Terms of Reference (TORs)

for

"Assessment of Status of Seagrass Beds in Primeiras and Segundas, Mozambique"

1. Background

Alliance Care-WWF have been working in the Primeiras and Segundas archipelago region promoting sustainable use of natural resources to improve people's livelihood in the region. However, key coastal and marine ecosystems are still under severe pressure from the increasing coastal population and artisanal and semi-industrial fishing activities that are mostly concentrated in the coastal zone, where sensitive habitats such as the seagrass beds are vulnerable to trawling and boating impacts. Direct and indirect anthropogenic impacts have led to significant seagrass declines worldwide and the alteration of services linked to their biodiversity. Studies indicate that seagrass cover in the Primeiras and Segundas may be also under decline as a result of mechanical damage, sedimentation and increased turbidity that inhibits photosynthesis (de Abreu et al. 2008). However, to date no study was carried out to estimate the total extension of this habitat and its status of loss/recovery (de Abreu et al. 2008, ANAC 2015, Teixeira 2015).

Given the recognized conservation value of this region and the high anthropogenic pressure, the CARE-WWF Alliance has been working in the Primeiras and Segundas region since 2008 to implement an integrated conservation and development strategy, in which the people that rely on natural resources for their livelihoods are active participants in the management and conservation of local ecosystems and conservation of biodiversity. However, effective conservation and the provision of sustainable recovery goals for ecologically significant species, such as seagrasses, are limited by the lack of reliable information. To improve knowledge on the status of seagrass habitats in this region and advocate for a sustainable and ecosystem based decision-making, the Alliance seeks a team of specialists to undertake an assessment of the conservation status and resiliency of the seagrass beds in the Primeiras and Segundas archipelago coastal area. This assessment will also contribute to validate a historical mapping analysis of seagrass cover in the Primeiras and Segundas archipelago region that is being carried out by WWF.

2. Objective of the Consultancy

The overall objective of this consultancy is to undertake an assessment of the current status of the seagrass beds within the environmental protected area of Primeiras and Segundas, in order to develop baseline information that will help to understand the dynamics of seagrass beds in the region and provide basis for future monitoring and management of this habitat.

The key objectives of the present study are:

1. To ground-truth and validate a mapping analysis of seagrass cover carried out by WWF (sampling points will be provided by WWF MCO);

2. To describe the current distribution, abundance and status of different seagrass species within PSEPA, identifying key seagrass biodiversity hotspots and describe associated habitats and species;
3. Describe and map seagrass natural regeneration potential to recover from anthropogenic and climate change impacts;
4. Identify and describe seagrass degraded areas and identify potential negative impacts (anthropogenic and natural/climate related) including analysis of (CC trends developed by WWF) to seagrasses habitat within PSEPA;
5. Based on the status analysis of seagrass beds in PSEPA provide recommendations of management practices in order to improve conservation and secure ecosystem services benefits in a long-term perspective.

3. Scope of Work/ Methodology

The scope of work will be the coastal and intertidal area of seagrasses bed in P&S area and the consultant team will be responsible to propose and agree with Care-WWF team a methodology (based on regional/international standards) to assess seagrass status in P&S, however critical area should be covered in the technical proposal In order to conduct the seagrass assessment, which includes a mapping and status analysis in the Primeiras and Segundas the consultant(s) will undertake the following tasks:

a) Validation of mapping analysis conducted by WWF:

- Ground-truth points to validate seagrass mapping analysis conducted by WWF (degraded, natural and new areas)
- Map out fishing grounds (e.g. trawling areas) and boating areas

b) A status assessment of seagrass beds structure including:

- Identify and describe seagrass species diversity and distribution
- Indicators of seagrass abundance (e.g. seagrass cover, biomass, shoot density)
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c) Analyse data from the seagrass assessment against physical baseline data locally registered (for available parameters):

- Climate
- Bathymetry
- Rainfall
- Air and Water temperature
- Tidal variation
- Salinity

- Water turbidity

d) Anthropogenic and future climate change impacts in seagrasses habitats in P&S:

- Use WWF report (Pinto, 2015) on climate change trends for P&s and correlate potential climate change and anthropogenic impacts observed in the current assessment to predict changes and recommend management practices to protect the seagrasses habitat in P&S.

4. Deliverables/Expected Outputs

Under this consultancy, we expect to have a comprehensive analysis of seagrass beds current status in the Primeiras and Segundas archipelago region, as well as, an insight on the anthropogenic and environmental (including climate change) threats and potential impacts.

Key deliverables:

a) A **progress report** post field survey describing field work, methods, areas surveyed, stakeholders met and nature of data collected;

b) A **draft report** with a brief introduction and detailed methodology, main findings, maps, analysis, conclusion and recommendations. Submitted in .DOC (editable) copy for comments;

c) A **final report** incorporating comments from CARE-WWF Alliance. The final report should not have more than 30 pages (without Annexes), and must be written in English and submitted in both .PDF and .DOC (editable) copies;

d) A **summary report** of no more than 3 pages with key findings and recommendations for CARE-WWF Alliance management team;

e) A **database** produced (including GIS layers and other raw data; electronic copies of available bibliographic information referenced in the report);

f) One (1) day workshop for results **presentation** summarizing the key results.

5. Duration and Timing

This assessment should be completed within the proposed timeframe from December 2016 – April 2017 beginning upon the signature of the contract with WWF-MCO.

Table 1. Consultancy timeline

Tasks	Estimated number of days of work*	Timeline			
		I	II	III	IV
1. Literature review – desktop work, discussions on workplan and sampling data with WWF team	10 days	x			
2. Logistics arrangements	15 days	x			
3. Field work (including days of travel)	25 days		x		
4. Meeting local partners and communities	5 days		x		
5. Data and Information Analysis	15 days			x	
6. Progress Report submitted for comments	1 day			x	
7. Desktop work – elaboration of draft report	10 days				x
8. Submission of draft report for comments	5 days				x
9. Finalization and submission of final report, summary report and database	5 days				x
10. Presentation of key results	1 day				x

* The number of days estimated in the table is only a guidance, the work could be carried out in less time according to the consultant's flexibility, however timing to complete the consultancy and submit the final deliverables should not exceed four (4) months.

6. Logistical Support

WWF-MCO will provide the coordinates of locations to be sampled. CARE-WWF Alliance field office in Angoche will only provide support with boat transportation for fieldwork assessment, boat will be available near the areas to be sampled for the team during the fieldwork.

Care-WWF will also provide diving gears and SCUBA tanks. Other equipment necessary for fieldwork will NOT be provided and must be secured by the consultants (e.g. GPS, cameras, sampling equipment, etc.) for fieldwork. All logistic costs will be covered by the consultants and must be detailed in the financial proposal.

7. Assigned Work Area

The scope of this work will be conducted in the coastal area of the PSEPA (Nampula and Quelimane provinces). Mapping validation and sampling points will be indicated by WWF.

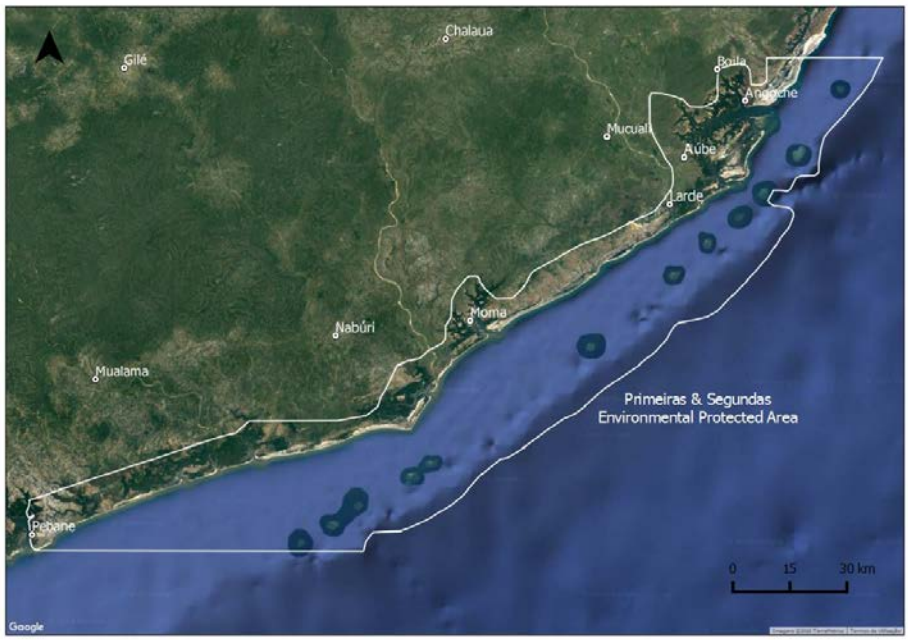

Figure 1. The Primeiras and Segundas Archipelago Environmental Protection Areas (PSEPA).

8. Eligibility of Consultants

At a minimum, the primary consultant should have:

- A PhD or Master's degree and five years of relevant experience in, e.g. GIS and remote sensing, marine biology/ecology and/or conservation biology;
- SCUBA diving license and proven experience on conducting underwater research;
- Excellent written and verbal communication skills in Portuguese and English;
- Demonstrated ability to assess complex situations, synthesize complex data and provide a succinctly report with clear conclusions and recommendations;
- Annex: Summary CVs of principal researcher and co-researchers (max 2 pages each) and copies of diving certificates.

9. Proposal Submissions

Interested parties are invited to submit proposals that address the following aspects:

- Description of the institution or individual researchers brief background highlighting relevant expertise, past experience and familiarity with the study area (max 2 pages);
- Statement of objective and outline of broad conceptual approach (max 1 page);
- Proposed detailed methodology and type of results expected (4 pages);
- Operational framework and timeframe (max 3 pages);
    - Timeframe for mobilization, data collection, analysis and reporting, etc.

  - Team role: who will be involved in which activities and in what capacity
  - Other logistics, equipment, accommodation and transport arrangements, etc.
- Final outputs (1 page); and
- Detailed budget (max 2 pages).

The deadline for the submissions is 12th December 2016. Submissions should only be sent to: ynakwimba@wwf.org.mz. Only selected candidates will be contacted.

10. References

- de Abreu, D. et al. (2008). Levantamento Rápido no Arquipélago das Primeiras e Segundas – Contribuição para o Estabelecimento de um Programa de Monitoria. Maputo, WWF-MCO: 137-162.
- WWF (2012). Mozambique creates Africa's largest coastal marine reserve. (http://www.worldwildlife.org/press-releases/mozambique-creates-africa-s-largest-coastal-marine-reserve)
- ANAC (2015). Primeiras and Segundas Archipelago Environmental Protection Area - Management Plan.
- Teixeira, L. (2015). Exploring the relationships between biodiversity and benthic habitat in the Primeiras and Segundas Protected Area, Mozambique. Master Thesis. Department of Physical Geography and Ecosystem Science, Lund University. Sweden. 95pp.