

Pre-Project Visit
Project Title: Seagrass restoration for sustainable shellfish fisheries and
drafting of a management action plan
Technical Report – TG Andrew, February 2020

Introduction:

The Nairobi Convention Secretariat (NCS) undertook a pre-project visit from 13 to 14 January 2020 to meet with project proponents, partners, and communities to gain first-hand information about the problem that the project intends to address, mechanisms and approaches to be used, how the identified issues are associated with the livelihoods of beneficiaries, and what benefits the project will bring them. The NCS conducted a “due diligence” to ensure proponents have and will consider community sensitivities, potential stumbling blocks, and leadership/ownership of the project. This serves as a “baseline” of the situation at the start of the project to which comparison can be made at the project’s conclusion. In addition, visuals/interviews (of both the site and communities), were captured for storytelling and communications purposes.

From a technical perspective, the visit entailed the following:

1. Assessing institutional preparedness for project implementation
2. Meeting with key partners indicated in the proposal
3. Discussions around project implementation and coordination arrangements
4. Potential challenges and mitigating actions during implementation

A set of pre-determined questions were developed as a tool to guide discussions in the field and to provide the information needed to address these four aspects. This tool will be used in all demonstration project visits to allow for a standardized approach. Stakeholders were engaged during the visit to one of the field sites (Inhaca Island) which was hosted by Prof Salomao Bandeira from the Lead Institution (Department of Biological Sciences, University of Eduardo Mondlane (UEM) - project proponent), and representatives from several government and non-government partner institutions, including the Ministry responsible for the environment (MITADER).

The visit entailed travelling by boat from Maputo to Inhaca Island, observation of experimental seagrass restoration sites, and discussions with project partners on key elements of the project. The team was accommodated at the Marine Biological Station of Inhaca which is a UEM facility.

Assessment:

1. Institutional preparedness for project implementation

The lead Institution on this project is the UEM which has a national mandate to undertake research, education and extension. This project addresses all of these pillars. The project leader and his team have been working on seagrasses in Maputo Bay and Inhambane (the 2 project focus areas) for many years and have developed good relations with most key stakeholders. Several ongoing projects and academic studies will complement the work envisaged under the demo-project, including a long-term study on trends in seagrass distribution in Inhambane over the last 21 years. UEM is well known in the project areas, and especially Inhaca Island, and should be in a position to engage effectively with stakeholders at all levels. The project will partly focus on seagrass restoration research and UEM has a long history of mobilizing university personnel and equipment

to allow this to continue during the demo-project. For the socio-economic aspects of the project the Department of Biological Sciences intends to partner with sociologists from UEM, fisheries personnel from IIP, as well as NGOs experienced in community engagement.



Figure 1. Professor Bandeira of UEM explains the process of transplanting seagrasses to project partners in an experimental patch near Inhaca Island.

2. Engagement with key partners provided in the proposal

Some key partners were met in order to discuss the project and to ensure that they were aware and supportive of the proposed activities.

UEM-Faculty of Social Science – This project will need to determine the value of seagrasses to communities utilizing resources associated with them. This will provide justification and incentive for stakeholders to actively become involved in restoration and/or management activities. The inclusion of social scientists from this faculty will enable this aspect of the project to be covered, including obtaining a greater understanding of the importance of seagrasses from a cultural, environmental and economic perspective. The social scientists on the field trip appeared to be engaged and committed to positively contributing to the project.

Ocean Revolution Mozambique (Inhambane NGO) – While it was not possible to travel to Inhambane and meet with this NGO, it is apparent that they have ongoing activities working with communities in the area and will provide essential support in community engagement during the demo-project. The NGO will provide a conduit to the Inhambane Bay Community Conservation Network with which it already works. This aspect will be important in that UEM has less experience and exposure in Inhambane as compared to Inhaca.

KUWUKA-JDA – This NGO has good experience in outreach and educational initiatives particularly in Maputo Bay. They are committed to contributing to the project through community and school awareness programmes around the value and conservation of seagrasses.

IIP-Inhambane – IIP were unfortunately not present on the field trip. However, they will be important partners in both Inhaca and Inhambane, especially in assessing the fisheries aspects such as value chains of organisms associated with seagrasses. It is apparent that more effort needs to be invested in engaging with the fisheries experts from IIP. IIP falls under the MIMAIP Ministry which has some overlapping mandates with MITADER. Given that livelihoods associated with seagrasses revolve around fisheries resources it is essential that the two ministries work more closely together to address the objectives of the demo-project.

Municipalities (Maputo and Inhambane) – The Municipalities were not present on the field trip. While the field sites fall within the jurisdiction of these entities, it will be important to engage with them, at least at the Project Management Group level. Ultimately, municipalities will be important in ongoing monitoring at project sites during and after the demo-project term.

Community representatives (CBOs, CCPs) – These entities were not met during the field trip. However, as one of the outputs from the demo-project is a management plan for seagrasses at each site, local CBOs, and especially fisheries-related CCPs will need to be engaged by the project proponents early on. This will be essential to ensure locally appropriate approaches are adopted and also ensure future adherence to the plan. The project will rely heavily on the facilitation and experience of partners to ensure community participation.

3. Project implementation and coordination arrangements

UEM has good experience of working in both project sites and at a practical level are well equipped to carry out the proposed research-related activities. The University also has experience in coordinating multi-stakeholder, partner-funded projects and is the appropriate body to administer the project. The project intends setting up a Project Management Group comprising all major partners and stakeholders. Special care should be taken to effectively include local CBOs in this group.



Figure 2. Seagrasses transplanted by anchoring roots with a subsurface wire.



Figure 3. PVC pipe transplanting method being tested on a bank adjacent to existing seagrasses.



Figure 4. Plug/sod transplanting experimental site at low tide.



Figure 5. Dugong feeding tracks in the seagrass beds at low tide. Although extremely rare and threatened in these waters, these tracks confirm their presence. It is thought that up to 16 individuals may still exist in the Inhaca archipelago.

4. Potential challenges and mitigating actions during implementation

Restoration of seagrasses is a difficult and slow process and its success depends on multiple factors. Apart from anthropogenic disturbance during the harvesting of invertebrates, natural variability and phenomena such as siltation can severely hamper the success of transplanting efforts. Therefore, sites for restoration need to be carefully chosen taking into account multiple environmental factors including the choice of species to use. In addition, it will be important to enter into collaborative agreements with communities who utilize these areas in order to ensure that disturbance is minimized in the experimental sites.

While small-scale successes can be achieved in limited areas, restoring an area big enough to have positive ecosystem impact remains a challenge. Therefore, while this demo project may provide insights into successful transplantation methods, it will struggle to demonstrate larger scale restoration in the 2-year time frame. Positive project outputs should therefore not depend too heavily on demonstrating improved livelihoods through seagrass restoration over the project term, but on improved management as is anticipated through the plans to be developed, which in turn will likely positively impact on fisheries productivity and dependent livelihoods.

Testing transplantation methods is a necessary activity and the recently developed WIO Seagrass Restoration Guideline is a useful resource to guide this activity. However, the project should perhaps focus more on assessing the value of seagrass beds to ecosystem and economic wellbeing. The project should focus strongly on awareness raising around conservation of seagrasses and on methods and approaches that can be used to minimize disturbance of these habitats during harvesting of invertebrate resources. Effort should also be placed on understanding the overall value of healthy seagrass beds to communities as opposed to degraded areas. If this can be demonstrated it will be easier to ensure that any management plans developed will be well received and will be adhered to.

Effort should also be placed on comparing the costs of artificial restoration as compared to conservation efforts to protect the integrity of existing seagrass beds.

5. Summary of technical assessment

In summary, it is recommended that:

- Closer links need to be forged with IIP (and between MITADER and MIMAIP), especially on characterization and evaluation of resources and value-chain assessments.
- Community engagement is necessary early on. Little evidence of this was apparent on Inhaca, although it was evident that the inhabitants of the island generally displayed a high level of awareness about conservation. The success of management plans expected to be developed as part of the demo will be dependent on the full inclusion of user communities in the process.
- Need to place importance on valuation of the resources associated with seagrass beds and awareness around conservation, and the development of the management plans rather than focus too much on academic restoration research. This is due to the risks involved in showing success in a short timeframe. Conservation and awareness efforts might prove to

be more effective in the long run as compared to restoration-focused activities. However, restoration methods found to be successful should be promoted.

- Useful and achievable outcomes from this project would include greater understanding of the ecological and economic value of seagrass beds, the desirability and cost effectiveness of restoration efforts as compared to improved conservation efforts, a measure of the success of awareness raising efforts on the status of seagrass beds, and an accepted management plan for the two sites.

List of Stakeholders engaged with during the visit

Name	Designation and affiliation	Date met
Prof Salomao Bandeira	Associate Professor, Department of Biological Sciences, UEM	13 – 14 January 2020
Dr. Marlino Mubai	Faculty of Social Sciences, UEM	13 – 14 January 2020
Mr. Camilo Nhancale	KUWUKA – JDA	13 – 14 January 2020
Mr. Alexandre Bartolomeu	MITADER	13 – 14 January 2020
Ms. Sidônia Muhorro	MITADER	13 – 14 January 2020
Mr. Jeremias Nhaca	Marine Biological Station, Inhaca, UEM	13 – 14 January 2020
Ms. Maria Cuambe	MSc Student, Department of Biological Sciences, UEM	13 – 14 January 2020
Mrs. Manuela Amone- Mabuto	PhD Student, Department of Biological Sciences, UEM	13 – 14 January 2020
Mr. Erudito Malate	FAO-SWIOFC, Mozambique National Officer	13 – 14 January 2020