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MARINE AND COASTAL ENVIRONMENT MANAGEMENT PROJECT (MACEMP)

IDA CREDIT No.4106-TA and GEF GRANT No: TF055580-TA

CONSULTANCY SERVICES FOR BOUNDARY AND USER ZONES DEMARCATION AT MENAI BAY CONSERVATION AREA (MBCA), MNEMBA ISLAND MARINE CONSERVATION AREA (MIMCA) AND PEMBA CHANNEL CONSERVATION AREA (PECCA)

RECONNAISSANCE

And

PRELIMINARY SURVEY REPORT

JUNE 2010

Environmental Moorings International, Inc.

172 Lorelane Place

Key Largo, Florida 33037 U.S.A.

14 July 2010

Sheha I. Hamdan
Manager – MACEMP ZANZIBAR
MACEMP Project
Department of Fisheries and Marine Resources
Kinazini Area, ZSTC Building, First Floor, Room No. 10
P.O Box 774
Zanzibar, Tanzania

Re: RECONNAISSANCE AND PRELIMINARY SURVEY Report Submission

Dear Sheha:

It was our pleasure to be able to meet with you at the MACEMP offices in Stone Town and work out the details of the buoy project for the three marine conservation areas involved in the MACEMP project. Thank you for hosting us and providing excellent support for the first two phases of this effort.

Environmental Moorings International, Inc. is submitting this initial Reconnaissance Report as a result of our survey of the conditions at the three Conservation Areas that we visited and the meetings we have had with you and your staff. We feel that this has been a successful beginning for the project and we look forward to continuing our work in the later phases.

Thank you again for the opportunity to assist the Zanzibar Department of Fisheries and Marine Resources with your significant commitment to protect the environmentally important marine resources of your country. We applaud your dedication.

Yours sincerely,

Authorized Signature: _____

Name and Title of Signatory: Judith F. Halas, President-Manager

Name of Firm: Environmental Moorings International, Inc.

Address: 172 Lorelane Place, Key Largo, Florida U.S.A. 33037

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MARINE AND COASTAL ENVIRONMENT MANAGEMENT PROJECT (MACEMP)

RECONNAISSANCE / INITIAL SURVEY TRIP REPORT (May-June 2010)

John C. Halas and Judith F. Halas

TERMS OF REFERENCE REQUIREMENTS:

Phase I : Reconnaissance Visit and Inception Report
The consultant will visit the field centres of MBCA, MIMCA and PECCA for preliminary survey and familiarization of the sites. Thereafter, the consultant will present an inception report to the MCU and MACEMP Management Team. The report will include among other things methodologies, lessons learned and realistic time frame for the assignment.

Phase II. Field Work and Presentation of Draft Report
The consultant will carry out the field work to collect data and information relevant to accomplish the assignment. This will include consultations with MPA managers and their staff, survey the seabed and sea conditions as part of marker selection, and assess and advise on the capacity of the local staff to maintain markers. She/he will then submit draft report for comments to MCU and MACEMP.

INTRODUCTION:

The Environmental Moorings International, Inc. consulting team, John C. Halas and Judith F. Halas, departed from Miami, Florida on Friday, 21 May 2010 on United Air Lines / Swiss Air flights to Washington, DC / Dulles, Zurich, Switzerland, and continuing to Nairobi, Kenya. We arrived in Kenya Saturday evening and overnighted at Ole Sereni Hotel near the airport since no flights were available to continue to Zanzibar. Early Sunday morning, 23 May, we flew via Precision Air to Zanzibar. After arrival and obtaining visas and clearing customs, we were met by Juma Haji and the Fisheries driver and were taken to Tembo Hotel where we found very convenient and comfortable accommodations located on the first floor with a desk and wi-fi for working.

INITIAL MEETINGS:

Monday, 24 May 2010: At 9am Juma met us at the hotel and we went to the Department of Fisheries and Marine Resources (MACEMP Headquarters) to meet with Sheeha Hamdan, the MACEMP Manager and primary responsible party for this project. Zahor Mohamed and Juma also attended. (We previously met Zahor, Juma, and Muumin Hamad last year when we worked together on the Mafia Island Marine Park mooring training project. It was a pleasure to see them again.) This was a good introduction to the goals for the project and the expectations for how the project would proceed. We discussed how the present nature of the project differs from the stated objectives of the original proposal that was responded to by Environmental Moorings International, Inc. Rather than concentrating on the boundary markers for each of the three marine conservation areas, the emphasis has shifted to mooring buoys and away from just marking sites and determining a zoning buoy location scheme. Now, the major emphasis is on the acquisition of equipment and materials as well as training the Zanzibar team and helping primarily with the installation of mooring buoys and zone marking buoys.

After this initial survey, the clarified project is now designed so that equipment and materials will be ordered and shipped to Zanzibar. Then, John and Judy will return and organize and demonstrate the procedures and use of tools for as many personnel as can be accommodated with the goal of developing and training a select core team of divers who will receive concentrated training to continue completing the installations planned for this project and for future needs. Zahor will organize this team.

The contract was not yet prepared and ready for signatures but our discussions indicated that the final contract will reflect our discussion and the desired outcomes of the project. We discussed the financial proposal which was determined to be acceptable. However, the change in focus will result in the reduction of some costs which will be applied to equipment and materials purchase. There will not be a need for the NOBELTECH System included in the proposal budget since boundaries have already been established and the ocean depths offshore are too deep for installing marker buoys. We will concentrate on near-shore markers, particularly in areas of dispute with fishermen. We plan to focus training in south Zanzibar at Menai Bay Conservation Area (MBCA) bringing in stakeholders, dive operators, and park personnel.

We discussed the best times to return for the main installation and training project. May is a low season with June through August a busy time. September and October are slower times while activity gets busier in November and the high season continues through February. We plan to return in the October/November time frame after the shipment arrives, clears customs and is offloaded in Zanzibar. Orders need to be placed as soon as possible to meet this preferred schedule.

The EMI, Inc. estimate for the cost of equipment (only) necessary for installations is just under $20,000.00. We discussed buoy costs at an average of about $400.00/each for hard bottom systems at a depth of 30 ft./10m and $600.00/each for the Manta Ray sand anchor system which represents the approximate cost for materials. Ocean shipping costs will be estimated until the actual bill is determined.. With the results of this initial survey and discussions, a pro forma invoice has been prepared by EMI, Inc. and is submitted with this preliminary reconnaissance report for consideration and further refinement if needed to determine the amounts of materials needed that will also fit the budget for the project.

After the conclusion of our meeting with Sheeha Hamden, we went to the Fisheries Dept. to meet with Othman (the financial officer), Zahor, and Juma to discuss some financial aspects as well as the actual scheduling for this survey phase of the project.

SITE SURVEYS: ZANZIBAR

Tuesday, 25 May 2010: Zahor was busy with an all day Eco-Tourism seminar. In the morning, John and Judy met with Juma and Muumin to drive south to Menai Bay Conservation Area (MBCA) to make dives on the most popular diving sites to determine bottom types and needs for mooring buoys. We were joined by Anne Tarvainen (Contact info: annetarvainen@yahoo.com – TEL: +25-575-505-5986), a Finnish woman from Dar who is a dive master and knowledgeable about the sites here and who joined us as a dive guide and accompanied us for the week. Anne was skilled and very helpful and we appreciated her excellent assistance.

Low tide at Menai Bay Conservation Area

We arrived at 10:00am and the tide was low and rising and appeared to have a tidal differential of approximate 3 meters. A long extended shoreline extended seaward from the beach out to where the fisheries boat was anchored making it necessary to carry our equipment for quite a long distance. We will need to consider this difficulty when loading equipment and materials for training and installations. The first site we visited was Dimbani Reef which is a popular snorkeling area where many boats anchor. (GPS #27: S 06 325' E 39 27.425')

Juma estimated there should be at least two moorings here. We found good hard bottom in 5m / 15 ft. depth (at low tide) which would be good pin anchor sites. We were also able to probe the sand and it appears that there is enough sand (2.5m / 7.5 ft.) for a Manta Ray anchor in 8.6m / 26 ft. depth. Pungume West (GPS #28: S 06 25.00' E 39 20.275') This was a high profile coral reef with limited sand at only 2.5 ft. / .8m probe depth so not appropriate for Manta Ray anchors.

Juma Haji with gear.

Judy Halas hammering in probe rod.

Sandbar (GPS #29: S 06 26.275' E 39 27/720') A good site for a hard bottom anchor was near the shallow sandbar, which is exposed at low tide, where we found a flat pavement area. A beautiful lush coral reef was beyond to the east side with some coral heads close by and staghorn coral meadows beyond with few places to drill. Sand was scant and rubbly.

We traveled by boat along the border of MBCA and returned to shore with the tide higher so we could approach the beach area. We enjoyed a late lunch at the restaurant nearby overlooking the beach.

Menai Bay CA is the most convenient location for beginning the training program although it presents certain problems. It is far enough away from Stone Town to make it inconvenient to transport a group there every day so if local accommodations can be found in the area, that would be a positive factor. Getting the equipment to and from the boats across the flats at low tide will be difficult. There was a pier visible to the southeast that apparently extended from a resort which might be able to be used for loading. Possibly equipment could be stored in that area as well. In the sites we observed, there were not many opportunities to install Manta Ray sand anchors. However, the popularity of the area allows for several moorings in hard bottom which would provide good experience for the trainees. Depending on the size of the group, there will be a need for more boats. The Fisheries boat we were on would not have much room for the equipment and the materials as well as dive gear and personnel and certainly not for more than about four people.

Wednesday, 26 May 2010: This morning Zahor joined us and we toured Zanzibar travelling north and east to the coast and Mnemba Island MCA which took about two hours with the last several miles over a rough gravel road. For a multi-day project here, a local location would be the best option rather than having to make this trip over multiple days. It may be possible to depart by boat from a town on the coast also which should take less time and be better for loading and unloading.

This marine conservation area surrounds a private exclusive island that is restricted to visitors and cannot be approached except by invited guests. It is a large sandy lagoon with an outer fringing reef. Large wooden snorkel boats bring large numbers of people here to see the shallow coral reefs and mooring buoys will aid in the protection of these resources. Scuba divers also utilize these waters, but most scuba dive boats do not anchor but follow the divers on drift dives.

Again, we had a shore access situation and needed to cross over uneven coral flats with our gear to reach open wooden boats powered by outboard engines. Surf conditions might limit loading at this site and personnel must be extremely careful with footing as it would be easy to slip or trip and get injured.

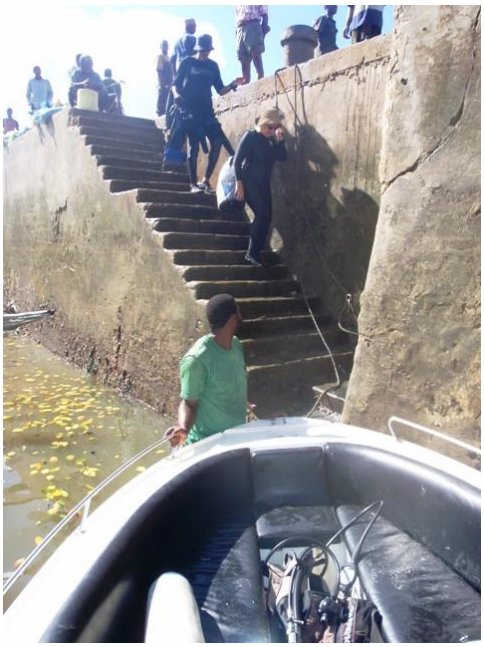
This area has good deep sand and a need for moorings so it would be a very good area to concentrate on Manta Ray sand anchor training.

Mnemba Island MCA eroded coral beach entry and unloading in surf with island in background.

We encountered the manager and operators of Memba Island Lodge while diving and they invited us to visit the island. They wanted to show us a large red nun channel marker buoy stranded on their beach. They were not open yet but were preparing for their first guests of the season. They are interested in placing more marker buoys offshore and will be in contact with MACEMP and Fisheries to possibly add some materials to the shipment so these can be installed as part of the training project. (Contact Person: Mike Procopakis, Manager mike.procopakis@andBeyond,co.tz / TEL: +255-774-438-656 /CELL: +255-786-393-088 / P.O.BOX 3107 / STONE TOWN, ZANZIBAR - TANZANIA www.andBeyond.com –

Also, Sarah Glen, Manager Mnemba. Island Lodge / sarah.glen@andBeyond.co.tz / CELL: +255-774-222-325).

Thursday, 27 May 2010: This morning, John, Judy, Zahor, Juma, and Anne flew north to Pemba Island to visit the reefs of the Pemba Channel Conservation Area (PECCA). We traveled to



the central city of Chake Chake Town and Zahor secured accommodations for two nights. In the afternoon, we travelled to meet the personnel from the Misali Island Conservation Area who took us by boat out to the Misali Island area. We marked a pin anchor point in a large barren coral head for marking the "No Take Zone" on the north inshore side of the island near a large pile of solidified bags of cement (Approximate GPS: S 5 14.130' E 39 35.925'). We moved the boat south to the opposite end and marked a hard bottom point to anchor another marker.

Afterward, we made a deeper dive to survey the extensive reef area in the vicinity of this island. This reef had a very high percentage of lush coral cover but was marred by tracks of anchors that had drug across from deeper water to the top of the reef. This is strong evidence of the need for secure moorings that will prevent this serious damage to a precious local resource. Scuba diving is a vital activity that will support tourism in this area and the reefs must be protected to have a sustainable economic benefit. Video footage is available of this damage but by this time it was late in the day and weather was deteriorating and stormy so images are dark and gloomy.

Friday, 28 May 2010: With better weather, we drove northward through the lovely Pemba Island countryside to Wete and our launch point at the dock there. It was convenient to have the dock, but the steps down to the water level were steep and slippery. Again, getting equipment loaded onto the vessel would be problematic.

We travelled near Fundu Island to an exceptional reef area about 100 meters long dropping off on the north end from about 10m/ 30 ft. to 20m / 60 ft. and deeper. Several sites along this reef were suitable for hard bottom pins and we marked at least three that would be good moorings for dive boats here. We enjoyed this dive and its variety of coral species and marine life. It is another location that should be protected with special care and preserved for the future. We were limited by only having one scuba tank apiece so we were not able to survey more sites in this area. We returned to Chake Chake in the afternoon and in the evening, we had dinner and discussed the dives and the issues regarding the project.

Saturday, 29 May 2010: That morning, we flew back to Zanzibar. We made contact with Anne and made plans to visit Chumbe Island, a private conservation area and ecotourism resort, at

the invitation of Lina Nordlund, the Conservation and Education Manager of the Chumbe Island Coral Park. Later in the evening, we met with Anne and toured Stone Town – dinner at the park and meeting later with her friends from UNEP which was good to get a feeling for local culture and issues.

Sunday, 30 May 2010: We joined Anne again and picked up Lina and then travelled to the meeting point for Chumbe Island. We first looked at the three marker buoys currently deployed to mark the outside limit of the private conservation area. These are placed in deep water – approximately 30 meters deep and thus would probably need weighted, not embedment anchors. The buoy they have used is a nice design but small. They would like to have at least two more markers and we would recommend our spar type buoys (either Ocean Spars at 80-inch height / 2.3m or standard spars at 61 in./1.7m) to be placed at either end of the line of buoys with controlled area circle and "NO BOATS" or "NO ENTRY" marks. They would also like to include with the equipment and materials order a roll of Permaflex cable and hardware to hold these buoys to prevent theft.

This private island is an excellent example of promoting eco-tourism and demonstrating eco-friendly practices with solar heated water, compost toilets, solar panel powered lighting, and other amenities. The lush, fragile coral reef fringing the island deserves ultimate protection from careless boaters and boat anchors. It is fitting that this is also a conservation area and a cooperative agreement between the private sector and government is working to provide resource protection.

Here is the contact information for Lina:

Ms Lina Nordlund
Conservation and Education Manager
****
Chumbe Island Coral Park
P.O. Box 3203 - Zanzibar, Tanzania
Phone/Fax: +255 (0)24 2231040
Mobile: +255 (0)776 583442
Fax UK: +44 (0)870 1341284
www.chumbeisland.com

Monday, 31 May 2010: On our last day for this trip, John and Judy Halas and Zahor Mohamed met with Sheha Hamden in his office to report on our successful survey of the three Government Marine Conservation Areas and one Private Marine Conservation Area and discussed the issues we encountered as we dived the sites. We re-confirmed the change in emphasis of the original proposal which resulted in a reduction of the initial overall financial expense of the project. However, it is understood that the hydraulic installation equipment, associated accessories, and buoy system materials would be purchased separately for the necessary installations and training. The quantity of buoy system materials in this invoice can be adjusted to fit the remaining budget of the project. We discussed the signing of the contract for this project which has been delayed but will be handled electronically.

As we agreed, in order to meet the timelines proposed, the equipment and materials order must be initiated and received in Zanzibar so that a date for the training/installation phase can proceed. We met with Zahor afterward and worked out the basics of the order and the financial considerations.

Later in the afternoon, we were driven to the airport and said our goodbyes and thanks for all the assistance provided us during this initial phase of the MACEMP Mooring Project. We had an uneventful flight back home and are anticipating being able to place orders for equipment and materials and arranging shipping so we can return and implement the training and installations of the buoys to help protect Zanzibar's beautiful coral reefs.