



⇒ **Discover more
with our marine
team**

- The not so silent reefs
- The “rain forests of the ocean”

⇒ **Environmental
education team continues
to enlighten many**



⇒ **A new dimension is set
out for the Kiroa Scott
Reserve**

The not so silent reefs

Did you know that coral reefs are not as quiet as they seem. There are various sounds that are produced by the many creatures found in the reef from parrot fish scrubbing the substrates to shrimps with their pincers and sea urchins eroding the calcium carbonate. But just in case you thought the sounds were to entertain snorkelers and divers think again. Actually most snorkelers and divers are never keen enough to listen to the sounds. These sounds are very critical for the survival of some of the species living here. Take a clownfish for example; we know of their symbiotic relation with sea anemone. But did you know that the female clownfish lays its eggs on rocks beneath the anemone?

The eggs they hatch and the baby clownfish are released to the open ocean. After several weeks when they are grown they have to find their way to the home reef through the sounds produced by the reef creatures. If the reef is unhealthy there are less of these creatures and therefore less sounds making it hard for the clownfish to locate the reefs. Climate change and other anthropogenic are degrading reefs and making it hard for most of these spectacular species to thrive. New evidence of ocean acidification also suggests that the increasing acidity of ocean water may affect the inner ear of clownfish and making it even harder for them to hear the sounds and locate a healthy reef. Let's play our role in keeping the coral reefs healthy and help *Nemo* locate home.



The “Rain forests of the Ocean”

Have you ever thought about the coral reef habitat? Coral reefs are rocky mounds and/or ridges formed in the sea by small animals known as coral polyps through the accumulation and deposition of limestone (calcium carbonate). The “**rainforests of the ocean,**” coral reefs are biodiversity hotspots that make up less than 1% of the marine environment but are home to 25% of the ocean's marine life. Coral reefs are of great importance in the ecosystem. They are the second richest biodiversity of any habitat in the world, feeding grounds, nursery ground and shelter for many organism including turtles, sea snakes, triggerfish, parrotfish, nudibranchs (a colourful type of sea slug), crustaceans, hermit crabs and sharks. Aside from their stunning beauty and rich marine life, coral reefs provide protection to coastal communities from shoreline erosion and chemical compounds extracted from coral are used in medicine for cancer and other diseases. Coral reefs are threatened by pollution, careless boat anchoring, high turbidity from poor farming practices upstream and climate change causing coral bleaching.



Given this background, A Rocha Kenya's marine research and environmental education teams saw it fit to develop a Marine Environmental Education Manual specifically tailored for the Watamu Marine Protected Area to create awareness and address the conservation of the aforementioned habitat and the rest of the marine ecosystem. It will be used by both teachers and students in learning more about their marine ecosystem, which they readily interact with and are dependent upon. This was done in partnership with two other organizations which are; Local Ocean Trust: Watamu Turtle Watch and African Billfish Foundation together with the patrons to the environmental clubs selected from the eight schools that are part of the program.

In order to create the much needed synergy between the organizations, students and the school, the teachers were also engaged through two workshops with the first geared towards disseminating as much knowledge as possible regarding the marine Ecosystem. The second saw the teachers' capacity built on how to conduct an environmental education lesson followed by familiarization and interactions with the marine biodiversity through various activities that they could adopt and practice them back at school with their clubs, such as crab surveys, beach sand art, making an organic tower, swimming, night rock pooling and a snorkeling trip to the Watamu coral gardens.

Environmental Education for schools in Watamu

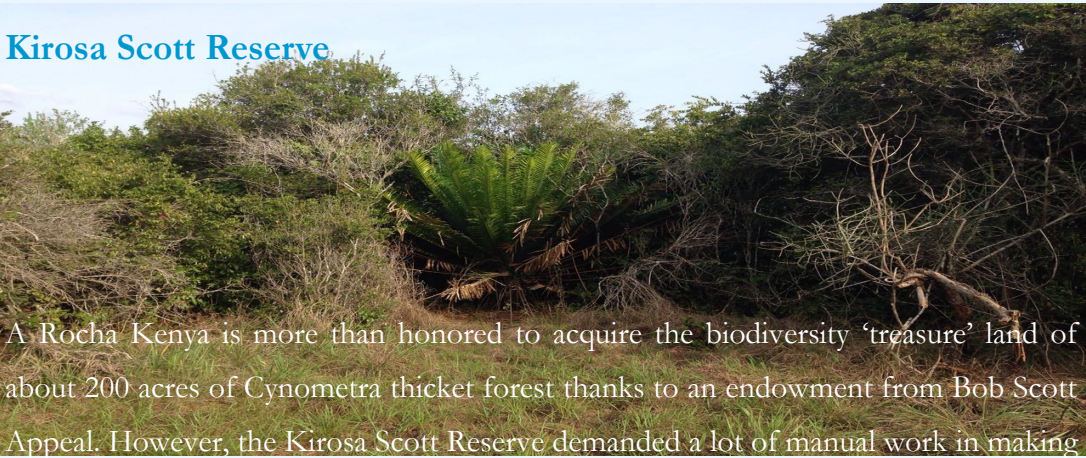
The leadership of tomorrow is a symbol of victory over the challenges of tomorrow, and to achieve that, we need to sufficiently equip our children for the future to come. To work towards raising awareness on the environment in Watamu including the Marine Protected Area, A Rocha Kenya is now facilitating environmental education to more than 10 primary schools.



Every week kicks off with a simple lesson plan preparation for Marine Protected Areas (MPAs) and the volunteers and interns at A Rocha Kenya discuss and plan to visit each school and facilitate the EE lessons. We have been having wonderful and lively lessons on the *Intertidal Zone*, whereby the Wildlife Club members

from each school has an amazing experience at the beach in Watamu Marine National Park. The idea of taking the pupils for a walk on the beach or simply having the lessons outside the class setting and playing games, has been quite remarkable. There is the feeling of nature and actual experience with the information communicated to

Kirosa Scott Reserve



A Rocha Kenya is more than honored to acquire the biodiversity ‘treasure’ land of about 200 acres of Cynometra thicket forest thanks to an endowment from Bob Scott Appeal. However, the Kirosa Scott Reserve demanded a lot of manual work in making the area accessible and effective for learning/research. Recently, preparations for the ‘Kirosa expedition’ begun. Bird watching, tree identification and creating the nature trail was pretty much the purpose of the expedition. The vision that A Rocha Kenya had towards acquiring the Reserve is just but a hidden treasure that not only the learning/research groups will benefit but also the adjacent communities at large. So far there has been incredible progress that A Rocha Kenya has made through the intervention in crop farming for farmers in Marafa to realize some economic benefits from crop yield and venturing in alternative livelihoods. Is it possible for the communities to succeed where the nation has failed? In a country that majorly depends on natural resources especially food, water and energy provisions, the answer comes from tackling the question on whether natural resources are sustainable.

In pictures



Ghana National Director, Seth Appiah-Kubi with the ARK team



Students at the Mida Board walk



The signing of MoU between Pwani University and A Rocha Kenya



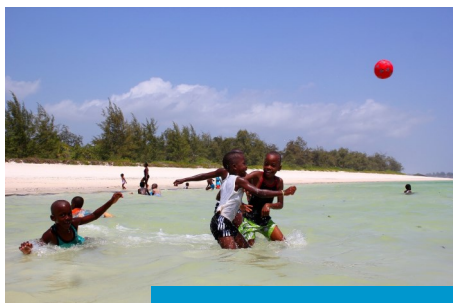
Mwamba conference hall



Team effort in developing kids corner at Mwamba

Mwamba Field Study Centers

Mwamba Field Study center meets the demand for all nature of activities be it conferences, prayer meetings, conservation research work, environmental education and to sum it up, it provides simple, pleasant and relaxed full board accommodation for all interested visitors, researchers and conservationists.



Behind the magical sandy beaches, there is learning

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