TOOLKIT FOR LMMA ESTABLISHMENT

A case study of Our Sea Our Life's approach to community-based marine conservation in northern Mozambique

Acknowledgements

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List of Acronyms

ADNAP	National Administration of Fisheries
AMA	Associação do Meio Ambiente
CBD	Convention on Biological Diversity
CCP	Community Fisheries Councils
CPUE	Catch Per Unit Effort
DPMAIP	Provincial Direction of the Sea and Internal Waters and Fisheries
EF	Environmental Fund
FPIC	Free Prior Informed Consent
IUCN	International Union for the Conservation of Nature
LMMA	Locally Managed Marine Areas
M&E	Monitoring and Evaluation
MIMAIP	Ministry of the Sea and Internal Waters and Fisheries
NBSAP	National Biodiversity Strategic Action Plan
NGO	Non-Governmental Organisation
ODK	Open Data Kit
OSOL	Our Sea Our Life
RZ	Replenishment Zone
SDAE	District Services for Economic Activities
TR	Temporary Reserve
VSLA	Village Savings and Loans Association
WIO	Western Indian Ocean
ZSL	Zoological Society of London

Contents

1 INTRODUCTION

1. Introduction

Sérgio Rosendo, Ana Pinto, Gildas Andriamalala, Jeremy Huet

Community management of marine resources is an important approach in Mozambique and is supported by the Fisheries Law (Law n. 22/2013), which includes a number of provisions to guarantee the rights of local communities to fishing resources and ensure their participation in management. More recently, the Conservation Law (Law n. 5/2017) introduced 'Community Conservation Areas' (Áreas de Conservação Comunitárias) that recognise the role of local communities in preserving ecosystems and the sustainable use and management of natural resources.

Locally Managed Marine Areas or LMMAs are one approach to community management of marine resources. LMMAs have been implemented in different parts of the world, including East Africa (Kenya and Tanzania) and Madagascar where they have proved to be an effective solution to some challenges such as limited role of coastal communities in governance, high cost of implementation, lack of ownership and poor coordination among stakeholders. In Mozambique, the creation and management of LMMAs is not yet clearly regulated and can be potentially done under the fisheries legislation in the context of participatory management of fishing resources, or the conservation legislation as Community Conservation Areas. The need to define the legal framework for LMMAs is recognised by government authorities who have been developing such efforts together with non-governmental organisations (NGOs) and other stakeholders.

In Mozambique, community initiatives for management of fishing resources differ in their objectives and forms of implementation. However, they all encourage and support coastal communities to develop management measures facilitated by Community Fisheries Councils (known locally as Conselhos Comunitários de Pesca or CCPs) which are the community-level institutions mandated by the Fisheries Law Regulations to represent communities in the management of fishing resources. One of these initiatives is the Our Sea Our Life (OSOL) project, which has been supporting the creation of LMMAs in Cabo Delgado province since 2013 as a way to reduce the decline of marine resources and conserve biodiversity, while contributing to reducing poverty and improving food and nutrition security of local communities.

The OSOL project has been implemented in partnership with local communities, national and international NGOs, provincial and district government, research institutions and donors. Although some of the OSOL elements are in their pilot phase, the results achieved during the first phase of the project (2013-2019) are positive and demonstrate conditions for the replication of the approach to other communities in Cabo Delgado province and, potentially, the country. This toolkit was prepared to serve as a resource to expand the network of LMMAs in Mozambique, using the approach developed by the OSOL project.
Below we explain the importance of LMMAs in Mozambique and the main elements of the OSOL approach to LMMAs. We also outline the contribution of this approach to Mozambique's national policies and strategies and international commitments, followed by how the toolkit was produced, its intended users, content and how it can be used.

Why Mozambique?

Unique and regionally important marine biodiversity

The marine biodiversity in northern coastal Mozambique is unique in East Africa and remains relatively conserved compared to the rest of this region. It has demonstrated a high level of ecological resilience to coral bleaching which, together with its location in relation to currents, makes it extremely important for replenishing and recovering biodiversity in neighbouring areas up and down the coast (Hill *et al*., 2009, McClanahan and Muthiga, 2017).

Northern coastal Mozambique contains key habitats including mangroves and some of the largest areas of coral reefs nationally with a high biological value due to the presence of a large diversity of corals (297 species in Nacala) and fish (263 species in Cabo Delgado) (Obura 2012; Samoilys *et al*., 2015), aggregations of sharks, and IUCN Red List threatened species including bumphead parrotfish (*Bolbometapon muracatum*) and Napoleon wrasse (*Cheilinus undulatus*). In stark contrast to the abundant marine resources, local communities are among the poorest in Mozambique (MED/DEEF, 2016) and are highly dependent on marine resources for livelihoods (Rosendo *et al*., 2011, Rosendo 2016, Rosendo and Daide 2018).

Growing pressure from unsustainable fishing

Although fish catches in Cabo Delgado are still relatively high for East Africa (Samoilys *et al*., 2019), fishers have reported declines which are likely linked to increasing fishing pressure from local and itinerant or migrant fishers and use of unsustainable fishing gear (Wanyonyi *et al*., 2011). Since the 1990s, Cabo Delgado has attracted an increasing number of migrant fishers, the majority of whom come from Nampula province in the south, particularly Memba and Nacala districts (Wanyony *et al*., 2016) driven, among other reasons, by resource scarcity and lack of economic opportunities in their home areas (Wanyonyi *et al*., 2011). If unsustainable fishing practices remain unaddressed, resource degradation will undermine the livelihoods and wellbeing of local coastal communities.

Emerging threats from large-scale development projects

Large-scale development projects are planned in the north of Mozambique (Cabo Delgado and Nampula) with a special focus on oil and gas, coastal mining and associated infrastructure (ports, roads, power lines, power stations). The exploitation of natural gas in Cabo Delgado is a major driver of change, with a projected 175% population increase for the city of Pemba (2017 to 2040, INE 2010). Environmental Impact Assessments have shown a series of impacts on coastal and marine ecosystems. If not carefully managed, the gas industry and other large-scale projects will further increase pressure on coastal and marine resources and drive food insecurity and poverty for coastal communities.

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The Our Sea Our Life approach to community-led marine conservation

Between 2013 and 2019, the Our Sea Our Life project successfully piloted a model to promote conservation and sustainable management of marine resources and secure and enhance the livelihoods and wellbeing of local coastal communities. This model is inspired by the experiences from similar initiatives in the Western Indian Ocean (WIO) and elsewhere, and adapted to Mozambique's fisheries management legal frameworks. Its general philosophy is one of inclusiveness, by explicitly involving groups that are often marginalised in marine management efforts, particularly women, youth and migrant fishers. Using a series of structured participatory processes, communities are given support to identify the underlying threats to marine resources and make their own decisions on how to address them, informed by wider experience of what has worked in other contexts and the lessons learnt.

The key elements of the OSOL approach

While community-led marine management is not new in Mozambique or the WIO, the interconnection of three critical elements to successful marine co-management make the OSOL approach unique and innovative. These include (1) Locally Managed Marine Areas (LMMAs); (2) local governance and management mechanisms; and (3) sustainable livelihoods and financing. These are briefly explained below and summarised in Figure 1.

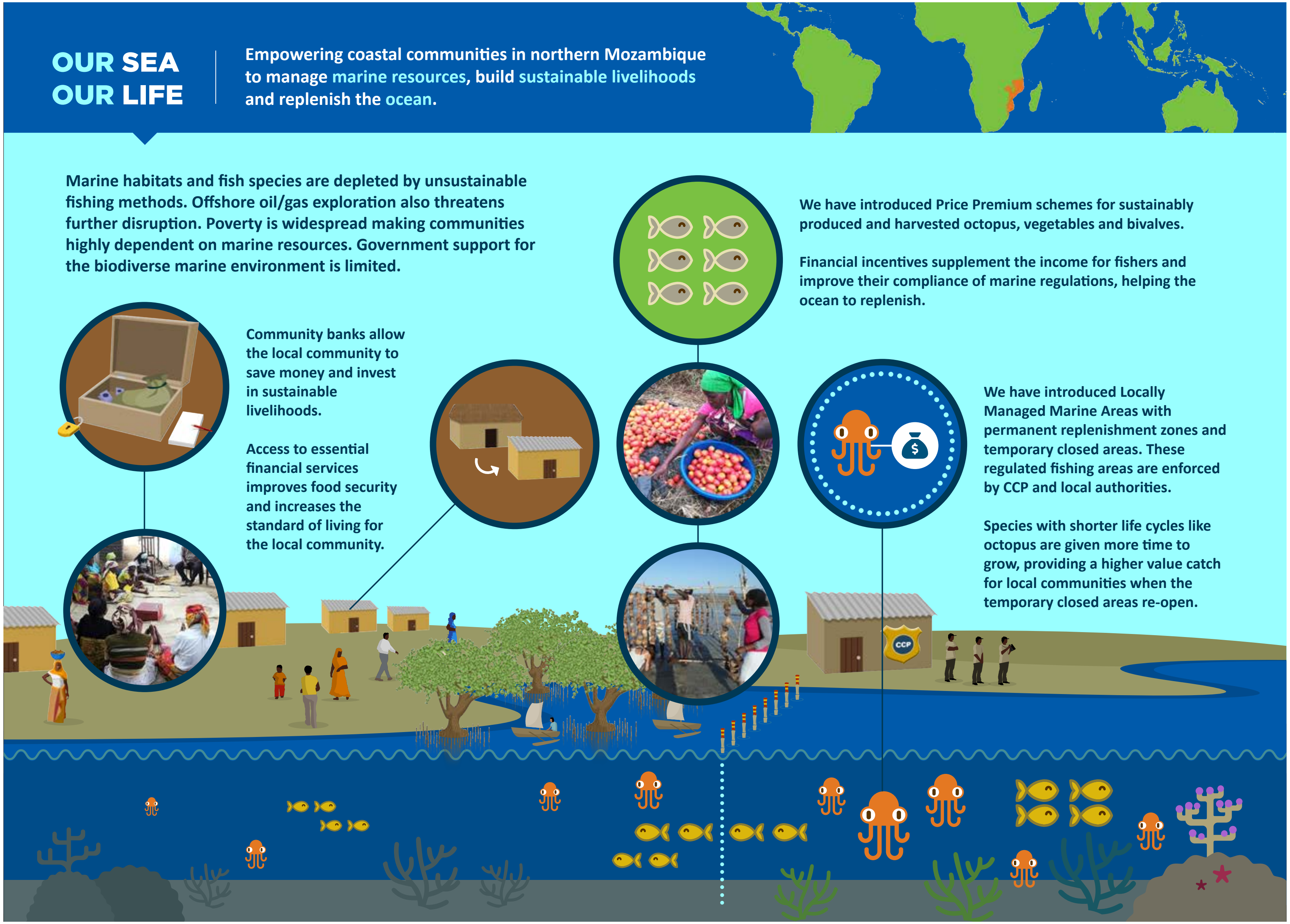

Figure 1. The OSOL approach to LMMAs

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Locally Managed Marine Areas (LMMAs)

Locally Managed Marine Areas or LMMAs are the international designation for marine protected areas where local coastal communities play a central role in the management of their resources to guarantee their livelihoods and food security and to protect biodiversity. In Mozambique, the community management of marine resources envisioned by the LMMA model finds support in the Fisheries Law (Law n. 22/2013) which empowers local communities to participate in fisheries management, and the Conservation Law (Law n. 5/2017) which enables the creation of Community Conservation Areas.

The establishment and management of LMMAs involves the enforcement of existing legislation as well as management measures defined by local communities themselves to address specific threats, as long as these are within the boundaries of the law. LMMAs include permanently closed replenishment zones that protect critical habitats (including corals, seagrasses and mangroves) and enable fish populations to recover; temporary closed areas that allow species with a shorter life-cycle such as octopus to grow to their optimal size before harvesting when these areas are re-opened, resulting in higher catches and income for fishers; and sustainable-use areas where regulated fishing can take place.

Local governance and management mechanisms

An LMMA is co-managed by government and local communities, the latter represented by a CCP. CCPs are community organisations mandated by the government under the fisheries legislation to participate in the management of fishing resources. The LMMA is governed by a management plan that includes management measures defined by local communities through a series of structured participatory processes to identify threats to resources and options to address those threats. The plan is then implemented by the CCP with support from the government, particularly with regards to enforcement of management measures and regulations, and other stakeholders such as NGOs.

Sustainable livelihoods and financing

LMMAs coupling permanent and temporary closed areas are a viable option to conserve biodiversity, restore sustainable fishery practices and enhance catches. However, these management measures have opportunity costs to local communities in the early stages before benefits start to become apparent e.g. through stabilised/increased fish catches. The LMMA approach includes support for the establishment of community banks (Village Savings and Loans Associations or VSLAs) allowing community members to buy assets and food to sustain and improve their wellbeing and food security, and also to invest in small businesses. Other accompanying measures compensating for the LMMA operations include horticulture and aquaculture and 'price premium' schemes for sustainably harvested octopus, vegetables and bivalves. These measures improve livelihoods and supplement the income of fishers, and therefore can incentivize in the mid-term compliance with marine management regulations, contributing to the sustainability of marine resources.

Addressing the direct financial costs of co-management in LMMAs is equally important. The OSOL approach to LMMAs is currently piloting a number of options with communities, such as environmental funds generated by VSLAs, and fishers' contributions from the opening of temporary closed areas. Other mechanisms such as biodiversity offsets and payment for ecosystem services can also be considered and may become viable options in the mid to long terms.

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Contribution of LMMAs approach to Mozambique's national and international strategies

LMMAs contribute to a number of Mozambican strategies and policies which emphasise the integration of biodiversity conservation, sustainable use of marine resources and poverty reduction, including the National Biodiversity Strategy and Action Plan (NBSAP) for the period of 2015-2035 that aims to (i) include at least 5% of marine ecosystems in conservation areas (target 11A) and (ii) manage effectively and equitably 50% of protected areas (target 11B); Mozambique's National Development Strategy (2015-2035) which acknowledges sustainable management of natural resources as a factor contributing to the success of the strategy; the Five Year Government Plan (2015-2019) that prioritises (priority V) the sustainable and transparent management of natural resources and the environment; the Conservation Policy and Implementation Strategy (2009) that sets the policy framework for biodiversity conservation in Mozambique; the Fisheries Master Plan (2010-2019) that aims to improve the wellbeing of artisanal fishing communities and small-scale aquaculture entrepreneurs (objective 2); the new Sea Policy and Strategy (2017) that prioritises the conservation of resources and ecosystems for the wellbeing of the society (cornerstone C); and the National Strategy for Adaptation and Mitigation of Climate Change (2013-2025) that recognises that biodiversity conservation must be addressed. The LMMA approach developed by OSOL also contributes to key commitments made by Mozambique internationally, including the Convention on Biological Diversity (CBD) with the Aichi Targets which specifically aims to conserve at least 10% of coastal and marine areas by 2020 (target 11), and the Sustainable Development Goals (SDGs) with SDG14 aiming to conserve and sustainably use the oceans, seas and marine resources for sustainable development by 2030.

How was this toolkit produced?

OSOL is coordinated by the Zoological Society of London (ZSL), in collaboration with the Mozambican NGO Associação do Meio Ambiente (AMA) and Universidade Lurio (UniLúrio), the Kenyan CORDIO East Africa (CORDIO), and the Portuguese Nova University of Lisbon-Faculty of Social Sciences and Humanities (NOVA FCSH) and Aveiro University (UA). Each of these partners brings valuable experience and expertise to address the challenges of empowering local communities to manage marine resources and build sustainable livelihoods. The

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toolkit is based on lessons learned from the implementation of the LMMA model in northern Mozambique between 2013 and 2018. It was motivated by the interest and commitment of OSOL partners to produce a resource to guide the replication of the OSOL approach to LMMAs. It draws on contributions from all partners, but particularly from AMA who worked closely with local communities through a dedicated team.

Who is the toolkit for?

This toolkit has been designed to provide guidance for organisations who wish to support local communities in Mozambique to manage their own marine resources. It assumes that such organisations are familiar with the Mozambican administrative system, including the procedures to support government authorities to implement natural resource management projects. It also assumes that the implementing organisations will assemble a local technical team to support and guide local communities through the LMMA establishment process (see Figure 2 below). The size of the technical team needed to replicate the OSOL approach will depend on the scale of the actions and the context, including the number of local communities and their accessibility. OSOL worked in 6 relatively remote local communities. AMA's technical team had one community organiser permanently based in each community in charge of following up with daily tasks with communities and its leaders, and five officials engaging with national, provincial and district levels and providing specific technical support to community organisers and community groups (decision-making processes, CCP trainings, outreach, savings groups, price premium schemes, bivalve farming, horticulture, and socioeconomic and biological monitoring).

What does the toolkit cover and how to use it?

The toolkit is a step-by-step guide covering all aspects of the OSOL approach to LMMAs, from identifying communities with potential for LMMAs through to the participatory design of management measures

and co-management plans. Each section covers one or more stages of the LMMA establishment process (see Figure 2), which in turn includes a sequence of different activities and steps within them. For implementing organisations already supporting community-led marine management, the toolkit can be used selectively to help address any existing concerns and adapt on-going actions to the OSOL approach. As with any other work with local communities, the OSOL approach to LMMAs will require adaptation to the socio-cultural context of the communities where it is implemented.

Icon key

Aims

Expected Results

Key Outputs

Costs

Documentation of the tasks undertaken

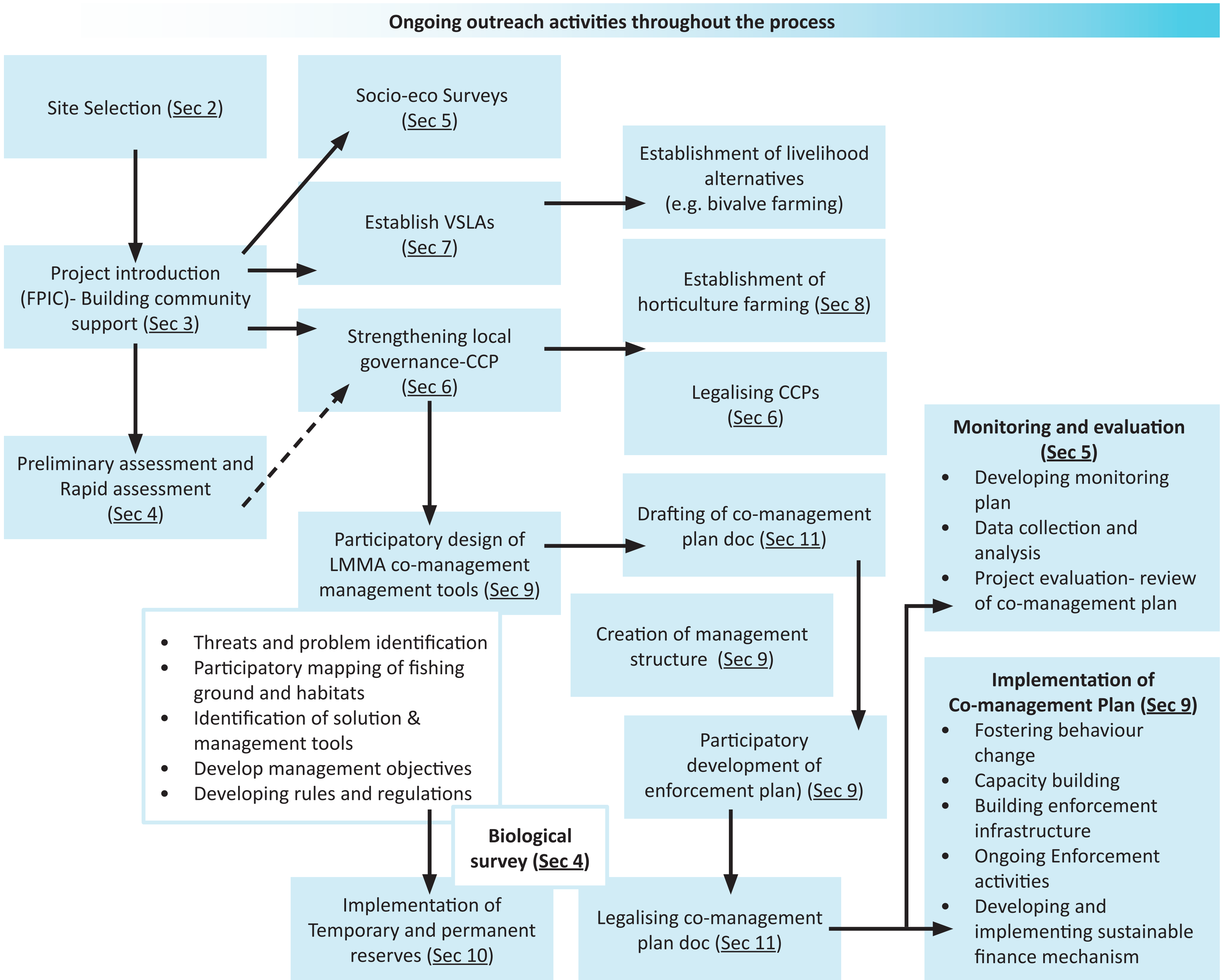

Figure 2. The LMMA establishment process

2 SITE SCOPING & SELECTION

2. Site scoping and selection

Ercilio Chauque

AIMS

This section outlines the process to identify and select communities with suitable characteristics to develop LMMAs.

It assumes that the target districts have already been selected in the project design phase and that the project has the necessary approval at provincial level.

EXPECTED RESULTS

- **Communities selected for the implementation of LMMAs, according to clear criteria and aligned with the objectives of the project and government strategies**

Step 2.1
Define criteria for selecting sites

In this first step, the criteria for selecting the communities where co-management activities will be implemented are defined. The selection criteria will depend largely on the objectives of the project supporting LMMAs. Selection criteria provide a structure and logic to the decision-making process, allowing the selection of communities with suitable characteristics and greater potential to achieve the LMMA objectives.

- A list of clear selection criteria

Who does it?

This office-based task is conducted by the technical team, involving a discussion among the team, based on the documentation of the project that supports LMMAs. It may involve experts from the provincial government (i.e. DPMAIP) and international partners.

Resources:

- Project documents, including logical framework

How to do it?

- Collate the documents containing the objectives of the project supporting LMMAs. These objectives can usually be found in the sections of the approved proposals outlining the general and specific objectives and the logical framework.
- Organise a meeting with the technical team. Review the objectives of the project, and list the characteristics that communities should have to meet these objectives. Add other features that may be important to the list. This list of desired characteristics will be the criteria for selecting communities.
- As an example, some of the criteria used for selecting OSOL communities included: (1) communities with critical habitats

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such as coral reefs, mangroves and seagrasses (to meet the objective of conserving marine and coastal habitats); (2) communities dependent on fishing (to meet the objectives of improving resource management, and reducing pressure and dependence on marine resources); (3) evidence of the presence of endangered species (to meet the objective of conserving these species); (4) communities located near the coast (to meet the objective of creating LMMAs, as fishing communities away from coast will have more difficulties to enforce management measures); (5) communities with CCPs or that have conditions for the creation of a CCP (to meet the objective of improving the management of resources through CCPs); (6) communities that have had few or no marine management projects (to maximise project impacts); (7) small communities of up to 1200 inhabitants (to facilitate interaction with the community and the implementation of activities); (8) communities underserved by formal credit institutions (to enable the creation of VSLAs and link them to co-management processes).

Note: Itinerant fishers and LMMAs

Itinerant (or migrant) fishers, mainly from Nampula province, were present in all OSOL Phase 1 communities. The presence of these fishers should not be considered as an impediment to fisheries co-management and LMMAs. OSOL Phase 1 demonstrated that it is possible to work with migrant fishes using different strategies ranging from simply raising their awareness of the management measures adopted by the communities to their involvement in decisions to define the actual measures. Working with migrants requires understanding the social dynamics of these groups, including migratory movements, the way fisheries and camps are organised, agreements with local communities, among others. Understanding these dynamics helps define strategies for the inclusion in co-management processes, for example working with influential fishers (e.g. camp leaders) who reside semi-permanently at the sites or return to the sites year after year and who can promote support for management measures among other fishers.

- Notes of the meeting
- List of selection criteria

- Flipchart and pens
- Meeting space

2

Step 2.2
Identifying potential sites

This step identifies communities with potential to implement LMMAs, taking into account the selection criteria defined above. The identification of these communities is based on existing information and local knowledge of the technical staff. It is assumed that the target districts from where communities are selected has already been defined during the project design phase.

- Preliminary list of potential communities, from the perspective of the technical team
- Pre-selected communities identified in a Google Earth map

Who does it?
This office-based task is conducted by the technical team, using the selection criteria and existing information on the ecological and socio-economic characteristics of the target districts. Other individuals with knowledge of the area may be invited to contribute (e.g. DPMAIP technical team, national and international partners of the project supporting LMMAs).

Resources:
- Selection criteria (from Step 2.1)
- Existing information, district profiles; relevant studies
- Maps, including a Google Earth map
- Project documents

How to do it?
- Collect existing information to enable the technical team to gain a general understanding of the ecological and socio-economic characteristics of the target districts, such as villages, population, main economic activities, marine habitats, etc.
- Organise a meeting with the technical team. Review the selection criteria and promote a discussion to identify communities that best meet the selection criteria. Use existing information to support the discussion.
- Cross check the selection criteria with the available information to define a list of potential communities, together with a justification for their preliminary selection.

- Meeting notes
- Preliminary list of communities with a justification for their selection

- Flipchart paper
- Markers of different colours
- Meeting space

2

Step 2.3
Integrate the views of the government in site selection

This step aims to obtain the views of the government with regards to communities pre-selected by the technical team and integrate government goals in this process. It focuses on district government, which is the level of government closest to the issues the LMMAs aim to address.

- List of potential communities, verified by the government
- District government credential to present to village authorities

Who does it?
This task is carried out by the community organisers in the districts, where meetings with the district administrator and relevant sectors (e.g. SDAE) will be held.

Resources:
- Summary of the project
- Preliminary list of potential communities defined in the previous step
- Meeting space

How to do it?
- Organise meetings with the district authorities to present the project. These meetings should target the district administrator or his/her representative.
- During the meetings, provide a summary of the project, objectives, pre-selected communities and justification for selection of these communities.
- Collect government officials' feedback on the project and the target communities. They may agree with the preliminary list of communities, or ask for changes to be made in order to better fit the government development objectives for the district.

- At the end of the meeting, there must be a consensus among project staff and government representatives regarding which communities to target.
- Obtain a credential from the district government to present to local authorities during the field visits to the target communities to verify their potential (next step).

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Step 2.4
Field visit to each site to assess suitability

The main purpose of this step is to verify on the ground, whether the communities shortlisted for co-management activities (with input from district government) are suitable, considering the selection criteria defined (in Step 2.1).

- Report on the field visits to each community describing their social and ecological characteristics and the extent to which they meet the selection criteria

Who does it?

This task is undertaken by the community organisers and involves visiting the different pre-selected and making preliminary contacts with local authorities, community groups and organisations (including CCP, if any) to understand their suitability for co-management activities. Other people with knowledge of the area may also be invited to participate in the field visits (for example the technical staff from DPMAIP, district government and national and international partners).

Resources:

- List of selection criteria defined in Step 2.1
- List of pre-selected communities defined in the previous step
- Local guide to show the team around the village

How to do it?

- Select the team for the field visits. It must include at least two members of the technical team. DPMAIP and district government representatives (i.e. SDAE) may also be invited to join the field team.
- Organise the logistics for the visit to each community. This may involve sorting out transport and accommodation and making contacts with the district and village authorities, to inform and agree on the dates of each visit.
- Follow the usual protocol: upon arrival to the community, report to local authorities and introduce the team and the objectives of the visit.
- Gather information to assess the extent to which each community meets the selection criteria. This will be done through:
    - Meetings with local authorities and groups, including the CCP (if one exists) whereby the issues discussed are guided by the selection criteria;
    - Direct observation of points of interest alongside informal conversations with community members found at these points (i.e. fishing centres, agricultural areas, CCP office, etc.).

- Report on the field visit to each community
- Photos

- Camera
- Transport and fuel
- Meals
- Accommodation
- Flipchart and pens
- Notepad and pens
- Field allowances

2

Step 2.5
Finalise site selection

At this stage, the community organisers make a final decision on the communities to initiate the LMMA development process, considering the selection criteria and the field verification.

- Final list of communities for LMMA implementation with justification for selection

Who does it?

This task is carried out by the technical team, in the office after returning from the field visits to each of the pre-selected communities.

Resources:

- Report on field visits

How to do it?

- Gather the project team and other stakeholders considered important to involve in the final selection of the communities (i.e. technical staff from DPMAIP, etc.)
- The team that lead the field visits provides a summary of each community and its characteristics, considering the selection criteria.
- The entire team debates the final choice of the communities where the project will work and justifies this choice.

- Meeting notes

- Flipchart and pens
- Projector (and laptop computer) if a presentation is required
- Meeting space

2

3 INTRODUCTION TO COMMUNITIES & PARTNERSHIP DEVELOPMENT

3. Introduction to communities and partnership development

Rachide Cachimo

AIMS

Presenting the project to communities to obtain their agreement to participate, following the principles of Free, Prior and Informed Consent (FPIC).

EXPECTED RESULTS

- **The community is informed on the general objectives of the project and agrees to engaging with its implementation**
- **Partnership established with DPMAIP reinforced with a proposal for the development of a Memorandum of Understanding (MoU)**
- **Partnership with SDAE in place, implemented through the involvement of the SDAE technical staff in the project activities for knowledge exchange and capacity building**
- **Partnerships formed with other stakeholders, to address specific needs related to LMMA establishment such as socio-economic and ecological research**

Step 3.1
Developing partnerships

This step aims to develop partnerships for the implementation of LMMAs. At government level, the most important partners are DPMAIP (provincial government) and SDAE (district government), as both engage with fisheries matters. Other potentially important partners include universities to address, for example, research and monitoring & evaluation needs; and NGOs to provide training and support for alternative income generating activities, exchange of experiences, etc.

- Proposal for a Memorandum of Understanding with DPMAIP
- Agreement for SDAE's participation of technical staff in project activities
- Provincial government's endorsement letter for presentation of the project to communities
- Partnerships with other stakeholders, as relevant

Who does it?

This task is carried out by the technical team of the project.

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Resources:

- Formal letter requesting a meeting with DPMAIP to present the project
- Project summary in paper and digital formats to attach to letters (see Annex 1 for an example)
- Powerpoint presentation of the project for the meetings (see Annex 2 for an example)
- Draft of Memorandum of Understanding with DPMAIP (see Annex 3 for an example)
- Letter requesting a meeting with the administrator and SDAE in target districts

How to do it?

Partnership with DPMAIP

The relationship with DPMAIP is likely to develop over time, and will require several meetings. Efforts to work with DPMAIP should be made from the very beginning. How this working relationship is established will vary from case to case. The process described below is only indicative.

- Gather the necessary materials for presentation and explanation of the project to DPMAIP, including a summary of the project and Powerpoint presentation.
- Send a letter requesting a meeting with the DPMAIP, which in turn may invite other relevant bodies.
- During the meeting, present a summary of the project objectives and target communities and discuss possible areas of collaboration with the DPMAIP.
- Present the proposed MoU between the DPMAIP and the LMMA implementing organisation. The memorandum will be reviewed and finalised subsequently.
- Finalising the MoU and planning joint activities requires additional contacts and meetings. Possible areas of collaboration of DPMAIP include creating and strengthening CCPs (see Section 6) and legalising co-management plans (Section 11).

Partnership with SDAE

- Send letters requesting meetings with the administrator and SDAE director of the districts where the project will be implemented.
- During the meeting, present or remind the project objectives and target communities and discuss possible ways of collaboration, particularly with SDAE. Many of the project activities will require the involvement of SDAE for support and legitimisation.
- If you have not done so in previous contacts, obtain an endorsement letter from the district government to introduce the project to local authorities and communities.

Other partnerships

- Identify other potential partners who can contribute to the implementation of LMMAs and related activities
- Partnerships with universities can be important for carrying out socio-economic and ecological studies and collect data for monitoring and evaluation purposes

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- Partnerships with NGOs can be useful for the development of economic alternatives and training in various areas
- The development of partnerships is an ongoing process that occurs throughout the project

- Draft MoU with DPMAIP
- Minutes and list of participants in meetings
- Photos of meetings

- Printing (letters, project summary)
- Car and fuel
- Meeting space
- Allowances
- Refreshments

3

Step 3.2
Project introduction at the community level

This step aims to inform the communities selected for LMMA implementation of the overall objectives of the project, and create enabling conditions for their support and participation, following international best practices of Free, Prior and Informed Consent (FPIC).

- Minutes of the project introduction meetings, demonstrating that the project was explained and that the community agrees to its implementation (estimated number of participants and list of comments made by community members following the presentation of the project)

Who does it?
This activity is carried out in the local communities by the technical team. If possible, a member of SDAE's technical team should also participate in the presentation of the project to the community.

Resources:
- Government endorsement letter authorising the implementation of the project, validated by the authorities at district level, from the previous step.

How to do it?
- The technical team firstly organises a meeting with the village leader to present the project and the endorsement letter from the district or provincial government introducing the project.
- When an organisation is interested in implementing a project in a village, it is common procedure for the village leader to call a community-wide meeting. This will also include traditional and religious leaders, and representatives from various groups.
- During the meeting, a summary of the overall objectives of the project is presented, while managing expectations by limiting activity details.
- Community members are given the opportunity to ask questions and clarify any doubts they might have. The community must decide whether to accept the project.
- Ensure that the project introduction meeting is well documented, with detailed notes taken to prepare the minutes of the meeting, and photographs.
- Once the community accepts the project, the technical team should explain the next steps, which usually start with preliminary socio-economic and ecological assessments (Section 4).

- Community meeting minutes and notes
- Photos

- Printed project summary
- Transport
- Accommodation
- Allowances
- Meeting space

4 PRELIMINARY ASSESSMENTS

4. Preliminary assessments

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AIMS

The preliminary studies collect socio-economic and ecological data in the early stages of LMMA development to support planning and implementation of co-management and other related activities. They also contribute to the monitoring and evaluation of project impacts (Section 5). The information collected will contribute to the next stages of LMMA development, including strengthening the capacity of CCPs (Section 6); design of management tools (Section 9); and co-management plan (Section 11).

Data is collected using tools that can be adapted to different contexts, depending on resource availability (financial and human) in the organisation implementing the LMMA project. Much of the information is collected using participatory and inclusive approaches, using methods that are sensitive to gender, age and other social differences related to resource use and governance. The preliminary studies provide an opportunity to start guiding the community towards LMMAs as a solution and generating buy-in to the process. Every interaction with the community should be seen as a chance to inspire how people think about marine resource management, through their own analysis of the challenges. It is part of the social marketing strategy that should feature throughout the LMMA development process.

EXPECTED RESULTS

Improved understanding of:

- **Socio-economic and resource use context**
- **Resource governance, including the operation of CCPs**
- **Ecological characteristics of the sites where the LMMA will be implemented**
- **Viability of livelihood alternatives (Eg. horticulture)**

USEFUL TO KEEP IN MIND

The preliminary assessment will provide most of the socio-economic and ecological information necessary to draft the LMMA co-management plan. Therefore, it is important to check the co-management plan template structure before undertaking the preliminary studies, to ensure that the information required for each section is collected, saving time and effort when drafting the plan.

Step 4.1
Baseline socio-economic survey

This study aims to collect information on a number of parameters for each community, including population and infrastructure, livelihood activities, use of marine resources, food security and well-being, organisation structure, organisations working in the community, existing and previous marine resource management initiatives and their results, among others.

The baseline survey is part of the entry process in the community during the initial implementation of LMMAs and also serves to build relationships between the technical staff and local communities.

- Baseline socio-economic survey report
- Recommendations for the design of project intervention strategies

Who does it?
This is a study conducted by the technical team under the coordination of a team member (usually the socio-economic research officer, if one has been appointed) and consists of a literature review and field data collection using participatory methods. Technical staff from the provincial (DPMAIP) and district (SDAE) governments may also be invited to join the team undertaking the study.

Resources:
- Study coordinator
- Team of facilitators
- Published and unpublished information on the socio-economic and ecological characteristics of the sites (i.e. population census, district profiles, etc)
- Participatory methods guide and data collection sheets (Annex 4)

4

How to do it?
The socio-economic survey combines a desktop review of existing information and field data collection using rapid rural appraisal and other participatory methods.

The socio-economic baseline assessment includes 8 methods:

- Desktop review of existing information on village population, economic activities and livelihoods, fishing activities, resource management etc. Key sources of information include government statistics, previous studies and reports.
- Village history to understand village formation and change overtime, targeting elders, local leaders and other respected individuals, both men and women.
- Village map to understand village layout and get a perspective on existing infrastructure, population, settlement patterns, main ethnic groups, presence of migrants.
- Livelihoods and seasonality focus groups with men and women of different age-groups including youth to understand livelihoods, seasonality, key trends in fishing and farming, wellbeing indicators and savings groups.
- Marine resource use and mapping with groups of men and women to explore and map the uses of different habitats such as mangroves, coral reefs, seagrasses, etc; fishing areas, their characteristics and main species found in these areas; who use these areas, making sure to identify fishers from other communities; and gears used. The mapping is also a tool for the preliminary identification of threats, conflicts between resource users, and enforcement.
- Food security focus groups to explore local understandings of food security/insecurity; the groups most affected by food insecurity; times of the year and years where food insecurity is/was more pronounced and causes. This exercise also identifies local food security indicators to be used in monitoring and evaluation (Section 5.1)
- Institutions and village organisation use Venn diagramming to explore how the community is organised; which institutions work at the community level; and the institutions and

institutional arrangements in place for resource management. The Venn diagram is also useful to identify organisations with shared interests, for potential partnerships.

- Interviews with key informants, particularly CCP leaders and SDAE technical staff, to explore key issues related to fishing in the community, including any conflicts as well as previous marine management interventions, outcomes and key lessons.

Fieldwork preparation

- Print the data collection sheets for each of the methods (in Annex 4). These provide guidance on how to conduct each method/technique as well as to capture the data.
- Assemble the fieldwork team: Select facilitators with appropriate language skills and experience. Make efforts to form a gender-balanced team.
- Provide training to the team. Ensure that the overall objectives of the study are well understood as well as how to implement each method/technique. Training consists mostly of simulation of the actual exercises (role-playing) and ensuring that guiding questions are appropriately translated to local languages. Pay special attention to the duration of each method and try to take no longer than one hour. Remember that you may need to provide refreshments to participants for any method requiring longer than one hour.
- Draft a fieldwork plan together with the fieldwork team. This should include:
  - Division of the team in groups
  - Allocation of methods/techniques to each group
  - Roles and responsibilities (i.e. overall study coordinator, leader for each group, facilitator and note taker; assistant to prepare materials, take photos, etc; person responsible for collecting and organising research outputs)
  - Target groups for each method (inc. characteristics and number of participants). Ensure adequate representation of different resource user groups and gender-balance. Some methods will involve focus groups with women and men separately to ensure gender perspectives are

captured adequately (i.e. livelihoods and seasonality; resource use and mapping).
  - Daily schedule for the different methods, duration (aim to respect the one-hour rule) and group responsible for their implementation.
- Prepare fieldwork logistics, including transport, food and accommodation
- Coordinate fieldwork with the village authorities (and district, if relevant) ensuring to ask to mobilise participants for the different methods in the days and hours arranged. It's important to be specific about the target groups to be involved in each method, and the number of participants. Usually 10-15 people should not be exceeded to allow everyone to participate.

Data collection

- Report to local leaders upon arrival at the community and introduce the team and the activity plan. Ensure that the team understands and respects local habits.
- Implement the methods. Make sure that the facilitators explain the objectives of the study to participants and obtain their consent to participate. Be sensitive to the commitments of the participants and conduct focus groups when it is most convenient for them. Try not to take too much of their time and provide refreshments for exercises exceeding one hour.

- Capture data in data collection sheets and the flip charts outputs such as maps, seasonal calendars, etc. Take photographs of these outputs to create a digital record (examples in Annex 5). A team member is responsible for collecting and organising all the data and outputs from the different groups.

Data analysis and report preparation

- Organise the data systematically to facilitate synthesis. Consider using tables to present data comparing different social groups or villages.
- Prepare a report outline, with the different section headings (example in Annex 6).
- Allocate writing tasks to different team members if relevant.
- Finalise the report ensuring that recommendations for management are included, including how findings inform co-management.
- Share the report with the rest of the community organisers for comments and additions.
- Make copies of the resource use and village maps and return them to CCP members and/or the village leader. These will be used to guide discussion on management measures.

- Data collection sheets
- Flip charts with maps, diagrams and other outputs of the focus groups
- Baseline socio-economic survey report
- Photos

- Transport and fuel
- Allowances (if relevant)
- Accommodation
- Flipchart paper
- Markers of different colours
- Note pads, pens, pencils, sharpeners
- Scissors, tape, paper glue, Blu-tack
- Cardboards of different colours
- Writing boards
- Refreshments (if necessary)

4

Step 4.2
Rapid household census

The census aims to provide detailed information on the number of inhabitants, number of families, numbers and gender of fishers, fishing gear used and target species for each gear. It can provide very useful information for co-management, for example it can indicate precisely the number of fishers, including men and women, the presence of illegal or unsustainable fishing practices. This is, however a time-consuming task. The baseline socio-economic survey can provide similar information, however with less quantitative precision (i.e. absolute number of fishers and users of different fishing gears). The decision to undertake a census depends on the level of detail required for co-management.

- Village map with all houses indicated on the map
- Household census report
- Key recommendations for LMMA design and management (Section 9)

Who does it?

The census is undertaken by a team of enumerators coordinated by a member of the technical team. The enumerators can be the community organisers (*extensionistas*-if there are any). Usually, the team will engage one or two members of the community to serve as guides to the different neighbourhoods.

Resources:

- Census coordinator
- Field staff/community organisers to collect data
- Leaders and a local guide to assist in the codification of households
- Household census data collection sheets and guidance (Annex 7)
- White cloth and felt pens (for drawing maps of the villages)-optional

How to do it?

Fieldwork preparation

- Form a team to conduct the fieldwork. Usually the community organisers working in each village are appropriate for the task.
- Explain the objective of the census and train the community organisers in applying the census questionnaire.
- Print the data collection sheets and distribute them to the team (see Annex 7 and Annex 8).
- Organise a meeting with the community leader, neighbourhood and block leaders to explain and inform about the census.
- With the help of the community leader, inform community members that a census is going to be conducted and appeal to their participation.
- The community leader can indicate a person (local guide) to accompany during the codification of the households.

Data collection

- Draw a map of the village showing the different neighbourhoods and each household. Select a uniform coding system to code all houses in the village (i.e. number and neighbourhood). The map may be drawn on flip-chart paper, but make sure to redraw it on a cloth for durability.
- Visit every house in the village and interview the head of the household. Explain the census and ask their informed consent to participate. If they refuse, ask and make a note of reasons, and proceed to the next household.
- If the household head is not available, the interviewer may need to come back at a different time or on different days until finding him/her.

Data analysis and write-up

- Insert and organise the data on an excel spreadsheet created for this purpose (Annex 8). Ensure that livelihood activities, fishing gears and target species are consistently written correctly to facilitate analysis.
- Prepare data for analysis. This may involve coding the data to group similar livelihood activities and reduce the number

of categories.

- Undertake basic descriptive analysis, such as counts, averages and percentages.
- Prepare a report outline and populate the different sections with the results of the analysis.
- Finalise the report and include recommendations for management, or how findings inform co-management (i.e. prevalence of damaging gear such as mosquito nets, etc).
- Organise a meeting with the community to present and discuss the results. Decide on an appropriate format for this presentation (i.e. entire community or in smaller groups).

- Village map with all households coded
- Data sheets
- Data files
- Census report

- Flipchart paper, large white cloth, clipboards, folders to store data sheets
- Printing of data collection sheets
- Small payment for local guide

Step 4.3
CCP diagnostic

This step aims to assess the functioning and governance of existing CCPs during the initial stages of LMMA implementation, in order to identify weaknesses and inform a strategy to develop their capacities (see Section 6). The diagnostic gathers information on elements considered key to the good functioning and governance of CCPs, such as being legalised, holding regular meetings, having an enforcement plan, etc.

- CCP diagnostic report
- Recommendations for CCP strengthening strategy (Section 6)

Who does it?
The assessment is conducted by the technical team in collaboration with the CCP, using a tool (questionnaire) developed specifically for this purpose. CCP members can also be trained to apply the questionnaire themselves, with minimum facilitation from the technical team.

Resources:
- Diagnostic coordinator from the technical team
- CCP members
- CCP diagnostic tool (Annex 9 including Excel spreadsheet)

How to do it?
Here we assume that the CCP diagnostic will be undertaken by the CCP members, facilitated by one or two members of the technical team.

Preparation (this takes place before visiting each CCP)
- Identify who in the technical team will coordinate and facilitate the diagnostic.
- Liaise with the President of the CCP to establish a date for conducting the diagnostic, and to select a CCP member to facilitate the diagnostic. Ideally, this should be someone who is literate to be able to work with the questionnaire and able to facilitate a discussion.

Data collection (this takes place in each village)
- On the day previous to the date agreed for the CCP diagnostic, meet with the President of the CCP and the CCP member selected to facilitate the diagnostic.
- Explain the objectives of the diagnostic and train the CCP facilitator on how to use the diagnostic tool (which is essentially a set of questions).
- On the day of the diagnostic, with all CCP members present, the facilitator goes through all the questions. The answer to each question needs to result from a reached consensus. If there are different points of view amongst participants these should be discussed.
- The diagnostic coordinator from the team writes down the answers and ideally enters the data directly on the Excel spreadsheet provided (Annex 9).

<u>Data analysis and write-up (this happens on the day or the diagnostic, or the following day)</u>

- Present and discuss the diagnostic results with the CCP members, and discuss what needs to be improved in the CCP and how to do so.
- The diagnostic coordinator from the technical team will then write a short report highlighting the main results of the diagnostic, main points of discussion and recommendations.
- This report will be the foundation for developing the strategies to strengthen the capacity of the CCP, and will be used to prepare a CCP Strengthening Plan (Step 6.4).

- Excel datasheets
- Report with recommendations for CCP strengthening
- Photos

- Printing of questionnaire
- Refreshments for CCP members, if the meeting lasts longer than 1 hour

Step 4.4
Horticulture feasibility assessment

This step undertakes a horticulture feasibility assessment in the communities in order to inform the planning of horticulture activities (see Section 8).

Step 4.4.1
Develop the questionnaire

This section provides guidance on the development of a questionnaire to assess the feasibility of developing horticulture in the community. This will also help to plan support for horticulture adequately, considering local conditions such as any existing horticulture already taking place in the community, types of produce cultivated and production and marketing challenges.

- Feasibility assessment questionnaire (see example in Annex 10)

Who does it?

This task is undertaken by the team members specialising in supporting horticulture and socio-economic M&E. Technical staff from SDAE can also be involved.

Resources:

- Socio-economic baseline survey report

How to do it?

- Start by reviewing the information already collected on horticulture in the community. This will have come from the baseline socio-economic survey, particularly from the seasonal calendar and village map, and will help define the scope of the questionnaire (see below).
- Develop a questionnaire to gather information on a number of issues concerning horticulture in the communities. The list of topics below can be used as general guide to structure the questionnaire. Others can be added as relevant. Annex 10 shows an example of the questionnaire used in the OSOL project.
  – People involved in horticulture
  – Horticulture crops grown, seasonality
  – Techniques used
  – Equipment used
  – Problems affecting production
  – Reasons for doing / not doing horticulture
  – Existing associations
  – Organisations that support or have supported horticulture activities
  – Markets for horticulture products (in the community and outside)
  – Prices for products (within and outside the community)
  – Demand for produce (within and outside the community)
  – Market challenges
  – Level of earnings from horticulture
  – Use of earnings from horticulture

- Questionnaire

- No specific costs involved, other than the time of the technical team

Step 4.4.2
Conducting the questionnaire in the field

This step provides guidance on conducting the horticulture questionnaire.

- Questionnaires completed
- Notes from field observations

Who does it?
This is undertaken by the team members responsible for horticulture and socio-economic M&E. Technical staff from SDAE can also be involved.

Resources:
- Horticulture questionnaire developed in the previous step

How to do it?
- Define the target groups for the questionnaires. These include community leaders, farmers involved and not involved in horticulture, members of existing associations dealing with farming, SDAE technical staff, staff from NGOs providing support for farming/horticulture, members of VSLAs, and traders in horticulture products.
- Conduct the questionnaire to the interviewees. Not all questions will be relevant to all interviewees. Ask only the questions relevant to the interviewee, according to their area of expertise / likely knowledge of the topic.
- While interviewing farmers, visit their agricultural fields, particularly any areas where horticulture is taking place. Observe, ask questions and make notes. These can be an important contribution to the report.

- Completed questionnaires
- Photos
- Notes

- Printing (questionnaires)
- Transport

4

Step 4.4.3
Data analysis and report preparation

This step describes the general approach to data organisation, and compilation and writing.

- Horticulture feasibility study report

Who does it?
This is undertaken by the team members responsible for horticulture and socio-economic M&E. Technical staff from SDAE can also be involved.

Resources:
- Completed questionnaires
- Notes from the field observations

How to do it?
- Enter the data into an excel sheet. This can be used for qualitative data. The answers to the questions will need to be synthetised into key points.
- Prepare a template report, with the various sections. Make sure to include an executive summary and recommendations for the design of the horticulture action plan.
- Extract the main findings from the data and write under the relevant section.
- Once the report is completed, discuss findings and share report with all stakeholders.
- Use the findings to develop plan of action for horticulture activities.

- Data organised in excel

- Printing
- Any costs incurred sharing findings to stakeholders

4

Step 4.5
Biological assessment

This step aims to provide knowledge about the biological characteristics of marine areas used by communities. Three main types of assessment methodologies can be used, namely (1) scientific surveys of coral reef biodiversity; (2) Community coral reef monitoring and; (3) Fisheries monitoring/CPUE (catch per unit effort) surveys. The information collected can be used both to inform planning of management measures and as a baseline for monitoring and evaluating ecological impacts.

The decision to use scientific surveys, community coral reef monitoring, fisheries monitoring or a combination of these will depends on (a) information requirements for LMMA development and monitoring and evaluation (see Section 5 on defining monitoring and evaluation indicators) and; (b) the resources and capabilities available in the project supporting LMMA implementation.

In cases where there are no resources or conditions for carrying out scientific and community assessment, maps of habitats and resource used from local knowledge can provide information on the ecological characteristics of the areas.

- Coral reef assessment report
- Fisheries assessment report

Who does it?
The scientific evaluation requires specialised expertise (i.e. a marine biologist) and equipment such as SCUBA and snorkelling gear, boats and fuel to get to the data collection sites. Community monitoring is carried out by members of the community, under the guidance of, and with training provided by the technical team, generally a marine biologist. The fisheries assessment is usually undertaken by the community organisers based in the communities.

Resources:
Scientific evaluation
- Scientific coordinator from the technical team
- Technical team
- Data collection forms
- Experienced skipper
- Boat and fuel
- SCUBA equipment (inc. tanks, compressor, diving weights, etc)
- Stationery (slate and/or underwater paper, measuring tape, pencil)
- GoPro camera
- Quadrats
- GPS

Community monitoring
- Monitoring coordinator
- CCP members and field staff (community organisers)
- Data collection forms
- Marked rope (used for measurement)
- Stationery (slate and/or waterproof paper, pencil, waterproof identification guides, clipboard)

- Masks, fins and snorkels
- Shoes
- GPS

Fisheries monitoring

- Marine biologist/coordinator
- CCP members or field staff (community organisers)
- Data collection forms
- Measuring board, weighing scales
- Fish identification guides
- Camera
- GPS

How to do it?

4.5.1. Scientific surveys of coral reef biodiversity

In OSOL's case, a six-person team was employed to survey on SCUBA at least six reef sites for the baseline survey for all interventions (and any biodiversity offset calculations). The methods quantify: fish and coral diversity; fish abundance and biomass, coral recruit density and coral size, other benthic attributes, notably algae and sediment, to provide a detailed quantitative measure of the health of the reef. Detailed description (of examples) of methods is provided in Annex 11.

4.5.2 Community coral reef monitoring

Coral reef health is monitored to estimate coral cover, fish and macro-invertebrates densities, by snorkelling in teams of 2-4 persons (community organisers and community members/CCP members). The assessment is preceded by training (or refresher training) of the team. Community monitoring is conducted on an annual basis at reef sites with varying levels of management (e.g. temporal closures, replenishment zone and fished areas). At each CCP the survey takes at least two days. Detailed description of the methods is provided in Annex 12.

4.5.3. Fisheries monitoring/Catch Per Unit Effort (CPUE) surveys

The fisheries monitoring aims to collect catch and effort data at landing sites used by the fishers. Field staff collect data with guidance from the marine biologist, at a frequency of six days per lunar month (see example of sampling in Figure 3). Data collection involves six steps starting from catch assessment preparation to measurement of individual fish weight (Figure 4). This helps gather useful information for estimating fish stock (population) status, fishing effort, fish-catch and economic value. More information can be found in Annex 19.

Villages (Landing sites) →	Seasons →	Tidal cycle →	Fishing habits
• Quirinde (Quirinde Sede, Mbuizi) • Quiwia (Quiwia Sede, Farol) • Lalane (Nsimba, Infinde) • Malinde (Teleni, Patacua, Nnelia) • Nsange (Ns.-Ponta A, Ns.-Ponta B) • Quifuque (Milalani, Micoleni, Pirata, Nze Dade)	• Wet (Northeast monsoon) • Dry (Southeast monsoon)	• Spring tide • New moon (2 days) • Full moon (2 days) • Neap tide • 1st quarter (1 day) • 3rd quarter (1 day)	• Intertidal • Coral reef • Pelagic

Figure 3. OSOL fisheries monitoring sampling design indicating the six villages with respective landing sites selected for sampling and the level of sampling by season, tidal cycle and coastal habitats.

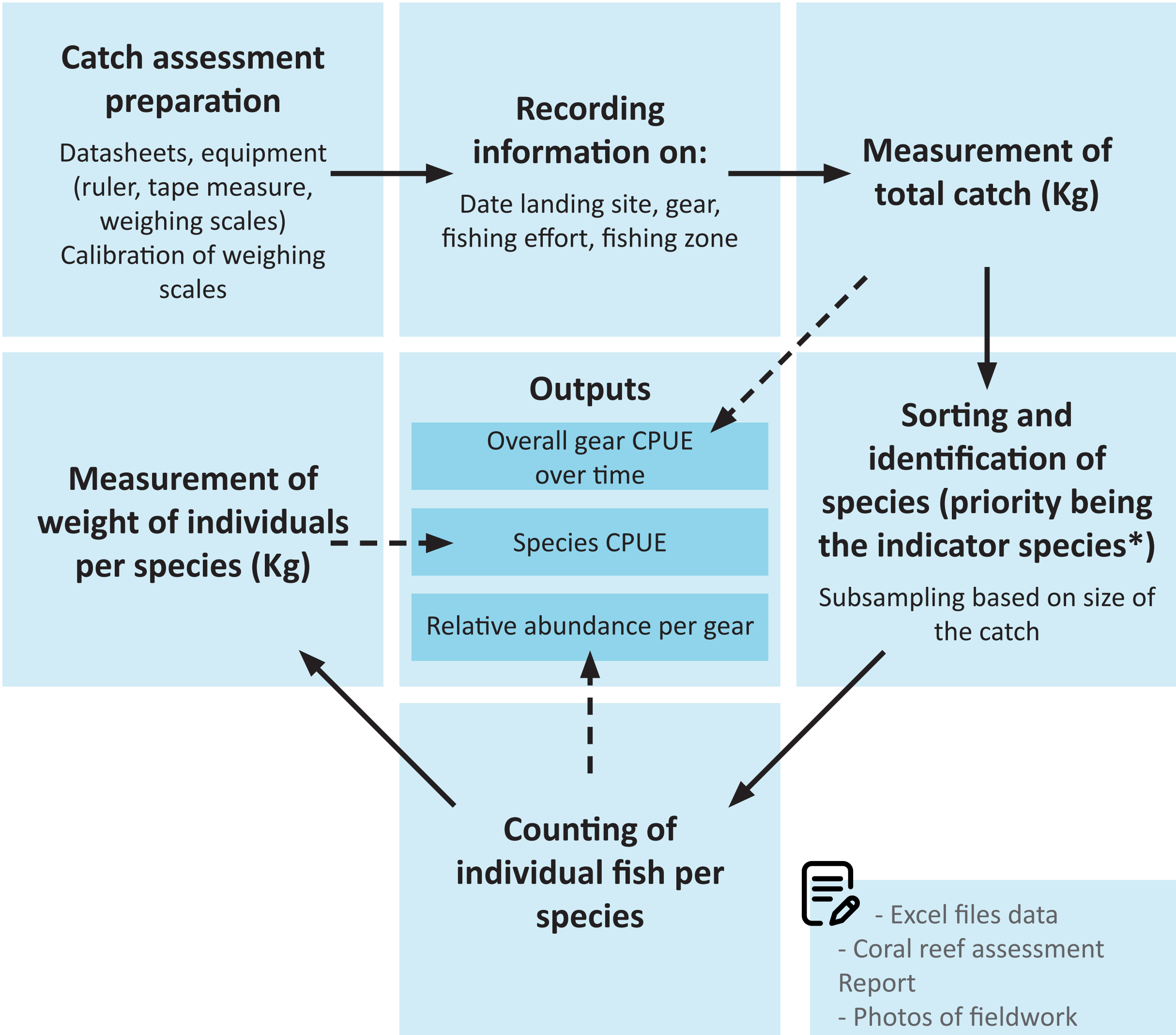

Figure 4. Steps in the creel survey and data outputs.
*** indicator species = 21 species selected for long term monitoring**

- Excel files data
- Coral reef assessment Report
- Photos of fieldwork

- Biological assessments:
  - Boat (hire or petrol costs)
  - Snorkel equipment
  - SCUBA equipment
  - Underwater camera (e.g. GoPro)
  - GPS
  - Slates
  - Pencils
  - Transport and accomodation

5 MONITORING & EVALUATION

5. Monitoring & Evaluation

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AIMS

This section describes the main steps for developing and implementing a system to assess and determine the extent to which LMMAs are having the intended results and their effectiveness. It explains how to develop a monitoring and evaluation (M&E) framework and plan, and introduces some tools for socio-economic and ecological M&E which can be adapted to different LMMA implementation contexts depending on M&E needs and resource availability.

EXPECTED RESULTS

- **M&E framework and plan in place**
- **M&E data collection operational**

Step 5.1
Developing an M&E framework

This step describes how to develop an M&E framework for LMMAs containing outputs and outcome indicators, the information required to assess the indicators, and the data collection methods.

- M&E framework with output and outcome indicators

Who does it?

The M&E framework is developed by the technical team before initiating LMMA implementation activities. Ideally, the team should include an M&E officer. In the absence of an M&E officer, a member of the team should be made responsible for coordinating M&E activities.

Resources:

- Project documents, including logical frameworks. These should contain project objectives and output and outcome indicators agreed with funders.

How to do it?

- Determine the purposes of M&E. In some cases, M&E is based on what has been agreed with the funders. In this case, the expected results and indicators are already defined in funded projects' proposals. M&E may also be undertaken to assess the progress and, based on the results, adjust actions if necessary; or to report progress to local communities and other stakeholders.
- Compile all the indicators of the LMMA implementation project(s), source of information and means of verification. These can be extracted from project documents, particularly the logical framework. If relevant, include any other indicators that may be good to monitor, for example, changes in key

resources or in the use of illegal gear.

- Organise the information above in a systematic way. For each indicator specify unit of measure, source of information and data collection method, and purpose of the information (specific project, community, own purposes). Use the example in Annex 12 as a template.

Worth noting

Some project objectives are too complex to be measured directly, i.e. improvements in well-being, food security, ecosystem health. To assess progress towards these objectives, indicators need to be identified. For example, if the objective is to improve the coral reef health, an appropriate indicator could be the abundance and diversity of coral species; to improve household well-being , a possible indicator may be percentage of houses with zinc roofs; or savings over MZN 1,000, an indicator of economic well-being.

5

- Notes from the meeting

- Flipchart paper for brainstorming and draft the M&E framework manually
- Markers of different colours
- Laptop & projector to input team contributions directly into a document

Step 5.2
M&E implementation plan

This step develops an implementation plan for the M&E framework developed in Step 5.1, with the different data collection components, responsibilities for each component, timetable, frequency of data collection (linked to frequency of reporting to donors and other stakeholders) and budget.

- M&E implementation plan

Who does it?
This is led by the M&E officer or the technical team member responsible for coordinating M&E, and involves a joint discussion with all members of the team.

Resources:
- M&E framework, from Step 5.1

How to do it?
- Use the M&E framework as a base. Together with the technical team, identify the main data collection components (socio-economic, ecological); who is responsible for collecting the data for each component and the information flow (who will collate the data, who will analyse and report it); the timetable for data collection, including frequency; and a budget for each component if relevant (i.e. costs of undertaking a survey).
- Compile the above information into an M&E implementation plan and ensure that the whole team understands the plan and is aware of their responsibilities.

- Notes from the meeting

- Flip chart paper
- Markers of different colours
- Laptop & projector to input team contributions directly into a document

5

Step 5.3
Household survey as a socio-economic M&E tool

This step describes how to implement the household survey developed in the context of OSOL to establish a socio-economic baseline and monitor changes over time, using a number of indicators. It was undertaken at the start of LMMA activities, after the preliminary assessment (Step 4.1) and repeated on a yearly basis.

- Socio-economic baseline report for the various indicators and subsequent reports (on an annual basis) with the evolution of those indicators.

Who does it?
The household survey is led by a technical team member responsible for coordinating M&E (usually the M&E officer). The survey questionnaires are conducted by the team or people hired specifically for that task, such as students (OSOL worked with staff and students from project partners UniLúrio).

Resources:
- Household questionnaire (Annex 13)
- Enumerators

How to do it?
Fieldwork preparation
- Assign a survey coordinator
- Define sample size for the survey. This will depend on the total number of households in the village. In OSOL, samples varied between 30 and 75 households.
- Form a team of enumerators to collect the data. OSOL recruited UniLúrio students and teaching staff to interview families. The enumerators should be fluent in local languages and have some previous experience of undertaking questionnaires.
- The number of enumerators will depend on the sample size, the average time taken to complete each survey and the time available to conduct all planned surveys. On average, an interviewer was able to complete a maximum of 5 OSOL surveys per day.
- Train the enumerators in conducting the questionnaire. If the questions will be asked in local languages, it may be necessary to translate the more complex questions to avoid each enumerator asking the question in a different way.
- Organise fieldwork logistics, including contacts with the village leader and community organisers to schedule the work, food, accommodation and transport for the team.

Data collection
- Upon arrival to the village, introduce the team and the objective of the work to the village leader.
- The village leader informs community members and asks for the collaboration of all to participate in the household survey.
- The households to be surveyed are selected using a systematic selection process, every x houses. X is calculated by dividing the total number of households by the sample size.
- During the survey, if a detailed map was developed as part of the rapid census, this can be used to facilitate the selection and location of the households to interview.
- In the absence of a map and imprecise information about number of households, an alternative can be to randomly select x number of households in each neighbourhood.
- Enumerators visit the house and interview the head of the household or their representative in case he/she is absent.
- If households have no occupants, or in the absence of the head of the household/their representative, revisit the household at another time or day. After two failed attempts to find the interviewee, the next household should be selected.
- Before the interview, the enumerator introduces himself/herself, explains the objective of the questionnaire and obtains the consent of the interviewee to participate. Participation is optional.

- At the end of each survey day, the survey coordinator checks all the questionnaire forms for data quality control. If errors, unclear information or questions are missed the enumerators may be asked to re-visit the house to address the issues in the data.

Data entry, analysis and reporting

- Survey data is entered and analysed in an Excel database (example in Annex 13). The analysis and preparation of the report are undertaken by the M&E project staff.
- Finalise the report ensuring that the results address the impact indicators in the M&E framework. Include recommendations for management if relevant.
- Some of the results can be shared with the CCPs, community leaders, religious leaders, influential members and other stakeholders through workshops and posters.

- Completed questionnaires
- Fieldwork photos
- Data organised, entered and organised in Excel

- Transport to the field sites
- Remuneration for enumerators
- Accommodation for the team
- Small incentive for local guide (if needed)

5

5

Step 5.4
M&E of livelihood improvement activities

5.4.1 VSLA monitoring

In OSOL, two approaches were used to monitor VSLAs, namely, the regular monitoring of the VSLA groups and a VSLA members survey.

5.4.1.1 VSLA regular monitoring

Collects data from savings groups, including number of active members; date of group formation and first saving meeting; team responsible for group creation; assets bought with the social fund; total savings and loans, and declared purpose for the loans. Data is collected during group savings meetings in weeks 1, 12, 24 and 52 of the savings cycle, using a monitoring form (see Annex 14). The community organiser or village agent collects these data from the individual and group savings' books. This process is also described in Step 7.3.

5.4.1.2 VSLA individual members survey

Provides information on savings and loan values, use of savings and actual purpose of loans for VSLA members. Data is collected after the end of each cycle to a sample of VSLA members of each group (approximately 5 members per group), using a questionnaire (see Annex 15).

5.4.2 Horticulture monitoring

Provides a general understanding of the livelihood outcomes of horticulture, using a questionnaire developed for that purpose (see Annex 16).

5.4.3 LMMA co-management effectiveness

Aims to review progress in co-management and re-plan actions if needed, or to identify additional interventions to strengthen particular areas such as CCP capacity. It incorporates indicators of CCP governance and functioning as well as indicators about implementation and outcomes of co-management measures. Data is collected using an LMMA effectiveness tool (see draft in Annex 17) and the results then inform the continuous planning process of

LMMA implementation and consolidation.

5.4.4 Biological monitoring

There are a number of options and methods for biological monitoring, which can be broadly classified into scientific and community monitoring. Both have a science basis, but differ on who drives the process, collects and analyses the data. In Mozambique, community monitoring still requires considerable external input from the LMMA implementing agency or partners.

Most of the methods presented below are the same used for the preliminary assessment, to establish the biological baseline and are described in Section 4.

5.4.4.1 Scientific monitoring

Uses a set of methods to provide a detailed quantitative measure of the health of the reef. Collects data on fish size, abundance and diversity; cover of live coral, dead coral and other reef benthos, coral species richness and/or recruit (juvenile) densities and reef structure. Section 4.5 provides more information on scientific monitoring, while Annex 11 provides a link to a guide to the research methods used.

5.4.4.2 Community monitoring

5.4.4.2.1 Community monitoring of coral reefs

Monitors coral reef health using estimates of coral cover, fish and macro invertebrate densities. Information on how to design design and implement community coral reef monitoring (Kawaka *et al.*, 2017) can be found in Annex 11.

5.4.4.2.2 Community fisheries monitoring using ODK

Collects data on catch and effort using mobile phones deployed by community members. A guide to designing and collecting fisheries data using ODK is provided in Annex 18.

5.4.4.2.3 Fisheries monitoring (CPUE) by extensionists

Aims to collect catch and effort data at landing sites used by the fishers. More information and guidance on CPUE data collection can be found in Annex 19.

6 CCP CREATION, LEGALISATION & STRENGTHENING

6. CCP creation, legalisation and strengthening

Ercilio Chauque, Rachide Cachimo, Jeremy Huet

AIMS

This section describes the process to create, legalise and build the capacity of Community Fisheries Councils (CCPs). The CCPs are the legal entity responsible for co-managing fishing resources within their area of jurisdiction at community level, and may also be responsible for proposing the establishment of Community Conservation Areas (CCAs) as an option to legalise marine areas under the management of local communities.

EXPECTED RESULTS

- **CCP functioning according to recognised best practices**
- **CCP legalised and able to develop and implement co-management plans**
- **Action plan for improving CCP functioning and capacity**

Worth noting

It is important to start the CCP creation and legalisation as soon as possible as this process may take time. CCPs can function even if not legalised but legalisation is essential, for example, when working alongside government agencies for enforcement and licensing activities and, in the future, the creation and legalisation of the CCAs. In some communities there may also be CCP that were already created but are not operational. In these cases, revitalisation is needed and is undertaken by DPMAIP.

Step 6.1
Creating a CCP

This step describes the process to create a CCP in communities where one does not already exist. This process follows largely the procedures developed by ADNAP.

- CCP created, with 15-25 members and all posts filled
- List of CCP members and directors of the CCP
- CCP statute approved by the members (see template in Annex 20)
- Minutes of the CCP general assembly marking the creation of the CCP
- Draft of the CCP internal regulations (see template in Annex 21)

6

Who does it?

The creation of CCPs is normally facilitated by an ADNAP (DPMAIP) technical staff. The community organisers are responsible for the travel logistics to the village where the CCP is to be created and mobilising the community for a meeting where the objectives and role of the CCP will be explained.

Resources:

- CCP statutes template (Annex 20)
- National law describing CCP, its role and responsibilities (see Annex 22)
- CCP internal regulations template (Annex 21)

How to do it?

- Schedule a visit to the community with an ADNAP (DPMAIP) technical staff experienced in facilitating the creation of CCPs. In conjunction with the village leader (or the project's community organiser), organise the mobilisation of a community meeting on an agreed date.
- Work with the village leader to ensure that a cross-section of the community is present at the meeting, in particular community and religious leaders, fishers that use different fishing gears and of different age groups, both men and women, and fish traders.
- During the meeting, the ADNAP technical staff explains the CCP's role, objectives, legislation, statute, and address any questions and comments participants have.
- The community selects the CCP members. These should be representatives of fishers and fish traders. The CCP should have between 15 and 25 members and at least 30% should be women.
- The selection of the CCP members by the community completes the first step of CCP creation. The next step is the election of the CCP board by the members.
- Organise a second meeting specifically with the CCP members selected by the community. This is the General Assembly of the CCP. At this meeting, ADNAP technical staff provide basic training on the CCP's role and how it should operate. The rules of operation of the CCP are defined in the CCP statute for which there is a template (Annex 20)
- The members elect the CCP's board formed by the president, secretary, treasurer and 2 members (vogais) for a period of 3 years. The board should also include a minimum of 30% women. All members must approve the CCP statute.
- Ensure that the minutes (acta) of the general assembly marking the creation of the CCP are drafted and signed by all members. The minutes will be required to legalise the CCP.
- Before concluding this meeting, a draft of the internal regulations of the CCP can also be developed. Annex 21 provides a template of these regulations.
- After the CCP is created, mobilise the members to deliver awareness-raising activities with the wider community about the existence of the CCP and its objectives.

- Notes and minutes (acta) of the general assembly
- Photos
- Notes of the community meeting

- Fuel
- Per diems
- Accommodation
- Copies of all relevant legislation
- Meals (only for the training following the selection of the CCP members)

6

Step 6.2
Legalising the CCP

This step explains the procedure to legalise the CCP, including gathering and submitting all the documentation necessary.

- Documents needed to request the legalisation of the CCP
- Minutes of the CCP creation meeting (general assembly)
- List of CCP members, identification number, signatures and respective roles within the CCP (i.e. president, secretary, treasurer, regular member)
- Copies of the identification documents of 10 members (identity card, voter registration card, driving license)
- CCP statute
- Declaration of the administrative post or head of the locality, recognising that the 10 members are local residents and have acceptable behaviour
- Endorsement letter (parecer) from SDAE with validation from the district administrator supporting the creation of the CCP
- Letter from and signed by the president of the CCP, addressed to His Excellency the Minister of MIMAIP, requesting the legalisation of the CCP. The CCP president' signature should be recognised by the notary services
- Note from DPMAIP channelling the request with all the documentation

Who does it?
This task is conducted by the technical team in coordination with the CCP. DPMAIP is in charge of forwarding the request for legalisation and accompanying documents to MIMAIP in Maputo.

Resources:
- CCP statute template (Annex 20)
- CCP internal regulation template (Annex 21)
- Template of legalisation request letter (Annex 23)

How to do it?
- Collect the following documents approved by the CCP general assembly:
  - statute, internal regulation
  - minutes of the creation assembly
  - copy of the identification of 10 CCP members
- Collect the declaration from the administrative post/locality
- Collect the endorsement letter from SDAE, with validation from the district administrator
- Draft the letter addressed to the Minister of the MIMAIP requesting the legalisation of the CCP, signed by the president of the CCP and recognised by the notary services
- It is recommended that you make two copies of all the legalisation documents listed above, one for the organisation supporting LMMAs and another for the CCP
- Submit the documentation to DPMAIP

- Copy of all legalisation documents submitted to DPMAIP
- Submission receipt from DPMAIP (optional)

- Fuel
- Paper for printing
- Copies of the documents
- Per diems for DPMAIP technical staff
- Recognition of documents by the notary services

6

Step 6.3
Publishing the CCP legalisation

This step finalises the legalisation process of the CCP. A CCP is considered legalised only when a ministerial dispatch authorising its operation is published in the Bulletin of the Republic.

- Publication of the CCP statute in the Bulletin of the Republic

Who does it?
This is conducted by ADNAP in coordination with the technical team.

Resources:
- CCP authorisation signed by the Minister of the MIMAIP

How to do it?
- The technical team should monitor the legalisation with DPMAIP until the process is complete
- After the CCP is Authorised by the Minister of the MIMAIP, the authorisation needs to be published in the Bulletin of the Republic through a solicitor

[1] *It is recommended that you obtain a receipt from DPMAIP certifying that the request and annexed documents have been submitted.*

- Publication of the CCP statute in the Bulletin of the Republic

- Solicitor's fee
- Fee for publishing in the Bulletin of the Republic

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Step 6.4
Assess CCP functioning

This step assesses the functioning of the CCP in order to identify what needs to be improved and define an action plan for improvement using the CCP diagnostic tool (see Section 4.3 and Annex 9).

Note
The CCP diagnostic is aimed primarily at assessing CCP functioning before co-management activities are initiated. Once these activities start, the LMMA effectiveness assessment should be used to evaluate the overall performance of the LMMA and will incorporate the CCP functioning indicators.

- Action plan to strengthen the CCP

Who does it?
Ideally this should be lead by the CCP, with some facilitation from the technical team. The level of facilitation required will depend on the existing capacity of each CCP.

Resources:
- Results of the CCP diagnostic (from Step 4.3) presented in an accessible format (e.g. poster, drawing, simple powerpoint presentation) as a basis for discussion with CCP members

How to do it?
- Schedule a meeting with the CCP, asking the participation of all members. Ensure that women members are present and participating.
- During the meeting, present the results of the CCP diagnostic. At the end of the presentation, facilitate a discussion to identify the main priority issues and make a list of these.
- Divide the participants in groups of 5-6 people and split the main priority issues between the groups. Each group should have a facilitator.
- Each group works on their allocated priority issues, discusses how to address them and identifies a strategy or plan of action (20 minutes for each issue). Some of the common issues affecting CCPs include low number of members, low representation of women and fishers using different gears, lack of enforcement plan, irregular meetings, and weak accountability of members.
- The strategy or action plan drafted by the groups should clearly identify actions, responsibilities and timelines
- Once the group discussions are complete, bring the groups together to present and agree on the aspects to be improved during the year (allow 5/10 minutes for each point)
- The facilitator from the technical team helps to synthesise the discussion into a plan for CCP strengthening with specific actions suggested by the groups, including training.
- The plan for CCP strengthening should then be included in the work and activity plans of the community organisers that support LMMAs

- Participant list
- Notes from the discussions
- Flip charts with group work
- Photos

- Flip chart paper
- Markers of different colours
- Printing of the CCP diagnostic results
- Refreshments for participants if the meeting is longer than 2 hours

6

Step 6.5
CCP training

This strep provides training to CCPs in a number of key areas that are crucial to build their capacity. Some of these will be identified in the CCP strengthening plan (from Step 6.4), while others are standard trainings considered important in building CCP capacity.

- **Training actions in the following areas:**
  - **Legislation and enforcement**
  - **Communication and outreach techniques**
  - **How to conduct a community consultation**
  - **Conflict resolutions skills**
  - **Activity and financial reporting**

Who does it?

The organisation of the trainings will be facilitated by the technical team. Some trainings will be delivered by the community organisers, and others by partners such as DPMAIP and NGOs.

Resources:

- Trainers
- Training materials

How to do it?

- Identify who will provide the various training actions (technical team; government partners such as ADNAP; NGOs; university partners; etc).
- Define the scope and format of each training, for example number of days needed for each training, whether it should be provided individually to each CCP or to a group of CCPs, etc.
- Schedule the trainings in coordination with the training providers and the CCPs, and organise the logistics (invitations, venue, materials, transport, catering, etc.).

- Participants list
- Photos
- Report of the training provided
- Feedback from training participants

- Per diem for external training providers
- Transport to training venue for participants, if needed and for training team
- Accommodation for participants, if needed
- Meals
- Venue hire
- Training materials (note pads, pens, flip chart paper, projector)

7 VILLAGE SAVINGS AND LOANS ASSOCIATIONS (VSLAs)

7. Village Savings and Loans Associations (VSLAs)

Teresa Tsotsane, Ana Pinto, Surshti Patel

AIMS

This section describes how to establish VSLAs and link them to co-management of marine resources. The role of VSLAs in LMMAs is largely to improve the financial security of local communities and to serve as a platform for outreach and community support for management measures such as replenishment zones and temporary reserves. VSLA members can choose to make small contributions for resource management activities and, eventually, establish an Environmental Fund to support effective co-management.

OVERALL EXPECTED OUTCOMES

- **Savings groups in place to enable members to save and take loans to meet various needs and to invest in small businesses and other livelihood activities**
- **VSLAs operational as platforms for outreach that support marine co-management**
- **Mechanism for optional contributions to specific resource management activities and eventually the establishment of an Environment Fund.**

Step 7.1
Introducing and disseminating the VSLA concept

This step introduces the VSLA concept to local leaders and communities to encourage people to participate. It explains what VSLAs are and the benefits of joining. It is recommended that this action targets the different areas and/or neighbourhoods in each community.

- A series of meetings in the community to disseminate the concept of VSLA and encourage community members to form VSLA groups

Who does it?

This is initially done by the technical team and community organisers. The team will then identify individuals in the community to act as village agents who will provide support to savings groups and assist the creation of new groups.

Resources:

- Dissemination materials (i.e. posters, leaflets) explaining the VSLA concept (optional)
- Videos and photo stories of VSLA experiences, if available (optional)

How to do it?

- Approach the village leaders to explain how VSLAs function, so that they understand the concept and support it. The involvement of village leaders will facilitate trust-building with community members, and recruitment of VSLA group members.

- Organise meetings to explain the VSLA concept and benefits to the wider community, ideally in small groups to facilitate communication and engagement.
- During the meetings, demonstrate how to save from very little income on a weekly basis using examples.
- Link VSLAs to co-management from this early stage, by explaining the importance of fishing activities for the income and economic security of community members. Highlight that good fishing resources will mean more income to save and invest in improving livelihoods.
- It's important to be prepared to answer questions about VSLAs.

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- Record of the number of participants in each meeting
- Photos of the groups
- Any notes from the issues raised in the presentations

- Transport to the communities and fuel

Step 7.2
Forming VSLA groups

This step aims to form VSLA groups by explaining the VSLA concept targeting households on a one-to-one basis. The objective is to persuade community members to join a VSLA group. The approach involves both self-selection (individual interests in joining a VSLA come forward) and targeting of specific households within the community most likely to be affected by management measures, particularly temporary reserves and replenishment zones which restrict access to resources.

- Vulnerable households identified
- VSLA groups formed

Who does it?

This task is undertaken by the technical team and community organisers. Once village agents have been identified and trained, they can take over the process of mobilising community members and form groups.

Resources:

- Report and recommendations from the baseline socioeconomic survey (from Step 4.1), particularly the findings on existence and function of savings groups; and on community members who are most dependent on marine resources.
- VSLA manual for community organisers or village agents (Found online here)

How to do it?

Identify VSLA members

- In the first instance, work with individuals that have manifested interest in joining VSLAs. Facilitate the formation of VSLA groups with these individuals, based on existing relationships and proximity of residence. VSLA groups should be composed of individuals that know and trust each other, and that live relatively close to facilitate savings meetings.
- Formation of the first VSLA groups, irrespectively of members' level of vulnerability to marine management measures, is important to demonstrate how the concept works and its success. After the first saving cycle is successfully completed, interest in joining VSLAs should increase.
- It is equally important to identify households within communities that will be affected by the management measures, and encourage their members to join a savings group. Such households will have been identified when planning management measures (Step 9.4, point e). For VSLA groups formed before decisions on management measures, use the results of the baseline socioeconomic assessment and household survey to tease out the groups and types of households most likely to be affected by management measures (i.e. those heavily dependent on fishing, women-headed households who fish). Engage with the village leader to identify the vulnerable households and approach these households.
- For all potential VSLA members, further explanations and encouragement to form a group may be necessary. This is usually achieved by speaking with the head of the household about income activities that each household member has undertaken during the previous 7 days, and the daily income generated from each activity. These values can then be used to demonstrate the amount that could be saved (e.g. if 5%-30% of the income goes towards savings, after 52 weeks the savings would be x). This exercise can help emphasise that it is possible to save without undermining the basic needs of the household.
- At this stage, it is important to re-emphasise the link between VSLAs and co-management, explaining again the importance of fishing activities for incomes and economic security, and the need to maintain and improve the health of fishing resources.

Create VSLA groups

- After the group presentations and individual contacts, the technical team or community organisers facilitate the formation of groups composed of between 15-25 members.
- Group members are selected according to existing social relationships and trust between individuals. Members usually know each other and have a pre-built perception of each others’ reliability and trust.
- Again, remember to keep in mind that while it is important to target vulnerable groups and specific individuals to join VSLAs, anyone who is a member of the community can join a VSLA provided they are reliable.

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- Lists of participants for each group created
- Photos

- No specific costs foreseen, other than the engagement of the community organisers or village agents

Step 7.3
Training VSLA groups

This step is about training the newly-established groups so they can start saving. It covers the savings process and the rules governing the group.

- Statute agreement, with the rules of the group
- Calendar of group meetings to save
- Box and stamp kit

Who does it?

For new communities where activities are being started, training is given by the technical team. Once there are village agents in place, the training will be given by these individuals.

Resources:

- VSLA manual for community organisers or village agents (Found online here)
- Savings box kit

How to do it?

- The facilitator uses the VSLA manual to provide more detailed explanations of the VSLA functioning, rules of operation, advantages of joining/creating groups, the savings process and process of taking out loans.
- During the training, the management committee of the group is also elected.
- Following the completion of the statutes, a simulation of a savings meeting takes place, where members learn and practice how to behave during a meeting, seating arrangements, how to complete the savings and loan records as well as how to complete the notebook.
- A close follow-up by the VSLA group facilitator (community organiser or village agent) is done throughout the first cycle. It is important to attend group meetings and provide support to address any difficulties encountered by the group.

- This can include conflict resolution among the group members, and also to ensure any agreements made in the statute are being adhered to. The first few weeks are crucial because members have no experience in the process or of the process of recording savings.

7

- Statute agreement
- List of participants
- Monitoring sheets
- Photos
- Feedback from training (verbal or written)

- 1 box consisting of:
    - 3 bags for the money (1 for the savings, 1 for the social fund and 1 for the environmental fund)
    - 1 stamp
    - 1 stamp cushion
    - 1 ink cartridge
    - 2 bowls
    - 2 pens (blue and red)
    - 25 notebooks
    - 1 notebook
    - Calculator
    - group statute
    - 3 locks
- Monitoring sheets for week numbers 1; 12; 24 and 52
- Training resources
    - Flipchart paper
    - Felt pens

7

Step 7.4
Implement VSLA monitoring and the Environmental Fund (EF) concept

In this step, the system to monitor VSLA performance is set up and the links between VSLAs and co-management are gradually and incrementally developed with the ultimate goal of having a system whereby the savings groups make a small voluntary contribution to supporting specific resource management activities decided by them. These may be activities implemented by CCPs. The mechanism can be an Environmental Fund of regular contributions or an alternative arrangement.

Note: *When introducing the EF concept, it is important to explain its purpose, how it links to co-management by funding the actions of CCPs to improve resource management, and in turn, how improved resource management feeds back into community and household economic security. The overall aim is to encourage VSLA groups to engage in and support co-management.*

- Monitoring forms completed during the recommended savings weeks
- Environmental Fund or alternative mechanism in place

Who does it?
This is initially done by the technical team and community organisers, but gradually, the village agents should take over after receiving appropriate training.

Resources:
- VSLA monitoring sheets (Annex 14)
- Guidelines and materials for linking VSLAs to co-management (Annex 24)

How to do it?
Monitoring and support:
- Once the group is able to make the savings records properly, the support shifts to the process of taking out loans and distribution at the end of the cycle. This also requires continuous monitoring by the facilitator (community organisers or village agent).
- Monitoring of group performance is done using monitoring sheets, for data collection on the savings and loans for each group and its members (template in Annex 14). These data are collected during group savings' meetings that take place in the 1st, 12th, 24th and 52nd weeks. To do this, access to the individual notebooks and the group's notepad is needed.

Linking VSLAs to co-management:
- Use the 'Guidelines on linking VSLAs to co-management' in Annex 24 to guide the process. As in other components, linking of VSLAs to co-management needs to be adapted to local circumstances, particularly the degree of community recognition and trust in CCPs (linked to their performance) and willingness of VSLA members to contribute to a fund.
- Linking VSLAs to co-management is a gradual and incremental process starting after the group has been established. It consists of two types of actions: 1) awareness-raising of marine management issues and; 2) establishment of a fund or other mechanism whereby VSLA members make a small voluntary contribution to specific management activities.

  Action 1:
  Awareness raising. This consists of a series of short sessions during savings meetings whereby the facilitator raises the awareness of groups regarding environmental and marine resource issues. It sets the ground for the establishment of the environmental fund or other mechanism to raise funds to support resources co-management in Action 2. These sessions should cover themes such as the importance and benefits of marine resources and habitats (i.e. economic security, storm protection, etc); the problems and threats those resources are facing; the need to do something about

these; and the role and activities of CCPs that address the problems and threats discussed. These sessions can be delivered using short videos and other materials in line with the Communication Plan (Annex 25).

Other activities related to relevant festive dates (linked to the environment for example World Oceans Day; World Water Day; World Environment Day; etc) can be organised to raise awareness of such topics and link to the outreach plan (example in Annex 26).

Action 2:

Establishment of the Environmental Fund or alternative mechanism. After the awareness-raising sessions are delivered, introduce the idea of the group making a small voluntary contribution to help address a specific marine management problem identified during the awareness-raising sessions. It is up to the group to decide the origin of the contribution. It can come, for example, from the loans service fee (a small percentage). Ideally, the contribution should go into a Fund supporting the activities that the CCP is undertaking. However, this will depend on the maturity of both the savings groups and the CCP. Initially, the funds can be for specific activities of interest to the savings group, related to marine management, and implemented with the involvement of the CCP (i.e. mangrove planting, beach cleanings, etc.).

For the VSLA group to hand over funds to the CCP there needs to be trust between the two groups. This can only be achieved if the VSLA members are also involved in the co-management process and know the role and work of the CCP. If funds are handed over to the CCP, it is important to discuss and agree on the governance of those funds and mechanisms for ensuring transparency and accountability. This includes, for example, agreeing on specific deliverables and deliverable dates. The CCP must be held responsible to complete the activities as agreed so as to maintain the trust of the group and guarantee further contributions. Ultimately, the contributions should become regular and go into a fund that CCPs will manage against agreed deliverables.

7

7

- Monitoring forms for weeks 1, 12, 24 e 52
- Photos
- Distribution forms
- Reports

- Printing/copying of the monitoring forms
- Video production (optional)

8 HORTICULTURE

8. Horticulture

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AIMS

This section provides guidance on supporting horticulture development with an aim to contribute to improvements in nutritional security and income in communities. Combined with membership of savings groups (VSLAs), horticulture has the potential to mitigate the short to medium-term impacts of management measures on vulnerable groups. Income from produce sold can go towards savings and loans to further support/invest in own horticulture activities. In the long-term, horticulture has the potential to provide an alternative to fishing, therefore potentially reducing pressure on marine resources.

The development of horticulture is preceded by a feasibility study, which is described in Step 4.4. The feasibility study will help develop the horticulture action plan for the community. This may be different in different communities. For example, in communities already practicing horticulture, the focus of the support may be on improving quality and or/markets.

OVERALL EXPECTED OUTCOMES

- **Horticulture groups formed and trained**
- **Groups operational and producing quality crops**
- **Markets identified and agreements with buyers established**

8

Step 8.1
Introduction to community leaders

This step involves consultations with community leaders that aim to explain the objectives and benefits of horticulture activities, as a way to secure leaders' support for their implementation in the community, as this is important to motivate community members to join horticulture groups.

- Key messaging plan regarding the benefits and rationale of horticulture
- Notes from meetings with community leaders

Who does it?

This task is undertaken by the technical team, lead by the team member specialising in supporting horticulture. Technical staff from SDAE can also be involved.

Resources:

- Supporting resources regarding the benefits and rationale of horticulture
- Report from the horticulture feasibility study, from Step 4.4.3

How to do it?

- Define the key messages regarding the benefits and rationale of horticulture. Below are some guidance topics for developing these messages. These can be adapted and expanded.
  - improvements in nutritional security and income;
  - reducing the dependence on marine resources;
  - advantages of working in groups or associations;
  - link to VSLAs to save and invest in horticulture.
- Arrange meetings with community leaders. These include village leaders, religious leaders and other influential individuals within communities.

- Explain the horticulture activities, using the key messaging plan as guidance. Get their views on the plan to support horticulture, as well as on any existing horticulture activities and main challenges. These should be noted down and incorporated in the planning.

- Report from the meetings

- Transport for the technical team
- Per diem (if applicable)

8

8

Step 8.2
Promoting horticulture in the communities

This step repeats the process above, but targets the wider community. It aims to explain the benefits of horticulture to communities and the reasons for taking part.

- Notes from meetings with community groups
- List of individuals interested in horticulture

Who does it?
This task is undertaken by the technical team member specialising in supporting horticulture. Technical staff from SDAE can also be involved.

Resources:
- Key-messaging plan regarding the benefits and rationale of horticulture
- Report from the socio-economic baseline survey
- List of vulnerable groups identified in Step 9.4 point e

How to do it?
- Define the target groups for horticulture. These should be VSLA members, and vulnerable groups (such as women fishing with mosquito nets) that are likely to be affected by management measures. Use the report from the socio-economic baseline survey (and the list of vulnerable groups identified in Step 9.4 point e, if this activity has already been done) to help select the target groups. Engage the community leader to help identify the individuals who belong to those groups.
- Organise meetings with these groups and use the key messaging plan as a guide to explain the benefits and rationale of horticulture. Link to the tendency of marine resources to decrease because of increased pressure due to more people fishing; suggest that horticulture can be an

alternative source of income with health benefits.

- Get their views on the plan to support horticulture, as well as on any existing horticulture activities and main challenges. These should be noted down and considered in the planning.
- After the sessions, some individuals will manifest interest in joining horticulture groups. Make a note of their contacts for the next step of forming groups.

- Report from the meetings
- Photos

- Transport for the technical team
- Per diem for the technical staff involved (if applicable)

8

Step 8.3
Forming horticulture groups

This step provides guidance on the identification of individuals to form horticulture groups.

- Horticulture groups formed

Who does it?
This task is undertaken by the team member specialising in supporting horticulture.

Resources:
- List of individuals interested in horticulture from the previous step

How to do it?
- Start with the list of individuals that manifested interest in forming horticulture groups. Given the focus of the horticulture promotion groups, these individuals should already come from the target groups (VSLA members, vulnerable groups- particularly women)
- Facilitate the formation of horticulture groups. These should be made up of between 8-10 individuals. Ideally, a group should be formed by individuals who feel they can work as a team. Often, individuals who know each other will form a group naturally.

- List of the different groups, and members
- Reports of the group formation actions

- Transport for the technical team
- Per diem for the technical staff involved (if applicable)

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Step 8.4
Selecting areas for horticulture

This step selects the sites with soils and considers other characteristics such as water availability throughout the year suitable for horticulture, for each of the groups.

- Areas with soils suitable for horticulture selected

Who does it?

This task is facilitated by the team member specialising in supporting horticulture working together with the horticulture groups. Technical staff from SDAE can also be involved.

Resources:

- List of the different groups, and members
- Participatory map of the village, from Step 4.1
- Horticulture manual (Annex 27)

How to do it?

- Organise meetings with the horticulture groups and the village leader. Each group is responsible for selecting their own site. If you are initiating with more than one horticulture group, it may be important to meet initially with all groups.
- Use the participatory map of the village, from Step 4.1, to identify agricultural areas, including areas where horticulture is already undertaken. Discuss with the group which areas are suitable for horticulture, considering parameters such as soil type, availability of water, and easiness of controlling damage by wildlife and crop theft (if a problem in the area). See the horticulture manual for guidance on selecting sites (Annex 27).
- After potential sites have been identified, undertake a verification of those sites in the field, to confirm their suitability. Make notes of the process for further reference.

- Notes from the horticulture site selection process

- Transport for the technical team
- Per diem for the technical staff involved (if applicable)

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Step 8.5
Acquisition of materials and training groups on production techniques

This step provides training and guidance to the groups on production techniques, including tillage, sowing, transplantation, watering, the life cycle of each crop, pest and disease control, and fund management. This is also the step where materials are acquired to start activities.

- Inputs (tools, equipment, seeds, etc) needed for production acquired and distributed by the groups
- Rules for the use and maintenance of the group materials agreed
- Groups trained in production techniques

Who does it?
This task is facilitated by the team member specialising in supporting horticulture working together with the horticulture groups. Technical staff from SDAE can also be involved.

Resources:
- Horticulture manual (Annex 27)
- Template of the agreement of rules governing the use of the group materials (Annex 28)
- Report from the horticulture feasibility study, from Step 4.4.3

How to do it?
- Firstly, make a list of the materials needed for each group. Acquire the materials and distribute them. It's important to emphasise that the materials are not owned by individuals, but rather, belong to the group, and therefore the responsibility for their proper use is collective.
- While delivering the materials to the groups, the presence of the community leader is recommended, for motivation and to emphasise the importance of the collective responsibility for the good use and maintenance of the materials. There should be an agreement between the LMMA project implementing organisation and the horticulture group regarding the use of the materials. This agreement should describe who is responsible for the materials, and how they should be used. It should be read to the group and signed by representatives from both parties and the community leader (template in Annex 28).
- After the groups have the materials, training is given to the groups in production techniques, pest control and management of group funds, following the horticulture manual (Annex 27). Training sessions take place for a few days, and combine theory and practice in the groups' respective farm sites.

- Report from the training actions
- Photos
- Signed agreements

- Transport for the technical team
- Per diem for the technical staff involved (if applicable)
- Horticulture inputs such as
    - Seeds
    - Hoes
    - Catanas
    - Watering cans
    - Sprayers
    - Boots
    - Rakes
    - Shovels
    - Gloves

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Step 8.6
Rapid market assessment

This step aims to identify potential markets for the horticulture products produced by the groups (i.e. traders, local shops, hotels, supermarkets, etc). This may also involve the identification of agreements with specific buyers and a price premium for products.

Note: *although identification of potential markets begins before production starts, reaching agreements with buyers may only be possible after the first harvests, after production potential and quality are demonstrated.*

- List of potential markets and buyers for horticultural products
- Agreements with potential buyers and price premium schemes

Who does it?

This task is facilitated by the team member specialising in supporting horticulture. Technical staff from SDAE can also be involved.

Resources:

- Report from the horticulture feasibility study, from Step 4.4.3

How to do it?

- Review the findings from the horticulture feasibility study regarding markets, prices and market challenges.
- Identify potential markets for the produce, particularly new markets which can pay higher prices (i.e. hotels, restaurants, supermarkets).
- Coordinate introductory meetings with potential buyers, to provide a background on the project's horticulture activities.
- Facilitate contacts between the horticulture groups and potential buyers, and discuss agreements, including type of product, standards/requirements, prices, frequency of production.

- Report from the rapid market assessment

- Transport for the technical team
- Per diem for the technical staff involved (if applicable)

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Step 8.7
Harvest and sale of products

This step provides some tips on the harvest and sale of products, to ensure that these meet the requirements of buyers and obtain a good price.

- Harvest of products is complete
- Products are ready for sale
- Produce is harvested to agreed standard and in agreed quantities

Who does it?

This is done by the horticulture groups, with the support and facilitation of the technical team member responsible for horticulture.

Resources:

- Horticulture manual (Annex 27)
- Agreements with buyers

How to do it?

- Once products are ready to harvest, and markets identified, the harvested products are separated and the ones with the best quality are separated for specific buyers, according to their specifications. Meeting the quantity and quality requirements is essential to secure future purchases from buyers. Adequate handling and transport also needs to be considered so products reach the market in the best condition.
- Keep records of the quantities produced and sold, including prices, for monitoring purposes

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- Monitoring sheets completed
- Photos

- Transport for the technical team
- Product handling and transport to the market

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9 PARTICIPATORY DESIGN OF LMMA CO-MANAGEMENT MEASURES, RULES & REGULATIONS

9. Participatory design of LMMA co-management measures, rules and regulations

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AIMS

This step conducts a participatory decision-making process to design the management of the local marine resources. In principle:

- **Decisions are made by the communities themselves**
- **Information is provided to communities to help them make decisions**
- **The process is adapted to the local context and is flexible to local needs**

OVERALL EXPECTED OUTCOMES

- **Well-defined management measures, including rules and regulations, enforcement plan and the roles and responsibilities of each stakeholder**

Important to remember

The steps described below have outputs that feed into other steps. They also generate information for drafting the LMMA co-management plan. This will be used to populate the different sections of the plan, including the very important requirement of demonstrating the full involvement of local communities in the design of the management measures. It is essential that the information is appropriately recorded and organised and that the activities are well documented with meeting notes, number of participants, their social background and photographs.

Note:

When referring to 'occupational group', we mean the type of occupation of the participants, for example fishers using dragging nets or harpoons, farmers, community leaders, etc.

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Step 9.1
Resource trend and threats assessment

This step promotes the 'awakening' of the community to the problems affecting marine resources and the need to develop measures to ensure their sustainable management.

This exercise draws on historical knowledge about the area and how resources have changed overtime. It will help understand the threats and their drivers. The technical team, together with the community, will use this information as a starting point to discuss possible solutions. It will provide a perspective coming from the community on:

- **a. Change in marine resource availability, habitats and fishing activities**
- **b. Threats/problems affecting their resources**
- **c. Underlying causes of each of the problems**
- **d. Ranking of each of the threats**
- **e. Possible solutions**

- Summary table of resource trends and threats
- Threats ranking table
- List of possible solutions to the most important threats

Who does it?
This exercise is done by the community, in small groups, with facilitation from the technical team. While CCP members can participate as members of the community, the process should not be seen as run or Organised by the CCP. It is important to ensure that the identification of problems and possible solutions come from the group discussions, and not from the CCP only.

Resources:
This exercise requires organising the information that arises from the discussions into tables. The tables and information within them should be represented using local materials. This helps to better illustrate the trends and to make the information widely accessible, even for those community members who cannot read and write.

- For the grids of the table, some of the materials that can be used include:
  - Sticks of different lengths and sizes
  - Ash to draw grids on the ground

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  - Rope

- To represent changes in catches:
  - Lots of seashells or other objects (biodegradable)

- To represent changes in fish size:
  - Coconut husks of different sizes (or other biodegradable objects)
  - Sticks of different lengths
  - Cardboard cutouts representing fish of different sizes

- Other materials needed:
  - Flipchart
  - Scissors
  - Marking pens
  - Camera
  - Fish identification book

How to do it?

- Firstly, organise four groups, two formed by men, and two by women. These groups should not have more than 10-15 participants. The participants are selected with the help of the village leader and should include fishers using different gears and traders.
- The groups should include individuals belonging to different age categories, namely young individuals (15-30 years of age) adults (30-50) and elders (50+).
- Each group meeting should not take longer than two hours, and the entire exercise can be done over several days if necessary.
- In each group:
  a. Explain the exercise to the group. Start by asking participants which are the most important marine resources for the community. If relevant, use the participatory resource use map (Step 4.1) to remind participants of the resources identified in that exercise List all resources mentioned by the group.

b. Ask the group to select the 3-5 most important resources from the list. The group should decide the criteria for importance, which can be economic. Next, promote a discussion about how each of these resources has changed, and the reasons why.

c. Adapt the format in Table 1 (below) to create a matrix that will be used to guide and structure the discussion about trends in each resource and key threats. The matrix is drawn on the ground using local (biodegradable) materials to represent changes in the abundance and size of the key resources over time.

d. Draw the matrix on the ground. Include dates along the side starting around 1980 for every 5-10 years and making a projection for the future using the same intervals.

e. The matrix will be used to show the changes in catches and size of resources over time (i.e. how was it in 1980, and in 1990 etc) and the causes of those changes, and what will happen in the future of current threats are not addressed.

f. Guide the participants through the matrix ensuring that they understand the years. You may need to make reference to significant events that the majority are aware of, such as a major drought, a cyclone, the peace agreements, etc.

g. For each of the key resources ask them:
   i. How catch sizes have changed over time. Use shells to represent in the matrix how catch sizes changed from year to year
   ii. How the size/length of the fish, octopus, etc, changed. Use different sized sticks or coconut husks to illustrate the changes
   iii. How the composition of their catches changed, (i.e. used to catch groupers, but now catch more rabbitfish and hardly any groupers)

h. Then ask about why the catches have changed in this way. Keep on asking questions on why and note down all the responses, particularly regarding:
   i. Main threats

ii. What gear changes have happened, and when (i.e. when mosquito nets started to be used, chicocota, purse seine, etc)
iii. Information about when migrants started to arrive
iv. Reasons for those changes, including anthropogenic reasons (e.g. change in fishing practice, increase fishing effort etc) and natural reasons (e.g. cyclones, floods, droughts etc)
v. Change in fishing period (e.g. fishing during neap tides)

i. The key point of this exercise is to encourage participants to explore the issues as much as possible; and it is important to make comprehensive notes of the conversation. As an absolute minimum, the information should be synthesised in the summary table below.

j. Summarise the key current threats for each of the resources from the group discussions (from around 2010 to the present time).

k. Organise another meeting bringing together participants from all the groups. Present the combined threat analysis (Table 1) and ask participants to rank the current threats. This can be done using different methods. The simplest is to list all threats and ask participants to rank them in order of importance from most to least important. If using this approach, ensure that that the group is clear on what is meant by important (for example, urgency, severity, scale of impact). A more thorough method can also be used, using scores for different criteria (see example in Annex 29).

l. Close the session by letting participants know that you are going to organise the information and bring it back for another session with the same groups to develop a

Table 1. Resource trends and threats summary table

Village:	Social group:	Key resource	Date of exercise:

	How has fish catches have changed?				**Why has fishing changed?**			
Year	Catch size	Size/length of fish	Catch composition	Distance travelled for fishing	Main reasons for change / threats	Gear changes	Fishing practice	Migrant arrivals
1980								
1990								
2000								
2010								
2020								

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strategy to address the threats and problems identified.

m. Also tell participants that before the session to identify solutions to the problems, the technical team will come back to talk about the biology of the resources which can explain better the trends they observe and also some experiences from around the world of how similar problems have been successfully addressed.

Worth noting

Threats and underlying causes are likely to have similarities between sites. For example, most fishing communities around the world report decreasing catches as a result of increasing fishing effort, arrival of immigrants or fishing by people from other areas etc. However, it is important that the community itself identifies the threats and decides which are most urgent.

The facilitator should be able to always ask questions, get clarification, making the conversation flow and make sure that all the community members in the groups engage in the discussions, for example by politely and tactfully giving the word to people who have not said much.

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- Photos of the resource trend and threats matrices
- Record of the number of participants and occupational background

- Flipchart paper
- Scissors
- Marking pens
- Refreshments if the exercise takes more than 2 hours

Step 9.2
Community outreach on the biology of resources and management measures

This step aims to raise awareness in local communities about the biology of marine resources and management options that can be used to improve these resources. The goal is to equip communities with more information in addition to their local knowledge to support subsequent discussions on management objectives and measures to address the threats identified earlier on in the process.

- Outreach plan (see example in Annex 26)
- Report of the outreach sessions

Who does it?
The technical team in collaboration with the CCP. Technical staff from SDAE and DPMAIP may also be involved. The sessions should be facilitated by a biologist who will explain the concepts and approaches presented and promote a discussion and dialogue with communities.

Resources:
- Videos, posters and other materials on the biology of resources
- Videos, posters and other materials on fisheries management measures and experiences (examples of resources in Annex 30)

How to do it?
Developing the outreach plan
- The technical team initially develops the outreach plan. This consists of defining (1) what we want to influence (i.e. community knowledge of the life cycle of different fish species, the importance and benefits of mangroves and coral reefs, the different management options available to enhance fisheries, etc); (2) the key messages and information we want to present to communities to influence their thinking; (3) how these messages and information will be presented (i.e. what materials will be used, the format of the outreach sessions, the target groups) and; (4) a schedule of the different sessions together with who will be responsible for facilitating the sessions
- Gather the different resources to be used in community outreach including videos, posters, photos, testimonials, stories, etc. to illustrate and explain particular concepts and management measures. In particular, ensure that there are adequate materials to explain the concept and benefits of replenishment zones (RZ) and temporary reserves (TR) which are key management measures in LMMAs.

Implementing the outreach plan
- Before organising the outreach sessions with the communities, the technical team should first meet with the CCP to go through the plan, including the key messages that these sessions aim to deliver and specific groups that need to be targeted. It is particularly important to target the different marine resource user groups identified in the resource use mapping, including men and women of different age groups.
- Once the planning with the CCP is complete and target groups are defined, the team asks the village leader to mobilise the target groups for meetings in an appropriate area of the village. Ideally, these same groups will be engaged in discussing management measures in the following steps.
- During the sessions, the facilitator shows the videos and other materials, provides additional explanations and promotes a discussion on how this is relevant to the community and the problems they face. Any relevant points coming out of the discussions are noted down to be picked up in the next step where potential solutions to problems will be identified.
- The various outreach sessions can be organised over a week-long period and should be closely followed by the discussion on management objectives and measures, so that the concepts, approaches and discussions held are still fresh in people's minds.
- At the end of each session, explain to participants that what was learned and discussed will be picked up again during the

next few days in meetings that will discuss the community vision and objectives for their resources and how to achieve these.

Note

During the outreach sessions, the involvement of a marine biologist as a facilitator is often necessary to explain and discuss with the community the biological concepts and management approaches presented. It is also important to value the local knowledge held by community members and bring this knowledge into the discussion.

Ideally, materials in local languages should be used in the outreach sessions, but this is not always possible which further justifies the need for facilitation. For example, during OSOL phase 1, videos in Swahili produced in Kenya were very useful because many people in OSOL Phase 1 communities understood Swahili. This will not be the same in other contexts where different languages will be spoken (i.e. Macua).

Key learning points expected from the outreach sessions

On biology of marine resources:

- Large fish produce many more offspring
- Spawning aggregations are essential in some fish species
- Catching too many juvenile fish prevents them from growing into adults and producing juveniles
- Fish need homes too (habitat)!
- Fish life cycles and use of specific habitats during each life cycle

On management measures:

- How permanent replenishment zones help to recover fish and contribute to fishing through 'spillover'
- Temporary closures help increase catches by giving octopus time to grow larger and therefore heavier, but may not help ensure sustainability of the fishery
- How temporary closures during breeding seasons may help to improve sustainability of those species
- How fishing gear management helps, but can be challenging
- That ultimately the community will need to combine several management tools in order to achieve the best result

Step 9.3
Resource use mapping

This step aims to map the main resources, habitats and fishing areas of the community to inform discussions on the design of management measures, particularly the location and size of possible temporary reserves and replenishment zones. It builds on the map undertaken during the preliminary socioeconomic assessment (see the Step 4.1).

- A map of resources, fishing areas and habitats
- Summary table of resource use

Who does it?

This is a 2-hour exercise facilitated by the technical team. CCP members should participate as community members but not necessarily lead it. At this stage it is important to ensure that the information comes from resource users themselves, giving them full voice in the process.

Resources:

- Flip charts, marker pens
- Notes from Step 9.1
- Map of the coastal and adjacent marine area drawn from Google Earth and Nautical Charts. If a participatory map exists, redraw its features in a Google Earth base map

How to do it?

- Organise a meeting with 6 experienced fishers/community members that know the fishing areas well, including women fishers. These should be selected with the help of the village leader. Also engage 2-3 CCP members to participate in the discussions.
- Before starting, explain the purpose of the mapping to participants, and clarify that it will be used to help discuss how to address the issues and problems affecting fishing resources.

- Use the participatory map produced during the preliminary assessment (see Step 4.1) as a starting point for the discussions. Ideally, transpose this map and the information it contains into a new 'base map' using Google Earth and nautical charts to ensure an appropriate scale.

Using the base map:

a. First, ensure that participants understand the map and can orient themselves when looking at it. Point out key geographical features such as islands and estuaries, and well-known landmarks such as the village, the beach, and different fishing centres. Once participants understand the map and its features, move onto next step.
b. If using the participatory map from the preliminary assessment (Step 4.1), use this opportunity to validate and expand the information from the previous mapping

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exercise. Ensure that all the major landmarks are correctly marked (i.e. the fishing centres, CCP office, markets, migrant fisher camps, neighbouring villages)

c. After the landmarks are identified, ask participants to identify:
   - The community's marine areas, which should coincide with the CCP area of jurisdiction
   - All the community's fishing areas

d. Following this, ask participants to describe the characteristics of each fishing area, using the prompts in Table 2 below, a summary to formulate the questions: if the fishing ground is subtidal or intertidal; the type of marine substrate or habitat (i.e. sand, rock, coral, seagrass); the main marine resources found in the area (i.e. octopus, shells, small fish, rabbit fish); the period of the year that the area is used (i.e. all year round, only on spring tides, only during kusi); which fishing gears are used in the area (i.e. spear, hand gleaning, beach seine); and which other communities use the fishing ground, including migrant camps.

e. Ensure that you complete the table for all fishing grounds and with information as detailed as possible. This information will not only be important to discuss management measures in the following steps, but is also a major input for the co-management plan.

f. It is very important to identify which villages and migrant camps use the various fishing areas. This information is crucial for when defining management measures. For example, if a replenishment zone or a temporary reserve is planned for an area used by other communities, these communities need to be consulted. Failure to consult them may result in conflicts and non-compliance when implementing the management measures.

g. When completing this table, it is also important to represent some of the information in the map visually, for example with drawings of the limits of the fishing areas and the resources found in them, to capture the attention and engage participants.

h. Use the map to discuss the spatial dynamics of the threats and problems identified by the community, such as which areas are most affected, where threats come from, etc.

i. When the mapping is complete, thank participants and once again explain that the map will be used in the following sections to discuss how to solve the problems identified by the community in the earlier sections.

Table 2. Summary table of resource use

Name of fishing ground	Intertidal / subtital / pelagic	Substrates (habitats) included in the area	Key resources found within these areas	Period of year when the fishing ground is used (e.g. spring tides only / Jun-Aug.....)	Which gears are used here?	Which villages and migrant camps use these areas?

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- Participatory map of resource use
- Summary table of resource use
- List of participants and their social and occupational background

- Flipcharts
- Pens
- Markers of different colours
- Cards of different colours
- Scissors
- Tape
- Glue

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Step 9.4
Defining management objectives and measures

This step aims to define, with communities, the management objectives for marine resources and the measures used to achieve them, considering the trends and threats identified previously. The agreed management objectives and management measures will be an input for the LMMA co-management plan (see Section 11). Figure 5 below provides some examples of management options that can be used in LMMAs. However, the solutions to the problems must come out from the community.

Community fisheries management options

Some definitions
1) **Temporal** – time based closures, which can apply to the entire country, district, fishing ground, and is often related to breeding periods, but can be related to maximising weight of catch. 2) **Spatial** – a reserve or sanctuary or LMMA. This has two temporal levels: temporary (weeks to months to years) and permanent (for ever).

Management options
Temporary spatial closures (Temporary Reserves)
This only works for fast growing species such as octopus. It is done to increase fishers' catch (kg/fisher/year), but more often it will not address an over-fished species. The measure is likely to increase fishing effort in other areas. For OSOL, these have been defined as Temporary Reserves (TR) and used mainly for enhancing octopus catch.

Permanent spatial closures (Replenishment Zones)
The option helps populations recover and this varies according to species and how long they live, e.g. groupers live much longer than rabbit fish, so fish in these permanent closures are fully protected to live out their lives. Permanent closures are beneficial to neighbouring fishing grounds both for larval export and spillover of the larger and more mobile species. in OSOL, these are called Replenishment Zones (RZ) which conveys the meaning that spillover from these areas will replenish adjacent areas.

Temporal closures
This option is used to protect spawning seasons – e.g. for groupers in Australia, the fishery is closed for 8 days over the new moon for 3 months (October, November, December) across the whole Great Barrier Reef.

Gear management
It involves various gear measures to prevent juvenile capture and use of destructive gears. These measures can be combined with closures. They include:

Minimum size limits
Examples include increasing mesh size in gillnets and basket traps as well as hook size to reduce juvenile capture.

Illegal destructive gears
Examples would involve considering restricting (banning) the use of specific fishing gears such as beach seines and mosquito nets due to their potential damage to the seabed and juvenile capture; modifying the cod-end of beach seines to larger mesh; and exchange of illegal destructive gears for legal gears that are not damaging.

Effort controls
It involves controlling the number of fishers and/or number of hours spent fishing. Fishing effort is controlled to retain current high catch rates and to address catch rate declines in some fishing grounds where CPUE is quite low. It also involves use of alternative income generating activities (e.g. via VSLAs) to get young fishers involved in other livelihoods.

Figure 5. Box listing community fisheries management options

- A list of key management objectives for the next 5-10 years
- List of management measures decided by the community
- Map with the location and limits of the TR or RZ
- A preliminary list of vulnerable social groups most affected by management measures

Who does it?

This exercise is done with the community, facilitated by the technical team. It consists of group discussions, aiming to involve some of the same community members who participated in the previous steps, namely the threat assessment, resource use mapping and outreach actions.

Resources:

- Participatory map, from Step 9.2
- Report of the biological assessment, from Step 4.5
- Report of the baseline socio-economic survey, from Step 4.1
- Outreach materials on management tools, especially on RZ and TR

How to do it?

1. Developing management objectives

Use the same approach as in Step 9.1 to organise four groups, two with men, and two with women. These groups should have a maximum of 10-15 participants, include individuals representing the various marine resource use groups identified during the resource use mapping, and of different ages brackets. Ideally, these groups should include some of the same individuals involved in the threat assessment (Step 9.1), resource use mapping (Step 9.2) and the outreach actions (Step 9.3).

In each group:

- Recall the trends, threats and problems related to marine resources, based on the result of the discussions in Step 9.1.
- Ask participants: how they would like the situation to be in 5-10 years - these will be their management objectives. Objectives can be ecological (i.e. rebuilding fish stocks, protecting key habitats and spawning aggregation sites), socioeconomic (i.e. improving catches) or of governance (i.e. reducing illegal fishing gear).

2. Identifying and agreeing on management measures

- After identifying the community's management objectives, facilitate a discussion on what measures the community can put into place to achieve these, considering the threats and problems are already identified.
- This is the time to re-emphasise the concept of RZs and TRs - if applicable - linking these to the key learning points of the outreach actions. The aim is to show how these measures can help address the problems and their multiple benefits. Other management measures such as gear restrictions can also be considered.

  Undertake the following:

  a. Remind participants about the functions and benefits of RZ and TR], using outreach resources as necessary. Consider other complementary management measures such as gear restrictions;
  b. Ensure you give time for participants to ask question and discuss ideas. The OSOL experience shows that communities are initially more supportive of TRs. Allow communities to make their own decisions about which measures are more appropriate, considering the objectives they want to achieve (i.e. enhancing octopus catches, protecting spawning aggregations of groupers, etc). Here, the marine biologist should provide advice on which measures fit the community objectives. Note that getting community support for the RZ may take longer to achieve and may require additional follow-up discussions.
  c. After the groups have 1) listed management objectives and 2) identified potential management measures, bring

the four groups together to present the outcomes of the individual group discussions and come to a general consensus on these two points.

d. Once participants agree with the idea of the TR and RZ, discuss potential sites for these areas. The marine biologist should provide advice about the conditions that these areas need to have to effectively achieve their objectives, such having enough coral cover, minimum size, having a viable population of fish species, protecting spawning aggregations, being close to village for easier enforcement. Work with the participatory map from Step 9.2 to facilitate the discussions and draw on the results of the biological assessment (see Step 4.5) if one was undertaken.

e. In the discussion, also consider the opportunity costs of the measures, for example who uses and will be affected by the TR and RZ. This may include people from neighbouring villages and migrants. If this is the case, there will be a need for outreach measures to inform and consult with these groups about the closures (see Step 10.2).

f. Also get participants to identify who in the communities will be initially negatively affected by the closures. These will usually be groups least able to fish in alternative grounds, and who depend on fishing in these grounds for food and income. Draw on the participatory map and the results of the baseline socioeconomic assessment (Step 4.1) to inform the discussions.

g. Once participants decide on potential sites for TRs and/or RZs, ask them to nominate a smaller group (3-5 individuals) to represent the community in the next steps for the creation and implementation of these areas. This will involve assessing the ecological suitability of the proposed sites, the demarcation of the final sites selected for TR or RZ, and validating the co-management plan.

h. Take this opportunity to introduce or re-introduce the CCP, explaining that this is the institution Authorised by the government to implement and enforce fisheries management measures on behalf of the community. This will empower the CCP to lead the process from this point onwards, and to implement the decisions made by the community.

i. Before closing this session, remind participants that the decision to establish TR and/or RZ or any other management measure needs to be disseminated back to the wider community, to get their agreement and support. This will become part of the Communication Plan (see Step 9.9)

Important to note:
During this step, it is important to consider the social impacts of the proposed measures. Once management measures have been selected, and potential sites for RZ and TR selected, the community must identify those groups most affected and least able to absorb the impacts. Use the participatory map to discuss what groups are most affected and what possible mitigation measures are available. If the project supporting LMMAs includes economic alternatives designed to offset the impacts of conservation measures, remind the community what these are.

- Flipcharts of the group work
- Photos
- Record of number of participants and their social and occupational background
- Report of the meetings, with information about the management measures proposed

- Flipchart paper
- Markers of different colours
- Pens
- Note pads to take notes

Step 9.5
Establishing the ecological feasibility of the proposed Replenishment Zone (RZ) and Temporary Reserve (TR)

This step aims to assess the ecological suitability of the sites proposed by the communities for proposed temporary or permanent closures in light of the management objectives using a rapid biological assessment.

Important to note
In selecting areas for closures (RZ or TR) the communities are often tempted to select little used areas to minimize impacts on fishers. However, those areas may not be suitable if the objective is, for example, to enhance catches. In OSOL phase 1, one community decided to establish a TR with the objective of improving octopus catches. Initially, the community selected a site which had octopus in the past, but was currently rarely used because octopus catches were low. They believed that by closing the area, the octopus population would recover with few impacts on fishers because the area was little used. The rapid assessment concluded that the octopus habitat was degraded and the octopus population too low for the temporary reserve to be effective.

- Report, containing the reference points and dimensions of the proposed areas, habitat types, main species and a technical opinion on the suitability of the areas given the management objectives defined by the community

Who does it?
This task is coordinated by the community organisers' marine biologist and co-management officer, two CCP members and two community members. Technical staff from SDAE and DPMAIP may also be invited to participate in the rapid biological assessment.

Resources:
- Map with the location and limits of the TR or RZ, from Step 9.4

How to do it?
- Put together the team for the rapid biological assessment. In addition to the biologist and co-management officer, this should include two members of the CCP and 2 community members who are knowledgeable of the fishing areas. The community members should be selected from the group indicated to represent the community in the biological assessment and demarcation of the TR or RZ (Step 9.4). These individuals need to be able to swim in order to participate in the assessment using snorkel equipment.
- Mobilise the team for the rapid biological assessment and the information from the previous step with the location of the proposed areas (map)
- Divide tasks among team (GPS person; coordinates person, diver, note-taker)
- Mark the location: using area limits (4 points) select random points for survey

9

- Begin survey at 1st marked survey point: take coordinates, depth, habitat type. Repeat at other survey points. Return and arrange the next meeting

- Survey result data
- List of team members
- Photos

- Boat (with capacity for a minimum of 6 people) and petrol costs
- Dive computer/depth measurer
- Snorkelling equipment
- Underwater camera
- GPS
- 2 slates
- Pencils
- Tracing paper

9

Step 9.6
Finalise the choice of Replenishment Zone and Temporary Reserve (RZ) and (TR)

This step finalises the choice of RZ and TR sites in light of the results of the rapid biological assessment. Any other considerations on the suitability of sites such acceptability of social impacts should also be brought into final choice and approval by the community.

- Final sites for TR or RZ, with their boundaries drawn on a map (see example in Annex 31)

Who does it?
This task is coordinated by the same team who conducted the rapid biological assessment, and will involve CCP members, the group selected to represent the community in assessment and demarcation of the TR and/or RZ, community leaders and SDAE staff.

Resources:
- Output of the rapid biological assessment (report) in previous step

How to do it?
- Mobilise a meeting with the team that conducted the assessment, plus the rest of the CCP members, community leaders and the group selected to represent the community.
- Share the results from the biological rapid assessment with participants, including the recommendations regarding the suitability of the proposed areas.
- If the biological assessment concludes that the proposed areas are suitable, the selection process is complete and the boundaries are drawn on a map. The next step is their demarcation (see Step 10.1).

- If the biological assessment concludes that these areas are not suitable, alternative areas must be discussed and identified with the group representing the community and a new biological assessment must be conducted for these areas to confirm their suitability.

- Meeting notes
- List of participants
- Photos

- No additional costs foreseen if the rapid assessment confirms the suitability of the areas initially proposed.

9

Step 9.7
Developing rules and regulations

In this step, the community defines the rules and regulations for the management measures selected, including any RZ and TR decided by the community.

- List of rules, regulations and sanctions (fines) for each type of infraction (see Annex 32 for an example from OSOL phase 1)

Who does it?

This task is facilitated by the community organisers and CCP and involves working in 4 groups of community members, 2 formed by women and 2 formed by men. Technical staff from SDAE, DPMAIP and a representative from Policia Fluvial (Maritime Police) should also be invited to participate.

Resources:

- Flipchart paper
- Markers of different colours

How to do it?

- Use the same approach as in Step 9.1 and 9.4 to organise four groups, two with men, and two with women. These groups should have no more than 10-15 participants, and be formed by individuals of different ages. Ideally, this task should also involve some of the same community members who participated in Step 9.1 and 9.4.
- Ask the groups to propose and discuss the rules and regulations that should be followed for the TR and RZ. Below are some examples of what the rules and regulations should cover, but it’s ultimately up to the team and the CCP to include others.
- For the TR:
  - The period of closure (i.e. 3 months, 6 months, etc.)

  - The period of opening (i.e. 5 days, 2 weeks, etc.)
  - Who can fish during the openings
  - Gears that should not be allowed during the openings
  - Any contribution from fishers for management activities (i.e. fee or catch percentage)
- For both TR and RZ
  - Fines for poaching
- The group work can be done using several methods, either by dividing topics between groups or the carrousel method whereby all groups work on sequentially on all topics.
- Once the groups have finished their tasks, compile all the rules and regulations, and validate them with all the participants in the groups. Ensure that the fines established for the use of illegal gear are consistent with the fines defined by the Law. The community may decide to set a higher value, however will not be able to set a lower value.

- The rules and regulations will then be disseminated to the wider community as part of the communication plan (Step 9.9) and will be written into the co-management plan (Section 11).

- Notes from the group discussions and report back
- Flipchart paper from the group work
- Number of participants per group, and their occupational and social background
- Photos

- Flipchart paper
- Markers

9

Step 9.8
Defining roles and responsibilities

This step aims to define the roles and responsibilities of the different actors and institutions in the implementation of the LMMA, including various management measures such as TR and RZ.

- Document (in table format) listing all the actors and institutions relevant for the implementation of the LMMA together with a description of their roles and responsibilities, and how they should work together (see example in Annex 33)

Who does it?
This task can be undertaken in conjunction with the previous step on defining rules and regulations, using the same groups (4 groups of community members, 2 formed by women and 2 formed by men, representing the different resource user groups and from different age brackets). Representatives from SDAE, DPMAIP and Policia Fluvial should also be invited to participate.

Resources:
- List of management measures, from Step 9.4
- Final list of sites for TR and/or RZ, from Step 9.6
- List of rules, regulations and sanctions (fines) for each type of infraction, from Step 9.7
- Baseline socio-economic report survey (section on institutions and institutional arrangements for marine resources management explored with the Venn diagram), from Step 4.1

How to do it?
- If combined with Step 9.7, give an extra task to the groups. In the briefing for the task, remind participants of the main results of the Venn diagram drawn during the socio-economic baseline survey. Then ask them which actors and institutions should be involved in the management and enforcement of the TR and RZ, what their role should be, and how should they work together, if relevant.

- The groups first discuss individually. You may find useful to facilitate the discussion following the template for roles and responsibilities in the co-management plan (see Section 11) and organise actors and institutions by administrative level:
  - Village
  - Locality
  - Administrative Post
  - District
  - Province
- Once the groups have finished the task, ask each of them to report back on their discussions, synthetise all the actors and institutions in a single list and validate with participants.
- The roles and responsibilities will then be disseminated to the wider community as part of the communication plan (Step 9.9) and will be written into the co-management plan (Section 11).

- Notes from the group discussions and report back
- Flipchart paper with group work
- Number of participants per group, and their occupational and social background
- Photos

- Flipchart paper
- Markers

9

Step 9.9
Implementation strategy

This step aims to develop a strategy to implement the management measures decided by the community, particularly the TR and RZ. It has three main components: 1) communication plan; 2) enforcement plan; and 3) community biological and fisheries monitoring plan.

- Communication plan (see template in Annex 25)
- Enforcement plan (see template in Annex 34)
- Community biological and fisheries monitoring plan (see template in Section 5)

Who does it?
This task is facilitated by the technical team in collaboration with the CCP. Representatives from SDAE, DPMAIP and Policia Fluvial should also be invited to participate. If necessary, members of the group indicated to represent the community with respect to TR and RZ can also be involved.

Resources:
- List of rules, regulations and sanctions (fines) for each type of infraction, from Step 9.7
- Summary table of actors, institutions and respective roles and responsibilities, from Step 9.8

How to do it?
Communication plan
The communication plan is drafted by the CCP with the facilitation of the technical team.

- Meet with the CCP and define the key points that need to be communicated to the wider community. These should include information about the 1) TR, RZ and other management measures; 2) rules and regulations governing the TR and RZ and applicable sanctions; 3) openings of the TR and 4) any other relevant issues. There should not be more than 4 themes so as not to overload the CCP and the community, and the plan should be updated regularly.
- Draft a calendar of communication actions, organised by date, issues/theme, location, the target groups and who is responsible for delivery. The frequency of the actions should be decided (i.e. weekly/biweekly) and responsibilities for organising them should be divided amongst the CCP members. Any other forms of communication should be also considered (i.e. affixing list of TR and RZ rules, regulations and sanctions in the CCP office).
  Support the CCP to engage the community leader to mobilise community members for the different communication actions, as defined in the plan.
- Instruct the CCP to keep a record of the communication actions, using the template provided (Annex 25).
- The communication plan should be reviewed regularly, whenever there is a need to update or provide new information.

Enforcement plan
The enforcement plan is also drafted by the CCP with the facilitation of the technical team and can be done simultaneously with the communication plan. The involvement of SDAE, Policia Fluvial and DPMAIP would be useful, particularly with regards to allocation of responsibilities.

- Meet with the CCP to develop an enforcement plan addressing the following:
  – Patrol schedule plan, including locations, frequency, and responsibilities
  – Procedure for dealing with infractions (i.e. simple warning, fine, gear confiscation)
  – How will fines be used
- While regular enforcement can be done by the CCP, some enforcement actions should be done collaboratively with the Policia Fluvial. Use the template for the enforcement plan provided in Annex 34.

Monitoring plan

This plan is prepared by the technical team (led by the team's marine biologist and the M&E officer) in collaboration with the CCP.

- Meet with the CCP and discuss the need to monitor the TR and RZ. Explain why monitoring is important, namely to assess the impacts of these areas on fishing resources, through biological indicators (i.e. fish abundance and diversity, coral cover, etc) and CPUE (for TR).
- Define the indicators for monitoring. These will depend on available resources for monitoring and what information the team and CCP think are useful. For example, fish abundance and diversity in RZ may be useful to demonstrate to communities the effects of these areas; while CPUE addresses the same need but for TR. It may also be useful to monitor prices during open days, to check trends and estimate income from catches.
- Design the data collection approach, including methods used, when data will be collected, and by who, who will analyse and report, and how it will be communicated. Refer to Section 4 for the different methods that can be used for biological and fisheries assessments.
- The results of the community monitoring may be included as information for future communication actions as part of the Communication Plan (see above).

- Notes from the discussions
- Photos

- Flipchart paper
- Markers
- Pens

9

Step 9.10
Assessing capacity development needs

This step aims to identify the capacities that need to be developed in order to effectively implement the management measures defined by communities, including the TR and RZ. It incorporates some of the actions defined in the CCP capacity strengthening plan from Step 6.4.

- LMMA capacity development plan

Who does it?
This is facilitated by the technical team working in collaboration with the CCP and should also involve SDAE and DPMAIP.

Resources:
- CCP capacity strengthening plan, from Step 6.4
- Results of the LMMA effectiveness assessment

How to do it?
- Meet with the CCP and other stakeholders (i.e. SDAE, DPMAIP) and discuss the need to make a plan for building the CCP capacity to implement the co-management measures.
- Review the CCP capacity strengthening plan (from Step 6.4), discuss the actions that are relevant for LMMA implementation and identify other capacity needs.
- Draft a list of all the capacity development needs (i.e. trainings, access to information, equipment, materials, etc). From this list, identify how these needs can be addressed, together with a plan to address them.

[1] *The LMMA effectiveness assessment is a undertaken with a specific tool, and starts to be implemented on a regular basis (i.e. yearly) after the management measures defined by the community have been implemented (i.e. one year after the TR or RZ has been established).*

- Notes of the discussions

- Flipchart paper
- Markers
- Pens

9

10 IMPLEMENTATION OF TEMPORARY RESERVES AND REPLENISHMENT ZONES

10. Implementation of Temporary Reserves and Replenishment Zones

Rachide Cachimo, Ercilio Chauque, Jeremy Huet, Gildas Andriamalala

AIMS

This section provides guidance on the implementation of Temporary Reserves (TR) and Replenishment Zones (RZ) decided by the community. Often communities first decide to establish a TR and, after further deliberation will decide to create a RZ. The decision to implement both types of measures simultaneously can also occur.

OVERALL EXPECTED OUTCOMES

- **Areas are demarcated**
- **Communities and other users are aware of their boundaries, rules and regulations**
- **Regular enforcement is conducted and compliance is promoted**
- **Biological and/or fisheries monitoring in place**
- **Rules of conduct during the openings are defined**
- **Potential price premium schemes are developed**

Step 10.1
Demarcation and signalling of TR and RZ

This step presents options to demarcate and signal TR and RZ. This is essential to ensure their boundaries are well known and easily identifiable by community members and outsiders, thus facilitating compliance and enforcement. Signalling often requires maintenance, for example, replacement of signboards and buoys, which may be damaged by adverse weather conditions, vandalized or stolen. The use of local materials for signboards and buoys is recommended, as these are less likely to be stolen. OSOL has developed a type of ecological buoy made from bamboo which has proven to be effective.

- TR and RZ demarcated and clearly signalled

Who does it?

Demarcation and signalling is done by the CCP, with some support and guidance from the technical team. The CCP will need to mobilise a group of volunteers for the various tasks.

Resources:

- Map showing the boundaries of the TR or RZ, from Step 9.6
- Report from the ecological viability assessment of the TR or ZR, from Step 9.5
- GPS
- Materials for building the signalling buoys:
  - Bamboo
  - Paint: red, yellow and white
  - Cement
  - Stones (brass), 8mm iron,
  - Catanas
  - Iron saws and hose (tube) 0.5mm
  - Rope and knife

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- Snorkelling equipment (mask, snorkel, fins, wetsuit)
- Boat & fuel

How to do it?

- Form a team to do the demarcation and signalling. This includes making the buoys and positioning them. This team should include some of the fishers selected by the community to participate in the biological assessment and demarcation of the areas (from Step 9.4, point f) and CCP members. A boat and boat crew will be required to access subtidal areas. A map showing the boundaries of the area is required (from Step 9.6), including GPS points of the limits if available.

Demarcation

- Before going out to the areas, it is necessary to build the buoys and signposts that will be used to mark and identify their boundaries. The following is a method used by OSOL to build signalling buoys, using mostly local materials (bamboo).

  How to build buoys:

  Buoys consist of a floating part fixed to a cement base.

  1. Make the cement bases

  - Prepare the mixture with 1 bucket cement + 3 buckets brass + 2 buckets of water, mix and put in a circular mould with a diameter of 10cm and depth of 20cm. Insert the iron (bar) in the hose (tube) 0.5mm and fold in OMEGA (Ω) shape. Allow to dry in the mould for seven (7) days, adding water at least once a day.

2. Build the bamboo floats

- The floats should be approximately 2.5 m long. Cut the bamboos in pieces of 2.5m length. Ensure that the cut is not close to the bamboo rings
- Drill between the rings of the bamboo to facilitate inserting the rope that will be tied together with the cement base
- Paint the bamboo ends with the chosen colours (yellow and white / red and white).
- Allow the paint to dry

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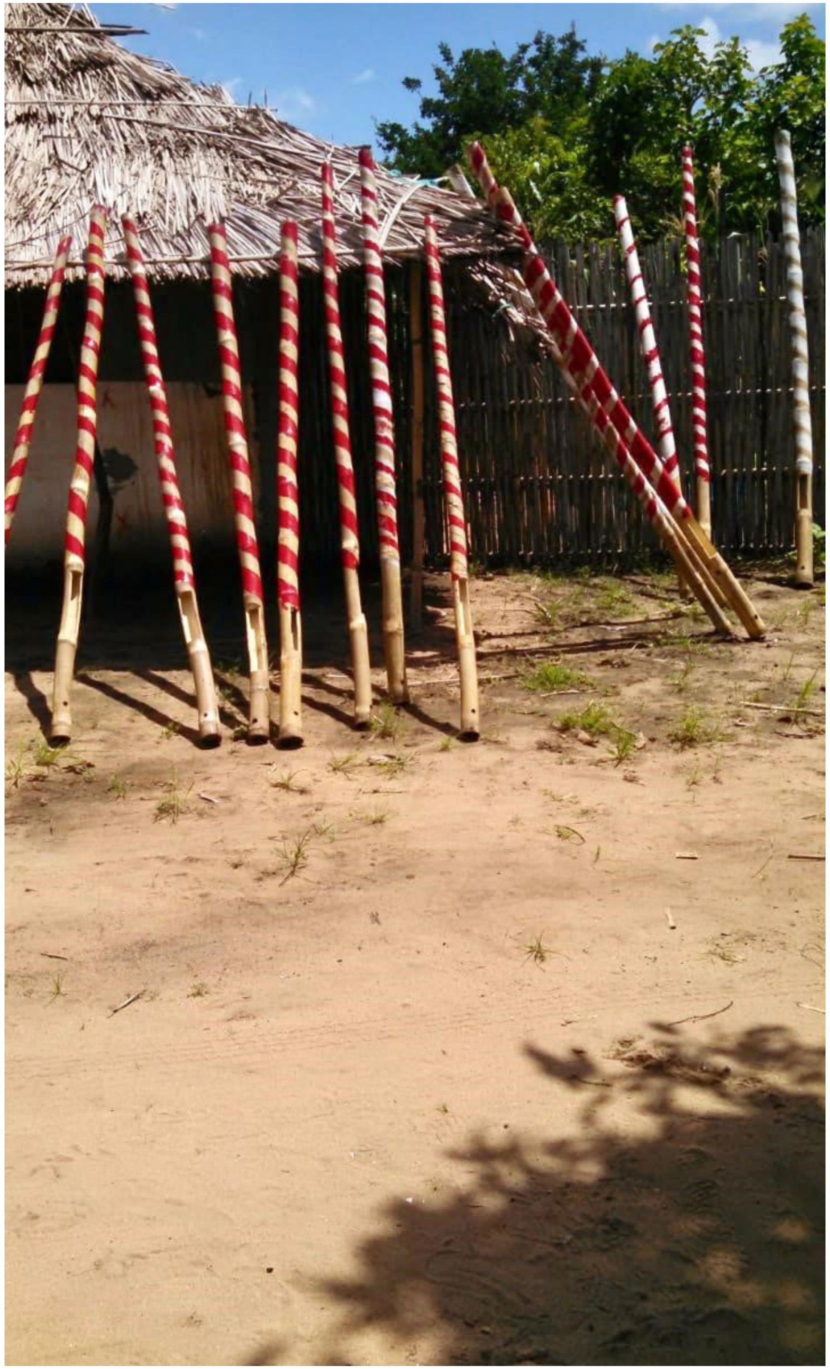
How to set the buoys:

- After the buoys are built, proceed to place them in strategic locations around the boundaries of the area. Discuss with the team where the buoys should be placed, using the map showing the boundaries. These locations should maximise their visibility and minimize the risk of damage by strong currents and bad weather.
- Before setting off to the areas by boat, check tide tables (high tide needed). This will help to place the buoys with the right tidal height, ensuring they continue to float in higher levels of water.
- When you reach the indicated point for securing the buoy, tie the rope to the cement base and throw it overboard. Pay attention when throwing the cement base. Make sure that you hold on to the end of the rope, or it will be floating with the currents, which may make the recovery of the rope, the next step, difficult.
- Next, tie the bamboo float to the end of the rope already tied to the submerged cement base. Position the float vertical and pass the end of the rope between the holes made at the base of the bamboo buoy. Some team members are required to dive to help position the float by stretching the rope to the point that it is stretched vertically from the cement base at the bottom of the sea. About 50 cm of the float should be above sea level to be visible and serve as a signal. Record the GPS coordinates of this point before proceeding to the next.



- Coordinates of the marking buoys
- List of participants in the demarcation team
- Photos

- 1 bag of cement (10 bases) (approximately 550mzn)
- 1 bucket of brittle (approximately 10mzn)
- Bamboo (approximately 75mzn)
- Red paint (approximately 350mzn)
- Yellow paint (approximately 350mzn)
- White paint (approximately 350mzn)
- Rod 1 can be used for 5 bases (approximately 210mzn)
- Tube or hose of 50cm (approximately 100mzn)

10

Step 10.2
Communication

This step aims to ensure that the boundaries of the areas (TR and RZ) are widely known to all groups, together with the rules, regulations and sanctions for rule breakers.

- Communication actions targeting key groups

Who does it?

This should be done by the CCP. The involvement of SDAE is also important to further legitimise the areas and contribute to compliance.

Resources:

- Map showing the boundaries of the TR or RZ, from Step 9.6
- List of rules, regulations and sanctions for rule breakers, from Step 9.7
- Communication Plan, from Step 9.9
- Template for reporting on communication actions (Annex 25)

How to do it?

- One of the first actions towards making the area (TR or RZ) known to the community is to mark their establishment with an event where community and religious leaders are present, ideally the District Administrator, and representatives from SDAE, Polícia Fluvial and DPMAIP. This is help to legitimise the area, facilitating compliance and enforcement. The CCP should be given relevance in this event, to improve community awareness of its role in fisheries management in general and in the implementation and enforcement of the area.
- The opening days of the TR are a key opportunity to disseminate information on the benefits of management to local communities. Similarly, representatives from the District Administrator, SDAE, and DPMAIP should be involved, particularly in the first opening.
- Consider other actions to enhance support for management measures, such as organised visits to the TR before the opening so people can see the increase in certain species such as octopus, or to RZ where the increase in resources will spill over to adjacent areas.
- Integrate communication actions in the Communication Plan, and ensure their implementation following the guidance provided in Step 9.9. Ensure to target all groups who may have previously used the TR and RZ or travel through these areas (i.e. fishers from neighbouring communities, migrant fishers from nearby camps, etc). The CCP keeps a record of communication actions using the template provided in Annex 25.

- Short report of the event establishing the TR or RZ and photos
- Short report of the TR opening days and photos
- Record of the communication actions, including number of people reached

- Printing of the rules and regulations

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Step 10.3
Enforcement

This step suggests a broad approach to enforcement of TR and RZ rules and regulations.

- Enforcement actions, as defined in the Enforcement Plan

Who does it?

Regular enforcement is done by the CCP. However, its authority to apply fines to rule breakers may be limited without the involvement of government authorities (Polícia Fluvial and SDAE). It is important to involve government authorities in, at least, some joint enforcement operations, and establish a good links, for the effective application of sanctions such as apprehension of illegal gear, issuing fines and prosecution of rule breakers in the courts.

The role of the technical team in this process is to facilitate obtaining uniforms and identification for CCP members so they can be recognised, particularly by outsiders; and securing means of transport (boat, fuel, bicycle) to support enforcement operations. If a boat is provided, the team needs to consider how the maintenance costs and fuel (if motorboat) will be sustained.

Resources:

- Enforcement plan, from Step 9.9
- Uniforms and identification for CCP members (desirable)
- Boat and other means of transport for enforcement operations (desirable)
- Binoculars (desirable)

How to do it?

- The CCP works with the monthly enforcement plan developed in Step 9.9. This is a monthly plan, with a weekly calendar of enforcement actions as well as procedures for dealing with rule breakers. It will contain information on date of the enforcement action, location and who is responsible. The specific days/times and locations of enforcement actions should vary from week to week to minimise predictability.
- Some joint enforcement actions with SDAE and Polícia Fluvial are important to promote better compliance.
- The CCP should keep a record of the enforcement operations, including when they took place, where, who was involved and the outcomes.

- Record of enforcement operations (when, where, who, outcome)

- Uniforms and identifications for CCP members in charge of enforcement
- Boat and fuel

Step 10.4
Monitoring

This step consists largely of implementing the monitoring plan developed in Section 4 and Section 9, which can include the collection of biological, fisheries and market data.

- Monitoring reports

Who does it?

The monitoring is coordinated by the technical team (the marine biologist for biological and fisheries data, and the socioeconomic M&E officer for market data). CCP and community members should engage in data collection and discussion of results.

Resources:

- Monitoring plan, from Step 9.9

How to do it?

- For each type of data collection defined in the monitoring plan, agree on when the data should be collected, put together a team to collect the data, and assign responsibilities for coordinating data collection, data analysis and reporting.
- Consider how the results should be shared, and with whom. Some of the results can inform communication actions to demonstrate the benefits of the reserves.

- Data collected
- Photos of data collection

- Each type of data collection will have different costs. Refer to the Section 4 on the different types of biological and fisheries data collection.

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Step 10.5
Organisation of the TR opening days

This step outlines some of the key tasks needed to organise the TR opening days. Some of these tasks may have already been done in previous steps and therefore this step involves mostly doing a checklist of what needs to happen, so nothing is forgotten and to help planning.

- Check list of tasks required to prepare and conduct the TR opening days

Who does it?
Organising the TR opening is done by the CCP. The technical team may also be involved, for example in the biological and CPUE monitoring, making contacts with potential buyers and brokering price premium schemes.

Resources:
- **Enforcement plan, from Step 9.9**
- **Communication plan, from Step 9.9**
- **Community biological and fisheries monitoring, from Step 9.9**
- **List of rules and regulations, from Step 9.7**

How to do it?
Make a checklist of what needs to happen 1) before the closure day; 2) during the closed period; 3) in preparation for the opening; 4) during the opening days and; 5) to close the reserve again. Some of these may have already been done in the previous steps, and a checklist will help the community organisers and the CCP to plan appropriately and ensure that nothing crucial is forgotten. Examples include:

Before the closure day

- The area has been demarcated
- The date of the closure and closed period have been defined
- Closure date and closed periods have been communicated to the community and authorities
- An enforcement plan has been developed
- Authorities have been invited to the opening ceremony (if relevant)

During the closed period

- Regular enforcement is conducted. Motivate local fishers to help patrol the reserve when out fishing. Enforce the law to anyone caught poaching. This is essentially the time to apply the rules and regulations agreed in the enforcement plan.
- Regular communication actions are conducted. Remind local communities about the reserves, and the need to enforce them by not fishing and reporting poachers.
- Biological survey/monitoring before reserve opening is conducted. Any CPUE data collection during the open days should be prepared.
- Buyers are contacted and possible price premium schemes are agreed

In preparation for the opening

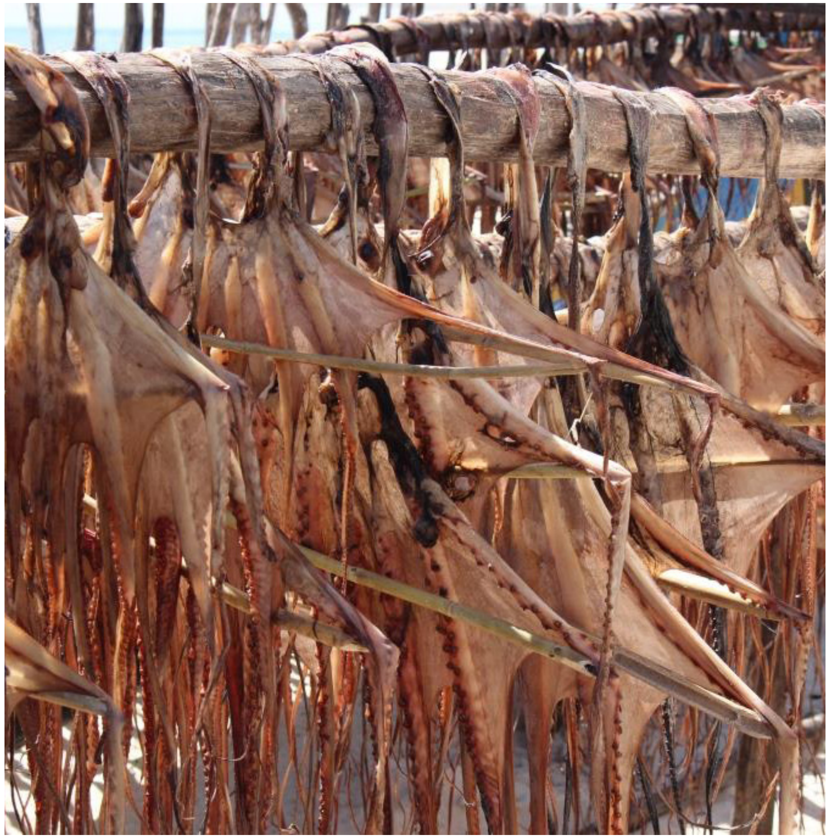
- The CCP decides on a day for the opening, considering the tides. An opening on spring tides will ensure that most users can benefit, including women fishing on foot.
- The rules during the opening day are defined, if they have not yet been. Examples include: only local fishers from the village are allowed to fish; women and children enter the water first, then the men; everyone is allowed to harvest at the same time. The CCP may also define a fishing period for the opening days after which everyone needs to get out of the TR.
- The CCP reminds communities of the opening day, time and rules.
- Government authorities are invited for the opening day. Invite journalists or local radio if you want to get media coverage for the event.

During the opening days

- The CCP reminds fishers of the rules and enforces them
- Catch monitoring during the opening is conducted (by the CCP and technical team)
- The selling and buying process is supervised (by the CCP)

Re-closing the reserve

- The closure and opening periods should have already been agreed with the community. Two days before the reserve is set to close again, the CCP in coordination with the local authorities should inform the community. There is no need for a meeting with the entire community for this purpose. The local channels for disseminating information can be used. To reinforce, the CCP may include the information in its communication plan, which is carried out weekly in each neighbourhood.
- The reserve is closed for the period defined with the community if there is no reason to change it. However, it may be necessary to alter this period to more or fewer months depending on the catches from the opening. Monitoring is important to help review the closing and open periods, if necessary.



- Report of reserve opening
- Reports from the community monitoring

- No specific costs are envisaged, but some of the tasks will have individual costs

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11 LMMA CO-MANAGEMENT PLAN

11. LMMA co-management plan

Rachide Cachimo, Ercilio Chauque, Sérgio Rosendo, Jeremy Huet

AIMS

The co-management plan is a document that describes the management objectives for the LMMA, the measures that will be implemented during a specific period (2-5 years), their biological and social rationale, and how they will be implemented, including the institutional arrangements and partnerships. The plan is prepared with information generated during the previous steps, particularly the preliminary assessments (Section 4) and participatory design of management tools (Section 9). The co-management plan is a pre-requisite for the legalisation of the LMMA under the most appropriate legislation (Fisheries or Conservation).

OVERALL EXPECTED OUTCOMES

- **Co-management plan recognised by the community and government authorities**

Note

At the time of writing, the government had not yet provided a model or template for fisheries community co-management plans. The co-management plan outline suggested here and used in the OSOL project was adapted from the conservation area management plan template in the Conservation Law Regulations (n. 89/2017, Article 69). The revision of the Fisheries Law at the time of writing may prompt the development of specific management plan guidelines for these areas. If this is the case, this outline will be updated.

Step 11.1
Compiling information to prepare the plan

This section describes the approach to compiling the information needed to draft the co-management plan. Most of this information will have been generated in the previous steps.

- Folder with all the information needed to prepare the co-management plan

Who does it?

This office-based task is undertaken by the technical team, in the office, although most of the information required was generated with the community and the CCP. It relies on the outputs from previous steps, and thus the importance of these steps being adequately documented as recommended.

Resources:

- Outputs from previous steps, as listed in Table 3

11

How to do it?

- Form the team to draft the plan. Decide who will coordinate the process. This team member will be responsible for allocating tasks, enforcing deadlines, and collating contributions.
- Use the co-management plan outline in Table 3 to identify the sources of information needed to draft each of the sections.
- Based on the template, the team meets to agree on shared responsibility for the different sections, which will include both sourcing the information needed and drafting text.
- The allocation of responsibility for the various sections should consider the team members areas of specialism and functions (i.e. biologist, M&E officer, co-management officer, etc).
- Note that there is some flexibility with regards to what information to include in each section, and its level of detail, as long as the overall aim of the section is addressed.

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Table 3: Co-management plan outline and guidance on the sources of information for the different sections

Section	Purpose/aim	Source of information
1. Introduction		
1.1 Approach and scope	Describes how the plan was drafted and its scope. Provides some information on the participatory process for defining management measures, rules and regulations	
1.2 History of the co-managed area	Describes the motivation for creating a co-managed area	Context dependent
1.3 Legal basis	Describes the legal basis for the co-managed area	Fisheries Law; General Regulations for Marine Fisheries; Conservation Law; Conservation Law Regulations
1.4 Management structure and partnerships	Describes the management structure for the co-managed area, including who is legally responsible for management (CCP); partners and the role of each partner	From Step 3.1 (Development of partnerships), 4.1 (Venn diagram); and 9.8 (Defining roles and responsibilities).
2. Contextualization		
2.1 Geographic context	Describes the geographical location of the area (village, administrative post, district and province). Include a map	District Profiles
2.2 Biophysical characteristics	Describes the ecological characteristics and value of the area	Available literature and Step 4.5 (Biological assessment)
2.3 Socioeconomic and cultural characteristics	Describes the community or communities, population, main languages spoken, main ethnic groups, religion, livelihoods, use of marine resources	Available literature; Step 4.1 (Baseline socioeconomic survey); and 4.2 (Rapid household census).
2.4 Threats and challenges	Describes the main threats to marine resources and challenges	Step 9.1 (Resource trend and threat assessment)
3. Vision and objectives		
3.1 Vision statement	Describes the overall vision for the area (i.e. promoting the sustainable use and protection of marine resources for livelihoods and biodiversity conservation in line with international and national goals and strategies)	Step 9.4 (Defining management objectives and tools)

3.2 General and specific objectives	Describes the general and specific objectives of the co-managed area (i.e. general objective: protecting key habitats; specific objectives: creating Replenishment Zones; improving compliance and enforcement, etc.)	Step 9.4 (Defining management objectives and tools)
4 Inclusive planning		
4.1 Definition of the co-managed area	Describes the limits of the co-managed area (CCP area of jurisdiction, conservation area, RZ or TR). Include a map with the area. If the CCP is legalised, include the dispatch from the minister authorising its operation, which will include coordinates of its area of jurisdiction	Step 6.3 (Publishing the CCP legalisation)
4.2 Management measures and zoning	Describes the management measures, including the TR and RZ, and rules, regulations and sanctions. Include a map of the co-managed area with its zoning (TR and RZ). Anything that is not a TR or RZ is a sustainable use zone (zona de aproveitamento comunitario)	Step 9.4 (Defining management objectives and tools); 9.6 (Finalise the choice of RZ and TR); and 9.7 (Developing rules and regulations)
5 Management programs		
5.1 Impact mitigation and community development	Describes the social groups most impacted by the management measures decided by the community and any actions to mitigate those impacts; as well as measures to enhance community development (i.e. VSLAs, horticulture, aquaculture, price premium schemes)	Notes from Step 9.4, point e, on the vulnerable groups affected by management measures; Results of the baseline socioeconomic assessment, on groups most dependent on resources (Step 4.1). Section 7 (VSLAs); and Section 8 (Horticulture)
5.2 Enforcement	Describes the general strategy for enforcement of management measures, including the enforcement plan, fines agreed with communities and procedures for dealing with infractions	Step 9.9 (Implementation strategy, task on the Enforcement Plan); and 10.3 (Enforcement)
5.3 Communication and outreach	Describes the general strategy to communicate and engage with local communities	Step 9.9 (Implementation strategy, task on the Communication Plan; and 10.2 (Communication)
5.4. Capacity building	Describe the measures for developing CCP capacity	Step 6.4 (Assess CCP functioning); 6.5 (CCP training); and 9.10 (Assessing capacity development needs)
6 Implementation Plan	Present an implementation plan (for the first year)	Adapt from the project supporting LMMA development

11

7 Financial Plan	Describes the approach to secure funding to support co-management	Adapt from the project supporting LMMA development. If other sources of funding are envisaged, describe (i.e. VSLA Environmental Fund, biodiversity offsets)
8 Monitoring and Evaluation	Describes the approach to monitoring and evaluation, including indicators to measure the performance of the co-managed area.	Step 5.1: Developing an M&E framework

11

- Information for the management plan organised

- No specific costs involved, other than the time of the technical team

Step 11.2
Drafting the co-management plan

There is some flexibility in the approach to writing the plan, but ideally it should be a collaborative process, involving all members of the technical team. The CCP, community and other stakeholders will be involved in elaborating and validating the plan, in the next step.

- Full draft of the co-management plan

Who does it?

This task is done by the technical team.

Resources:

- Laptop computer
- Projector

How to do it?

- Team members work on their respective sections individually, to the agreed deadline. The coordinator oversees the process, provides guidance and clarifies any questions.
- The coordinator collates all the sections from the different contributors into one document. This document is circulated to all members of the drafting team for individual review.
- Once all team members have reviewed the entire document, the team meets and goes through each section collectively to incorporate comments.
- The coordinator then produces a pre-final version of the co-management plan, which will then be presented to communities and other stakeholders for review.

- Drafts of the different sections of the plan

- No specific costs involved, other than the time of the technical team

11

Step 11.3
Validation and endorsement of the plan by local communities and stakeholders

In this step, the management plan drafted with information from the previous steps is presented to communities and other stakeholders for elaboration and validation.

- Final draft of the co-management plan
- Letter of endorsement from SDAE, needed for the formal recognition of the plan by provincial authorities
- Minutes of the validation meeting, needed for legalising the plan

Who does it?
This task is undertaken by the technical team, under the supervision of the management plan drafting coordinator. It involves community members and other stakeholders (i.e. DPMAIP, SDAE).

Resources:
- Pre-final draft of the co-management plan.

How to do it?
- Organise a validation meeting at the community level. In order to facilitate the process, it is advised that you engage the CCP, community leaders and the group selected to represent the community in co-management issues (see Step 9.4, point f). The validation can also be done with a wider section of the community, but the process needs to be adapted to a larger group setting.
- Present the plan to the group (CCP, leaders and community members). The presentation needs to be simplified, focusing on the key points such as the management measures, the rules, regulations and sanctions, groups affected and mitigation measures. Ideally, a representative from SDAE and provincial stakeholders (DPMAIP and/or DPTADER) should participate in the validation meeting.
- Draft minutes of the validation meeting, with the names and occupational background of participants, signed by the CCP and community leaders representing the community (this is needed to request formal recognition of the plan in the next

step).

- Once the community has validated the plan, all their comments and additions are incorporated into the next version of the plan.
- Take the plan with the comments from the community already incorporated to the district level. Present it to SDAE and incorporate their comments to produce a next version which will be taken to DPMAIP. Ensure you get a letter of endorsement from SDAE. This will be required to request formal recognition of the plan in the next step.
- Invite DPMAIP to comment on the pre-final version of the plan. Incorporate these comments. The plan should now be ready to be submitted to the relevant authorities for its formal recognition. This is described in the next step.

- Minutes of the validation meetings
- List of participants
- Photos

- Transport and fuel
- Per diem for government representatives

11

Step 11.4
Formal recognition of LMMA co-management plan

Once the provincial and district authorities and the community have validated the plan, this will be submitted to DPMAIP for formal recognition.

- Formal recognition of the co-management plan

Who does it?
This is done by the technical team, in coordination with DPMAIP

Resources:
- Final version of the co-management plan
- Minutes from the validation meeting at the community level, signed by the CCP and community leaders
- Letter of endorsement from the district government (SDAE)

How to do it?
- Submit the final version of the co-management plan together with the letter from SDAE and the minutes of the validation meeting to DPMAIP
- DPMAIP will then organise an internal review of the plan and provide an opinion (parecer). DPMAIP may involve other government sectors in the review such as DPTADER. If they satisfied with the plan, they issue a letter recognising it.
- If DPMAIP has comments or asks for modifications, the plan goes back to the technical team and is re-submitted once those comments have been addressed.

- Comments from DPMAIP

- No specific costs envisaged, other than the technical team's time.

11

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ANNEXES

Annex 1. Project summary

The Our Sea Our Life approach to community-based conservation includes:

1. Our Sea Our Life Locally Managed Marine Area (LMMA) standards in Community Conservation Areas
2. Local governance and management mechanisms
3. Sustainable livelihoods and financing linked to the 'opportunity costs' of conservation

For more information, please visit our website:
zsl.org/conservation/regions/africa/our-sea-our-life
Check out our twitter: @OurSeaOurLife
Or please contact us at: Jeremy.Huet@zsl.org

Thanks to all our partners

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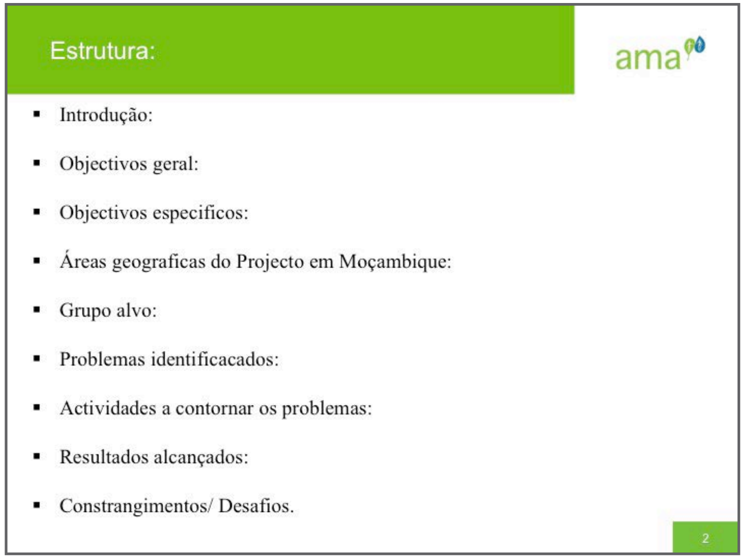
ZSL LET'S WORK FOR WILDLIFE

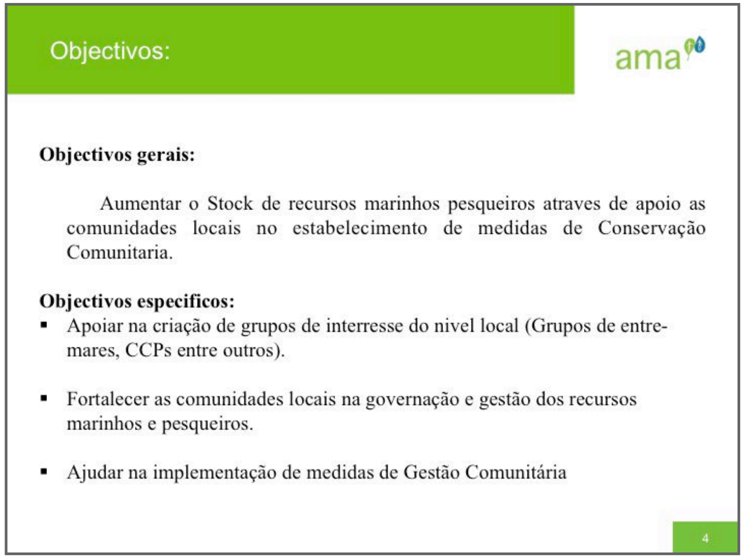
Our Sea Our Life

Building resilience for coastal communities and marine biodiversity

The full document can be viewed here

Annex 2. OSOL Powerpoint presentation example





Annex 3. Draft of Memorandum of Understanding with DPMAIP

REPÚBLCA DE MOÇAMBIQUE

GOVERNO DA PROVÍNCIA DE CABO DELGADO

MEMORANDO DE ENTERDIMENTO

ENTRE

A Direcção Provincial do Mar Águas Interiores e Pesca, adiante designada DPMAIP, localizada na Av. Joaquim Alberto Chipande, Bairro de Alto Gingone, Telefax:272-20666, Pemba, Moçambique representada pelo Sr. [adicionar nome do Director], Director Provincial e;

[adicionar nome da organisação], adiante designada por [acronimo], localizada na [adicionar e localização], representada por [nome da pessoa], Coordenador Executivo;

- **Reconhecido** o papel do Estado e a importância de coordenação inter-Institucional na implementação de acções de desenvolvimento;
- **Afirmado** que a comunidade deve assumir a sua luta contra a pobreza, organizado em grupos para merlhor intervir na tomada decisões;
- **Assumido** que as comunidades rurais são desenvolvidas, fortalecidas, potencializadas numa base de sustentabilidade que visa ao alcance de projectos promovidas pelas próprias comunidades;
- **Convicto** de que as suas acções serão bem sucedidas se as instituições assumirem que não se alcança um desenvolvimento com estanquicidade, sendo por isso necessário a complementaridade inter-institucional e multissectorial que permita a identificação dos mecanismos capazes de prover comunidades rurais de métodos e técnicos que conduzam a processos inovadores de desenvolvimento individual e social;
- **Determinados** na criação de um instrumento comum capaz de criar dinamismo e harmonizar metodologias de intervenção entre as instituições que intevém no Mar e Pesca;
- Assim, **desejando** estabelecer vínculos de cooperação, harmonização de instrumentos metodológicos e de trabalho, técnico profissional e de troca de informação entre as partes; e no espirito de boa fé, ficou acordado e decidido a celebração do presente Memorando de Entendimento que se regerá pelas seguintes cláusulas:

Annex 4. Participatory methods guide and data collection sheets

associação do meio ambiente
Amigos da terra

Métodos participativos para recolha de dados para elaboração de levantamento socioeconómico

Documento acompanhante do toolkit 'Nosso Mar Nossa Vida' para o estabelecimento de áreas marinhas de gestão comunitária

1

associação do meio ambiente
Amigos da terra

Índice

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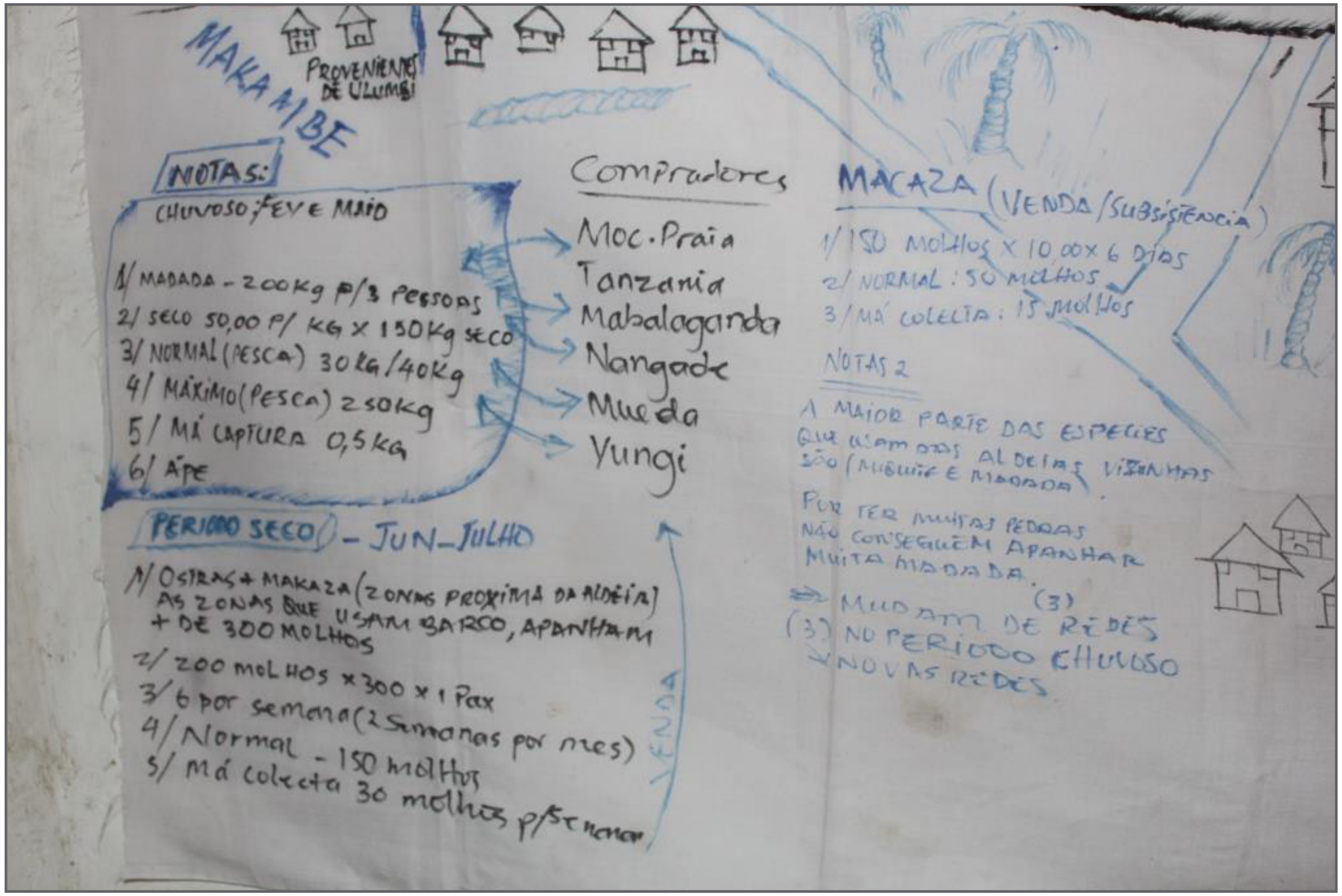
Annex 5. Digital record of data collection



Annex 6. Example of socio-economic survey report outline (Portuguese)

Levantamento socioeconómico das comunidades da segunda fase do programa Nosso Mar Nossa Vida, Cabo Delgado, Moçambique

Sumário executivo

1. Introdução

2. Métodos

3. Contexto ecológico, demográfico e social

Baseado principalmente na informação gerada através do mapa da comunidade, historial da comunidade e informação secundaria.

4. Aspetos históricos

Baseado principalmente na informação gerada através do historial da comunidade e informação secundaria.

5. Meios de vida

Baseado principalmente na informação gerada pelos métodos dos meios de vida e bem estar. Explorar diferenças entre homens e mulheres.

6. Uso de recursos marinhos

Baseado principalmente na informação gerada pelo mapa de uso de recursos marinhos. Explorar diferenças entre homens e mulheres.

7. Instituições

Baseado principalmente na informação gerada pelo diagrama de Venn.

8. Gestão dos recursos marinhos

Baseado principalmente na informação gerada pelas entrevistas aos CCPs e técnicos do SDAE e historial da comunidade.

9. Questões transversais

9.1 Aspetos de género

Baseado principalmente na informação gerada pelos métodos dos meios de vida e bem-estar, uso de recursos marinhos, historial da aldeia e instituições.

9.2 Indicadores de bem-estar

Baseado principalmente na informação gerada pelos métodos dos meios de vida e bem-estar.

9.3 Indicadores de segurança alimentar

Baseado principalmente na informação gerada pelos métodos da segurança alimentar.

10. Conclusões e recomendações

11. Bibliografia consultada

12. Anexos

Annex 7. Household census data collection sheets and guidance

Characterisation of the fishery | Rapid livelihood census data collection sheet

Guidelines for Technical staff

1.1 Introduction

The principal objective of this survey is to collect information on the livelihood activities for each household in all villages.

Livelihood activities are what people do to make a living. Specific information on livelihood activities needs to be collected for each household (and all ‘economically active individuals’[1] within the household) in each community to understand the total number of people involved in each activity.

This information will be used to inform decisions on which groups/ people should be targeted for VSLAs, for the CCPs, and other project activities. The information will also be very useful for the CCPs in the future for co-management plans, and for designing any financial incentive systems.

1.2 The survey – dos and don'ts

Broad categories, such as ‘fishing’ should not be used for livelihood activities. Specific fishing techniques should be recorded[2]. For fishing techniques, information on ‘vessel’ AND ‘gear’ AND ‘target species’ should be collected. For techniques with a broad range of species (eg. gill net fishing), broad categories for catch should be included (e.g. “crab”, “squid”, “small fish”, “large fish”, “sharks and rays”).

The information is to be collected by household, and then by individuals within the household. ALL household members (including children) should be recorded on the data sheet, but the information on livelihood activities is ONLY collected for those people who are economically active.

A household is all the people that live under the same roof and eat out of the same pot. This will need to be defined in local language (Kimwani, Kiswahili or Kimakwe). Sometimes there is more than one household per house, or sometimes (in cases where a husband has two wives) there is more than one house per household.

1.3 Key steps for technical staff

- Make a map of all the houses in the village. Give each house a code on the map.
- Ask someone who knows the village well to guide you around the village. Go from house to house with that person in order to conduct the survey.
- At each house, ask how many households there are: sometimes people sleep under the same roof, but they have separate cooking arrangements, which can indicate they are different households. Each house has a separate code, and each household has a separate code.
- At each house, explain the purpose of the survey prior to asking questions: **participation is not obligatory**.
- Use one data collection sheet for each house.
- Ask the information for each adult household member, filling in the boxes in the table.

[1] Economically active individuals are people making money or food for the household, and usually over the age of 12-13
[2] Specific fishing techniques are shown in the fisheries monitoring data collection sheets: this can be completed in Kimwani, and includes for example

DATA COLLECTION SHEET FOR THE RAPID LIVELIHOOD ACTIVITY CENSUS

Date: ....Village......................House code......................
Technician........................Number of people in the house, including children:........................

Household CODE	Number of people in the household (including children)	Number of economically active people in the household	Household member (name)	Head of house hold (y/n)	Age	Gender	Wet season			Dry season		
						M/F	Principal activity	Secondary activity	Other activities	Principal activity	Secondary activity	Other activities

Annexes

The full document can be viewed here

Annex 8. Rapid Household Census Database

Date	Village	House code	Technician	Household code	Number of people in household including children	Number of economically active people in house	Household member name	Head of household (y/n)?	Age	Gender
07.02.2014	Nsange-Ponta	1	Angela	1	7	3	xxxx xxxxx	Y	45-50	M
07.02.2014	Nsange-Ponta	1	Angela	1	7	3	rrrrr rrrrrr	N	38-40	F
07.02.2014	Nsange-Ponta	1	Angela	1	7	3	ttttt ttttt	N	23	M
08.02.2014	Nsange-Ponta	2	Angela	2	6	2	ffffff ffffff	Y	55	M
08.02.2014	Nsange-Ponta	2	Angela	2	6	2	dddd ddddd	N	45	F
08.02.2014	Nsange-Ponta	2	Angela	3	7	5	sssss sssss	Y	28	F
08.02.2014	Nsange-Ponta	2	Angela	3	7	5	jjjjj jjjjj	N	14	F
08.02.2014	Nsange-Ponta	2	Angela	3	7	5	tttt rrrrrr	N	13	M

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Annex 9. CCP diagnostic tool

SECTION 1: GENERAL INFORMATION	
1.1 Name of facilitator	
1.2 Date of interview	
1.3 Village name	
1.3 Name of *CCP members present:*	**1.**.. **2.**.. **3.**.. **4.**.. **5.**.. **6.**.. **7.**.. **8.**.. **9.**.. **10.**.. **11.**.. **12.**.. **13.**.. **14.**.. **15.**..
1.4 Total	**Total**..............**Men**...............**Women**.....................

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Annex 10. Horticulture feasibility assessment questionnaire

Inquérito sobre Horticultura

Formulário de Consentimento Informado

Caros Participantes:

A *ama* está a realizar um levantamento sobre a actividade de Horticultura do Distrito, ligado ao projecto "Nosso Mar, Nossa Vida". O objetivo do estudo é realizar o estudo de base sobre horticultura com vista a colher informações preliminares que vai ajudar na implementação da horticultura aos membros que fazem parte de ACPEs (aqueles que que de certa maneira ficaram lesado com a criação da LMMAs).

A participação no inquérito é voluntária e que a qualquer momento pode decidir não continuar a responder.

Muito obrigado – a equipe do "Nosso Mar Nossa Vida.

Ordem	Indicadores	Principais respostas
1	Existência ou não de pessoas que praticam a horticultura	
2	Números de associações criadas na área da horticultura	
3	Números de associações treinadas/capacitadas na área da horticultura	
4	Nomes e número das organizações que prestaram apoio técnico e financeiro	
5	Pessoas treinadas ou capacitadas em matéria de horticultura	
6	Lista das culturas desenvolvidas em cada comunidade	
7	O mercado para a venda	
8	Área usada para a produção	
9	Transporte usado para a comercialização	
10	Preços praticados	
11	Finalidade da produção	

The full document can be viewed here

Annexes

Annex 11. Biological assessments

Scientific coral reef surveys

Survey sites

The coral reefs surveyed in northern Cabo Delgado under the Our Sea Our Life Project were selected to correspond to the project village sites and are shown in Figure A1. It is important to note that villages share fishing grounds and therefore these reefs cannot be seen as exclusive fishing grounds to only one village. Of further note, Vamizi reef has been afforded some protection through a local Reserve supported by the Lodge on Vamizi Island. This site also represents a fishing ground for Olumbi village. Twenty-two dives were done to survey corals and reef structure and resilience while 20 dive stations were done survey fish diversity and population abundance. The latter are aggregated to give 10 sites in total for diversity and 11 for abundance. An additional site from 2014 (Quifuki) was added in the presentation of the results because this site was surveyed for corals in 2015.

Coral species richness, reef structure and resilience

Coral species are identified in the field, and a full species list was developed based on field IDs using digital photography as a primary reference and references providing underwater photographs (see Sheppard and Obura 2004). Using species records from successive dives an accumulation curve is established that asymptotes towards a total species richness for the study area.

Estimates of coral reef resilience were made using a method developed by the IUCN working group on Climate Change and Coral Reefs (Obura and Grimsditch 2009). The method compiles data in 6 key areas, deriving simple 1-5 indices from these to enable comparison among different datasets: 1. benthic cover, providing information on general reef state and the balance between corals and algae; 2. Coral community structure (genus level), providing an overview of the coral community and its susceptibility to stress; 3. Coral population structure, measuring the size class distribution of selected genera, including recruitment; 4. Threats to corals, such as crown of thorns seastars; 5. Fish community structure, in particular herbivores; and 6. A broad suite of resilience factors are estimated from the above, or in the field, on a semi-quantiative scale from 1-5. The value of these simple indicators is in communicating on reef health for management, and simple illustrations such as tables coded red, yellow and green for reefs with poor, average and good health.

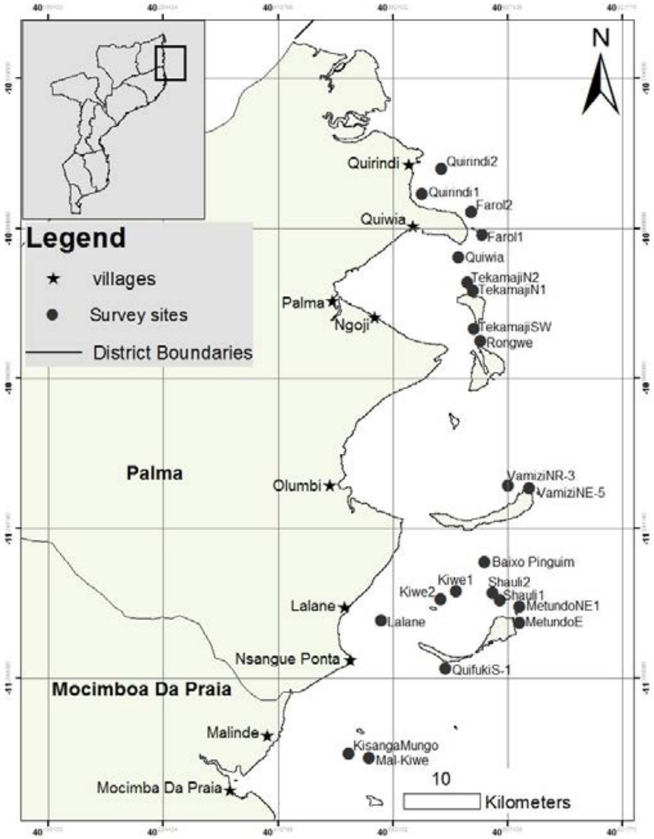

Figure A1.1. Map of all sites surveyed during the OSOL survey.

Fish diversity

To measure the diversity of coral reef fishes we compiled a complete species inventory of 19 families (Table A1.1) at each location. These families were selected based on the following criteria: largest (of all shore fishes); most diverse; known indicators of biogeographical patterns; inclusion of endemics, rare and vulnerable species (special conservation concern);

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More information can be found here

Annex 12. M&E framework example

Socio-economic M&E framework

Example of socio-economic things we need to count, measure, record and report

Indicators below are key indicators of project success as set out in the various project logframes feeding into the project, except those listed under **Additional**, which are important for us although they're not necessarily used to evaluate the project.

N.	Indicator requirement/s	Indicators monitored	Data source	Funder
1	**Enhance food security**			
1.1	Average of at least 30% improvement in locally-defined food security indicators for the households (n=500 households) within the two pilot villages by year 3, inc. measures such the number of meals taken with protein, expenditure on food, number of meals skipped by mothers.	Locally defined food security indicators identified through focus groups and incorporated into the household questionnaire. Three were selected from a longer list due to the likelihood of their being affected by project activities, including: - Taking credit from the shops (last month/last year) - Asking neighbours for food (last month/last year) - Selling assets to buy food due to hunger (last month/last year) Changes in Household Dietary Diversity Scores	Focus groups for defining indicators, household survey to collect data on indicators Household survey	
2	**Enhance human well-being**			
2.1	An average of at least 20% improvement in locally-defined wellbeing scores and material style of life indexes for households (n=500 households) within the two pilot villages by year 3. Households in pilot villages show a 20% increase in living conditions by year 5	Subjective well-being assessment (degree of satisfaction with life) Selected material Style of Life Indicators likely to be directly affected by project activities (i.e. VSLAs): zinc roofs, solar panels, mattresses	Household survey	
3	**Increase levels of livelihood diversification**			
3.1	At least 150 fishing households from the pilot communities report an increase in the number of non-fishing occupations contributing	Average number of non-fishing occupations for fishing households	Household survey	

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The full document can be viewed here

Annex 13. Household questionnaire

Household Survey "Our Sea, Our Lives" Project

Informed Consent Form

Dear participants:

UniLúrio and Univeridade Nova de Lisboa are undertaking a study about the livelihoods of local communities in Palma District in connection with the project "Our Sea, Our Lives". The project is being implemented in five communities by AMA in collaboration with other institutions. The objective of the study is to better understand how families in this region live. The questions in this survey are about the activities that the household does to get food and earn money, food security, fishing and about household assets and well-being. The survey will last approximately 1 hour. Your personal data and all you say will be kept confidential. Participation in the survey is voluntary and you may decide to stop at any time throughout the survey. There is no direct benefit associated with participating in the survey. There are also no sanctions if you decide not to participate.

Many thanks – the "Our Sea, Our Lives" Team.

______________________	______________	___________________
Interviewer's name	Date	Interviewer's signature

Before starting the questions, the interviewer should fill out the informed consent form to confirm that the interviewees understand the nature of the study, that participation is voluntary, and that they accept to participate.

1. Survey details

Date:	Village:	Name of interviewer:	Survey ID:

Name of main interviewee:	Relation to head of household	Rapid Census n:

2. Information about the head of the household

2.1 Name:	2.2 Age:	2.3 Gender:	2.4 Education:	2.5 Marital status:

2.6 Was the household head born in this community?	Yes	No

3. Information about household members

3.1 How many people live in your household:

Please provide the following information on all other household members, including the head of household

	Male	Female
3.2 Number of adults		
3.3 Number of children		

1

Annexes

The full document of the household questionnaire and database template can be viewed here

Annex 14. VSLA monitoring form

Nome do ACPE: ____________________________ Nome do CO: _____________________________

Semana #: ___________________________________ Data: ______________________________

Comentários:		
1	Grupo #	
2	Ligação a poupançasexternas	Y / N
3	Ligação a créditosexternos	Y / N
4	Data da primeiraformação	
5	Data de início da poupança	
6	Grupoformado por	
7	# membros na primeira reunião sobre poupança	
8	Data da recolha de dados	
9	# membrosactivos no momento da visita(ainda ACPE)	
10	# homensactivos no momento da visita (ainda no ACPE)	
11	# mulheresactivas no momento da visita(ainda no ACPE)	
12	# membros que participaram na reunião	
13	# desistentes desde o início do ciclo	
14	Valor da poupança neste ciclo	
15	# empréstimospendentes	
16	Valor dos empréstimospendentes	
17	Anulações desde o início do ciclo	
18	Dinheiro em caixa do fundo de acções, no momento da reunião	
19	Dinheiro em caixa do fundo social, no momento da reunião	
20	Propriedade no início do ciclo	
21	Propriedade actual	
22	Dívidas	

Lucro/prejuízo (calculado em campo)

Linha 16: valor empréstimos pendentes – extra	
Linha 18: Fundo de empréstimo em dinheiro na caixa – extra	
Linha 21: Propriedade actual – Menos	
Linha 14: Valor poupanças deste ciclo – Menos	
Linha 20: Propriedade no início deste ciclo – Menos	

Membro #	Total # acções adquiridas	Valor dos empréstimospendentes	Objectivo do empréstimo (fornecer detalhes)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
TOTAL			

Preço de umaacção	
Valor das poupanças deste ciclo	

Annexes

The full document can be viewed here

Annex 15. VSLA individual members survey

ID no.
Preassigned Code

Inquérito aos membros das ACPE

O objetivo deste inquérito é compreender o impacto das ACPES na vida e bem-estar dos membros destes grupos. O inquérito é voluntário e a informação recolhida será mantida anónima.

Gostaria de participar neste estudo?

Sim ☐ [se sim, continuar com o inquérito]

Não ☐ [se não, listar a razão] ____________________

Secção A: Informação geral

Data da entrevista: ______________ Aldeia: ________________ Nome da ACPE: ___________________

Membro # _________ Estacão: ☐ Chuvosa ☐ Seca

Nome completo do entrevistado: ____________________

Nome do entrevistador: ____________________

Hora de começo da entrevista: ______________

Bom dia/Boa tarde. Gostaria de começar por uma pergunta sobre como se sente, e como vai a sua vida.

1. No geral, como vai a sua vida? *Mahichayeno yasanna? Ou aharyshana? a) Yasana pakulo ou yasana aba? b) Aharyshana ou aharyshana yakuzidy?*
2.

1. Muito insatisfeito	2. Insatisfeito	3. Satisfeito	4. Muito satisfeito
☹	☹	☺	☺

Secção B: Composição do agregado familiar e meios de vida
(o agregado familiar são as pessoas que moram na casa e comem juntos na mesma casa)

Agora vou fazer algumas perguntas sobre as pessoas que moram nesta casa.

1. Quem é o chefe de família? ☐ O entrevistado ☐ Outra pessoa [Nome] ____________________

Informação sobre o chefe de família

2. Quais as actividades ou trabalhos (kazini) que o chefe de família faz?

Principal: ____________________ Segunda mais importante: ____________________

Terceira: ____________________

3. O chefe da família foi á escola? ☐ Sim ☐ Não
Se sim, qua a escolaridade do chefe de família? (indique o grau que completou):

☐ Primeiro ciclo- 1ª e 2ª classe ☐ Secundário geral, 8ª a 10ª ☐ Universitário
☐ Segundo ciclo, 3ª a 5ª classe ☐ Secundário, 11ª a 12ª ☐ Outro
☐ Terceiro ciclo, 6ª e 7ª classe ☐ Técnico-profissional ☐ Não sabe

Observaçoes: ____________________

4. Qual a idade do chefe de família? ________ ☐ Não sabe
5. O chefe de família nasceu nesta aldeia? ☐ Sim ☐ Não
Se não, onde nasceu (indicar Aldeia, Distrito e Província) ____________________

Informação sobre o agregado familiar (pessoas que mora na casa)

6. Contando consigo, quantas pessoas existem nesta família? _____
7. Indique o número de pessoas por cada faixa etária (contando com o entrevistado)

______ 0-15 ______ 16-24 ______ 25-34 ______ 35- 44
______ 45-55 ______ 56-64 ______ 65+

8. Contando consigo, quantas pessoas são: Homens________Mulheres___________
9. Existe mais alguém nesta família que pertence a um grupo de poupança (ACPE)? ☐ Sim ☐ Não
10. *Se sim*, quantas pessoas são membros de uma ACPE?_______ Qual o nome das ACPEs a que pertencem?
____
11. Alguém da família é membro do CCP, de uma associação ou outro tipo de grupo ou organização?
☐ Sim ☐ Não *Se sim, especifique* ____________________
12. Quantas pessoas nesta família estudam? ______
Indique o numero de estudantes por nível de estudo:

Pré-primário	Primário	Secundário	Técnico-profissional	Universitário

13. Alguém desta família é líder ou ocupa um cargo oficial[1]? ☐ Sim ☐ Não

Se sim, especifique: *Nome:* ____________________

Cargo: ____________________

14. Esta família já alguma vez recebeu apoio de alguma instituição? (por ex. comida, sementes, ajuda financeira)?
☐ Sim ☐ Não
Se sim, especifique que tipo de ajuda recebeu? ____________________

[1] Cargo official pode ser, por exemplo, chefe da aldeia, chefe da localidade, chefe de bairro, lider do CCP, etc.

2

Annexes

The full document and database example can be viewed here

Annex 16. Questionnaire for horticulture monitoring

INQUERITO AOS GRUPO DE HORTICULTURA

O inquérito tem como objectivo é de realizar um estudo para compreender o impacto da Horticultura na vida e bem das comunidades. E identificar os sucessos e fracassos na implementação da actividade horticultura, se necessário replanificarmos de modo a ultrapassar os fracassos; não só; como também identificar as lições e boas praticas aprendidas para apoiar na réplica para outras comunidades.

Nome do grupo ___________________________________Aldeia____________________________Data______/_________________/2018

	Indicadores	Questões para cada indicadores	Questões	
1	**Antes da ama introduzir Horticultura**			
1.1	Pessoas que praticavam a horticultura antes da ama introduzir a horticultura ao nível da comunidade	Conhece alguém na comunidade que praticavam a horticultura antes da ama introduzir a Horticultura aqui na comunidade?		
1.2	Principais culturas desenvolvidas	Que culturas desenvolviam antes da ama introduzir a horticultura		
1.3	Organizações que prestaram apoiam ao nível da comunidade	Que organizações ou ONGs que prestaram apoio ao nível da comunidade.		
1.4	Quantidade e qualidade dos produtos	Qual era a quantidade e qualidade dos produtos?		
1.5	Área de cultivo em hectares	Qual era a área de cultivo em termos de hectares que as pessoas cultivavam?		
1.6	O Mercado de venda	Onde é que eram comercializados os produtos alcançados?		
1.7	Demanda de procura e oferta	O que acontecia quando produzia em pequenas quantidades e quando produziam em grande quantidade em relação ao preço?		
1.8	O meio de transporte usado	Que meio de transporte usavam para escoar os produtos		
1.9	O preço de Venda	Qual é era o preço de venda de cada produto?		

Annexes

The full document can be viewed here

Annex 17. LMMA effectiveness tool

LMMA evaluation - CCP status and management activities

(Draft & a working document)

1. Introduction

Assessing the performance of LMMAs is important to help CCPs and other stakeholders to identify progress and changes needed to improve LMMA management and, ultimately, effectiveness. This document aims to identify key criteria to evaluate LMMAs, focusing on CCP functioning and LMMA management procedures and actions. It is not a fully functioning LMMA evaluation tool, and requires evaluation criteria to be further developed into SMART indicators (Specific, Measurable, Achievable, Relevant and Time-bound). Its intention is to provide the basis to develop a fully functional tool. This document will be updated as the LMMA evaluation tool is further developed and trialed in the context of Our Sea Our Life.

For more information on this tool please contact:

Gildas Andriamalala, gildas.andriamalala@zsl.org

Sérgio Rosendo, sergiorosendo@fcsh.unl.pt

Scoring system

0	Fails to meet criteria
1	Criteria very poorly met
2	Criteria poorly met
3	Criteria satisfactorily met
4	Criteria very well met
5	Criteria excellently met

Categories	Score	Explanation	Proposed improvement
I-CCP status			
1-Organization			
Appropriate number of members		The CCP has at least 15 members	
Representativeness of CCP		The CCPs represents in its membership the various marine resource user groups, including fishers of different gears, youth, women, leaders, traders and migrant fishers (if present in the community)	
Gender		At least 1/3 of CCP members are women	
Leadership posts		All leadership posts in the CCP are filled	
Understanding of CCP roles and responsibilities		All members understand the roles and responsibilities of the CCP	
Officers' understanding of their roles and responsibilities		All CCP officers understand their roles and responsibilities	
CCP functioning		The CCP conducts regular internal meetings with clear objectives	
2-Legitimacy			
Community understanding		Communities understand the role of the CCP	
Community respect		The CCP earns the respect of the community	
Legal status		The CCP is legalised by a dispatch from the Ministry dealing with fisheries	
3-Infrastructure			

Annexes

The full document can be viewed here

Annex 18. ODK guide

MANUAL DE MONITORIA COMUNITÁRIA DAS PESCARIAS ARTESANAIS

ODK- community monitoring

Síntese

O trabalho que dantes era realizado por técnicos com treinamento específico pode ser agora realizado com altos níveis de qualidades pelas comunidades, com benefícios nas tomadas de decisões a nível local, mas também com o fornecimento de dados ao governo que doutra forma não havia possibilidade de serem recolhidos. A monitoria comunitária das pescas empodera os CCP's no seu papel de gestão das pescarias e traz ferramentas adicionais ao governo para auxiliar na tomada de decisões.

Aniceto Cululo

Índice

The full document can be viewed here

Annex 19. Guide for CPUE data collection

Fishery catch landings data collection

A rapid survey of the artisanal fishery in Cabo Delgado was done in December 2013 to broadly define the gears, species and the method of landing catches in the villages in order to design the fishery data collection process in detail. Fishing occurred in three broad habitat zones of intertidal, coral reef and pelagic waters. This was followed up in January - February 2014 with training the field technicians stationed at each village in the principles of fisheries data collection including species identification, trialing the datasheets, assessing data quality, refining the field methods. Data collection commenced in late January 2014 and ended in December 2015 in all villages except Malinde, which started in March 2015.

The field technicians walked the beach to intercept fishers bringing their catch ashore since fixed landing sites are not a feature of these fisheries. Sampling was conducted on a monthly basis each year because shorter time series are unlikely to produce reliable estimates (Harley et al., 2001). Data were collected six days per month distributed in the neap and spring tides with more data collection during spring tides, since both men and women tend to fish more during this tidal period.

During each sampling day, the technician in each village collected catch and effort data for a minimum of four hours to maximise collecting catches that came from all three coastal habitats. The variables recorded are shown in Table A 3.1 and included fishing ground name, total catch weight (kg), species and number of individuals per species/taxa group.

Where the catch was large, a subsample was taken to count the number of fish per species in the catch. The catch was identified to species or aggregated taxa such as genus or family, using local and/or Portuguese names. These were later transcribed to English and scientific names. Photographs were taken for uncertain species for later identification.

Table A3.1. Fish catch landings data sheet used in the creel surveys.

Our Sea Our Life: FISHERY CPUE SURVEY DATA SHEET

LANDING SITE/VILLAGE…………………. DATE…………………………………………….
Centro de pesca

DATA COLLECTOR ………………………………. RECORDING TIME start …………… finish …………………………….
Each record ID represents ONE catch (Cada ID de registro representa uma captura). 2nd table lists species from same ID in first table.

RECORD ID	TIME OF CATCH AT SHORE *Tempo de chegada a costa*	VESSEL & TYPE *tipo de barco / pé*	GEAR *arte de pe sca*	NUMBER OF FISHERS *numero de pescadores*	FEMALE/ MALE *feminino / masculino*	HOURS FISHED: *tempo de pesca* Start Finish (tot. hr)			TOTAL CATCH WEIGHT (g) *Peso total*	FISHING ZONE *Zona de Pesca*

RECORD ID (above)	FISH TYPE (FAMILY/SPECIES) Tipo de peixe	NO. OF FISH numero de peixes	CATCH WEIGHT (g) peso	NOTES

The full document can be viewed here

Annexes

Annex 20. CCP statutes template

Quarta-feira, 5 de Julho de 2006 III SÉRIE — Número 27

JJS SANTANA

BOLETIM DA REPÚBLICA

PUBLICAÇÃO OFICIAL DA REPÚBLICA DE MOÇAMBIQUE

IMPRENSA NACIONAL DE MOÇAMBIQUE

AVISO

A matéria a publicar no «**Boletim da República**» deve ser remetida em cópia devidamente autenticada, uma por cada assunto, donde conste, além das indicações necessárias para esse efeito, o averbamento seguinte, assinado e autenticado: Para publicação no «**Boletim da República.**»

MINISTÉRIO DA JUSTIÇA

DESPACHO

Um grupo de cidadãos requereu ao Ministério da Justiça o reconhecimento da Kulunguana – Associação para o Desenvolvimento Cultural, como pessoa jurídica, juntando ao pedido os estatutos da constituição.

Apreciados os documentos entregues, verifica-se que se trata de uma associação que prossegue fins lícitos, determinados e legalmente possíveis cujo o acto de constituição e os estatutos da mesma cumprem o escopo e os requisitos exigidos por lei, nada obstando, ao seu reconhecimento.

Nestes termos e no disposto no n.º 1 do artigo 5 da Lei n.º 8/91, de 18 de Julho, e artigo 1 do Decreto n.º 21/91, de 3 de Outubro, vai reconhecida como pessoa jurídica a Kulunguana – Associação para o Desenvolvimento Cultural.

Ministério da Justiça, em Maputo, 10 de Maio de 2006. — A Ministra da Justiça, *Esperança Machavela.*

DESPACHO

Um grupo de cidadãos da Associação Moçambicana de Obstetras e Ginecologistas requereu ao Ministério da Justiça o reconhecimento como pessoa jurídica, juntando ao pedido os estatutos da constituição.

Apreciados os documentos entregues, verifica-se que se trata de uma associação que prossegue fins lícitos, determinados e legalmente possíveis e que o acto de constituição e os estatutos da mesma cumprem o escopo e os requisitos exigidos por lei, nada obstando, ao seu reconhecimento.

Nestes termos e no disposto no n.º 1 do artigo 5 da Lei n.º 8/91, de 18 de Julho, e artigo 1 do Decreto n.º 21/91, de 3 de Outubro, vai reconhecida como pessoa jurídica a Associação Moçambicana de Obstetras e Ginecologistas.

Ministério da Justiça, em Maputo, 16 de Novembro de 2004. — O Ministro da Justiça, *José Ibraimo Abudo.*

DESPACHO

Um grupo de cidadãos da GADC – Grupo de Ajuda para Desenvolvimento Comunitário, requereu ao Ministério da Justiça, seu reconhecimento como pessoa jurídica, juntando ao pedido os estatutos da constituição.

Apreciados os documentos entregues, verifica-se que se trata de uma associação que prossegue fins lícitos, determinados e legalmente possíveis e que o acto de constituição e os estatutos da mesma cumprem o escopo e os requisitos exigidos por lei, nada obstando, o seu reconhecimento.

Nestes termos e no disposto no n.º 1 do artigo 5 da Lei n.º 8/91, de 18 de Julho, e artigo 1 do Decreto n.º 21/91, de 3 de Outubro, vai reconhecida como pessoa jurídica a GADC – Grupo de Ajuda para o Desenvolvimento Comunitário.

Ministério da Justiça, em Maputo, 23 de Junho de 2004. – O Ministro da Justiça, *José Ibraimo Abudo.*

LEONIO SANTANA CHAMARI ZENE

MINISTÉRIO DOS RECURSOS MINERAIS
Direcção Nacional de Minas

AVISO

Em cumprimento do disposto no artigo 14 do Regulamento da Lei de Minas, aprovado pelo Decreto nº 28/2003, de 17 de Junho, faz-se saber que por despacho de S. Ex.ª a Ministra dos Recursos Minerais, de 14 de Fevereiro de 2006, foi atribuída à Kapromu, Limitada, a Licença de Prospecção e Pesquisa nº 1297L, válida até 14 de Fevereiro de 2011, para água-marinha, berilo, quartzo e turmalina, no distrito de Alto Molócuè província da Zambézia, com as seguintes coordenadas geográficas:

Vértices	Latitude	Longitude
1	15° 30' 00''	37° 24' 00''
2	15° 30' 00''	37° 27' 00''
3	15° 32' 45''	37° 27' 00''
4	15° 32' 45''	37° 24' 00''

Direcção Nacional de Minas, em Maputo, 14 de Fevereiro de 2006. — A Directora Nacional de Minas, *Fátima Jussub Momade.*

AVISO

Em cumprimento do disposto no artigo 14 do Regulamento da Lei de Minas, aprovado pelo Decreto nº 28/2003, de 17 de Junho, faz-se saber que por despacho de S.Ex.ª a Ministra dos Recursos Minerais, de 4 de Maio de 2006, foi atribuída à Joaco Cimentos, Limitada, a Concessão Mineira nº 1292C, válida até 27 de Abril de 2011, para areia e pedra de construção, no distrito de Moamba, província do Maputo, com as seguintes coordenadas geográficas:

Vértices	Latitude	Longitude
1	25°36'30.00''	32° 9'30.00''
2	25°36'30.00''	25°10'15.00''
3	25°38'0.00''	25°10'15.00''
4	25°38'0.00''	25° 9'30.00''

Direcção Nacional de Minas, em Maputo, 8 de Maio de 2006. — A Directora Nacional de Minas, *Fátima Jussub Momade.*

ESTATUTO DO CONSELHO COMUNITÁRIO DE PESCA (CCP)

DE

BANDAR

CAPÍTULOI
Da Denominação, Âmbito, Natureza, Sede e Duração

Artigo1
Denominação

Com a denominação Conselho Comunitário de Pesca de .... é constituída uma organização comunitária de pesca, abreviadamente designada por CCP de .... que se regerá pelos presentes estatutos**.**

Artigo 2
Âmbito de actuação

1. O CCP de .... é uma organização comunitária que desenvolve as suas actividades dentro da respectiva área geográfica.

2. A área geográfica do CCP de .... estende-se ao longo da costa desde o centro de pesca de .... até .... e até três milhas da costa.

Artigo 3
Natureza

1.O CCP de .... é uma associação sem fins lucrativos e dotada de autonomia administrativa e financeira.

2.O CCP é uma organização comunitária de pesca, que tem a tarefa de contribuir a gestão participativa das pescarias, de garantir o cumprimento das medidas de gestão vigentes, de gerir os conflitos resultantes da actividade da pesca, tendo em vista a sustentabilidade das actividades na sua área geográfica e a melhoria das condições de vida da população local.

Artigo 4
Sede

O CCP de .... tem a sua sede no bairro.., na localidade de...................................., Posto Administrativo de ....,Distrito de..

Artigo 5
(União de CCP's)

1. Por decisão da Assembleia Geral do CCP de ....poderá associar-se a outros CCP's com vista à constituição de uma União de CCP's.

2. A União de CCP's não carece de autorização mas deverá ser criada por um Acordo de União onde conste a vontade das partes e as formas de representação.

Annexes

The full document can be viewed here

Annex 21. CCP internal regulations

REGULAMENTO INTERNO DO CCP DE………………………………………………………………..

I

INTRODUÇÃO

O CCP de …………………………………………é uma associação de pescadores, pessoas influentes da zona, lideres religiosos, patrões de pescadores, e mais outros que contribuem na preservação dos recursos marinhos e pesqueiros sem fins lucrativos dotada de uma autonomia financeira.

São membros do CCP de …………………………………………………… Todos aqueles que residem ……………………………………………………………………………………………que cobre a AP

II

OBJECTIVO

O CCP de ………………………………………………………….tem como objectivo contribuir na preservação marinha e pesqueiro;

O CCP de…………………………………………………tem como tarefa de mobilizar os pescadores a usarem artes nocivas durante a actividade de pesca;

O CCP tem como tarefa de informar a ADNAP (a Delegação da Administração Pesqueira de Cabo Delgado sobre as mudanças climáticas a se registar numa determinada zona e que resultaram da morte de muito pescado;

Implementação e controle de medidas correctivas que permitem a utilização do recurso duma forma sustentável;

O CCP tem como tarefa de controlar a área de conservação decretada em consenso pela comunidade e pescadores da área;

O CCP tem como tarefa de consultar aos pescadores e pessoas influentes da zonas da zona sobre o número de pescadores emigrantes a receberem para efectuarem de campanhas de pesca num determinado período (decisão tomada pela assembleia geral do CCP).

O CCP tem como tarefa de consultar e apresentar o governo local sobre os problemas que superam o seu nível em acompanhar até desfecho.

ACTIVIDADES DO CCP DE ……………………………………………………………

III

O CCP DE …………………………………………reunirá semestralmente para realizar a assembleia geral, na qual serão convidados representantes das associações de pescadores, comerciantes, grupos de PCR´s, comissões de gestão de mercados, lideres religiosos, comunitários e outros representantes das instituições do governo e Organizações que ligadas a pesca;

DIREITOS DOS MEMBROS DE CCP

Votar e ser votado para escolha de membros o comité de direcção;

Pagar pontualmente as quotas no CCP;

Utilizar os bens do CCP de…………………………………………de acordo com os fins pelos quais existem;

Só os membros efectivos «e que tem direito de votar e serem votados;

Os membros do CCP de ……………………………………………têm direito de propor a demissão dos membros do comité de direcção e a qualquer membro que tiver uma conduta não favorável:

Os membros do CCP de………………………………………………… têm direito de fiscalizar e capturar os infractores e encaminhar aos superiores hierárquico;

Os membros do CCP de ……………………………………têm direito de acompanhar a movimentação dos fundos geridos pelo CCP;

Os membros do CCP de ………………………………………têm direito de reclamar a votação quando não haver a transparência;

Os membros do CCP de ……………………………………………têm direito de propor a expulsão, suspensão ou subida de cargo de um membro efectivo para cargos de chefia se achar se competente;

Os membros do CCP ………………………………………têm direito de propor a realização de encontro para harmonização das actividades, efectuar denuncias e lançamento de novas estratégias;

Os membros do CCP de ……………………………têm direito de participar no comité distrital de co-gestão e tomar palavra sobre alguma melhoria;

Os membros do CCP de ……………………………têm direito de participar no comité Provincial de co-gestão em representação de outros membros de CCP´s e com direito a palavra sobres a gestão dos recursos pesqueiros.

DEVERES

V

1. Os membros do CCP têm o dever de conhecer suficientemente o Estatuto Tipo dos CCP´s para permitir que os seus membros estejam integrados dentro das normas vigentes sobre o processo de gestão participativa dos recursos pesqueiros;
2. Um CCP deve ter sede local onde são realizados encontros e resolvidos problemas ligados a pesca artesanal.
3. Todas as solicitações aos membros do Conselho Comunitário de Pesca devem ser respeitadas e os membros devem se apresentar no local o mais cedo possível;

The full document can be viewed here

Annex 22. National law - CCPs

CAPÍTULO VII
Disposições finais e revogatórias
ARTIGO 29
Período transitório

Quando razões ponderosas a apresentar fundamentalmente pela entidade habilitada o justifiquem, poderá a IGS autorizar, excepcionalmente, por um prazo não superior a dois anos, a aplicação progressiva do regima das garantias financeiras regulado neste Decreto, em relação às provisões para riscos em curso e para desvios de sinistralidade se, à data de entrada em vigor deste Decreto, a mesma se encontrar legalmente em exercício de actividade na República de Moçambique.

ARTIGO 30
Revogação

São revogadas todas as disposições que contrariem o disposto no presente diploma.

Aprovado pelo Conselho de Ministros, aos 14 de Outubro de 2003.

Publique-se.

O Primeiro-Ministro, *Pascoal Manuel Mocumbi.*

Decreto nº. 43/ 2003

de 10 de Dezembro

A Lei nº. 3/90, de 26 de Setembro, Lei das Pescas, que define o quadro geral da acção da administração pesqueira e das actividades dos agentes económicos, atribui competência ao Conselho de Ministros para adoptar regulamentos destinados a assegurar a sua execução. É neste contexto que o Decreto nº. 16/96, de 28 de Maio, aprovou o Regulamento da Pesca Marítima que vinha respondendo às necessidades gerais e específicas do desenvolvimento sustentado da pesca marítima.

Mostrando-se necessário actualizar o supra citado Regulamento, ao abrigo do disposto na alínea c) do nº. 1 do artigo 153 da Constituição da República, conjugado com o artigo 69 da Lei nº. 3/90, de 26 de Setembro, o Conselho de Ministros decreta:

Artigo 1. É aprovado o Regulamento Geral da Pesca Marítima (REPMAR) que, com os respectivos anexos, é parte integrante do presente Decreto.

Art. 2. O Ministro das Pescas poderá delegar as competências que lhe são atribuídas no Regulamento Geral da Pesca Marítima.

Art. 3. Sem prejuízo das disposições gerais previstas no Regulamento Geral da Pesca Marítima, o Ministro das Pescas poderá adoptar por Diploma Ministerial regulamentação específica para cada pescaria que a pesca marítima engloba.

Art. 4. É revogado o Decreto nº. 16/96, de 28 de Maio, que aprovou o Regulamento da Pesca Marítima e os respectivos anexos.

Artigo 5. O disposto no número 1 do artigo 110 do Regulamento Geral da Pesca Marítima, ora aprovado, produz efeitos 12 meses após a sua entrada em vigor.

Artigo 6. O presente Decreto entra em vigor a partir de 1 de Janeiro de 2004.

Aprovado em Conselho de Ministros, aos 28 de Outubro de 2003.

Publique-se.

O Primeiro-Ministro, *Pascoal Manuel Mocumbi*

Regulamento Geral da Pesca Marítima

CAPÍTULO I
Disposições gerais
ARTIGO 1
(Objecto)

O presente Regulamento tem por objecto regulamentar as disposições da Lei n.º 3/90, de 26 de Setembro, Lei das Pescas, relativas à actividade da pesca marítima.

ARTIGO 2
(Definições)

Para efeitos do presente Regulamento, sem prejuízo das definições contidas na Lei das Pescas, as expressões que se seguem significam:

1. Afretamento: quando o proprietário da embarcação de pesca, ou quem o represente, a entrega a um armador, o afretador, com ou sem opção de compra, detendo este a respectiva gestão, por um determinado período de tempo.

2. Águas interiores marítimas: as águas situadas para aquém das linhas de base e sujeitas à influência das marés.

3. Águas marítimas: a zona económica exclusiva, o mar territorial e as águas interiores marítimas.

4. Alto Mar: as partes do mar não incluídas na zona económica exclusiva, no mar territorial ou nas águas interiores de um Estado, nem nas águas arquipelágicas de um Estado arquipélago.

5. Armadilhas: artes de pesca fixas que se utilizam para capturar peixes, moluscos ou crustáceos, concebidas e implantadas de tal modo que permitam a entrada de espécies aquáticas e dificultem o mais possível a respectiva saída.

6. Arte de pesca abandonada na água: toda a arte de pesca que não se encontre devidamente identificada e sinalizada ou sobre a qual o comandante da embarcação de pesca ou o seu armador tenham perdido o controlo.

7. Campanha de pesca: o mesmo que viagem, ou seja, o período que decorre desde a largada de uma embarcação de pesca, para a pesca, até à sua primeira entrada em porto.

8. Capturas acessórias ou fauna acompanhante: quaisquer espécies aquáticas capturadas durante uma operação de pesca orientada para a captura de uma ou mais espécies alvo.

9. Centro de Monitorização e Vigilância (CMV): centro instalado em terra sob a dependência do Ministério das Pescas e destinado a garantir o controlo das embarcações de pesca com o Dispositivo de Localização Automática (DLA) instalado a bordo e que se encontrem a operar em águas marítimas nacionais ou em águas de Estados terceiros ou no alto mar.

10. Comandante de embarcação de pesca: o tripulante constante do rol da matrícula como responsável pela embarcação de pesca.

11. Construção de embarcação de pesca: o fabrico duma embarcação de pesca quer a partir do lançamento duma quilha nova quer a partir duma quilha já existente.

12. Corrico: arte de pesca constituída por um aparelho de anzol que actua à superfície ou à subsuperfície, rebocado por uma embarcação de pesca, utilizando isca viva ou morta ou amostra artificial.

13. Defeso: áreas e épocas de interdição da pesca para protecção da desova.

14. Diário de Bordo de Pesca: o livro fornecido e autenticado pelo Ministério das Pescas destinado ao registo da actividade das embarcações de pesca licenciadas.

15. Dispositivo de Localização Automática (DLA): equipamentos de monitorização contínua e automática, via satélite, instalado a bordo das embarcações de pesca genericamente designado por caixa azul.

16. Dispositivo flutuante para concentração de cardumes: qualquer sistema flutuante, fundeado ou de deriva, destinado a atrair e a concentrar cardumes, em particular os de espécies migratórias.

17. Esforço de pesca: a medida da intensidade com que a pesca é exercida sobre uma espécie aquática determinada, por uma unidade de pesca, embarcação ou arte de pesca, cuja unidade de medida é variável podendo ser, entre outras, o número de embarcações de pesca, o número de pescadores, o número de horas de pesca, a quantidade de artes de pesca ou o número de lances.

18. Espécie alvo: espécie ou espécies aquáticas cuja captura está autorizada e que não seja considerada captura acessória ou fauna acompanhante.

19. Espécies aquáticas: organismos que encontram na água o seu meio normal ou mais frequente de vida.

20. Experiências de máquinas: operações realizadas por uma embarcação de pesca após a modificação, reparação ou substituição de equipamentos mecânicos, eléctricos e electrónicos, com vista a testar o seu funcionamento.

21. Fiscal de pesca: funcionário e outro agente de fiscalização do Ministério das Pescas credenciado para efeitos de fiscalização das actividades de pesca com vista a garantir o cumprimento da legislação pesqueira.

22. Fiscalização: acção de supervisão com vista a garantir o cumprimento da legislação pesqueira.

23. Fontes luminosas para atracção do pescado: qualquer estrutura dispondo de um ou mais focos de luz preparados especificamente para atrair o pescado, independentemente de estar a bordo da embarcação de pesca principal ou de embarcação auxiliar, ou de ser um simples suporte flutuante, não sendo como tal consideradas as luzes de posição e de sinalização das embarcações envolvidas.

24. Ganchorra: arte de pesca de arrastar, destinada à captura de bivalves, constituída por uma armação metálica com um pente de dentes ou com um varão ou tubo cilíndrico na parte inferior, à qual está ligado um saco de rede que serve para a recolha de bivalves.

25. Linha de mão: arte de pesca constituída por um aparelho de anzol, com um ou mais anzóis, que actua normalmente ligado à mão do pescador.

26. Milha: milha náutica, correspondente a 1852 metros.

27. Modificação de embarcação de pesca: qualquer alteração estrutural realizada numa embarcação de pesca e seus apetrechos, nomeadamente guinchos ou cabrestantes, bem como qualquer alteração ao sistema de propulsão instalado, incluindo a substituição de motores, ou qualquer alteração ao sistema de refrigeração e congelação, ou qualquer alteração no equipamento electrónico de navegação ou de detecção de espécies aquáticas instalado a bordo.

28. Monitorização: acção de acompanhamento das actividades de pesca por meio de recolha, registo, processamento, análise e divulgação de informação da pesca.

29. Palangre: arte de pesca constituída por aparelhos de anzol formados basicamente por uma linha ou cabo denominado madre, de comprimento variável, do qual partem baixadas com anzóis, podendo ser fundeados ou de deriva, consoante são ou não fixados ao fundo marinho.

30. Pesca: tal como definido na Lei das Pescas, incluindo os preparativos de pesca, a pesca submarina, a caça de mamíferos aquáticos e a apanha de corais e de conchas ornamentais ou de colecção.

31. Pesca ilegal: qualquer actividade de pesca ou conexa de pesca desenvolvida em violação da legislação pesqueira ou das normas internacionalmente aceites.

32. Pesca marítima: a pesca praticada nas águas marítimas.

33. Pesca submarina: a pesca praticada por pessoas em flutuação na água ou em imersão, em apneia ou dotada de meios de respiração artificial, com ou sem o auxílio de embarcação de pesca.

34. Porto base: aquele no qual a embarcação de pesca faz normalmente as matrículas da sua tripulação, prepara e inicia as suas actividades de pesca.

35. Pescaria fechada: pescaria em regime de não acesso a embarcações de pesca ou a empreendimentos que directa ou indirectamente incidam sobre a exploração de um recurso pesqueiro e que indiciem ou impliquem um aumento de esforço de pesca sobre esse recurso.

36. Porto de pesca: local com áreas especialmente destinadas à acostagem de embarcações de pesca e destinadas a realizar actividades de abastecimento, manuseamento, acondicionamento, armazenamento, exposição, venda, carga, descarga e despacho de produtos da pesca e de outros insumos destinados à actividade de pesca.

37. Potência propulsora: a força motriz do motor ou motores propulsores instalados na embarcação de pesca.

38. Preparativos de pesca: fundear, amarrar, estacionar ou pairar nos locais de pesca, bem como neles navegar com as artes de pesca prontas a serem utilizadas.

39. Princípio da precaução: a adopção de medidas preventivas relativas à preservação, gestão e exploração dos recursos pesqueiros bem como dos ecossistemas marinhos, quer por necessidade de prevenir situações que possam pôr em causa a sustentabilidade dos recursos pesqueiros quer pelo grau de incerteza do conhecimento científico existente em cada momento.

40. Produtos da pesca: recursos pesqueiros capturados no decurso da pesca.

41. Quota de pesca: a quantidade limite de captura concedida a uma embarcação de pesca ou a um grupo de pescadores artesanais para um determinado período de tempo.

42. Recife artificial: conjunto de elementos ou módulos, constituídos por diversos materiais inertes, que se lançam sobre o leito marinho a fim de favorecer a fixação, preservação e reprodução das espécies.

The full document can be viewed here

Annex 23. Template of legalisation request letter

EXMO SENHOR MINISTRO DO MAR ÁGUAS, INTERIORES E PESCA

=DISTRITO=

[nome e apelido], [estado civil], natural de [distrito], de nacionalidade Moçambicana, portador do bilhete de identidade nº [numero], emitido aos [data] e residente no distrito de [distrito] em [comunidade], vem nos termos do Regulamento Geral da Pesca Marítima (REPMAR), aprovado pelo Decreto nº 43/2003, de 10 de Dezembro, venho mui respeitosamente requerer a V. Excia se digne autorizar a legalização do CCP de [comunidade], cuja a missão e contribuir, dentro da sua área geográfica, na gestão participativa das pescarias, na garantia do cumprimento das medidas de gestão vigentes e na gestão de conflitos resultantes da actividade.

Pede Deferimento

[distrito], aos [data]

Annexes

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Annex 24. Guidelines and materials for linking VSLAs to co-management

Fundo Ambiental em Associações Comunitárias de Poupança e Empréstimo

SESSÃO I - Por que o mar é importante para você?

Resultados esperados
• Membros da comunidade ganham maior compreensão da importância do mar
• Os membros da comunidade reconhecem a necessidade de proteger os habitats marinhos

Processo
O facilitador deve iniciar a sessão perguntando aos membros da ACPE:

por que o mar é importante para eles? Certifique-se de que um **ambiente descontraído** esteja definido e que todos sejam **incentivados a compartilhar** suas ideias.

O facilitador **resume as respostas dos membros** da ACPE enumerando as respostas dominantes - sublinhando que os próprios membros da ACPE podem confirmar que o mar é vital como suporte de vida. **O facilitador também fornecerá insumos adicionais**, conforme descrito abaixo, ele também pode utilizar recursos visuais e outros materiais para facilitar uma melhor compreensão.

Insumos sobre a importância do mar
O mar mantém a nossa vida na terra, fornecendo aos humanos básicos a necessidade de sobrevivência - ar / oxigênio, comida, água e abrigo:

1. O ar de cerca de dois de cada cinco respirações que tomamos vem do mar. Antes de compartilhar esta informação com os participantes, o facilitador pedirá que eles inspirem e expirem cinco vezes. O facilitador lhes dirá então que o oxigênio de cerca de dois de cada cinco respirações que fazemos vem do oceano e termina perguntando o que acontece se prejudicarmos a capacidade do oceano de produzir oxigênio poluindo-o.

2. O mar é uma importante fonte de comida. Muitos de nos obtêm proteínas de peixe e outros produtos retirados do mar. Os médicos agora dizem que comer peixe é melhor do que comer frango ou outra carne animal. O óleo que obtemos de comer mais peixe é bom para a nossa saúde, enquanto muitas doenças estão ligadas a comer carnes.

3. O mar também fornece nossa água potável. O mar é parte integrante do ciclo da água. A água do mar evaporada junta-se no ar para formar nuvens e, quando o vapor da nuvem esfria, cai como chuva. Todos os anos milhões de litros de água evaporam dos oceanos e caem como chuva sobre campos, lagos e rios - que colhemos para beber e para outros usos. Sem água para beber e para cultivar comida, o que você acha que acontecerá connosco?

4. O mar nos fornece abrigo. O ecossistema marinho inclui barreiras naturais que nos protegem dos efeitos de desastres naturais. Corais e manguezais quebram ondas fortes e ventos que podem destruir nosso abrigo. O capim-mar e os manguezais se ligam a areia que, de outra forma, pode sofrer erosão, afetando os abrigos ao longo das costas.

5. Como o oceano pode apoiar ainda mais a nossa vida cotidiana? O facilitador pode colocar a questão aos participantes - Eu colocaria esta questão em conjunto com a anterior para reduzir a duração da conversa, bem como este documento.

6. O mar suporta a subsistência de muitas pessoas nas áreas costeiras. O nosso país arquipelágico tem comunidades costeiras em rápido crescimento que dependem da pesca e de outros meios de subsistência baseados no mar.

Exemplo: pessoas que recolhem conchas para artesanato, turismo….

Muitas áreas ganham grandes rendimentos por causa de suas praias brancas limpas e águas claras.

7. O mar tem poderes de cura. Exemplos de paralíticos e asmáticos reconheceram os efeitos curativos das linhas costeiras. Componentes farmacêuticos também são extraídos de invertebrados e algas marinhas

8. O mar nos permite viajar para outras áreas

9. O oceano regula o clima global. A água do mar absorve o calor do sol. Sem esse processo, a terra ficaria quente demais.

10. O mar prende o dióxido de carbono. Fitoplâncton do oceano, manguezais e grama do mar consertam e prendem carbono atmosférico

Ciclo da água

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Annex 25. Example of Communication Plan

Plano de comunicacao			
Dias de semana:	(por exemplo: Quarta-feira)		
Membros envolvidos:	(por exemplo: David, Alexandra)		
Lider de equipe:	(por exemplo: David, Alexandra)		
Bairro	**Local de concentracao**	**Horas**	**Conteudos ou tema a serem tratadas**
	(por exemplo: Na mangueira/ perto da casa do Sr/Sra...)	(por exemplo: 14h30 as 15H15)	(por exemplo:) 1.Lembrar a comunidades quais foram os motivos e objectivos de criacao de reservas. 2. Lembrar as Datas de fecho e a previsao de abertura; 3. Lembrar que sao os beneficiarios das RT no acto de Abertura. Solicitar membros para ajudar na fiscalizaca;

NB: Os conteudos da comunicacao deve ser baseadas aos objectivos centras da comunidade sobre as
as zonas de gestao e algum momento poder aplicado para resolver os problemas locais.

Assegurar que os encontros nao sejam a cima de 45 min.

Relatorio Sobre a Comunicacao					
Semana	1	2	3	4	Obs/ mesma pessoa
Homens					
Mulheres					
Total					

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Annexes

Annex 26. Example of Outreach Plan (OSOL) (ENG)

<table>
<tr><td colspan="5">OSOL LMMAs Outreach plan</td></tr>
<tr><td colspan="5">LMMA Establishment phase: Local stakeholders support the establishment of the LMMA</td></tr>
<tr><td>Behaviour adoption and Action objectives</td><td>Target audiences</td><td>Messaging strategies</td><td>Messages vehicles and channels</td><td>Tools and Materials</td></tr>
<tr><td rowspan="2">Action 1: Community understand and agree to establish LMMA</td><td>Local communities, CCPs, VSLAs</td><td>Strengthening community understanding of their marine resources and habitats:
- Marine habitats: roles and connectivity- benefit of healthy ecosystem.

- Fish/Octopus reproduction and life cycle
- Fish Spawning aggregation.

- Different threats to marine resources and habitats.

- Implication of unsustainable fishing practices on the fisheries and the community wellbeing.</td><td>Community consultation/outreach, VSLA meetings, CCP meetings.
Use of VAs local champions
Community exchange trips</td><td>Posters, PPP and movies</td></tr>
<tr><td>Local communities, CCPs, VSLAs</td><td>Promoting LMMA as an effective marine management tool:
- What is an LMMA? Why do we need LMMA?

- Reinforcing the value of the sea as an essential community life support, and should be taken good care of by the communities through LMMA establishment (value of stewardship).</td><td>Community consultation/outreach, VSLA meetings, CCP meetings.
Use of VAs local champions.
Community exchange trips</td><td>Posters, PPP and movies</td></tr>
<tr><td>Action 2: Community members and CCPs actively participate (attend meeting and participate in discussion) in LMMA consultation</td><td>Local communities, CCPs, VSLAs</td><td>Why? Ensure that decisions made are appropriate to community, respond to community needs, opportunity to raise concern, voices, and better awareness of the project….etc.</td><td>Community consultation/outreach, VSLA meetings, CCP meetings.
Use of VAs local champions</td><td>None (could be banners)</td></tr>
</table>

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Annex 27. Horticulture manual (PT)

Guião sobre como foram Implementadas as Actividades de Horticultura na fase I do Projecto OSOL -UE

Guide on how Horticulture Activities were implemented in phase I of the OSOL - UE Project

1. **Introdução**
   Introduction

Este guião foi elaborado no âmbito da implementação da actividade de Horticultura no projecto OSOL. A horticultura foi introduzida com o objectivo de contribuir para a segurança alimentar e reduzir a pressão sobre os recursos marinhos como sendo uma da actividade de geração de renda alternativa a pesca.

O guião explica resumidamente todas as etapas que envolveu no processo de implementação de Horticultura desde a mobilização dos membros, preparação do terreno, lançamento da semente, rega, calendarização das principais culturas, combate as pragas, adubação das culturas, selecção das culturas para a comercialização e a identificação dos potenciais compradores.

This guide was developed in the context of the implementation of the Horticulture activity in the OSOL project. Horticulture was introduced with the aim to contribute towards food security and reduce pressure on marine resources as one of the alternative income-generating activities to fishing.

The guide briefly explains all the steps involved in the Horticulture implementation process, from mobilizing members, preparing the land, planting the seeds, watering, scheduling the main crops, fighting pests, fertilizing crops, selecting crops for marketing and the identification of potential buyers.

2. **Mobilização das comunidades para aderir a Horticultura**
   Mobilizing communities to join Horticulture

Umas das formas que foi usada para encorajar as comunidades para aderirem esta actividade, em particular a produção de alface foi a sensibilização que passou-se pelo processo de explicação sobre o consumo das hortaliças, a sua importância, o valor nutritivo e sem se esquecer do objectivo primordial que é a redução da pressão dos recursos marinhos, como sendo uma das actividades alternativas de sobrevivencia e de geração da renda.

Todavia, as pessoas da zona costeira nao tem habito de comer as verduras e legumes, sendo assim foram incentivados os membros da comunidade para ter habito de comer esses alimentos

Umas das sensibilizações feitas junto com as comunidades, pela primeira foi de preparar a salada de alface e dar os membros provarem, os membros gostaram da salada e sentiram se satisfeitos.

No final das mobilizacao ficaram convencidos que vale a pena produzir verduras e legumes e que não se pode viver somente dos recursos marinhos/ pesqueiros.

One of the ways that was used to encourage communities to join this activity, in particular the production of lettuce, was the awareness-raising that took place through the process of explaining the consumption of vegetables, its importance, the nutritional value and importantly, the aim to reduce pressure on marine resources, horticulture being one of the alternative activities for survival and income-generation.

However, coastal communities here do not usually include vegetables in their everyday diet, so community members were encouraged to get into the habit of eating these foods.

One of the initial types of outreach done with the communities, was the preparation of the lettuce salad and encouraging community members to have a taste, most of which enjoyed eating the salad and felt satisfied.

At the end of the outreach activities, community members were convinced that it is worthwhile to produce vegetables and that one cannot live on marine / fishing resources alone.

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Annexes

Annex 28. Template of horticulture agreement (PT)

ACORDOS DE ALDEIA

Aos ---------- de ---------- 20XX, na comunidade de ---, esteve reunido um grupo de pessoas com o objectivo de elevar a sua aldeia. As responsabilidades de cada parte:

AMA ira oferecer um material de trabalho em troca de um favor que os membros possam exercer o trabalho com zelo e responsabilidade as actividades das machambas de horticultura.

As partes envolvidas:

AMA:

- Ira alocar insumos agrícolas tais como: enxadas, catanas, pás, regadores, ancinhos, Botas, Luvas, Pulverizadores e sementes agrícolas.

Comunidade:

- Cuidar dos insumos agrícolas e para que possam levar muito tempo;
- Contribuir o fundo ambiental para o CCP poder exercer uma limpeza ou uma actividade que tem a ver com o ambiente;
- Ter a responsabilidade de ajudar outros grupos que existirão na aldeia no futuro;
- Ter a responsabilidade de comprar insumos agrícolas para o grupo na época seguinte.

Annexes

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Annex 29. Threat ranking according to criteria

Threats ranking

This method can be used for a more thorough ranking of threats using different criteria and scores. The score definitions below act as a guide only, and can be adapted depending on context:

i. Scope – geographic coverage of the threat – how widespread is it? Score 3 (high) = 50-100% of area impacted. Score 2 (medium) = 20-50% of area impacted. Score 1 (low) = 0-20% of area impacted.
ii. Severity – level of damage within the geographical area it is affecting. Score 3 (high) = resource will be depleted to a level 0-50% of original level. Score 2 (medium) = resource 50-80% of original resource. Score 1 (low) = resource 80-100% of original level.
iii. Irreversibility – chance of recovery after the damage has been done (after removing the threats). Score 3 (high) = 0-50% chance of recovery. Score 2 (medium) = 50-80% chance of recovery. Score 1 (low) = 80-100% chance of recovery.

Column d) gives the total score of each threat. The threats with the highest ranks represent the greatest threats. However, the identification of threats to address through management measures still requires a discussion, since some threats, despite ranking high, may not be easily addressed by management measures defined by communities.

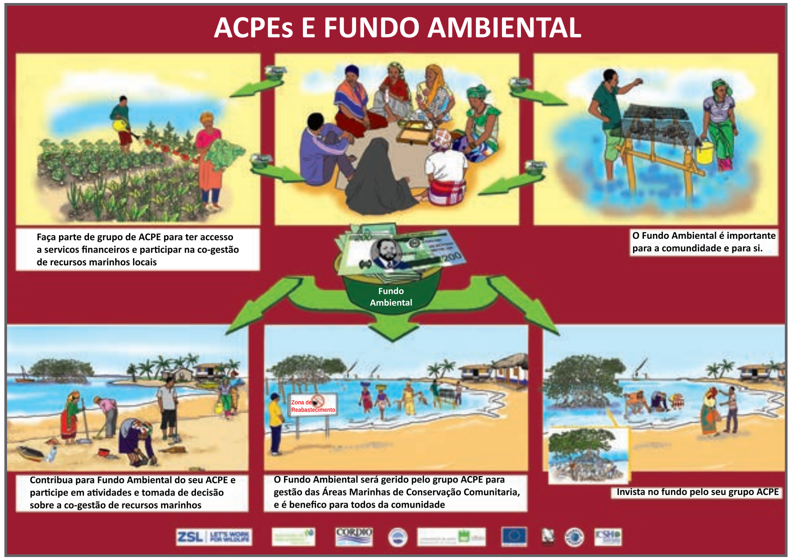
Threats ranking matrix

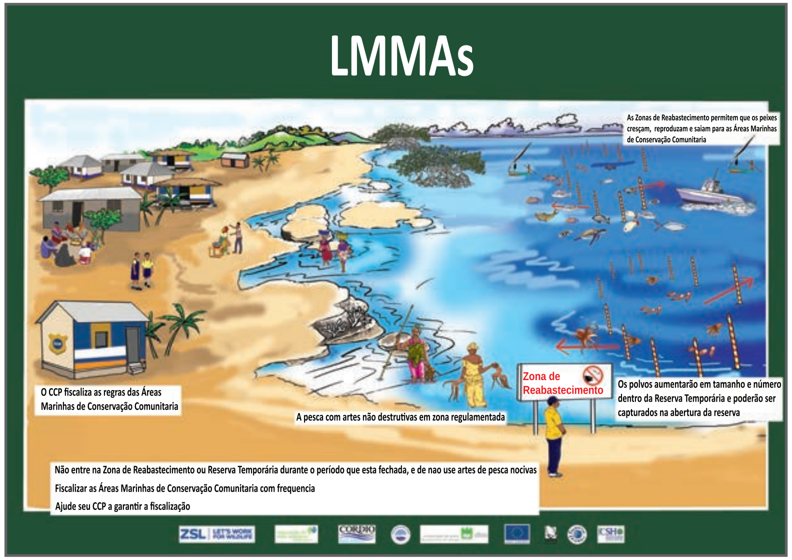
Main threats	**a) Scope:** ● Geographic ● Resources affected by the threats ● People doing it	**b) Severity:** ● Level of damage ● Level of reduction	**c) Irreversibility:** ● Chance of recovery without threats	**d) Total score**	**Notes**
Night fishing	1	2	1	4	
Dynamite fishing	1	3	3	7	
Breaking corals	3	2	2	7	
Coral bleaching	3	3	3	9	

Annexes

The full document can be viewed here

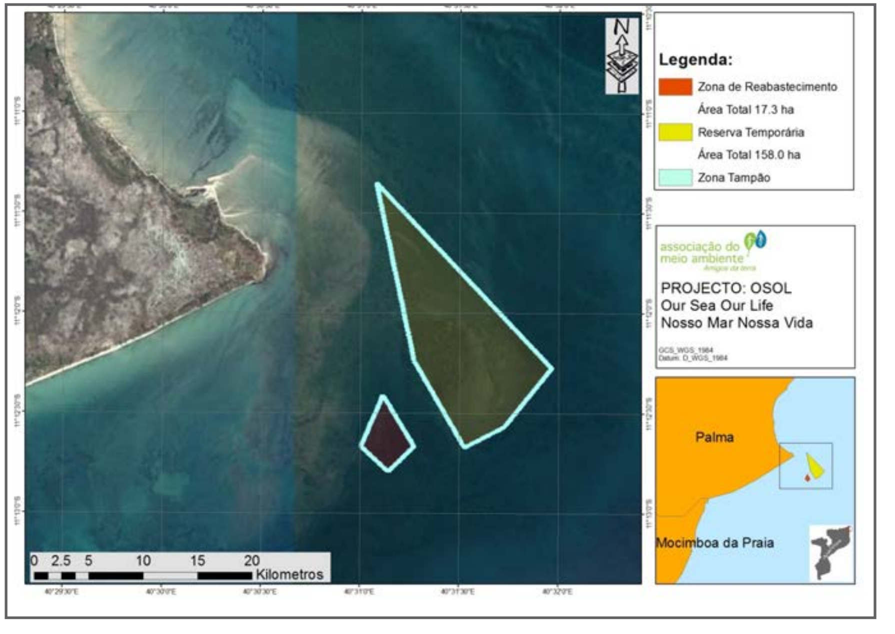
Annex 30. Examples of outreach resources





Annexes

Annex 31. Example of TR or RZ boundaries map



Annexes

Annex 32. Example of list of rules, regulations and sanctions

List of rules, regulation, fines

Management zones	Authorized activities	Prohibited activities
Replenishment Zone	• Sport fishing, which will be approved by the local CCP; • Movement of the passenger carrier boat, the mooring of the boat is forgivable in situations of strong winds, and not being able to advance, or due to stranding (tide); • CCP members are allowed to check buoys and all demarcation mechanisms; • The CCP can assess the performance of the management zone, through community-based monitoring in partnership with the project	• All types of fishing activities are restricted, except sport fishing activities; • Boat entry is not permitted for fishing; • Damage to or theft of the signaling buoys is not permitted, (individual is subject to a fine)
Temporary Reserve	• The CCP will carry out monthly monitoring visits within the management area in partnership with the project • During the opening period all members of the (specific) community are allowed to fish in the management zone • Fishers of another origin will have to go to the CCP office to obtain authorisation for access; • On the opening day, the fish will be sold to people residing in that village (and not those who come from outside to buy the fish)	• No fishing of any kind is permitted during the closing period • During the opening period, the following fishing gears are prohibited: Fishing gear considered illegal under Mozambican legislation, including mosquito net, Macuelele, bag trawling and toxic products. Coral break, night fishing and nets with smaller mesh • Even if the temporary reserve is open, fishing is not permitted during Neap tides

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Annex 33. Example of table of roles and responsibilities

Parties involved	Roles and responsibilities
CCP	Control fishing gear; inspect the beach against fecalism in the open; Represent the community in everything that has to do with the co-management of the areas. Community mobilisation in relation to the approach of co-management of resources and accountability at least once every 2 months.
Leader of community and religious leader	CCP advisors throughout the management process of management zones/resolution of possible conflicts. Advise offenders on the abandonment of the practice and emphasize the benefit of reserves to a community.
Local court	Helps solve the problems of infringement of management areas
Community	One of the largest stakeholders in the process, so should always be involved in any process related to co-management – to support the CCP in the supervisory process, informing whenever an offender is identified, legitimising all decisions arising from the general assemblies organised at community level.
Teachers	Support knowledge about the area of co-management for students; support the CCP in the drafting of its meetings and letters to authorities and other parties involved in the process. Assist in the handling of proceedings in the event of the need for the CCP and perhaps an offender who does not honour the commitment to their penalty.
PRM	Ensure security in all joint surveillance operations between the SDAE, CCP. Intervene in cases of offenders commit 3 times repeatedly.
SDAE	(a)ensure supervision of artisanal fishing. Oversight is another responsibility assigned by LOLE to the District Administrator. In principle, this function should be carried out within the scope of the SDAE/fisheries administration (or, where appropriate, the *Serviço Distrital de Pesca*). However, if the local arrangement provides for the unification of the fiscal body, the fishing inspectors would be integrated into this unit. Regardless of the arrangement adopted, the following aspects should be safeguarded: Supervisory actions should always be conducted directly by the entity responsible for the SDAE/SDP, although the

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Annex 34. Example of enforcement plan

Modelo de plano de fiscalizacao			
Nome do centro de desembarque	**Membro envolvidos**	**Responsavel do grupo**	**Dias da semana**
Mbuyuni	1. Amade 2. Muawina 3. Saide	1 Ex: Amade	Segunda
Quiwia sede	1. 2. 3.	1	Terca
Makongo	1. 2. 3.	1	Quarta
Farol	1. 2. 3.	1	Quinta
Navija	1. 2. 3.	1	Sexta
Sendame	1. 2. 3.	1	Sabado
Nota:			
O numero dos Centro de desembarque podem variar de acordo com a realidade e assim como a constituicao de grupos, dependera do efectivo do CCP.			
Sem, assegurar que em cada grupo estejam envolvidos se calhar pessoas com habidade de escrita e leitura.			
Assegurar que pelo menos os grupos no processo de fiscalizacao, tenham consigo o despacho d			

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