities, and the installation of submersible pumps for nine communities.

2.6 CURRENT INSTITUTIONAL ARRANGEMENTS AND LEAD INSTITUTIONS

2.6.1 Coordination between the Reserves

The two reserves are managed by park administrators or park wardens, appointed by the Minister of Tourism.

The Project Implementation Unit (PIU) meetings that are held with participation of the administrators of the two reserves are to share information on the implementation of project activities. The reports on all project activities constitute another form of co-ordination.

As part of the Lubombo TFCA, PPMR and MSR coordinate their activities with South Africa and Swaziland. Participating in these meetings assist to coordinate activities leading to achievement of the objectives set by the Protocols of the Lubombo TFCA.

2.6.2 Linkages with the Community Development Facility

The CDF provides project funding of community development for people affected negatively by the creation or presence of the TFCAs. The projects however, comply with the objectives of conservation, while creating conditions conducive for implementation of alternative livelihoods to improve income and food security and overall the quality of their lives.

2.7.3 Coordination with the Community Structures

Communities are organised into legal structures recognised by the government and through these structures the government mobilise supports and funding from partners and technical assistance towards local development through projects which may generate socio-economic benefits leading to improvement of communities livelihoods. These forums serve as links between communities and team management of the Reserve ensuring better communication between communities and the management of MSR and PPMR, regional and local forums were created.

In total three regional forums namely Madjadjane, Zitundo and Machangulo were created (refer Figure 3). These entities coincide with the territorial division of traditional leadership. Thus, each corresponding to a forum district Administrator. The regional forums have periodicity biannual meetings while the local forums meet whenever justified. The 28 local communities fall under the three regional forums. Each community however, has a local forum.

3 PROJECTS

The ongoing and proposed projects for the CAP in response to the objectives highlighted in section 1.3 and Situational Analysis are categorised according to the following themes:

- Alternative Livelihoods
- Community Development Support.

Under the Alternative Livelihoods theme will fall the projects relating to agriculture, fisheries and tourism that are within both MSR and PPMR areas. Under the Community Development Support theme will fall services and infrastructure projects as well as training and education projects.

3.1 ALTERNATIVE LIVELIHOOD PROJECTS

3.1.1 Principles

Sustainable Levels of Resource Use

Livelihoods shall be defined in this document as those activities that a person, a household or a community is engaged using the best available capacity to survive. A livelihood therefore can only be sustainable if it can cope with or overcome disaster (shocks) or stress and is able to continue to survive. The capacities for the communities living in and adjacent to MSR and PPMR are very low. However besides the unsustainable dependency on wildlife and forestry products such as poaching, most of the other resource use levels are within the bounds of acceptable change and can be deemed harmonious within the functioning of the ecosystem. These levels support current levels of subsistence livelihoods but. The approach regarding the management of resources thus focuses on capacity building for communities to enable them to engage in activities that ensure higher income and food security while protecting the ecosystem services that support wildlife population within the MSR and PPMR conservation areas.

Working in close association with the Community Forums that form part of the MSR and PPMR institutional structures, levels and areas in which resource utilisation will be allowed will be demarcated. Memoranda of Understanding (MoU) between the protected areas and communities of interest will form the basis of the methodology aimed at restricting resource use to current or reduced levels.

Improved Livelihood Strategies

It is believed that the MSR and PPMR will be able to attain their objectives through subtle changes to the harvesting techniques for resources such as timber, reeds and firewood as well as other forestry resources, fishing and water. Zoning areas and monitoring the use of resources within these areas through yield and quality assessments will enable informed decisions regarding the impact of utilisation on these resources. The zoning of these areas, the issuing of permits, and the monitoring of the resource use – bundle size, weight, yields, catch size etc. – will be jointly undertaken by the community forums and the Protected Area Management Team (PAMT).

Specific changes to the use of natural resources for agriculture include aspects regarding the agricultural practices themselves resulting in higher yields rather than larger fields. Introduction of conservation agriculture which has been demonstrated in Zambia to increase yields sevenfold will achieve the shift from conventional to conservation agricultural practices. Extension officers from the Reserve together with support from the CDF team can assist in training the affected communities and the broadening of the understanding of this change of

agricultural practices. In addition research will be carried out to understand the agricultural potential of the area and help develop strategies to unlock that potential for the benefit of the communities in the district.

Changes to the approach to timber harvesting, and firewood collection can also be implemented, including the designation of forests for this use and exclusion of others, the use of the eucalyptus plantations at the main gate, and the use of resources outside the reserve rather than those within the core area of the MSR.

Regarding the collection of wild honey will be discouraged and replaced with the establishment of small scale commercial bee-keeping ventures utilising commercial hives. This will not only reduce collection of honey from wild bees but also promote the change of mind set from consumptive use of forestry products to preservation and conservation of the ecosystem for the sake of high value honey products from the hives. This can be incorporated into the CDF programme where establishment of a honey processing centre for processing, bottling and branding and marketing of honey products. These hives can also be used as part of the HWC Mitigation programme by placing the hives along the perimeter of agricultural fields since it has been proven to be an effective deterrent to elephant.

Where possible aquaculture and mariculture projects can be established in communities adjacent to the MSR and PPMR, by utilising the many small pans, dams, lakes and coastal areas. Studies however need to be undertaken to determine the best freshwater or marine candidates for such practices. Sources of fingerlings will be a determining factor. Managing the existing fish stock in both freshwater and marine environments through gillnet sizes and harvesting seasons linked to post spawning periods, the impact on the aquatic resources within the MSR and PPMR can be reduced. Not only does this improves yields but also reduces the risk to fishermen through exposure to dangerous game in the reserve.

By enforcing seasonal fishing patterns it would be possible to ensure that the targeted species have sufficient time to breed, while appropriate gillnet sizes would ensure that only fish of the correct size are caught and harvested.

Designating areas for fishing can also reduce the impact, and this will be done through both the identification of specific lakes for fishing – Piti, Maunde, Xingute – and the designation of specific areas for fishing within these lakes, ensuring that fishing does not impact on the breeding areas of fish nor on the tourism experience within the protected area. Within the PPMR, three zones have been identified – sanctuary, restricted, multiple resource use – aimed at ensuring that the marine resources can be sustained. Similar zonation methodologies will be utilised within the zonation of the lakes used for fishing.

Since livestock grazing will be restricted to enclave areas and areas outside the core of the reserve it will necessary to find alternatives methodologies for livestock grazing. Effort should be made to introduce controlled and managed grazing for large herds outside the reserve while only utilising small domestic livestock within the enclave areas where intensive production and use can be practiced. Not only does this reduce the risk of potential HWC through the loss of domestic animals to predators, but also reduce the pressure form communities living outside the protected area to also benefit from the protection that the reserve offers to livestock through security, anti-poaching initiatives, controlled access and fencing.

The impact of restrictions can be offset through engagement of communities in profitable and sustainable income and food security activities and projects. The Chemucane Lodge Development is a shining example of a community public and private partnership project which brings in tangible benefits in capacity building, income accrual and job creation. Other projects such as Horse trail, 4x4 guided trails, fresh produce supply, Handcraft and Chilli Projects can bring benefits for communities. Communities need to be rewarded for protecting the ecosystem services for the benefits of wildlife populations while losing the same ecosystem services which could have supported their livelihoods albeit at the subsistence level. These initiatives provide both individuals and communities as collective bodies' opportunities to use the resources of the area in alternative ways. Active

participation in these initiatives would require substantial investment for the benefit of communities. How the individual losses are offset within communities would require discussion and deliberation within each of the communities.

One of the alternative livelihood strategies would be provision of facilities aimed at increasing human capital as well as access to livelihoods options. This can be done through creation of support nodes within which agricultural and social development support programmes can be established. These nodes should be peripheral to the core conservation area, yet be established within existing community areas. An example would be the development of a support node within the Mabuluco-Tsolombane area which can include the upgrading of the existing schools and health centre, as well as extension of the fence establishing an effective enclave in the area. Programmes aimed at conservation farming, improved fishing and the establishment of small scale projects such as the handcraft project can be aligned with the Chemucane Lodge Development broadening the offset market for vegetables and livestock e.g. chickens.

This could serve as an incentive for the Muvucuza Community to re-establish their settlement at this node enabling them to benefit from both the social and economic development of the region.

Concomitant to the Chemucane Lodge Development would be the establishment of a trail based product in MSR as well as in PPMR areas. This could include the use of horses and game drive vehicles, based outside the Reserve, yet operating within the Reserve utilising the network of camps and facilities as per the MSR and PPMR Management Plan. Interest has been shown regarding the establishment of a game farm in Manhoca. This will need further investigation on the extent of the area and discussion with communities to enlist support from all affected by the game farm. By becoming active participants in the game farm and tourism industry through equity and ownership opportunities, the affected communities can establish viable alternative livelihoods. These could include the establishment of co-managed areas where specific portions of communal land are incorporated into the protected area, yet where the options such as hunting become an option, linked to lodge developments. Collective game farming opportunities could replace individual livestock initiatives within these communal areas, significantly broadening the benefit flow opportunities in the area. These should; however, be contiguous to the MSR rather than stand-alone initiatives requiring additional management inputs and large infrastructural development costs. Innovative approaches to the other concession opportunities such as turtle walks and trails within PPMR could provide additional opportunities to the affected communities throughout the region.

3.1.2 Agriculture

Table 1. Beekeeping

PROJECT NAME	Beekeeping	STATUS	New
BENEFICIARY COMMUNITY	Ndelane, Mucombo ,Tsolombane, Lihundo and Madjadjane		
DESCRIPTION	<p>This project was identified as a possible income generating and employment creation opportunity in the previous CAP. Establishment of small scale apiaries utilising both traditional and commercial hives was cited as an approach which will reduce the impact on wild bees and their habitat. This project has been accepted by the steering committee but the technical partner was rejected. A new technical partner has been identified.</p> <p>This project will supply the farmers with the correct equipment and also teach them the correct methods of bee keeping, thus stopping harmful traditional bee-keeping practice as well as discouraging the practice of trees and bark harvesting to make honey boxes.</p> <p>The purpose of the beekeeping project is to:</p> <ul style="list-style-type: none"> • Allow the surrounding communities to leverage their newly acquired carpentry skills to make beehives and related components • Provide the community members with basic business skills required to start up and run new enterprises • To enable organised beekeepers to secure equity in a growing honey enterprise • To introduce new beekeeping and honey production technologies that will put an end to the environmentally damaging practices of traditional beekeeping and produce honey of a better quality • Teach the communities the benefits of protecting and conserving the natural flora in the area thereby building support the conservation, land use planning and general environmental objectives of the Lubombo TFCA as outlined in the Management Plan • It is envisaged that once the project is underway there will be awareness campaigns at the local schools regarding the importance and preservation of bees and their habitats. 		
OPERATIONAL ARRANGEMENTS	<p>Two project areas have been suggested for this project. These are the coastal communities including Ndelane, Mucombo,Tsolombane, Lihundo and two inland communities of Madjadjane and Guengo. The coastal communities will produce the dark mangrove honey specifically for the export market while the inland communities will produce the light brown honey for local markets.</p> <p>Farmers will be selected based on their experience in traditional or conventional honey production. It is proposed that each farmer will manage 5 bee hives. Coastal honey producers will fall under a lead honey producer selected by Ahi Zameni Chemucane (AZC) while the inland honey producers will fall under a lead honey producer elected by the honey producers themselves. The lead farmers will provide oversight on the project and also collect and provide progress reports regarding the production levels.</p> <p>Once the farmers are identified baseline information about their household's socio-economic status will be collected and documented as well as their geographical location. The lead farmers will receive stipends as community-based workers.</p> <p>A knowledge/technical partner has been identified to provide both technical advice as well as market linkages. The knowledge/technical partner SEPPA will work with the lead farmers. The knowledge partner will oversee the project and assist with processing and marketing of honey during project implementation.</p> <p>The project will be implemented in three phases. It is envisaged that each community will participate in the management of 50 beehives i.e. an approximate total of 200 beehives from four communities in the coastal communities and 100 from two communities, in inland during the first year. As their skills improved the number of hives will increase to 15 hives during the third year depending on the environment, their skills, motivation and honey production.</p> <p>A central honey processing facility will be established in both communities for the purpose of extracting and bottling the honey, storing and maintenance of beehives. Site selection of the honey processing facility will be done in conjunction with the community, the lead farmers, the</p>		

	knowledge/technical partner and MSR. Placement of hives will be done in safe and secure areas away from honey badgers/rodents/ants etc. Local discussion on security of bee hives in the community needs to take place with the community members to prevent theft of the hives. The central processing facility should similarly be placed in an area that is secure and must be bee proof.																																																											
	<table><tr><th>Costal/Inland</th><th>Yr1</th><th>Yr2</th><th>Yr3</th></tr><tr><td>Beehives (C) 40</td><td>200</td><td>400</td><td>600</td></tr><tr><td>Beehives (I) 20</td><td>100</td><td>200</td><td>300</td></tr><tr><td>Farmer (I and C)</td><td>60</td><td>60</td><td>60</td></tr></table>	Costal/Inland	Yr1	Yr2	Yr3	Beehives (C) 40	200	400	600	Beehives (I) 20	100	200	300	Farmer (I and C)	60	60	60																																											
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DEVELOPMENT SCHEDULE	See Annexure 1																																																											

Table 2. Chilli Production

PROJECT NAME	Chilli Production	STATUS	Ongoing																					
BENEFICIARY COMMUNITY	Matchia																							
DESCRIPTION	<p>This is a five year project which aim to increase the chilli production through the improvement of the production system and thereby improve the livelihoods of the 30 community members who currently participate in the chilli production scheme.</p> <p>A Business plan was designed to implement the project which comprise two phases: phase 1 (3 years): Business consolidation aiming at setting up condition to consolidate; increase crop production, improving technical and managerial and marketing skills of the Association members; and phase 2 (2 years): aiming to scaling up to commercial business, aiming at substantial increase of the production area and productivity along with the concerned sales and margins through the involvement of a private investor.</p> <p>The project activities for first 3 years include: Training and technical assistance focusing on both technical and managerial aspects capacity of the Association and its members; Investment in infrastructure (store and office) and equipment (vehicle and spare pump/drip system); agricultural tools and inputs; appointment of Technical Advisor; introduction of crop rotation system with new crop focusing on both technical and managerial aspects capacity of the Association and its members’ (green beans, carrots, eggplants) .</p> <p>The Technical Advisor for the Association is currently represented by Piri Piri Elefante Mozambique (PPEM), which is a Chili pepper growing and trading company in Mozambique that commenced its operations in 2010. The technical advisor handles the processing and marketing of chilli. A formal offtake agreement has been signed between the Association and PPEM. PPEM has a contract to supply chilli to Nandos.</p>																							
OPERATIONAL ARRANGEMENTS	<p>The current technical advisor has operations in Marracuine, north of Maputo. This has presented logistical challenges for transporting fresh chilli from Matchia. The project proposes slight changes to the current set-up thereby strengthening the partnership and ensuring sustainability:</p> <ul style="list-style-type: none">• Expansion of the area under production for each farmer• Introduction of farmers to business thinking and management skills• Creation of a drying (and possible value adding processing) facility within Matutuine district• Conversion of role of technical advisor to that of a business partner• Facilitation of access to land for technical partner to produce chilli in Matchia enabling community members access to capacity development in their back yard• Introduction of vegetable production as rotational crops to the chilli; co-operation and collaboration with Tchia vegetable producers and technical partners for purposes of marketing their vegetables. <p>A farm manager was appointed to provide continuous technical assistance focusing on both technical and managerial aspects capacity of the Association and its members to assure follow up to the development project activities.</p>																							
BUDGET	<table><tr><th>Items</th><th>Year1</th><th>Year2</th><th>Year3</th><th>Committed</th></tr><tr><td>Personnel</td><td>950 000</td><td></td><td></td><td>950 000</td></tr><tr><td>Infrastructure, Equipment, Transport</td><td>731 333</td><td></td><td></td><td>731 333</td></tr><tr><td>Others (Training, Contingency)</td><td>157 119</td><td></td><td></td><td>157 119</td></tr></table>				Items	Year1	Year2	Year3	Committed	Personnel	950 000			950 000	Infrastructure, Equipment, Transport	731 333			731 333	Others (Training, Contingency)	157 119			157 119
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DEVELOPMENT SCHEDULE	See Annexure 2																							

Table 3. Essential Oils

PROJECT NAME	Essential Oils	STATUS	New
BENEFICIARY COMMUNITY	Communities who reside in the Matutuine District and in proximity to the Protected Areas incorporated in the Usuthu-Tembe-Futi and the PPMR component of the Lubombo TFCA within Mozambique		
DESCRIPTION	<p>Essential oils can be obtained from, inter alia, blossoms, seeds, fruits, fruit peels, leaves, stems, barks, wood, and roots.</p> <p>In Matutuine District production of essential oils was identified an opportunity for an investor. Extraction of essential oil can be done from different plants such as castor oil plant (<i>Ricinus communis</i>) or Eucalyptus that are in large quantities around and within the MSR. The castor oil plant would be specially grown for this purpose.</p> <p>The main objective of the project is to set up a community based production units of <i>Ricinus</i> for the essential oil industry. In the meantime the Eucalyptus tree can be used as the main raw material, which is available in large quantities in Matutuine District, within and outside the Maputo Special Reserve.</p> <p>The project possesses a wide range of economic and social benefits that help promote the socio-economic goals such as increasing the level of investment, jobs creation, tax revenue that could create additional funds for the beneficiaries to use to expand social and other basic services in the District. Concurrently, it will help diversify the economic activity in the District. Additionally, the process of extracting essential oil does not pose any environmental problem.</p>		
OPERATIONAL ARRANGEMENTS	In partnership with MSR, a consultant will be selected to carry a feasibility study regarding the production and extraction of essential oils in the area.		
BUDGET	R50 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 4. Eucalyptus Harvesting

PROJECT NAME	Eucalyptus Harvesting	STATUS	New
BENEFICIARY COMMUNITY	Madjadjane; Guengo		
DESCRIPTION	<p>Government planted eucalyptus trees, in an area close to what is now the MSR Head Quarters, many years ago to supply the villagers with poles for building structures. Currently, there are a handful of people coming into the reserve to cut trees for poles and fire wood. The park authorities would like to remove all non-indigenous trees in the park and make way for regrowth of the indigenous ones.</p> <p>There is a high demand for charcoal and the communities are decimating indigenous trees in and outside the park for charcoal. While giving access to the eucalyptus trees for charcoal is temporal it will ease the pressure of deforestation that is taking place.</p> <p>Additionally, eucalyptus has been cited as a source of essential oils, thus harvesting of the eucalyptus could be beneficial to the essential oils production as well.</p> <p>Since the eucalyptus stand of the former plantations now fall within the boundary of the Reserve and can be considered as an alien plant species. This proposal aims to deal with the systematic eradication of the trees to allow the natural vegetation to return and flourish. This project has the potential to assist in the uplifting of the local community in terms of finances and resources. The project is not sustainable, as the goal is to eradicate the trees, yet can provide opportunities for income generation for a few years while the project is being rolled out. The approach should be similar to programmes such as Working for Water, Working for Wetlands, or Working on Fire, in South Africa. The sustainability of the project lies in setting up support structures within the community that can assist the MSR attain its conservation goals.</p> <p>There are a number of options available to achieve the goal:</p> <ol style="list-style-type: none"> 1) Employ community members to come in and cut down the trees, treat the stumps and sell the timber or leave the trees to decompose: <ul style="list-style-type: none"> • This would require the reserve to provide a supervisor to ensure that the work is carried out in accordance with a plan which would be put together by our ecologist. The project will be controlled and managed by the reserve. • The budget for this project would need to include salaries (for the given time frame of the project), transport of staff, 3 x chainsaws (plus maintenance), 5 x pangas, herbicide, diesel, petrol, oils for chainsaws. • Two (or more) teams, 4 people per team, could be made up to systematically go in and cut down the trees and paint the stumps. If the timber is to be sold, additional staff will need to be employed in order to clean off the branches and move the timber to a central point for easy loading. • Ideally, a commercial buyer (milling, chipping or briquette producing company) would be the best option as it would mean the timber has a value for the community and is also removed from site. The community supply the raw product, and the buyer collects and transports the material from site. 2) Identify community members who could make charcoal and/or chop fire wood and sell the product locally, in the cities or a commercial company. <p>For this project to be successful, a test project must first be conducted in order to determine if these trees are suitable for charcoal or not. Should they prove to be suitable for good quality charcoal then a programme for systematic eradication of the trees needs to be put together and individuals from the community identified to make the product. A budget would need to be drawn up to assist with the initial stages of the project and the reserve would need to manage and supervise the progress of the project. The budget should include chainsaws (with maintenance plan), pangas, petrol, diesel, oils, transport and any other material/equipment needed for the production of charcoal. The finished product can then be transported to a suitable market (i.e. Maputo, Ponta Do Oura, SA).</p>		

	The project will consist of a specialist consultancy to advise on the feasibility of harvesting the timber, treating the stumps with herbicides and adding value to the harvested products, such as poles, leaves for essential oils and charcoal from smaller and less useful wood.
OPERATIONAL ARRANGEMENTS	<p>A biomass estimate of the eucalyptus trees and their spatial extend should be determined. Yields of the timber should be determined and a harvesting approach also decided. There are three option</p> <ul style="list-style-type: none"> • Create a team with Parks to remove the trees for poles which can be sold • Ask a private company to harvest the trees for poles • Ask the community to harvest the trees at no cost to the park. They however keep the poles or use them to create charcoal. <p>If the third option is taken then a first step would be to engage the communities to share the idea of harvesting the trees for poles and charcoal production. Some tests on the quality of charcoal the gum trees could be carried out to determine the marketability of the product. Harvesting will have to be organised through their local forum so harvesting group are well known with designated time schedules. The charcoal product may be branded so that marketing is made easier. Park personnel will accompany the harvesters so the tree stumps are painted with a poison to avoid regrowth. We would need to have someone go with them when they cut the trees as the stumps need to be painted with poison. Charcoal producers can also be encouraged to sell to the lodges and other camp sites in and around the Reserve.</p>
BUDGET	R250 000
DEVELOPMENT SCHEDULE	Immediate

Table 5. Improved Livestock Production

PROJECT NAME	Improved Livestock Production	STATUS	New
BENEFICIARY COMMUNITY	All communities		
DESCRIPTION	<p>Livestock plays a vital role for rural people. Most rural families have chickens, small ruminants (mainly goats) and cattle. Livestock production represents a small percentage of total agricultural production and its contribution to GDP is low. Meat production is growing but Mozambique depends heavily on the external market for the supply of beef.</p> <p>The main constraints on the development of livestock production, particularly of cattle, are the following:</p> <ul style="list-style-type: none"> • Low production and productivity of existing herds due to poor genetic quality • Unsuitable management practices • A weak network of veterinary assistance for the family sector • Lack of infrastructures for watering. <p>Though the accumulation of wealth in the family sector is represented by the number of animals owned, there would be capacity to increase its participation in the market if there were effective activities to support livestock development as a commodity rather than symbol of wealth.</p>		
OPERATIONAL ARRANGEMENTS	<p>An initial scoping exercise of the livestock industry inside and outside the park will be required. This initial assessment will cover what interventions other organisations (as well as government) have done in the target area to promote livestock production. The assessment will include both qualitative as well as quantitative assessment methods and tools to get community members involved as much as possible. Background information from government and NGO will be gathered to complete the picture. This initial assessment will inform CDF on what the best approach and strategies will be to intervene in the livestock industry in those communities adjacent to the Maputo Special Reserve.</p>		
BUDGET	R200 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 6. Poultry Production

PROJECT NAME	Poultry Production	STATUS	New																					
BENEFICIARY COMMUNITY	Massuane, Madjadjane, Ndelane, Chivambo and Salamanga (these are areas where there is access to electricity)																							
DESCRIPTION	<p>The aim of this project is to establish a network of chicken producers in the communities adjacent to MSR, that can serve as an alternative livelihood. Massuane, Salamanga and Matchia community structures have expressed a desire for chicken farming in the past. The nearest chicken producer is in Katembe which is assisted by the Higest Poultry company.</p> <p>The biggest constraint to chicken production has been transportation of live birds across the ferry to Maputo. The project proposes to create an abattoir in Salamanga which will process the chicken. This abattoir will obtain chicken from the network of community based chicken producers. A technical partner will be invited to run the abattoir and assist in the marketing of the chicken products.</p> <p>The poultry project will produce broilers from standard production facilities designed in conjunction with the technical/knowledge partner to ensure that the correct quantity and quality of the chicken is produced. Under non ventilated system the concentration of chickens will be 10-12 birds per square meter. Thus the structure for 3 000 birds will be 30m X10m. The program works on a production cycle of 4 weeks (28-32 days). There is need for an additional 2 weeks for sanitisation period for a chicken house before the next batch of chicks comes. All inputs (including management input) are supplied by the technical partners. Thus the costs for chicken feeds, chicks and medication will be deducted when they deliver their chicken at the abattoir. Farmers will be assisted for 3 cycles only. A cost recovery programme will be developed so that gradually the farmers take full responsibility for their business after the three cycle. Thus there will be business incubation training during the course of the project.</p> <p>The project will have 2 phases. The first phase will involve up to 10 chicken farmers, directly supported by the technical and business partner, using an abattoir in Maputo. The second phase will increase the number of producers as well as build an abattoir in Salamanga. The abattoir will be run for the first 15 years by the technical and business partner.</p>																							
OPERATIONAL ARRANGEMENTS	<p>A technical and knowledge partner will be invited to assist in running this project.</p> <p>A Project Assistant for poultry could be hired by CDF to manage the whole value chain while a technical partner will be invited to manage the abattoir and also provide technical assistance to the farmers.</p>																							
BUDGET	<table> <tr> <th>Items</th><th>1st Cycle</th><th>2nd Cycle</th><th>3rd Cycle</th></tr> <tr> <td>Building materials</td><td rowspan="4">6 000 000 MZN (600 000 per farmer)</td><td></td><td></td></tr> <tr> <td>Feeding system</td><td></td><td></td></tr> <tr> <td>Drinking system</td><td></td><td></td></tr> <tr> <td>Protective clothing</td><td></td><td></td></tr> <tr> <td>Input costs (pending)</td><td>2 340 960</td><td>2 340 960</td><td>2 340 960</td></tr> </table>			Items	1 st Cycle	2 nd Cycle	3 rd Cycle	Building materials	6 000 000 MZN (600 000 per farmer)			Feeding system			Drinking system			Protective clothing			Input costs (pending)	2 340 960	2 340 960	2 340 960
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DEVELOPMENT SCHEDULE	See Annexure 3																							

Table 7. Vegetable Production

PROJECT NAME	Vegetable Production using Drip Irrigation and Greenhouse		STATUS	Ongoing																
BENEFICIARY COMMUNITY	Tchia Association (community composed of Tchia Paratano and Tchia Muhano)																			
DESCRIPTION	<p>This is a one year project designed in partnership with Bindzu Agrobusiness and the Tchia Association (community composed of Tchia Paratano and Tchia Muhano). The project intends to benefit 30 members of the community whose aim is to promote a market-oriented vegetable production in a controlled environment (greenhouses). The project will introduce new agricultural production technologies in green houses; training in open air vegetable production; technical assistance in vegetable production seedling handling and drip irrigation technology; facilitate market linkage and provision of inputs. The project will assist in increasing household incomes and thereby alleviating income poverty in the community. Additionally the project seeks to transform subsistence farmers to small scale commercial agriculture. The products will not only improve income but also will improve the diet of families and at the same time contributing to a wider range of food varieties of higher quality thereby improving their overall quality of life.</p> <p>The production of vegetables in greenhouses and drip irrigation allows for the protection of vegetables against adverse weather conditions and minimizes the effects of environmental variability, allowing production throughout the year, contributing to achieving better market prices and considerable increases in productivity and quality. Similarly, the project component addresses environmental sustainability through the use of a drip irrigation system which allows for the most efficient use of water, fertilizers and pesticides. Application occurs in a localised location and dosage according to the specific needs of the crop thus avoiding loss of nutrients and water by deep percolation and runoff.</p> <p>The project activities comprise: greenhouse vegetable production and open air vegetable production training. Open air production will take place on small plots (300 square metres) where each member will be responsible for its management. Training will include the use of the irrigation system, scheduling and management of irrigation, fertilizer plus irrigation, management and soil conservation; administrative, accounting and technical. Training for greenhouse vegetable production will include the same techniques as well as management of the greenhouse as a separate community owned business. Ownership of the green house will fall under a community based company with all farmers having shares. Thus the green house will be run as a private company.</p>																			
OPERATIONAL ARRANGEMENTS	<p>An MoU was designed to create a knowledge/technical partner for the production of vegetables in greenhouses and drip system irrigation where Bindzu Agro-business will ensure the training of community members in techniques of horticultural production in greenhouses and drip irrigation system by using varieties with high yield potential this production systems; linkage to the markets for the placement of the final product. Bindzu will also train the community in how to run a private company that produces vegetable for the market.</p> <p>The CDF management will include:</p> <ul style="list-style-type: none">• Redefining relationship between Bindzu and farmers and clarifying beneficiation model for farmers• Assigning a person to oversee project and visiting farmers to monitor development• Branding of vegetable products• Monitoring progress at processing plant and the greenhouse• Training of vegetable plant manager from community• Monitoring and evaluation and management meetings with Partner• Report writing and communication with CDF SC meetings.																			
BUDGET	<table><tr><th>Items</th><th>1st Year</th><th>2nd Year</th><th>3rd Year</th></tr><tr><td>Personnel</td><td>R542 187</td><td></td><td></td></tr><tr><td>Equipment and inputs</td><td>R1 523 304</td><td></td><td></td></tr><tr><td>Other</td><td>R103 275</td><td></td><td></td></tr></table>				Items	1 st Year	2 nd Year	3 rd Year	Personnel	R542 187			Equipment and inputs	R1 523 304			Other	R103 275		
Items	1 st Year	2 nd Year	3 rd Year																	
Personnel	R542 187																			
Equipment and inputs	R1 523 304																			
Other	R103 275																			

DEVELOPMENT SCHEDULE	See Annexure 4
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Table 8. Wildlife Production

PROJECT NAME	Wildlife Production	STATUS	New
BENEFICIARY COMMUNITY	Zitundo, Maderjanine		
DESCRIPTION	<p>The chief of Zitundo has expressed his desire to designate the Manhoca area as a game farm. This is an opportunity to plan beyond the boundaries of MSR and include other ecosystems. The proposed game farm is located next to the Usuthu Sanctuary which is fenced already. Thus fencing off Manhoca will be required on the three sides. Game farming is very profitable if managed successfully. The industry has the potential to create employment opportunities for communities living adjacent to the transfrontier conservation area thus improving the quality of life for communities such as Huco, Zitundo, Massale, Guengo, Musongue, and Phuza. The Manhoca game farm will complement the Maputo Special Reserve particularly the Futi Corridor by providing additional habitat for wildlife. The Manhoca Game Farm will diversify the tourism economy by offering a different tourism product such as walking safaris, hunting and cultural interaction. Direct engagement and empowerment and enrichment of communities in partnership with private sector will result in reduction of human wildlife conflict and animosity towards wildlife, encouraging further protection of wildlife.</p>		
OPERATIONAL ARRANGEMENTS	<p>The community and MSR will have to work together to get:</p> <ul style="list-style-type: none"> • Well defined community based property and/or land user rights • Clear right/title to utilize wildlife, including the ability to benefit from the eco-tourism ventures • Meaningful engagement and beneficiation of communities as the primary owners not simply through 'donations' but through participation that includes equity in the conservancy • Private sector participation will be well defined with respect to the value they bring, the benefit that accrue to the communities, the ownership of infrastructure and the structure and management of the business. <p>The arrangement should ideally be as follows:</p> <ul style="list-style-type: none"> • Private sector partners bring in tangible resources (money, markets intelligence so as to attract a wide range of visitors and management expertise) and assume a level of risk; while the communities bring in land, people, wildlife and infrastructure • MSR will assist in providing scientifically based management plans for wildlife and habitat conservation and management. The project will be managed by CDF in conjunction with officials from MSR. <p>The following action will be pertinent to the success of the project.</p> <ul style="list-style-type: none"> • Delineation of the boundary and the communities that are involved • Creation of a community legal entity inclusive of all communities affected • Establishment of management and benefit flow institutions • Sensitisation programme for the affected communities to include provision of HWC mitigation measures, inclusive of aspects such as: <ul style="list-style-type: none"> - Elephant restraining lines - Compensation schemes - Training and deployment of wild life protection teams within Manhoca - Training of Eco-tourism staff • Evaluation of the area in terms of carrying capacity, water survey etc. • The development and adoption of a land use plan for Manhoca Game Farm, based on carrying capacity and eco-tourism facility development • Provision of basic wildlife management infrastructure including inter alia: <ul style="list-style-type: none"> - Firebreaks and fire management system - Management roads and tracks - Boreholes and water augmentation points 		

	<ul style="list-style-type: none"> - Staff quarters • Development of criteria for private sector involvement in key projects • Development of products aimed at unlocking the ecotourism potential of the area as a precursor to private sector investment through the development of ecotourism and wildlife management projects. 				
BUDGET	Item	Year 1	Year 2	Year 3	Total
	Salaries	834 000	884 040	934 080	2 652 120
	Game Fencing	9 000 000			9 000 000
	Equipment (vehicle etc.)	284 000	36 040	38 080	358 120
	Transport/ Accommodation	61 400	59 784	68 768	189 952
	Training	40 000	42 400	22 400	104 800
	Communications & Office Supplies	56 800	60 208	63 616	180 624
	Coordination Activities	23 000	24 380	25 760	73 140
	Wildlife introductions	1 000 000			1 000 000
	Eco-Tourism Enterprise development	1 014 000			1 014 000
	TOTAL	12 313 200	1 106 852	1 152 704	14 572 756
DEVELOPMENT SCHEDULE	Immediate				

3.1.3 Fisheries

Table 9. Aquaculture and Mariculture Research

PROJECT NAME	Aquaculture and Mariculture Research	STATUS	New
BENEFICIARY COMMUNITY	Zitundo, Gala, Santa Maria, (Machingulo Peninsula), Lihundo, Bunguiane, Tsolombane, and Inhaca Island		
DESCRIPTION	<p>The communities within and adjacent to the MSR and PPMR rely heavily on fish for protein and this forms part of food security in the region. By having both aquaculture and mariculture projects, food security can be enhanced, while reducing the pressure and impact on natural resources.</p> <p>Finding locally appropriate and suitable projects that can be implemented at household or community co-operative level needs investigation and based on these projects packaged for consideration.</p> <p>Fingerling availability, their quality and distribution remain a serious constraint for commercial aquaculture development. However this also presents business opportunities for those that can produce and supply fingerlings. Feed availability and quality of acceptable food conversion ratios remain major constraints for commercial production. High quality feeds are available in South Africa.</p> <p>In the case of aquaculture it is important that technical factors such as availability of water throughout the year, water quality, and availability of raw material (fingerlings, feed, etc.) and size of likely market must be taken into account as well as the cost and supply of labour and the selling price of the final product.</p> <p>Initially CDF needs to undertake a feasibility study of the lake or lakes where water based aquaculture will be undertaken. This will include the assessment of the immunological parameters of the lakes such as dissolved oxygen, ph, temperature regime including the thermocline and turnover of the water, nutrients, zooplanktons and phytoplankton, turbidity and large aquatic plants and animals including the current fish assemblages in the lakes. Ideally a student can be encouraged to take this up as a research for B.Sc. or M.Sc. degree.</p> <p>Land based and water based aquaculture is possible. An assessment of the soil types and water quality for land/water based aquaculture should be carried out to determine the most suitable location for either land or water based aquaculture. A business plan including the cost of materials, equipment and management needs to be developed to determine the level of operations, profitability of the venture, fingerling and feed feeds procurement and/or hatchery requirements.</p> <p>Aspects such as fish sanctuaries, both on the coastal lakes and the bay area, inclusive of the mangroves, need to be investigated as a natural source from which fish resources can benefit. Additionally, aspects such as value addition to fish resources should be included in the investigation.</p> <p>The RARE Project could be considered as a technical partner to the management teams of the MSR and PPMR.</p>		
OPERATIONAL ARRANGEMENTS	Through the Steering Committee, appoint a fisheries expert that can advise both the MSR and PPMR management on projects, as well as prepare detailed project proposals, that would be suitable to implement, inclusive of the models best suited for this.		
BUDGET	R250 000		
DEVELOPMENT SCHEDULE	Immediate		

3.1.4 Tourism

Tourism has shown that it can be a significant and important catalyst to the regional economy, often cited as the largest industry worldwide, albeit through a wide spectrum of operations. To differentiate between tourism infrastructure and operations, the first section discusses the various lodges, camps and associated facilities that primarily address the provision of accommodation within the reserve, while the second section looks at tourism activities that can be undertaken.

Lodges, Camps and Associated Facilities

Table 10. Chemucane Concession

PROJECT NAME	Chemucane Concession	STATUS	Ongoing
BENEFICIARY COMMUNITY	Mabuluco, Chivambo, Ndelane and Muvucuza		
DESCRIPTION	<p>The Chemucane Community Lodge project is a project where the community and private sector are working together on a lodge development. AZC and Anvil Bay are the two shareholders in the business with 40% and 60%, respectively. The community equity within the project was partly funded by the Mozambique Government through the TFCA Unit.</p> <p>The aim of this project is to reduce poverty and to ensure community involvement in conservation. PPF was awarded a contract to act as a community broker for the communities living within and adjacent to the MSR by the Mozambican Government.</p> <p>The Chemucane project is aimed at the provision of a number of benefits to the community. These benefits include the following:</p> <ul style="list-style-type: none"> • Capacity building in order to run the facility at the expiry of the management contract with the private sector partner • Employment in various department of the lodge • Equity and profit share • Income generation through supply of vegetables, chicken and eggs to the lodge • Royalties stated as Bed levy from guests coming to the lodge. <p>PPF is still the principal community broker for the communities involved in the Chemucane Lodge development. In addition CDF has been involved in the training of members of the communities in hospitality in readiness for the opening of the Chemucane Lodge to the public, initially using a soft opening, in early 2015.</p> <p>A qualitative assessment was carried out in September 2014 and it was clear the communities are not in a state of preparedness to benefit fully from capacity development as well as supply of goods and services to the Chemucane Lodge.</p> <p>To ensure accrual of benefits to the communities, PPF through CDF proposes to extend their role to help the communities realise the above stated benefits. By simplifying the relationship through the acquisition of equity, aimed at enabling the community legal entity to buy out 100% shareholding in the lodge, and then leasing the lodge to the Bell Foundation (Anvil Bay) it is believed that greater benefits can accrue to the community. This would make for a much easier and manageable relationship, and appropriate risk apportionment. The Community legal Entity would then manage the lease, not the Lodge. All other aspects and the associated benefits such as employment, supplies and services would remain and be enhanced.</p>		
OPERATIONAL ARRANGEMENTS	<p>PPF would like to continue to act as the principal broker between the parties and the Mozambican Government, and would thus will like to continue to be responsible for community capacity building, organisational and institutional support and facilitate community development projects to ensure:</p> <ul style="list-style-type: none"> • Flow of equity and profit share benefits to local communities • Capacity development through training opportunities • Community involvement in lodge management through in-service training of locally sourced staff • Access to employment of community members in the lodge 		

	<ul style="list-style-type: none"> Supply of agro-products such as chicken, cabbages, eggs, fish, prawns, tomatoes, potatoes and, Supply of cultural products such as traditional dances, handcrafts, and Interpretative walks for guests from the lodge into the community areas. <p>Active collaboration with the Machangulo Agricultural project will be nurtured in order for community members to access training in vegetable growing, chicken and egg production.</p>
BUDGET	<p>R250 000 for negotiations</p> <p>R20 000 000 for Equity Buy-out</p>
DEVELOPMENT SCHEDULE	Immediate

Table 11. Lago Nela Rest Camp

PROJECT NAME	Lago Nela Rest Camp	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share		
DESCRIPTION	It is envisaged that the Lago Nela Rest Camp will serve as the primary game viewing base of the MSR consist of a central public facility, consisting of a small reception, shop and possibly a small restaurant, a few <i>en-suite</i> safari tents, and a campsite with ablution facilities. Guests can utilise the central public facilities or the facilities at the campsite. This would serve the traditional self-drive market of southern Africa.		
OPERATIONAL ARRANGEMENTS	Developed as a Park Managed Facility, the primary responsibility will resort with the MSR, yet several of the functions, such as the reception, restaurant and camp maintenance offer opportunities for employment or service provision.		
BUDGET	R2 500 000 - R3 000 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 12. Membe Pan Rest Camp

PROJECT NAME	Rest Camp at Membe Pan	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share, yet Guengo community as the local host community regarding construction, maintenance and management		
DESCRIPTION	<p>Having a tourist facility close to the main gate can service the MSR in several ways. Firstly tourists that arrive late can utilise the facilities before proceeding onto the other products within the park, especially if no driving after sunset is allowed. Secondly, tourists transiting along the main road, could use this as an overnight option, within the protected area, thereby broadening the tourism product base within the area.</p> <p>Similar in design and function to the Lago Nela Rest Camp.</p>		
OPERATIONAL ARRANGEMENTS	Operationally, this would be a Park Authority Development, yet the construction, maintenance and operation, all provide opportunity for participation by the affected local community. This could also serve as an operational base for one or more of the Mobile safari or open game drive vehicle operators.		
BUDGET	R2 000 000 - R2 500 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 13. Ponta Membene Beach Camp

PROJECT NAME	Public Access Beach Camp	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share.		
DESCRIPTION	<p>Having access to the beach for the traditional market that has been utilising the MSR for decades is crucial. There is a need to investigate the feasibility of developing a beach camp, possibly at Ponta Membene, yet given the limitations of the site, the actual camp may need to be a few hundred metres away from the primary dune on the secondary dune. Access to the beach can be via boardwalks, and include facilities such as a small restaurant and bar, due to the physical separation of the camp and the beach.</p> <p>No boat launching will be available, yet beach based activities can be allowed.</p>		
OPERATIONAL ARRANGEMENTS	Operationally, this would be a Park Authority Development, yet the construction, maintenance and operation, all provide opportunity for participation by the affected local community. This could also serve as an operational base for one or more of the Mobile safari or open game drive vehicle operators.		
BUDGET	R2 000 000 - R2 500 000		
DEVELOPMENT SCHEDULE	2017		

Table 14. Futi Lodge

PROJECT NAME	Futi Lodge	STATUS	New
BENEFICIARY COMMUNITY	Zitundo – Phuza and Manhoca		
DESCRIPTION	<p>Developed as a CPP project within the MSR-TEP core area, the proposed lodge should follow the principles and concept associated with the Chemucane Lodge, yet the focus should be on game experiences both within Mozambican, as well as South African components of the TFCA. This would allow for an initial big five experience within the TEP, while the conditions to remove the fence separating the two components are finalised. On the Mozambican side the focus should initially be on the Futi, its birdlife, vegetation and elephant abundance.</p>		
OPERATIONAL ARRANGEMENTS	To be fully functional, this lodge should have a standing arrangement to take guests across the international boundary at Muzi, and being able to traverse sections of the TEP without leaving the confines of the Park. A country of origin, country of exit arrangement would be required.		
BUDGET	R15 000 000 for the initial establishment of the lodge, or for use as equity in a CPPP arrangement		
DEVELOPMENT SCHEDULE	Once fencing has been completed, and management presence established		

Table 15. MSR Visitor Centre

PROJECT NAME	MSR Visitor Centre	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share.		
DESCRIPTION	<p>The visitor centre, ideally developed at the MSR Main Gate, could also serve as a cultural tourism centre as well as an interpretation centre. A shop within the centre will sell a number of local crafts made by the local people.</p> <p>As an interpretation centre it could serve as a way to tell people what the reserve offers. There will be different areas shown on a map of the whole park and what they can see at each location. The history of the protected areas – MSR, PPMR, Lubombo TFCA, could be displayed in colour. The centre can be linked to the gate so that visitors can come in when they are entering the park or when they are leaving.</p>		
OPERATIONAL ARRANGEMENTS	<p>The visitor centre will need to be designed by an architect. The infrastructure should belong to the government for purposes of maintenance and management. The following activities are needed:</p> <ul style="list-style-type: none"> • Designing the interpretation centre • Working with community members to solicit their contribution in terms of supplies for the shop, such as crafts, etc. • Stakeholder meetings involving MSR and community on the management of the facility. 		
BUDGET	R2 500 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 16. Airstrips

PROJECT NAME	Airstrips	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share		
DESCRIPTION	<p>To assist with improving access to the MSR, it is recommended that two airstrips be developed. The first at the MSR Head Quarters, and the second close to the Chemucane Lodge, which can be utilised by the concessionaires along the coast.</p> <p>A full assessment of the construction costs needs to be undertaken, as well as operational arrangements regarding fees etc.</p>		
OPERATIONAL ARRANGEMENTS	A short term consultancy investigating the costs and operational requirements needs to be undertaken.		
BUDGET	R200 000		
DEVELOPMENT SCHEDULE	Immediate		

Trails and Activities

Table 17. Milibangala and Dobela Concessions

PROJECT NAME	Milibangala and Dobela Concessions	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share		
DESCRIPTION	<p>Both these concessions form part of the concession agreement that the Government of Mozambique has with Moziac do Indico, and are located at the only sites that allow for beach access. Given the importance of providing experiences that include bush and beach, it would be important for the MSR and PPMR management to discuss options with the operators at the two sites. Numerous opportunities exist to offer tourism products that enable visitors to the reserve access to the beach, without negatively impacting on guests experiences at the specific concessions.</p> <p>The project should consist of facilitated discussions between the reserve management teams and the concessionaires regarding tourism products and operations. Once clarity is obtained it would be possible to find appropriate mechanisms to unlock the full spectrum of tourism potential to the benefit of the concessionaire, reserve and guests.</p>		
OPERATIONAL ARRANGEMENTS	Short term consultancy to clarify options		
BUDGET	R200000		
DEVELOPMENT SCHEDULE	Immediate		

Table 18. 4x4 Route Network and Campsites

PROJECT NAME	4X4 Network and Campsites	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share		
DESCRIPTION	<p>A network of 4x4 routes based on the existing track system will be repackaged as trail options for both guided and self-guided experiences and will utilise various safari camp sites as overnight points. Due to the relatively small size of the MSR permitted tourists can base themselves at any of the sites, or combination of sites, to maximise experiences. This network will enable guests to design their own experience based on their specific needs and expectations, time availability and interests, rather than a designated trail where the experience is externally packaged.</p> <p>The safari campsites, of which nine are proposed to enable guests opportunity to experience each individual habitat of the MSR, will all be developed by the MSR, even though they could be managed by a service provider if the Reserve deems this necessary. These camps can also be utilised by operators as bases for mobile safaris, wilderness trails, and guided 4x4 trails, coordinated through a good bookings system.</p> <p>The trails will need regular maintenance, as would the nine individual campsites, and this is a component that could be used as an immediate community involvement component of the 4x4 trail network.</p> <p>The 4x4 trail camps can be very basic, with the primary focus being on the provision of an Enviro-loo for sanitation purposes, and possibly an enclosure that could be used for showering. Developed as dry camps, guests would have to be fully independent and make provision for water which they can get at the main entrance gate or at the rest camps at Lago Nela or Membe Pan, or any of the park management facilities within the Park identified for this purpose.</p>		
OPERATIONAL ARRANGEMENTS	Operationally, the development of the 4x4 trail network and campsites is simple. The MSR management team needs to mobilise small teams from the local communities to clear the campsites, prepare the site for the Enviro-loo and shower shelter, as well as clear and mark the trails. A good map showing the network of trails needs to be prepared and a bookings system implemented, which could		

	be done via a dedicated MSR website. These teams could also be contracted to maintain the trail network and camps on a regular basis.
BUDGET	R600 000
DEVELOPMENT SCHEDULE	Immediate

Table 19. Mobile Safaris

PROJECT NAME	Mobile Safaris	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share		
DESCRIPTION	<p>The option exists to utilise the 4x4 trail network for mobile safaris or open game drive vehicle operations and can include game viewing boats and small house boats on lake Piti and Mundi.</p> <p>The operator of these mobile safaris can offer the service to the various lodges along the coast, both between the park and Ponta do Ouro, as well as the lodges on the Machangulo Peninsula. Crucial would be certainty that lodges outside the MSR are not allowed to operate within the park. The lessons learnt at protected areas such as Pilanesberg National Park in South Africa should be used as reference.</p>		
OPERATIONAL ARRANGEMENTS	<p>Operationally, the MSR could package the mobile safaris as a CPPP, where the government makes the park available, the community holds the concession rights and a private sector operator operates the product. Ideally, two operators should be sought with each operation being allowed to cover the park, the first primarily targeting the lodges and guests from the south, and the second from the north, yet both having a presence at the main gate. Competition should be encouraged.</p>		
BUDGET	R200 000 for legal fees associated with the establishment of the contract agreements		
DEVELOPMENT SCHEDULE	Once the 4x4 trail network has been established		

Table 20. Maputaland Marine Seafari

PROJECT NAME	Maputaland Marine Seafari	STATUS	New
BENEFICIARY COMMUNITY	Coastal – Muvucuza, Machangulo, Inhaca Island		
DESCRIPTION	<p>As a unique 4 day guided boat-based experience based out of Ponta Milibangalala, the Maputaland Marine Seafari, offers participants the opportunity to experience the full spectrum of habitats within the PPMR. The route starts at Milibangala and depending on the tide guests will be able to snorkel and dive at points like Chemucane before travelling up to the overnight camp close to Ponta Abril. From here the route continues up to the camp site at the Marine Biology Station on Inhaca Island.</p> <p>At the Marine Biology Station, guests are briefed on the unique habitats of the Island, the formation of the Island, and the current conservation initiatives. The museum can play an important part within this briefing.</p> <p>The operator will be encouraged to support the local farmers and artisanal fishermen by buying local produce when available. The guides would play the role of facilitators to enhance the experience of guests by providing an interactive, participatory and enlightening experience. This would be focused on the natural and cultural heritage of the PPMR, especially Inhaca Island, as well as the people living, and their current activities, on the island.</p> <p>The concept of the Seafari is based on conventional mobile safaris, except that this one uses boats and not 4x4 vehicles. The route aims to provide guests the opportunity to experience all the elements of the PPMR, both the beach, in shore, and offshore components of the marine protected area, as well as the various elements of the Maputo Bay component of the reserve.</p> <p>Route Description:</p> <p>Day 1: Starting off early morning from Ponta Milibangalala the route follows the coast to Ponta Chemucane to dive or snorkel before continuing to the overnight camp at Ponta Abril, linked to the marine guard outpost to be established there.</p> <p>Day 2: Travel to Marine Biology Station, settle into the camp, visit the museum and receive a briefing on the importance and significance of Inhaca Island as a protected area.</p> <p>Day 3: Departing from the Marine Biology Station the exact routing will depend on the tide and wind. The day will be spent in the bay area – travelling to Portuguese Island, snorkelling on reefs, exploring the sea grass beds, visiting the mangroves, visiting villages such as Santa Maria, and overnighing once again at Marine Biology Station</p> <p>Day 4: Depending on the tide, either an early or late return to Ponta Milibangalala.</p>		
OPERATIONAL ARRANGEMENTS	Private operator with community benefits linked to camps management and maintenance		
BUDGET	R1 500 000 for concession discussions, camp set-up, product design, marketing material, interpretative material		
DEVELOPMENT SCHEDULE	Immediate		

Table 21. Turtle Trail

PROJECT NAME	Turtle Trail	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share		
DESCRIPTION	<p>Developed as a Trail Camp, this Park Authority Development (PAD), can provide substantial benefit to the affected communities through both skills development and employment opportunities for trail guides and camp attendants.</p> <p>The Turtle Trail is a 3 nights/4 day guided experience based out of a dedicated trail camp near Ponta Membene within the MSR.</p> <p>The trail camp should accommodate 8 guests, the trail guide, camp attendant and guard. Situated within the dunes overlooking a small coastal lake, the camp affords easy access to the beach, with some good snorkelling opportunities in rock pools and along shallow rocky ledges.</p> <p>The trail enables walks both during the day focussing on the inland lakes, open grasslands and through coastal vegetation and along the beach to experience both the sandy and rocky shorelines. During the turtle nesting season - October to February – trailists can walk along the beach at night, looking for turtles nesting or hatchlings dashing off to the open ocean.</p> <p>The Turtle Trail can be offered as a fully guided, fully catered trail, or as a fully guided, self-catered trail.</p>		
OPERATIONAL ARRANGEMENTS	Developed as a PAD, the Turtle Trail, should be a park owned facility, which provides opportunity for involving individuals regarding key services and functions.		
BUDGET	R3 000 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 22. Turtle Walks

PROJECT NAME	Turtle Walks	STATUS	New
BENEFICIARY COMMUNITY	All coastal communities		
DESCRIPTION	<p>Similar to the Turtle Trail, it is envisaged that Turtle Walks can be offered to guests staying at the various lodges and camps along the coast, both within the MSR, and adjacent to it.</p> <p>The focus of the Turtle Walks would be on the basic biology, ecology, habitat requirements, and threats to turtles, as well as the possibility of seeing a turtle nesting, or hatchlings emerging. These walks would be offered as interactive experiences with trained guides for guests who would like to understand turtles a bit better.</p>		
OPERATIONAL ARRANGEMENTS	<p>Managed and facilitated by the PPMR management, in conjunction with the various lodges and concessions within the region, guides can be deployed to the facilities on a roster based on bookings received and confirmed. Quality control and accreditation of guides would be through the PPMR, while the guides will operate as freelance guides, similar to fishing and other adventure guides.</p> <p>Main activity will be on training and accreditation of guides.</p>		
BUDGET	R750 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 23. MSR Adventure Trail

PROJECT NAME	Adventure Trail	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share		
DESCRIPTION	<p>Trails have proven to be an excellent way to enter the tourism market, and the MSR lends itself to the development of an adventure trail which can combine traditional hiking with canoeing, due to the presence of various coastal lakes, forests, beaches and dunes. This diversity enables exciting and attractive trail options to be investigated and developed. While the Turtle Trail is highly focused the Adventure Trail option within the MSR is more general, covering various aspects such as the habitats of the reserve, wildlife, birdlife, plants, trees and culture, stories, myths and legends.</p> <p>Ideally the trail should be based out of Lago Nela, enabling easy access to the various attractions of the reserve, such as Lake Xingute and the grass plains, as well as the sand forests, woody grasslands and sweeping vistas.</p> <p>The trail could have more than one base camp, and should be circular in nature, with the first camp at Lago Nela, the second along the shore of Lake Xingute and the third within one of the forests, Canoeing should form part of the trail, and could include a morning of paddling on the lake, focusing on birding, hippo and crocodile watching.</p>		
OPERATIONAL ARRANGEMENTS	Developed as a PAD, the MSR Adventure Trail, should be a park owned facility, which provides opportunity for involving individuals regarding key services and functions.		
BUDGET	R1 500 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 24. Maputaland Beach Trail

PROJECT NAME	Maputaland Beach Trail	STATUS	New
BENEFICIARY COMMUNITY	All, since primary benefit will be via the 20% revenue share		
DESCRIPTION	<p>As a 4 day 3 night backpacking or slack packing trail option, the Maputaland Beach Trail offers trailists the opportunity to experience all of the beach elements that the PPMR as a marine protected area offers.</p> <p>Both options would consist of trail guests arriving at Ponta do Ouro, meeting the trail guide, receiving a briefing, checking equipment, packing and then being transferred by shuttle to Santa Maria. From here the trailists walk back to Ponta do Ouro following the beach (refer Figure 2). The trailists sleep at exclusive camp sites along the way, while the slack packing trailists walk between these points, yet have their equipment (clothes etc.) transported between these points.</p> <p>Along the route trailists can swim, snorkel at reefs and rock ledges, explore rock pools, fish, and enjoy the beach and wide sweeping views. The camps are small clearings either just off the beach, providing basic amenities such as an Enviro-loo, clearings for tents, and perhaps some strategically placed logs for sitting on.</p> <p>Trail Description:</p> <p>Day 1: Vehicle transfer from Ponta do Ouro to Santa Maria - hike to overnight spot at Ponta Abril</p> <p>Day 2: Hike to and overnight at Ponta Membene Camp</p> <p>Day 3: Hike inland to MSR Adventue Trail Camp either at Lake Xingute or Forest.</p> <p>Day 4: Hike to Lake Piti, meet vehicle and transfer to Ponta do Ouro - arrive at Ponta do Ouro</p>		
OPERATIONAL ARRANGEMENTS	Operationally the trail camps should be PAD, while the trail guides and camp attendants are sourced from the community.		
BUDGET	R1 500 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 25. Inhaca Island Adventure Trail

PROJECT NAME	Inhaca Island Adventure Trail	STATUS	New
BENEFICIARY COMMUNITY	Inhaca Island		
DESCRIPTION	<p>Based out of Marine Biology Station on Inhaca island the Adventure Trail is a 4 day guided experience incorporating both sailing and hiking (refer Figure 3). The trail aims to showcase the unique elements of Inhaca Island, the multitude of marine habitats and the research that has led to a broadened understanding of these ecosystems. Trailists can use either Maputo or Ponta do Ouro as the departure point, yet the Ponta do Ouro option does require a shuttle to Santa Maria. From either of these points trailists are transferred to the Marine Biology Station where the trail officially starts.</p> <p>To enhance the experience, trailists are provided with a briefing, and a tour of the museum at the Marine Biology Station. Following this briefing, the trail circumnavigates the Island by using traditional Dhows and hiking. Besides the facilities at the Marine Biology Station, camps are located at Ponta Torres, the Lighthouse, and on Portuguese Island.</p> <p>Trailists would be required to provide their own basic foodstuffs, yet would be encouraged to support the local farmers and artisanal fishermen by buying local produce when available. The guides would play the role of facilitators to enhance the experience of trailists by providing an interactive, participatory and enlightening experience. This would be focused on the natural and cultural heritage of the Island, as well as the people living, and their current activities, on Inhaca Island.</p> <p>Key elements of the trail consist of the sailing between the Marine Biology Station and Ponte Torres, walking from Ponte Torres along the beach on the ocean side of the island, as well as through the coastal forest within the terrestrial component of the island's protected area, followed by sailing to Portuguese Island by Dhow and back to Inhaca Island, with a final hike to the Marine Biology Station via the mangroves within The Sack, a unique portion of the island. The trail camps consist of basic clearings for tents, relaxing space, a small fireplace, showers and toilets.</p> <p>Trail Description:</p> <p>Arrival Day: Orientation at Inhaca Museum - overnight at Marine Biology Station</p> <p>Day 1: Start off early morning from Marine Biology Station, sailing on a dhow to Ponta Torres – overnight at camp site. Depending on the tide, trailists can snorkel on the reefs, explore the sea grass beds, stop at villages, interact with locals, fishermen and farmers. The reef at Ponta Torres offers some excellent snorkelling for trailists once in the trail camp.</p> <p>Day 2: Hike along beach and coastal forest - overnight at Lighthouse camp site</p> <p>Day 3: Walk to Dhow pick-up point along coast, sail to Portuguese Island, explore island, then sail to Pestana Hotel Jetty. Walk through village and market, and then to the mangrove forest before crossing the last dune to the Marine Biology Station.</p> <p>Day 4: Relax and depart.</p>		
OPERATIONAL ARRANGEMENTS	The trail camps should be PADs, while the dhow skipper, guides and camp attendants are sourced from the community.		
BUDGET	R2 000 000		
DEVELOPMENT SCHEDULE	Immediate		

3.2 COMMUNITY DEVELOPMENT SUPPORT PROJECTS

Principles

Community development support projects are projects that are not necessarily commercial or entrepreneurial, yet aimed at improving the living conditions of the affected communities, increasing the feasibility of other projects, while creating a conducive environment for development, and improving livelihood options for individuals within these communities.

Within these support projects, it is believed that components such as the establishment of boreholes and livestock watering points will mitigate the need for access to some of the lakes and the Futi River within the MSR, thereby reducing potential HWC in the area.

By addressing aspects related to services and infrastructure, as well as agricultural development, support, sensitisation and training, and tourism related training, efforts can be attained to break the poverty cycles within the area, and thereby improve the livelihood of the affected communities.

3.2.1 Services and Infrastructure

Table 26. Water Provision

PROJECT NAME	Matutuine District Water Supply	STATUS	Ongoing
BENEFICIARY COMMUNITY	ka Phuza 1, Gueveza, Madjane, Massohane, Huco, ka Phuza 2, Mussongue, Massale, Guengu		
DESCRIPTION	<p>The objectives of the project is to improve the productivity of communities and promote other income producing activities as well as reduce the time spent collecting water thereby increasing the length of stay of children in schools. The project will also facilitate the watering of cattle, thereby reducing the pressure along the Futi Corridor which forms part of the MSR.</p> <p>In total the project will benefit 9 communities comprising a total of 1727 households that corresponds to approximately 10000 People. The communities selected are the ones that contribute to increased pressure in MSR/Futi related to watering of cattle and looking for places for pasture.</p> <p>During the implementation of the strategy of community development within the Matutuine district, as well as community meetings with different stakeholders in the MSR and its Buffer Zone, the insufficiency of water supply, both in quantity and quality required has been identified as one of the major challenges. Communities do not have access to appropriate sources of water such as rivers, lakes and streams. Access to water and sanitation is a key factor and is vital to the improvement of living conditions of the population. Government's aim is to improve the delivery of services and increase coverage levels in the water supply and sanitation to the population. The district government however, lacks the necessary resources. In the long term the project will contribute to the reduction of diseases caused by consumption of unsafe water, increase time communities are involved in other activities of family support, livelihood activities such as agriculture, small businesses, fishing, and increased length of stay of children in schools and reduce the distances travelled by communities to obtain water.</p>		
OPERATIONAL ARRANGEMENTS	<p>The communities selected contribute to increased pressure on the MSR related to watering of cattle and looking for pasture. A MoU was signed between the beneficiary communities and Maputo Special Reserve, for the activities that will be implemented by the project. Additionally Water Management Committees were established comprising selected members of the community groups and these will take responsibility for the overall management and maintenance of the water supply system.</p> <p>To drill the boreholes a service provider was selected.</p>		

BUDGET	Items	1 st Year	2 nd Year	3 rd Year
	Administration	37 000		
	Water cattle's	220 000		
	Boreholes	1 415 895		
	Fence security	176 000		
	Contingency	206 400		
	TOTAL	2 055 295		
DEVELOPMENT SCHEDULE	3 months			

Table 27. Agricultural Assessment

PROJECT NAME	Agricultural Assessment	STATUS	New
BENEFICIARY COMMUNITY	All communities who reside in the Matutuine District and living in proximity to the Protected Areas incorporated in the Mozambique component of the Usuthu-Tembe-Futi and the Ponta do Ouro Kosi Bay components of the Lubombo TFCA		
DESCRIPTION	<p>Mozambique's economy is still largely agriculture-based, and agriculture remains critical to stimulating overall economic growth and poverty reduction. The population of Mozambique is approximately 24 million, with 81 percent of the labour force involved in agriculture. Mozambique's agriculture sector represents 24 percent of GDP.</p> <p>The Agricultural Assessment Support Project seeks to establish the agro-ecological capacities and soil suitability map for different crop and animal types. This will enable informed decision making for options in agricultural practices which maximises the available ecosystem services. Additionally agro-assessment will lay the basis for sustained production and productivity for smallholders who depend on agriculture, thus improving their livelihood and reducing vulnerability and risk.</p> <p>Agriculture activity plays an important role in the livelihoods of the households. However, unsustainable agriculture practices and land use would have adverse impacts on natural resources (soil, water, biodiversity, etc.) and thus be unsustainable in the medium to long term, resulting in increased poverty in the region.</p> <p>Due to a lack of information on quality of soils the current agriculture practice's in the area can damage the natural resources, nutrients and water cycles. The project aim is to provide complete quantitative information on types of soils available; nutrient availability in quality and quantity; spatial distribution of the different soil types ; crops that can be grown; livelihood options and potential and significant opportunities and options to increase yields and income in the area;</p>		
OPERATIONAL ARRANGEMENTS	In partnership with Eduardo Mondlane University a student will be selected to carry out an agricultural assessment in those areas and communities in Matutuine District that are served by CDF projects.		
BUDGET	R200 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 28. Pooling Depot

PROJECT NAME	Pooling Depot	STATUS	New
BENEFICIARY COMMUNITY	All communities		
DESCRIPTION	The pooling depot is designed to act as a focal point for receiving and processing agro-products from the local producers. The pooling depot will act as an intermediary market for the agro-products, and should have infrastructure to process chicken, honey and vegetables, including chilli products. The location of the pooling depot should be such that it is central enough for easy access by communities adjacent to MSR. The pooling depot should have access to electricity, clean water supply and good access roads.		
OPERATIONAL ARRANGEMENTS	The pooling depot will belong to a community legal entity e.g. confederation of associations of communities. Private sector partners will be invited to run the facility under a management agreement between the communities and the private sector. The design of infrastructure at the pooling depot should be based on the specification of the private sector partners that will run the facility and the standards required for processing the product. Thus the chicken abattoir, for example, will be designed and run by an appropriate knowledge/technical partner e.g. Higest. The selection of the site for the pooling depot should also be in line with the spatial development plan and objectives of the local authorities of the area. Thus the provincial and district administration should be consulted. Final selection will be based on an environmental impact assessment concomitant with the agro-products to be processed in that area.		
BUDGET	Access road Electricity provision Water infrastructure Security fence around the depot		
DEVELOPMENT SCHEDULE	Once clarity on conservation agriculture and other agriculture projects has been obtained		

3.2.2 Training and Education

Table 29. Machangulo Agriculture Co-operative and Training Project

PROJECT NAME	Machangulo Agricultural Co-operative and Training Project	STATUS	New
BENEFICIARY COMMUNITY	All communities		
DESCRIPTION	<p>The project aims to establish an Agricultural Co-operative, linked to a training programme, and strives to set up agricultural production inside the Machangulo concession area, that can also serve as a training facility that:</p> <ol style="list-style-type: none"> 1) Educates community members on a sustainable form of agricultural production to replace the current slash and burn practice 2) That can be replicated in their own community area, thus enabling them to generate a regular income to sustain their families on the longer run 3) Provide Co-Operative members access to local and additional markets. <p>The project will be set up in the area close to the Mhala school, at the outer edge of the Machangulo S.A. concession. This area offers proximity to electricity and water, limiting the efforts needed to make this available to the project, and easy access to the main road to the Santa Maria market.</p> <p>The training facility is available to the 28 communities affected by MSR and PPMR conservation areas. Trained farmers will be assisted by CDF to set up their own farming activities to produce fresh produce, eggs or chicken to supply lodges, such as the Chemucane Lodge under contract as a small business, as well as others such as Milibangala and Dobela, and the Machungulo Peninsula.</p>		
OPERATIONAL ARRANGEMENTS	<p>This first project phase focuses on primary agricultural activities, i.e. growing fruit and vegetables. Potential value-added activities (for example making jam out of the fruits grown) might be feasible in a second phase, but are not included in the project for now.</p> <p>The trainee farmers will participate in the project learning how to grow fruit and vegetables in all seasons in a sustainable way. 12 farmers will be selected from affected communities</p> <p>Education and training of project participants will focus on 1) responsible use of the land, 2) ability to farm better & more varied produce and 3) increasing yield thus generating a regular income.</p> <p>The project generates additional employment for positions such as a foreman, security guards, herdsmen and construction workers.</p> <ul style="list-style-type: none"> • A foreman will keep track of the day-to-day activities of the project; the foreman can be sourced from within the Machangulo community • Participants, construction workers and herdsmen will all be sourced from the local communities on the Machangulo peninsula • On completion of the course farmers will be assisted by CDF to set up their own production unit under contract to supply a specific product to the lodges e.g. Chemucane. • A Liaison Officer will continue to be in touch with the trained participants who remain Members of the Co-operative and thus continue to contribute to the supply side of the project. <p>The Machangulo group will raise funding to set the facility up. The CDF will cater for the initial setting up of their production units including equipment, seeds, fertilisers, amongst other requirements</p>		
BUDGET	R 6 000 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 30. Conservation Agriculture Programme

PROJECT NAME	Conservation Agriculture Programme	STATUS	New																															
BENEFICIARY COMMUNITY	Target is all communities starting with Massuane, Gala, Guengo and Huco																																	
DESCRIPTION	<p>This proposal focuses on the Conservation Agriculture Project in the communities adjacent to MSR and PPMR. This is a three year project, which will train farmers within the district in the use conservation agriculture techniques. By the end of the project cycle, there will be 240 farmers trained in conservation farming techniques. The objective of introducing conservation agriculture is to produce higher yields of crops ensuring food security, while reducing the impact on the environment. The premise of support to farmers is that the support should not go against conservation principles and should adhere to certain conditions:</p> <ul style="list-style-type: none">• The fields should be close to a homestead• The farmer must have access to cattle manure• The agricultural field should not be located in a known wildlife corridor• The farmer must be willing to protect the field. <p>Conservation agriculture offers a set of sustainable agronomic practices for the smallholder farmers using either hand hoe or animal draft tillage. Research conducted elsewhere in the region indicated that conservation farming methods increase yields by 50%, or more and double that of conventional oxen cultivation. PPF's experience with conservation agriculture trials in Simalaha Community in Zambia among smallholder farmers with the same input, shows an average increase in maize yield of 77% when compared with conventional farming practices.</p>																																	
OPERATIONAL ARRANGEMENTS	<p>The Conservation Agriculture will fall under the Community Liaison Officer in Maputo Special Reserve (MSR) and a Project Assistant, both of whom will assist in coordination of the project. Oversight of the project will lie with the PPF Community Development Programme Co-ordinator who is based at the PPF Head Office in South Africa, who will undertake regular site visits to ensure a smooth progression of the project.</p> <p>The Project assistant will identify appropriate Lead farmers. Lead farmers are individuals who already own a field, and are willing to not only follow conservation farming methods, but also to train ten other farmers (the Farmer Learning Group) within their immediate vicinity, and to advise them on the methods of conservation farming on a voluntary basis. They also monitor the ongoing progress of the farmers in their group, and report back to the Field Officer throughout the project cycle. In the first year of the project, 8 contact farmers will be trained by the Field Coordinator, with an additional 8 farmers trained each year after that, to accommodate the growing number of farmers to be trained.</p> <p>Farmer Learning Groups (FLG) will be established to promote farmer to farmer learning within and between communities. These FLG's will play a vital role within the district, as they will ensure that information about the project flows within and between communities. They also will pass on a variety of necessary information to farming groups. This information is key to monitoring the project and when deciding on areas to focus attention on. As part of the conservation agriculture project, members of the FLG's within the district will be trained by the Project Assistant in the development and implementation of the project. This will give them a thorough understanding of conservation agriculture methods, so that once the project is established, they may take over implementation on behalf of the community, as well as being responsible for capturing information and acting as liaisons between the Project Assistant, community members and participating farmers to ensure awareness and community buy-in.</p>																																	
BUDGET	<table><tr><th>Item</th><th>Yr1</th><th>Yr2</th><th>Yr3</th><th>Total</th></tr><tr><td>Salaries</td><td>258 000</td><td>336 000</td><td>354 000</td><td>948 000</td></tr><tr><td>Administration</td><td>163 600</td><td>33 600</td><td>33 600</td><td>230 800</td></tr><tr><td>Conservation Agriculture</td><td>379 600</td><td>419 600</td><td>451 600</td><td>1 250 800</td></tr><tr><td>Contingency</td><td>56 980</td><td>50 980</td><td>56 980</td><td>164 940</td></tr><tr><td>TOTAL</td><td>858 180</td><td>840 180</td><td>896 180</td><td>2 594 540</td></tr></table>				Item	Yr1	Yr2	Yr3	Total	Salaries	258 000	336 000	354 000	948 000	Administration	163 600	33 600	33 600	230 800	Conservation Agriculture	379 600	419 600	451 600	1 250 800	Contingency	56 980	50 980	56 980	164 940	TOTAL	858 180	840 180	896 180	2 594 540
Item	Yr1	Yr2	Yr3	Total																														
Salaries	258 000	336 000	354 000	948 000																														
Administration	163 600	33 600	33 600	230 800																														
Conservation Agriculture	379 600	419 600	451 600	1 250 800																														
Contingency	56 980	50 980	56 980	164 940																														
TOTAL	858 180	840 180	896 180	2 594 540																														

DEVELOPMENT SCHEDULE	See Annexure 5
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Table 31. Guide / Camp Attendant Training

PROJECT NAME	Guide / Camp Attendant Training	STATUS	New
BENEFICIARY COMMUNITY	All		
DESCRIPTION	<p>For the various trail projects to become fully functional and provide benefit to the affected communities it is crucial that the guides and camp attendants that will be actively involved in the project be trained. The level of the training will be concomitant to the trail being conducted. The adventure trail guides will be trained to industry standards, and a full career path development plan can be developed.</p> <p>The Southern African Wildlife College (SAWC) should be involved in the development of the courses as well as the training and accreditation of the trail guides and camp attendants.</p>		
OPERATIONAL ARRANGEMENTS	<p>A service level agreement should be concluded between the MSR and PPMR management and the SAWC for the trail guide courses, as well as the camp attendant courses.</p> <p>These courses should be accredited with the necessary industry bodies as well as training authorities.</p>		
BUDGET	R600 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 32. Environmental Education Programme

PROJECT NAME	Environmental Education Programme	STATUS	New
BENEFICIARY COMMUNITY	All		
DESCRIPTION	<p>Broadening the understanding of conservation and the role that conservation plays in providing basic ecosystem services for communities, as well as the role that conservation plays in broadening livelihood options within the broader area through aspects such as tourism, agriculture and market access needs to be mainstreamed in the affected communities. Through an Environmental Education Programme it will be possible for the affected communities, as well as other visitors, to gain insight into the role of conservation. Through cross cultural interactions this can become a very interesting way to attain this objective.</p>		
OPERATIONAL ARRANGEMENTS	<p>The SAWC can assist with the development of programmes appropriate to the area, inclusive of local language material, as well as training of officials and officers that can lead these programmes. The implementation of the programme should be undertaken by the two Reserve management teams assisted by the community broker team.</p>		
BUDGET	R500 000		
DEVELOPMENT SCHEDULE	Immediate		

Table 33. Expanding Skills Base of other Operators

PROJECT NAME	Expanding Skills Base of other Operators	STATUS	New
BENEFICIARY COMMUNITY	All		
DESCRIPTION	<p>It is envisaged that by actively seeking opportunities for expanding the skills base of other operators through the provision of internships for locally trained people, the employment levels within the area can significantly be increased. Both the operators and interns benefit from a programme such as this, and can cover a wide range of activities, such as guiding, hospitality, agricultural developments, facility and vehicle maintenance. By understanding the needs of the operators within the region, and then linking these with training institutes such as the SAWC and SA College for Tourism (SACT), opportunities can be developed. The SACT can address aspects such as hospitality and tracker training, while SAWC can offer aspects such as facility and vehicle management, guide training and agricultural training. The various lodges, camps and operators can agree to a certain level of internships within their operations, which can directly be linked to the number of people that undergo training per year.</p> <p>The initial project should be a Training Needs Analysis, linked to internship agreements with the operators.</p> <p>By linking training and internships it is believed that the local knowledge and skills base within the region can be broadened, benefiting not only local people, but also the industry and the visitor experiences.</p>		
OPERATIONAL ARRANGEMENTS	Initially the project would entail the coordination of a training needs analysis to be undertaken by the SAWC and SACT, engaging local operators and facilities.		
BUDGET	R300 000		
DEVELOPMENT SCHEDULE	Immediate		

4 MONITORING AND EVALUATION

4.1 WHY MONITOR?

The following points summarise why monitoring is an important component of the CAP implementation process:

- It helps to correct and identify any changes as project activities are implemented so that desired results are achieved
- It is done to check if project objectives are met or not and guide on way forward
- To correct misunderstanding or mistakes in time
- To ensure smooth progress of the planned activities and assess the impact of projects
- To check positive or negative progress
- To ensure good performance and sustainability of a project since obstacles are identified early and changes made
- Have corrective measures and assess performance, progress, failure and achievements of the project in line with the project objectives.

4.2 MONITORING PLAN

4.2.1 Approach

Monitoring and evaluation will take place at two levels, namely at a **strategic level** and **project level**, entailing traditional project monitoring as well as Participatory Monitoring and Evaluation (PM&E) aimed at ensuring that both the planning of projects and their execution contribute to the objectives of the MSR and PPMR and the communities affected by the conservation initiatives.

At all levels it is important to ensure that joint observation and reflection will lead to corrective actions for future project planning and implementation. To attain this, the following questions require interrogation:

Who, What, How, Why?

- **Who:** Stakeholders, including community and PAMT, the TFCA Unit and the Participatory Management Committee as well as outside facilitators
- **What:** Indicators identified through the CAP as well as by stakeholders, to measure process as well as outputs or outcomes
- **How:** Simple, qualitative and quantitative methods, developed with by the stakeholders themselves
- **Why:** To empower stakeholders and to take corrective actions.

4.2.2 Strategic Monitoring

Strategic monitoring will be undertaken by the PAMT, inclusive of the Transfrontier Conservation Areas Tourism Development Project (TFCA Unit) according to indicators set in the CAP document. Meetings between the PAMT and the TFCA Unit need to take place to ensure that the respective projects are contributing to the attainment of the overall conservation objectives of the reserve and the TFCA.

The monitoring regarding the performance of specific projects will follow traditional project monitoring and evaluation techniques measuring actions against timelines and budgets. The contract conditions form the basis for performance measures.

This approach will be linked to the indicator tables from a traditional project monitoring perspective, while the impacts on communities will be measured through aspects such as improved livelihoods and use various methods such as yield analyses, food security, income and schooling indicators as well.

The monitoring of community resource use will be undertaken through both direct and indirect methods utilising monitoring by the Community Fora, and satellite based monitoring of use over time.

The Reserve will need to undertake resource base assessment within use zones to assess in consultation with the communities the carrying capacity of resources used by communities (peripheral use) as well as sustainable yields.

Monitoring the benefit flow to communities will follow best practice as prescribed by various international organisations and programmes.

4.2.3 Project Level Monitoring

Project level monitoring will be through PM&E according to indicators set by stakeholders during detail project planning, and inclusive of changes to livelihoods and the well-being of communities.

To ensure that the needs and expectations of communities are met in an appropriate manner monitoring will entail the active involvement of community structures (i.e. Community Fora, Regional Fora, CLEs, and the Participatory Management Committee) within the evaluation process. PM&E is important to improve the processes and methods used, as well as the effectiveness and ultimate impact of projects themselves. A PM&E system, involving among other meetings or “learning workshops” at different levels will thus be put in place.

ANNEXURES

ANNEXURE 1. BEEKEEPING SCHEDULE

PROJECT NAME: BEE-KEEPING		SEPT 14	OCT 14	NOV 14	DEC 14	JAN 15	FEB 15	MAR 15	APR 15	MAY 15	JUN 15	JUL 15	AUG 15
1 Getting started (CDF)													
1.1	Select the communities and recruit farmers												
1.2	Assess farmer's knowledge on honey production												
1.3	Farmer hands-on training at honey production operations												
1.4	Conduct a household survey to create baseline data on the farmers												
1.5	Select bee-keeping system												
1.6	Select design and acquire hives and bees for bee-keeping												
1.7	Farmer training on apiculture												
1.8	Monitoring production system (colony inspection)												
1.9	Acquisition of equipment for harvesting honey												
1.10	Pest and disease control training and management												
3 Processing (under control of partner)													
3.1	Procure equipment for honey processing at pooling depot and in Ndelane												
3.2	Delivery of honey to market												
3.3	Assess processing flow through all stages for bottlenecks												
4 Marketing (joint undertaking)													
4.1	See marketing strategy from Business plan												
4.2	Supply of bottles for bottling the honey												
4.3	Partner will assist the farmers with packaging and branding the honey												
5 Project management (CDF)													
5.1	Assess the business plan												
5.2	Hire Honey project assistant												
5.3	Assignment of technical partner to assist farmers												
5.4	Facilitate the signing of uptake agreement between the community and partner												
5.5	Facilitate the signing of project financing agreement between the community and PPF												
5.6	Facilitate exchange visit to Manica province honey project												
5.7	Visit to farmers based on a schedule of visits to monitor progress												
5.8	Monitor progress on bee-keepers												

PROJECT NAME: BEE-KEEPING		SEPT 14	OCT 14	NOV 14	DEC 14	JAN 15	FEB 15	MAR 15	APR 15	MAY 15	JUN 15	JUL 15	AUG 15
5.9	Monitoring and evaluation												
5.10	Management meetings with partner												
5.11	Report writing and communication with CDF manager												

ANNEXURE 2. CHILLI PROJECT SCHEDULE

ACTIVITIES		OCT 14	NOV 14	DEC 14	JAN 15	FEB 15	MAR 15	APR 15	MAY 15	JUN 15	JUL 15	AUG 15
1 Getting started (CDF)												
1.1	Community meeting to introduce business orientation											
1.2	Develop business plan for their plots											
1.3	Expand the land to grow pepper and other vegetables											
1.4	Acquire extra materials and equipment for drip irrigation											
1.5	EPT acquire own plot for production with secure tenure											
1.6	Select seedling production site											
1.7	Create a seedling production team (as a separate business unit)											
1.8	Acquire seedling production materials and equipment											
1.9	Update agri-calendar of crops especially with rotational crops											
1.10	Carry out a crop marketing survey for all crops being grown											
1.11	Develop a land preparation schedule											
1.12	Liaise with Tchia on marketing vegetables											
1.13	Produce a delivery schedule based on when crop are ripe											
1.14	Develop brand name for produce											
1.15	Develop marketing strategy for vegies											
1.16	Site selection for processing vegetables and chilli											
1.17	Build vegetable and chilli processing plant at pooling depot											
2 Production												
2.1	Develop planting, weeding (herbicide) and harvesting regime for other vegetable											
2.2	Delivery scheduling of vegetables											
2.3	Monitor production by farmer - report any problems											
2.4	Hold learning sessions for farmers to share experiences											
3 Processing (under control of partner)												
3.1	Hire of personnel at vegetable processing plant											
3.2	First batch delivered to vegetable processing plant											
3.3	Assess processing flow through all stages for bottlenecks											
4 Marketing (joint undertaking)												
4.1	Adverts for Salamanga vegetables											

ACTIVITIES		OCT 14	NOV 14	DEC 14	JAN 15	FEB 15	MAR 15	APR 15	MAY 15	JUN 15	JUL 15	AUG 15
4.2	First batch at the market											
4.3	Farmers paid for first batch											
4.4	Consumer satisfaction survey											
5 Project management (CDF)												
5.1	Assignment of CDF official to oversee the vegetable project											
5.2	Visit to Farmers based on crops to monitor development											
5.3	Branding of vegetable products											
5.4	Monitor progress at processing plant											
5.5	Monitor progress on tunnels											
5.7	Training of vegetable plant manager from community											
5.8	Monitoring and evaluation											
5.9	Management meetings with Partner											
5.10	Report writing and communication with CDF manager											

ANNEXURE 3. CHICKEN PRODUCTION PROJECT SCHEDULE

ACTIVITIES		Aug14	Sep14	Oct14	Nov14	Dec14	Jan15	Feb15	Mar15	Apr15	May15	Jun15	Jul15
1 Getting started (CDF)													
1.1	Commission a business Plan												
1.2	Select the communities and identify, assess and recruit farmers												
1.3	Assess farmer's knowledge on chicken production												
1.4	Conduct a learning trip to a chicken production unit												
1.5	Farmer hands-on training at chicken production operations												
1.6	Conduct a household survey to create baseline data on the farmers												
1.7	Select site for the chicken house (Sort legal issues of land)												
1.8	Obtain quotation for chicken house												
1.9	Design and seek approval for the chicken house												
1.10	Construct the chicken houses for each farmer												
1.11	Farmer training on care for day old chicks												
1.12	Farmers prepare to receive day old chicks												
1.13	Site selection and approval for the abattoir at pooling depot												
1.14	Obtain legal possession of land for abattoir												
1.15	Obtain quotation for abattoir												
1.16	Advertise for construction of Abattoir												
1.17	Select company to construct the abattoir												
1.18	Select partner for chicken project												
1.19	Construct the abattoir at pooling depot												
1.20	Quantity surveying and site inspection during construction												
1.21	Certification of abattoir												
1.22	Acquisition of own plot for partner with secure tenure												
1.23	Encourage a community member to start chicken transporting business												
2 Production													
2.1	Develop the placement schedule for farmers												
2.2	Delivery of chicken feed to farmers												
2.3	Farmer receive first batch of day old chicks according to schedule												
2.4	Monitor growth of chicken by farmer - report any problems												
2.5	Hold learning sessions for farmers to share experiences												
2.6	Prepare for delivery of 6 weeks old chicken												
2.7	Cleaning of chicken house after removal of chicken												

ACTIVITIES		Aug14	Sep14	Oct14	Nov14	Dec14	Jan15	Feb15	Mar15	Apr15	May15	Jun15	Jul15
3 Processing (under control of partner)													
3.1	Hire of personnel at abattoir												
3.2	First batch delivered to Abattoir												
3.3	Assess processing flow through all stages for bottlenecks												
4 Marketing (joint undertaking)													
4.1	Adverts for Matutuine chicken												
4.2	First batch at the market												
4.3	Farmers paid for first batch												
4.4	Consumer satisfaction survey												
5 Project management (CDF)													
5.1	Hire chicken project manager												
5.2	Assignment of technical partner to assist farmers												
5.3	Visit to Farmers based on a schedule of visits to monitor growth												
5.5	Monitor progress on abattoir												
5.6	Monitor progress on chicken houses												
5.7	Facilitate design the abattoir for 2000 birds per day												
5.8	Obtain quotation for equipment and construction of abattoir												
5.9	Training of abattoir manager from community												
5.10	Training of meat hygiene officer from community												
5.11	Training of meat inspector from community												
5.12	Monitoring and evaluation												
5.13	Management meetings with Partner												
5.14	Report writing and communication with CDF manager												

ANNEXURE 4. BINDZU/TCHIA VEGETABLE PROJECT SCHEDULE

ACTIVITIES		OCT 14	NOV 14	DEC 14	JAN 15	FEB 15	MAR 15	APR 15	MAY 15	JUN 15	JUL 15	AUG 15
1 Getting started (CDF)												
1.1	Community meeting to introduce business orientation											
1.2	Take some members of the group on a learning tour at SPAR											
1.3	Take a tour to a vegetable producer											
1.4	Farmer hands-on training at tunnel vegetable production unit											
1.5	Allocation of individual plots with tunnels (Sort legal issues of land)											
1.6	Develop agri-calendar of crops											
1.7	Carry out a crop marketing survey											
1.8	Select crops and seedling site production site											
1.9	Create a seedling production unit (as a separate business unit)											
1.10	Develop a land preparation schedule											
1.11	Produce a delivery schedule based on when crop are ripe											
1.12	Develop brand name for produce											
1.13	Develop marketing strategy for vegies											
1.14	Bindzu acquisition of own plot for production with secure tenure											
1.15	Assign manager from CDF to oversee project											
1.16	Produce timetable for completion of tunnels											
1.17	Site selection for processing vegetables											
1.18	Build vegetable processing plant at pooling depot											
2 Production												
2.1	Develop planting, weeding (herbicide) and harvesting regime											
2.2	Delivery scheduling of vegetables											
2.3	Monitor production by farmer - report any problems											
2.4	Hold learning sessions for farmers to share experiences											
3 Processing (under control of partner)												
3.1	Hire of personnel at vegetable processing plant											
3.2	First batch delivered to vegetable processing plant											
3.3	Assess processing flow through all stages for bottlenecks											

ACTIVITIES		OCT 14	NOV 14	DEC 14	JAN 15	FEB 15	MAR 15	APR 15	MAY 15	JUN 15	JUL 15	AUG 15
4 Marketing (joint undertaking)												
4.1	Adverts for vegetable											
4.2	First batch at the market											
4.3	Farmers paid for first batch											
4.4	Consumer satisfaction survey											
5 Project Management (CDF)												
5.1	Redefine relationship between Bindzu and farmers											
5.2	Clarify beneficiation model for farmers											
5.3	Assign person to oversee project											
5.4	Visit to farmers to monitor development											
5.5	Branding of vegetable products											
5.6	Monitor progress at processing plant											
5.7	Monitor progress on greenhouse											
5.8	Training of vegetable plant manager from community											
5.9	Monitoring and evaluation											
5.10	Management meetings with Partner											
5.11	Report writing and communication with CDF manager											

ANNEXURE 5. CONSERVATION AGRICULTURE PROJECT SCHEDULE

ACTIVITIES		Aug 14	Sep 14	Oct 14	Nov 14	Dec 14	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15	Aug 15
3	Conservation Agriculture													
3.1	Farmer recruitment (one meeting in each community)										2nd Group of farmers			
3.2	Training of farmers (training on land prep and planting)													
3.3	Training of farmers (weeding and mulching)													
3.4	Training of farmers (harvest and mulching)													
3.5	Meetings - Farmer Learning groups													
3.6	Training Aids													
3.7	Household Surveys(hire two enumerators plus transport)													
3.8	Two motorbikes fuel													
3.9	Household survey (travel costs for consultant local and regional)		Field	Field	Analy-sis									
4	Seed/Manure													
4.1	Maize seed													
4.2	Ground nuts													
4.3	Cow peas													
4.4	Purchase cow manure for families with no access													
4.5	Cassava													
4.6	Soil Sampling and Analysis													
4.7	Field days (fuel)													
4.8	Food and drinks during field days													
4.9	Exchange trips for contact farmers(airfares, accommodation and meal)													
4.10	Exchange visit within the district (farmer to farmer visits)													