



# FRIENDS OF MAZIWE

## NEWSLETTER

6th Edition

October - December 2012

Welcome to the fifth issue of the Friends of Maziwe newsletter. This newsletter will bring you news and updates on the various projects happening along the Ushongo coast and the island itself. Maziwe is a Marine Reserve which supports a vibrant coral reef ecosystem and is a nesting ground for the Green turtle. We hope that this newsletter will help raise awareness and generate support for the coming years.

### The history of Maziwi Island

Until the 1960s a terrestrial island existed on Maziwe. The shape of the island was roughly circular with a diameter of 500 to 600 metres or a surface area of 20 to 28 hectares. The island was situated on the western more protected site of the coral reef platform and was vegetated by up to 25 meter high casuarina trees, coastal bushes and shrubs and very few planted coconut trees. The island survived for such a long time mainly due to this growth of dense and deeply rooted vegetational cover which stabilized the accumulation of sand. Between the 1920s and the 1950s Maziwe lost little of its beach. The rate of erosion increased tremendously during the second half of the 1960s. Most erosion appeared on the eastern side, but other beaches were affected as well and by 1968 Maziwe lost several meters each year. The eroded sand shifted, forming new beaches where shrubs started growing. By 1974 the island shrunk to a very small size. Shedd (1974) observed that "Usually high spring tides were eating away meters of shoreline. Nests (of Turtles) that were two and three metres above the crest were entirely washed out". The last Casuarinas tree most likely fell in 1977 and in 1978 the entire area of the "original" island was submerged. Shrubs not higher than two metres were growing on the newly formed sand spits. Between 1978 and 1982 Maziwe shifted to its present position and lost all vegetation around 1980.



Source: Maziwi Island off Pangani (Tanzania): History of its destruction and possible causes, by Mario B.Fay, UNEP Regional Seas Reports and Studies No. 139, 1992

### Lewis & Clark College and Primary School Mwera

Students from Lewis & Clark Collège (Portland, Oregon) with Dr. Kenneth E. Clifton visited Pembe Abwe again this year. The students conducted a survey of the reefs at Maziwe Island and Fungu Zinga. On their last day of the program they invited 20 Primary School students and two teachers from Mwera primary school to join them on an outing to Maziwe Island. The kids were geared up with mask, snorkel and life jackets and for the very first time they snorkelled and had a chance to see the incredible beauty and diversity of a coral reef.

Dr. Kenneth E. Clifton brought his first layout of the "Common Reef Fishes of Northern Tanzania", which hopefully will be available to guests soon and is intended as an aid for fish identification. The book provides images of more than 250 fish species from Maziwe Island and Fungu Zinga. Secondly the Lewis & Clark College brought a new highlight to Ushongo Beach. They installed a weather station at Emayani Lodge to collect important long term data on climate which will help document changes by global warming.





## News Center

- Total number of baby turtles released since the beginning of the project: 13,735
- 16 more nests are incubating in Ushongo Beach due to hatch in October & November
- Humpback Whale Season is still on, report your sightings to Mohamed (Pegwa)

### A turtle Story from Mungia & Rajabu

It was the morning of the 23rd of September when we left Ushongo at 5am to patrol Maziwe for turtle nests. When we arrived on the island about an hour later we recognised several turtle tracks. While having a closer look at a nest in the northern tip we saw some movement in the south. We quickly realised that a turtle was still on the island. Quietly we made our way closer to the turtle, eventually we were crawling along the beach until we reached her from behind. We were laying about half a meter away and watching what she was doing. She had finished digging her body bit and was sitting right in the hole she had dug, making the egg chamber with her hind flippers. Once finished, she positioned herself and got ready to lay her eggs. With each contraction she released about 2-3 eggs, relaxed for a moment and than continued. It took her about 20 minutes until the last eggs dropped into the nest. Carefully she filled the nest chamber with sand and compacted it with her hind flippers. She was exhausted but she knew her job was not finished yet. Sand was thrown backwards along the carapace over the nesting site. While we relocated the eggs, the turtle still kept throwing sand at us. By the time we had 145 eggs in the bucket the turtle returned to the sea. This was one of the most exciting days in our turtle conservation work. Thank you Turtle Mama Jumapili, it was amazing watching you!



### The 'Other' Friends of Maziwe

Coral reefs are three-dimensional living structures of plants and animals that grow along the ocean's bottom. The coral reefs around Maziwe Island Marine Reserve include hard and soft corals, algae, sponges, molluscs and worms.

Through the process of photosynthesis an algae is transferring energies to the coral polyps, which than fuses calcium with carbon to form the calcium carbonate skeleton of corals. Sunlight and clear water play an important role for coral reef growth, as well as water temperatures between 25-30°C. The surrounding reefs of Maziwe Island show a high density of coral growth between a depth range of 1 - 20 m. Corals cannot tolerate an extended period of exposure for example during low tides. The growth rate of individual coral species vary from 0,5-7 cm a year and this largely depends on the environmental conditions.

Many fish species, crustaceans, gastropods and echinoderms rely on particular three-dimensional features of the coral reef; feeding on plankton and finding shelter in the coral branches, caves and overhangs when predators approach. Plants and animals growing on coral reefs are constantly competing for space, some even use chemical defences to reduce the growth of neighbours. Because of the extremely fragile structure of coral colonies, reefs are under threat. Use of dynamite and other destructive fishing methods, stepping on corals and extensive anchoring can damage enough coral colonies and eventually destroy an entire reef.

Source: A Field Guide to THE SEASHORES OF EASTERN AFRICA, by Matthew D. Richmond, SIDA, SAREC and University of Dar es Salaam 1997

