

IUCN Eastern Africa Programme

Mnazi Bay Ruvuma Estuary Marine Park

Implementation of A Turtle Conservation Strategy Mnazi Bay Ruvuma Estuary Marine Park Tanzania

C. Muir



March 2004



**Implementation of
A Turtle Conservation Strategy
Mnazi Bay Ruvuma Estuary Marine Park
Tanzania**

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**For the UNDP/GEF Development of
Mnazi Bay Ruvuma Estuary Marine Park (MBREMP) Project**

March 2004

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P. O. Box 68200 - 00200, Nairobi, Kenya
Tel: + 254 20 890605 - 12, Fax: +254 20 890615
E-mail: mail@iucnearo.org

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1. INTRODUCTION

In April 2003 the Mafia Island Marine Turtle & Dugong Conservation Programme (MITDCP) assisted MBREMP to carry out an assessment of the status of turtles, dugongs and cetaceans and to produce recommendations for a long-term conservation strategy.

The assessment revealed that marine turtles are an important component of the park's resources and all five turtle species found in the Western Indian Ocean occur in the area. However, these populations are being exploited and their long-term survival is threatened by deliberate and incidental captures in gillnets, slaughter of nesting females by dedicated turtle hunters, harvesting of eggs and habitat disturbance.

The results of the assessment were reported in July 2003 and presented at the WIOMSA symposium in Maputo that year. The poster presentation was well received and WIOMSA subsequently requested a paper for inclusion in the proceedings.

The turtle conservation strategy drew on the findings of the assessment and the experiences of implementing a successful programme on Mafia Island. It was recommended that the strategy be implemented during the proceeding nesting season when turtles are most vulnerable to predation by humans. The strategy emphasizes local community involvement in turtle conservation, in conjunction with awareness raising, education, research, monitoring and eco-tourism.

MBREMP plans to implement the turtle conservation strategy from March 2004 and invited MITDCP to assist with the planning, selection and training of Community Turtle Officers (CTO) and relevant MBREMP staff.

2. TIMETABLE & ACTIVITIES

Date	Activities
February / March 2004	Advice on planning & CTO selection process
22 March 2004	MITDCP team met with TA, PC and Turtle Focal Person (TFP) for MBREMP (Mr. J. Mahenge) to discuss work programme
23 March 2004	Election of CTOs from Litembe village
24 March 2004	Theoretical training to 4 CTOs & MBREMP focal person
25 March 2004	Practical field training (Ruvula sub-village)
26 March 2004	Debriefing to TA & PC at MBREMP office

3. AIMS

The overall aim of the consultancy was to provide guidance and technical support to implement the MBREMP turtle conservation strategy.

More specifically, the objectives were to:

- Liaise with the MBREMP turtle focal person to assist in the preparation for implementing the turtle conservation strategy;
- Advise on the process for selection of appropriate community turtle officers;

- Train MBREMP staff and local community turtle officers;
- Assist the MBREMP turtle focal person to prepare a work plan for activities relating to the implementation of the turtle conservation strategy.

4. RATIONALE BEHIND THE USE OF COMMUNITY TURTLE OFFICERS (CTOS)

The turtle conservation strategy developed for MBREMP recommends the involvement of local community turtle officers in the protection of turtles and their breeding and feeding habitats, awareness raising, research and monitoring.

The rationale behind the involvement of CTOs as opposed to marine park staff is as follows, based on experiences from Mafia Island:

- Promotes active participation of local villagers in the management of the park's resources and encourages greater collaboration between communities living inside the park and MBREMP staff;
- Encourages a feeling of co-ownership and co-management of the resource by local communities and therefore helps to promote sustainability of conservation activities and the survival of turtles and their habitats in the longer term;
- Villagers are likely to have greater local knowledge of the main turtle nesting sites and seasons, as well as the major local issues or threats to turtles;
- Villagers have easier access to turtle nesting and feeding areas;
- Raising awareness among local communities is more likely to succeed if the message is conveyed via local community members due to a lack of cultural or language barriers. The process may be less effective with marine park staff from outside Mtwara district.
- Training CTOs in conservation, research and monitoring techniques improves the capacity of local communities to play a role in, and benefit from, resource management;
- Increases the capacity of MBREMP to implement the turtle conservation strategy given limited resources and personnel.

5. METHODS

5.1 Selection of Community Turtle Officers

5.1.1 Introduction

In Mafia Island, 6 Community Turtle Officers from villages both inside and outside Mafia Island Marine Park (MIMP) were elected during 2001 to assist with turtle conservation, awareness raising, research and monitoring activities. During initial meetings with the Village Councils and MIMP Village Liaison Committees from each village, it was agreed that local village elections would serve as the most democratic and appropriate means of selecting CTOs. Flyers were circulated detailing the responsibilities of the CTO and the criteria for application. Interested individuals were invited to submit a written application describing why he/she wanted the position and what qualifications he/she had which would meet the criteria. A village meeting was then held during which each applicant was given the opportunity to present their application verbally and to justify their suitability for the

position. Villagers then voted and the applicant with the most votes was elected CTO for that village. In Mafia, the CTOs have received training in theoretical and practical turtle conservation, research and monitoring techniques and receive a monthly stipend of TSh 50,000.

The MITDCP team recommended that MBREMP adopt a similar approach in the selection of CTOs.

Prior to the onset of the CTO selection process in MBREMP, the park agreed the following:

- To implement / pilot the turtle conservation strategy in the 2 villages with important turtle nesting sites: Msimbati (Msimbati & Ruvula beaches) and Litembe (Litokoto & Kingumi Islands);
- To select two CTOs from each village (4 in total);
- To advertise the CTO positions as voluntary given that there is no budget line for this activity;
- Not to introduce a nest protection incentive scheme (as per Mafia) initially, but to review the situation following collection of baseline data.

5.1.2 Selection process

During initial meetings between MBREMP and Msimbati village, the Village Council and MBREMP Village Liaison Committee (VLC) agreed that, rather than going through a village election process, VLC members should be appointed as CTOs since they already have an interest in marine park activities and certain individuals had already been involved in turtle conservation activities.

The methods used to select CTOs in Msimbati and Litembe villages are outlined in Table 1 below.

Table 1. CTO selection method

Month / Date	Litembe	Msimbati
February 25 & 27 2004	Meeting held with Village Council (VC) and MBREMP Village Liaison Committee (VLC) to go through the results of the turtle assessment and conservation strategy, to inform them of MBREMP's intention to involve local community members in turtle conservation activities and to agree on the most appropriate method for CTO selection.	Meeting held with Village Council (VC) and MBREMP Village Liaison Committee (VLC) to go through the results of the turtle assessment and conservation strategy, to inform them of MBREMP's intention to involve local community members in turtle conservation activities and to agree on the most appropriate method for CTO selection.
	The VC & VLC agreed to hold a village election.	The VC & VLC agreed to appoint appropriate VLC members as CTOs rather than holding a village election.
March 5 & 11 2004	MBREMP produced flyers for distribution in Litembe village detailing responsibilities & application criteria.	Two VLO members appointed as CTOs.
March 5 – 15 2004	Interested individuals submitted applications to VLC Chair.	
March 23 2004	Village election held & two CTO's elected.	
March 24 & 25 2004	Theoretical & practical training.	Theoretical & practical training.
March 26th 2004	Implementation of turtle conservation strategy.	Implementation of turtle conservation strategy.

5.1.3 Selection criteria

The criteria used for selection of applicants included:

- a) Literacy
- b) Resident of the village
- c) Personal knowledge of turtle nesting sites and turtle feeding / breeding areas (e.g. fishers)
- d) Regularly visit nesting beaches / feeding areas and live near to the beach
- e) Voluntary commitment.

5.2 Training

Training in aspects of turtle ecology, biology and conservation techniques was received by the four newly appointed CTOs and the MBREMP turtle focal person (J. Mahenge) on 24 and 25 March 2004. The manuals produced by MITDCP in 2003 were used in the training.

5.2.1 Theoretical training

The following topics were covered during the theoretical training day (Table 2).

Table 2. Topics included in theoretical turtle training

1. Slide Presentation	Life cycle / biology	
	Threats	
	Values	
	Migration	
	Monitoring & conservation	
	Experiences from Mafia	
2. Conservation Techniques	Species identification (green, hawksbill, leatherback, loggerhead & Olive Ridley)	Direct observations Shells (carapaces) Tracks Hatchlings
	Nest verification	Where are eggs typically laid?
	Nest excavation	Recording hatchling success rate
	Nest translocation	How to move a nest
	Turtle tagging / tag collection	
	Measuring shell / track width	
	DNA sample collection	
	3. CTO responsibilities	Daily / weekly / monthly activities
Form completion		Nest & hatchling forms
		Monthly form
		Mortality form
		Tag form
		DNA form

5.2.2 Practical training

Practical training was held at Ruvula Sea Safari Lodge and included nest verification, translocation and excavation (hatchling success), tagging, and DNA sample collection.

The training focused on a turtle nest which was laid within the Lodge plot on 31 January 2004 and which was expected to hatch 55 days later on 26 March 2004.

5.2.3 Training equipment

Each CTO was provided with the following equipment / resources necessary to conduct turtle conservation activities:

- Hardback notebook & pen
- Plastic folder
- Data forms
- Tape measure
- Bucket (for translocating nests)

MITDCP also provided:

- Rubber gloves
- Tag applicator and tags x 50 (Tag Nos: TA351 – 400). NB: TA351 used in training
- DNA sample vials x 10 (Vial Nos: N1180 – N1189)

6. RESULTS & DISCUSSION

6.1 CTO Selection

6.1.1 Msimbati

Bimbkubwa Salum and *Mohammed Mkuti*, both VLC members, were appointed by the Msimbati village government / VLC. They are fishers/ farmers and live in Msimbati village.

6.1.2 Issues

Election process

Appointment of VLC members: the appointed CTOs raised concern that their responsibilities as VLC members may mean compromising turtle conservation activities (patrols etc).

Furthermore, while the original two appointees (Bimbkubwa Salum & Mohamedi Saidi) had a proven commitment to turtle conservation (nest protection, awareness raising), two days before the training the VLC announced that Mohamedi Saidi had taken up employment as a MBREMP gate guard.

His replacement, Mohammed Mkuti may not have a similar sense of enthusiasm and commitment and therefore may not be applicable.

Appointment of CTOs by the village government / VLC, rather than through a democratic election process: this was raised by the MITDCP team as a possible area of conflict as the appointment may be seen to be biased (e.g. one of the CTOs is the wife of the Msimbati Village Chairman).

Regular beach patrols

Both CTOs live in Msimbati village. However the nesting beach extends approximately 8km north to Ruvula sub-village, making regular return trips (16km) unrealistic and unlikely. It would have been more efficient and effective if one CTO had been appointed from Msimbati

and one from Ruvula. The appointed CTOs did not see the distance as a major obstacle as they said they would be able to get information on nesting from villagers.

Regular patrols in the Ruvula area are essential, particularly given that the only reported turtle nest along the Msimbati/Ruvula stretch of beach this year was laid at Ruvula. Appointment of a CTO from Ruvula (e.g. Rashidi Lincoln) and greater involvement of Ruvula Sea Safari Lodge in nest monitoring and protection would help to solve this problem.

Nesting on Namponda / Membelwa islands in Mnazi Bay

If a turtle nest is reported on Namponda or Membelwa islands, the CTOs have no means of transport to verify the nest. If a nest is reported on the islands, it was recommended that a report be sent immediately to MBREMP office and either local village or MBREMP transport sought.

6.1.3 Litembe

In Litembe village, a CTO election was held on 23 March 2004. Seven applications were received by the VC and four were brought for public election. During the meeting which was attended by approximately 120 villagers, each of the applicants was given the opportunity to present their application verbally. Following their presentation, members of the community were given permission to ask questions. Paper was distributed to the crowd who were invited to write down the name of their chosen applicant. 107 votes were handed in and the 2 applicants with the greatest number of votes were appointed.

Saidi Apite and *Rashidi Kampane* were elected by Litembe villagers. Both are fishers. Kampane lives in Litembe Pwani on the beach and Apite lives in Litembe village about 5 km inland.

6.1.4 Issues

Transport to Litokoto & Kingumi Islands

Neither CTO has his own means of transport to get from Litembe village to the islands. On hindsight, ownership of a *mitumbwi* should have been included in the CTO application criteria for Litembe. Without guaranteed transport, the CTOs will not have the flexibility to conduct regular turtle patrols.

Possible solutions include: providing funds to buy a *mitumbwi* for Litembe turtle conservation activities; providing funds to hire a *mitumbwi* for turtle patrols; CTOs relying on lifts from other fishers to the islands.

6.2 Training

Both theoretical and practical training was completed successfully. Each CTO, together with TFP of MBREMP now has the capacity to identify all 5 turtle species; verify, protect, translocate and excavate a turtle nest; measure a turtle; tag; collect DNA samples; and complete daily & monthly logs and nest / hatchling / mortality data forms.

The green turtle nest at Ruvula hatched between 23 – 25 March 2004 after an incubation period of 52 – 54 days. The nest was excavated as part of the practical training. 78 eggs were

recorded, of which 60 (77%) hatched successfully and 18 were rotten. This nest is number R1.

It was agreed that each location would have a different nest code: Msimbati – M; Ruvula – R; Litokoto – L; and Kingumi – K.

7. RECOMMENDATIONS

The following recommendations were made following discussions between the MITDCP team, TFP and the newly appointed CTOs. The draft work plan has been compiled based on these recommendations and is detailed in Section 8 below.

7.1 Supervision

It is recommended that the MBREMP turtle focal person (J Mahenge) supervise CTO activities very closely during the first few months (April - June 2004). It is important that the TFP accompany CTOs on patrols (day & overnight), assist them with nest protection and data collection / form completion and motivate them. This period is also reported to be the main nesting period in MBREMP.

7.2 Patrols

CTOs to undertake routine patrols at least 3 times a week subject to availability of transport / other commitments. The frequency of patrols may increase depending on the level of nesting activity.

Encourage involvement of a resident of Ruvula sub-village and Ruvula Sea Safari Lodge in monitoring nesting activity. Each should receive information on turtles and the turtle conservation manual as well as training by the TFP.

Subject to resources, MBREMP to devote a minimum of 8 days per month to turtle patrols, at least during the main nesting season. It is recommended that 2 days a week are devoted to each village. At Litembe, a boat and boatman would be required for transport to Litokoto and Kingumi Islands. At Msimbati, patrols would be conducted by foot.

7.3 Review of progress

The TFP to meet with CTOs on 15 April and 03 May 2004 to review progress, assess suitability of CTOs and discuss problems. Further reviews should be conducted at the end of May and June 2004.

7.4 Data collection & reporting

It was agreed that each verified nest recorded should be reported immediately to the MBREMP office. CTOs from Msimbati can use the radios at Msimbati gate and Ruvula Sea Safaris (after seeking permission from the owner / manager) to relay information. At Litembe, information can be relayed via public transport and any MBREMP vehicle passing Litembe should make a routine point of asking for new nesting information.

A GPS recording should be taken for each nest.

At the end of each month, each CTO to submit to MBREMP their patrol log book, nest data forms and monthly summary form. 2 copies of the nest form should be taken (1 for MBREMP and 1 for the CTO) and 3 copies of the monthly form (1 for MBREMP, 1 for the Village Council and 1 for the CTO).

7.5 Flyers / notice boards

MBREMP to distribute flyers to all villages within the park detailing national legislation on turtles.

MBREMP to erect 4 wooden notice boards at the main nesting sites at Ruvula, Msimbati, Litokoto and Kingumi announcing the law and penalties.

7.6 Education / Awareness raising

Inform villagers at all forthcoming MBREMP village meetings of the names of the CTOs and MBREMP focal person and the procedure for reporting nesting activity or turtle mortalities. Incorporate the turtle conservation agenda into all MBREMP Community Conservation Department (CCD) activities. At every meeting, make time to raise awareness about turtle status, ecology, movements and threats.

The TFP to assist in training of MBREMP staff (Licensing & Enforcement / CCD) in turtle conservation techniques.

7.7 Incentives

If project funds are, or become, available to support the implementation of the turtle conservation strategy, it is recommended that they are used to:

- Buy 1 or 2 mitumbwi for use by CTOs from Litembe village
- Provide modest incentives for each nest protected, to be divided between the CTO and individual who reported the nest.

7.8 Data storage

At the end of each month, the MBREMP focal person to collect the CTO patrol log books, nest forms and monthly forms for copying and filing at the MBREMP office. The data can then easily be entered into a turtle data base once it has been developed.

8. DRAFT WORK PLAN

The draft work plan for implementation of the MBREMP turtle conservation strategy is based on the recommendations outlined in Section 7 above.

The following work plan is for an initial period of 3 months, from April to June 2004 which coincides with the main turtle nesting season.

Table 3: Draft work plan: April – June 2004

Proposed activities	April				May				June				Activity in project W/plan
1. Conduct review meeting with Community Turtle Officers (CTOs)		X		X				X				X	Activity 2.1.3
2. Conduct joint patrols with CTOs	X	X	X	X	X	X	X	X	X	X	X	X	Activity 2.1.3 / Activity 5.3.1
3. Conduct verification of every nest and taking GPS	X	X	X	X	X	X	X	X	X	X	X	X	Activity 2.1.3
4. Tagging turtles and collect DNA samples	X	X	X	X	X	X	X	X	X	X	X	X	Activity 2.1.3
5. Collect monthly reports from CTOs and checking their logbooks				X				X				X	Activity 2.1.3
6. Distribute fliers and other announcements			X	X									Activity 2.1.3
7. Prepare four sign boards and fix		X	X	X									Activity 2.1.2
8. Distribute turtle training manuals and guidelines	X	X											Activity 2.1.3
9. Conduct awareness meetings and provide education	X	X	X	X	X	X	X	X	X	X	X	X	Activity 5.3.1