After Copenhagen what next?
Volunteers track Humpback Whales
MPAs in Mozambique

Sighted!
Dugongs in Tanzania
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One of the largest global studies of marine reserves has found that reserves where residents said they complied with the rules were more effective at protecting fish stocks than those where the rules were often ignored*. Well, duhh, is that not common knowledge anyway, asks Mr. B, my politician friend when I mentioned this study to him. We all know that places, be they reserves, communities, cities or nations, where people comply with rules and regulations are better governed and better protected - that is just common sense, he said.

However, one of the results from this study does not match conventional belief. We all “know” that population density affects environmental resources - the more the people the more resources are used and damaged. As the researchers expected, greater population density negatively impacted marine reserves in the Caribbean, but it had no effect at marine reserves in the Philippines. At reserves in the Western Indian Ocean greater population density was associated with healthier reserves and greater fish biomass inside the reserve compared with outside.

In many instances what we think is common sense is a collection of feelings, perceptions and even biases that have never been really tested to know whether they are true. And therein lays the danger when it comes to making decisions. When decision makers and politicians simply act on what they “believe” and undertake to do certain things without technical and scientific support, they often times run into problems.

In fact, the world is a more complex place than some make it out to be. In this issue of the magazine some of the authors examine this complexity. Jan Robinson describes the unexpected negative impacts of Somali piracy on marine research in the region and also draws our attention to IUU fishing as the original cause of the problem. It seems evident from Lucas Liganga’s piece that while lack of enforcement is usually lamented as the reason for rampant dynamite fishing in Tanzania the problem may be the lack of social cohesion on the issue thus leading to inability of people to work together and ultimately governance failure. In my article on the Chagos I explore the twists in the plot, a real “whodunit”, of a seemingly straightforward endeavor – that of creating the largest marine reserve in the world.

Nirmal Shah
Co-Editor

By Lucas Liganga

UN boss Ban Ki-moon: The agreement is “an essential beginning”

Head of G-77 block Lumumba Di-Aping: “The deal remains just an idea”

While leaders failed to make history in Copenhagen, ordinary people did not. While leaders were divided in Copenhagen, the people were not. The only real leadership at the conference came from the hundreds of thousands of ordinary people who had come together to demand strong action to prevent climate catastrophe.

After the two-week UN Climate Change Conference that ended on December 19, 2009, in the Danish capital of Copenhagen, with no fair agreement reached on how to tackle climate change, the hard question remains: “After Copenhagen what next?”

The absence of world leaders commitment to any emissions reduction targets means there is no guarantee that warming the other for failing to take ambitious actions to tackle climate change.

At one point African delegates staged a partial boycott of the talks. Indeed it was encouraging to see that Africa had decided to speak with one voice rather than Zenawi. “But we are not here as victims nursing our wounds of injustice of the past. Africa is a continent of the future, it is destined to be a growth pole of the 21st century,” warned Meles, who was later accused of teaming up with France to betray the African cause by reworking on the African document that was submitted at the conference.

The “climate deal” announced in Copenhagen by the United States, India, China, Brazil and South Africa (so called emerging economies) was not endorsed by the European Union and many other countries. The deal contained no specifics on emissions cuts, but it did commit the countries to keep global warming at 2 degrees centigrade or less and to promise 30 billion US dollars in funding to battle climate change by 2012. It also created a framework for international transparency on climate actions for developed and developing nations alike.

“For the first time, all major economies have come...
together to accept their responsibility to combat climate change,” said the US President Barack Obama. He added: “This is a consensus that will serve as the foundation for global action against climate change for years to come.”

While the five countries—the US and emerging economies of China, Brazil, India and South Africa—that reached the agreement may be satisfied, the deal is far from finalized. Most African nations and small island states did not initially confirm that they would agree to its outlines. But after intense negotiations, a motion was finally passed recognizing the US-backed agreement with the UN Secretary General Ban Ki-moon telling journalists: “Finally, we sealed the deal.” He said this was an essential beginning but noted that the agreement must be made legally binding this year (2010). To be accepted as an official UN agreement, the deal needed to be endorsed by all 193 nations at the talks.

Environmental groups were split, with mainstream groups like the Natural Resources Defense Council welcoming the deal as a first step, with others like Greenpeace denouncing it. In a hastily called press conference, Lumumba Stanislaus Di-Aping, Sudan’s UN Ambassador and the head of the G-77 negotiating bloc of developing countries lambasted the agreement and vowed to fight it, saying: “The deal remains just an idea.”

The accord would have developed and developing countries listing their national actions and mechanisms for addressing climate change and then provide information on those actions, and how well they are carried out. The deal inspires no confidence that catastrophic climate change will be averted or that poor countries will be given money they need to adapt as temperatures rise.

Speaking during the beginning of the second week of Copenhagen, Nobel peace laureate, Prof. Wangari Maathai may very well have been prophetic when she observed “…we may not come out of here (Copenhagen) with a perfect document. I have been attending UN meetings since 1976, when I attended the Habitat conference in Vancouver, Canada. Delegates there too argued and wrangled over language and money,” said the Kenyan renowned environmentalist and founder of Green Belt Movement. Prof Maathai, also the Goodwill Ambassador for the Congo Basin Forest Ecosystem added: “No delegate leaves the conference with a perfect document and a perfect financial mechanism to implement their dreams, and Copenhagen conference on climate change might not be any different.”

The consensus that came from Copenhagen though, is that there was a growing climate justice movement and more and more people are getting involved. “This is the beginning of change. Everyone can take action to tackle climate change, consuming less, saving energy and improving energy efficiency for instance,” said Palle Bendsen from Friends of the Earth Denmark.

“Their voices are loud and growing,” said Nnimmo Bassey, Chair of Friends of the Earth International. Disappointed and dejected Shorbanu Khatun, a climate migrant at the conference with Oxfam, commented “I came all the way from a displaced persons camp on the flooded coast of Bangladesh to see justice done for the 45,000 people made homeless by cyclone Aila. How do I tell them their misery has fallen on deaf ears?”

After Copenhagen what should be next? World leaders should take time to find a common ground for partnership that is based on a willingness to be fair, trusting, honest, transparent and responsible for the sake of both the leaders and millions of people across the world.
Long before the Copenhagen conference in December last year, most African countries were exuding confidence, and several were highly optimistic, that a deal on climate change would be struck. A few days before the Copenhagen meeting, for instance, African parliamentarians resolved during a Pan African parliamentarians summit in Nairobi to speak with one voice. In addition, the necessary political will was on an all time high with, for example, in the Kenyan case, Prime Minister Raila Odinga, taking the lead and assuring delegates that “Copenhagen must succeed.” Failure, according to the Kenyan premier, was not an option. In the minds of many, therefore, it was like a done deal by the time the conference was kicking off in the Danish Capital, attracting close to 45,000 people, and well over 5000 journalists from around the world.

Yet, signs that Copenhagen would disappoint had long been evident. First was during the June preliminary talks in Bangkok, Thailand, and later in Barcelona. During the Barcelona meeting, for example, Africa walked out of the negotiation room. Perhaps only the civil society groups and climate change activists saw it coming. “I am not expecting much because of the problems facing the western economies,” said Dominic Walubengo, a Kenyan environmentalist. In his view, the western countries did not have money, and it was therefore difficult to see any possibility of a satisfactory deal for Africa or Latin America or Asia.
The negotiating blocks, for Copenhagen- a term used to refer to the groups officially mandated to negotiate the various aspects of the deal- included the G77, together with China. This is a group of 130 nations, mostly developing, chaired by Sudan. There were, of course, also the Alliance of Small Island States, mostly threatened by rising sea levels, the Africa group and then the developed countries.

And the fissures started showing! The developing countries accused the West of plotting to kill Kyoto, which means that the latter would have no obligation to reduce emissions, even as the first commitment period of the Kyoto protocol nears an end in 2012. Developing countries on their part wanted the conference of parties to agree on a two track system that would see adherence to the Kyoto protocol respected while considering other options. “Kyoto was signed by 193 nations and it is a binding document that we want implemented,” asserted Kenya’s uncompromising Environment Minister, Minister John Michuki. The EU and some developing countries were pushing for the replacement of the Kyoto protocol with an entirely new system. The developing nations accused the chairperson of Cop15 of denying them opportunity to raise their concerns on the unequal treatment in the Kyoto protocol. It was only when it became evident that there was a standoff that the United Nations Framework Convention invited nations to open – ended discussions to diffuse the stalemate.

The second week in Copenhagen was marred by protests of members of civil society from developing countries demanding what they described as climate justice. It appeared to have been a well orchestrated move to coincide with the arrival of the Heads of States and Prime Ministers from across the world. Even though the temperatures were as low as –3 degrees, the urge for an appropriate deal kept the protestors warm – chanting slogans and belting tunes.

Signs that the situation was getting out of control started showing when some groups, including the Friends of the Earth, were thrown out of the negotiations at the Bella Centre. Soon after, the rich nations released a parallel text that came to be known as the Danish text, causing so much furore among the African group that the West had to beat a slight retreat. “Where is the democracy if the majority cannot carry the day?” exclaimed John Michuki. It then emerged that Africa, the G77 group, Brazil and India were now working together to push for a two track deal, in which the Kyoto protocol would be respected. This group accounts for more than 60 percent of world nations.

Discontent rose even higher just a day after the climate summit nearly stalled when developing nations staged a five-hour boycott. At a subsequent meeting between African Heads of States, Ethiopian Prime Minister Meles Zenawi proposed the
establishment of a fund of 10 billion US dollars to enable vulnerable countries adapt to climate change. He also sharply disagreed with the rest of the African delegates who had resolved not to accept anything short of an agreement that would reduce global warming to below 2 degrees.

It was in the final days of the conference, when the Copenhagen Accord was clinched, that President Obama’s input became vital, although he did not seem overly keen to spin the deal his way. It was however not lost on observers that he described the Copenhagen Accord as “meaningful and historic”, although he equally acknowledged that it would not be enough. The Copenhagen Accord acknowledged the continuation of previous agreements such as the Kyoto Protocol. It also established a maximum increase in global temperature of two degrees Celsius and welcomed future reviews to consider whether the global temperature increase should be limited to 1.5 degrees Celsius. Furthermore, it committed developed countries to providing additional funding for developing countries. European Union leaders agreed to a three-year deal during which they would release 10.6 billion dollars to help vulnerable countries cope with the vagaries of climate change.

Kenyan environmental Lawyer, Odhiambo Mak’oloo, says COP 15 was a success in that it was one distinct summit in which Africa made its stand known. Copenhagen also revealed the limits of China’s willingness to act on climate change: the Government doesn’t want to be bound by legal agreements and certainly isn’t prepared to set a sealing on absolute emissions.

Copenhagen will also be remembered as the stage for various interesting scenes of activists who stopped at nothing to make their stand known. There were those who chose to lie flat outside the Bella Center to send the message home, not to mention the many street protests. There were also those who had a twisted opinion, for lack of a better word, on what exactly is climate change and what its causes are. One group stood strategically at the entrance of the Bella Center, urging people to adopt a vegetarian lifestyle, because meaty things are to blame for climate change.

Kenya was well represented at the conference, perhaps an indicator that the government has tightened its focus on the war against a changing climate. As a climate media fellow, this was an enriching time for me. But now with the conference over and nations each back to the basics of dealing with their specific climate change challenges, each country must come up with its own ways of combating climate change.
Piracy: An emerging challenge for marine research and management!

By Jan Robinson

Large areas of the Western Indian Ocean (WIO) are now effectively closed to marine research. While attention has quite rightly focused on the social, economic and political aspects of the upsurge in piracy, the implications for the region’s scientific agenda and marine resource governance are potentially severe.

The international community widely accepts that the combined naval efforts to protect the Gulf of Aden as a key shipping bottleneck has forced piracy to spread south and east into the WIO. The timing could not have been worse for offshore research, coinciding with the launch of the research cruise phases of both the Agulhas-Somali Currents Large Marine Ecosystem (ASCLME) programme and South West Indian Ocean Fisheries Project (SWIOFP). Both of these initiatives were faced with a major restructuring of planned activities at sea in 2009 to avoid the piracy hotspots off Seychelles and Kenya.

Several other offshore fisheries research programmes also face reorganisation given the current levels of piracy, including the EU-funded project MADE (Mitigating Adverse Ecological impacts of open ocean fisheries). Even coastal projects are not immune from the threat of piracy. Planned research at the remote Farquhar Atoll (Seychelles), as part of a MASMA funded regional programme on reef fish spawning aggregations, will require the team to cross waters which have seen yachts and tuna purse seine vessels attacked by pirates in recent months. At present, the risks are too high for research trips to the outer islands of Seychelles.

The question foremost on the minds of project managers currently affected by piracy is: for how long will piracy pose a threat to the planned sea-going research? Again turning to the prevailing view, piracy will not be mitigated without significant improvement to the socio-political situation in Somalia. Given nearly 20 years of turmoil in that country, this effectively means that the problem may be with us for the foreseeable future. Following a possible hiatus forced by the rough seas of the Southeast Trades, we may face renewed effort by the pirates come 2010. The inescapable fact is that problems are
on the horizon for many projects.

In the short-term, it can be expected that the donor community and funding agencies will be sympathetic to the effects of the piracy issue on their funded projects. The spread and upsurge of piracy are too recent to have been considered in the risk analyses of projects currently in the implementation phase. If the problem extends over several years, however, the extent of areas not surveyed as part of the LME programmes, or studied as part of other projects, may increase to include Somalia’s neighbours. Of greater consequence in the longer term are the risks to the regional governance initiatives to which these projects contribute.

There is no justification for piracy but it is notable that an exacerbating factor, perceived among many Somali and outside commentators, is the rampant illegal, unregulated and unreported (IUU) fishing that has occurred in that country’s EEZ over the last decade or so (as reported by N. Shah in the previous issue of this magazine), With the Somali Current representing one of the most productive upwelling ecosystems in the WIO, the absence of that State exercising its sovereign rights over the EEZ has led to some of the highest rates of IUU in the world. It is clear that pirates do not ask the skippers of fishing vessels to prove their IUU status before they overrun those vessels, and it is the legal tuna fleets that are now paying the price, having to avoid the area in the wake of numerous attacks and some successful hijackings. Some are even leaving the Indian Ocean. Tuna fishing mortality rates may drop as a result of piracy, but the impacts to tuna economies in the region may be substantial.

The same projects that were set up to strengthen governance of marine resources, through the LME approach and existing institutions such as IOTC and SWIOFC, are the ones that could potentially suffer the major consequences of a failure to combat and mitigate the impacts of regional and global IUU in the past. A recent report estimates that 10% of tuna caught in the Indian Ocean is fished illegally. While the major tuna economies have been able to absorb this loss and still benefit from fisheries development, the loss of revenue and opportunities are of greater concern for Somalia and extend beyond tuna to many other resources that have been stolen from their EEZ. While it may not be possible to bring this huge country and its vast waters into the fold of current programmes, efforts aimed at stabilizing the situation in Somalia may be critical to the success of an LME approach to support governance of the regions resources. Conversely, cooperation in science and management will be important in assisting the rebuilding of Somalia.

To the list of challenges that need to be addressed by marine research and management, piracy must now be added along with IUU and other factors such as climate change and development. Hopefully this will be a temporary addition. The relationships between marine resource governance and piracy are complex and perhaps merely a confounding factor leading to this situation. What is certain is that impacts to the WIO research and management agendas are real and happening now.
A spotted snake eel in Mtwara, Tanzania
By Lindsey West, Sea Sense Coordinator

In October 2009, a group of fishers from Mafia observed a lone dugong in shallow seagrass beds, on the west coast of Mafia, near to Mbarakuni Island. The fishers attempted to capture the dugong using a purse seine net but were unsuccessful. Despite a group decision by the fishers to keep the dugong sighting secret, one of the fishers contacted Sea Sense, requesting anonymity due to intimidation from other fishers. The fisher agreed to accompany the Sea Sense team to the area to verify his report. The dugong was indeed observed swimming in an area of shallow seagrass beds and was estimated to be approximately 1.5 metres in length. The dugong was observed by the Sea Sense team again in February 2010. This is the first time a live dugong sighting in Mafia waters has been reported to Sea Sense and indicates that the surviving dugong population in Tanzania is spread over a wider area than originally thought.

The dugong (Dugong dugon) is the most critically endangered marine mammal in eastern Africa and survives on the edge of extinction in Tanzania. Sightings of dugongs are a rare occurrence and the Rufiji Delta is thought to support the last remaining population in Tanzania. There is a lack of data on the current status of dugongs in Tanzania but based on the number of reported sightings and information from local fishers numbers are estimated to be no more than 100 individuals. Since 2006, Sea Sense has conducted three aerial and two snorkel surveys in the Rufiji Delta to estimate dugong abundance and seasonal occurrence. No observations were made during snorkel surveys but a mother and calf pair was observed in shallow seagrass beds during an aerial survey in 2008.

In 2004, two individuals were reported drowned in a gill net in shallow...
In early 2005, another two animals were caught in a gill net in the same area. Instead of selling the meat, the fishers surrendered the carcasses to District Fisheries Officers, representing the first complete biological specimens of the dugong in Tanzania since 1930. Anecdotal data from local fishers shows that dugongs were once abundant in Tanzanian waters. However, dugong populations have declined dramatically in recent decades due to intense hunting, incidental capture in in-shore artisanal gillnets and disturbance to critical seagrass habitats.

Sea Sense is a Tanzanian NGO that works closely with coastal communities to conserve and protect endangered marine species. Evidence of the continued survival of the dugong in Tanzanian waters prompted Sea Sense to establish a community-based dugong monitoring network comprising local fishers and village leaders. The objective of the network is to provide a clearer picture of the distribution and abundance of dugongs in Tanzania and help identify specific threats to their survival. Since 2004, 31 dugong sightings have been reported to Sea Sense. Of these, 18 were live sightings including two incidences of mother / calf pairs. 12 had drowned from capture in gill nets and one was washed up dead on a beach.

In 2007, Sea Sense conducted 297 interviews with fishers in three coastal Districts adjacent to the dugong habitat. Nearly half of respondents had seen a dugong; 17% had observed a live dugong while 31% had only observed a dead dugong. Most sightings were made before 2005, particularly in the 1960s and 1970s, confirming that dugongs were more abundant in the past.

Most live dugongs sightings have occurred during the ‘matilai’, the period between the northeast and southeast monsoons when sea conditions are calm. During the drier northeast monsoon period between January and March there is a significant increase in dugong captures in gill nets. Almost 70% of gill net captures reported to Sea Sense have occurred during this period. The marked seasonality in captures may be due to the increased availability of seagrasses during the drier monsoon when outflow from the Rufiji River is relatively low and water clarity is high.

To ensure fishing communities understand the importance of dugong conservation and the significance of reporting dugong sightings, Sea Sense has conducted several awareness campaigns. The campaigns have been moderately successful in encouraging local fishers to report dugong sightings but there still remains a lack of willingness amongst the fishing community to cooperate with dugong conservation initiatives. This can be explained by the fact that Tanzania has a coastal population of over eight million people, most of whom are directly dependent on coastal resources for their livelihoods and wellbeing. With dugong meat fetching up to $1.5-$4 per kilo, the dugong is considered to be a valuable source of protein. This together with the high levels of poverty in the coastal zone has led to reluctance amongst locals to release live individuals from gillnets.

Coastal communities are also wary of conservation initiatives due to the fear of losing historical fishing rights through the implementation of protected areas to conserve dugongs. In the past, Sea Sense has provided financial incentives to local fishers who report live sightings. While such incentives are considered to be unsustainable in the long term; without incentives it is likely that many dugong sightings will go unreported. Sea Sense has also targeted school pupils for education and awareness on the plight of the du-
gong. In 2006, a ‘Dugong Parade’ was organised in Mafia Island where a dugong specimen was displayed at 12 different schools and the public was invited to attend the parade. During each school display, verbal and written information (fact sheets and posters) about dugong biology, life history, status and threats was distributed. An estimated 4,000 Mafia residents participated.

Despite ongoing awareness campaigns and existing protection for dugongs in Tanzanian Fisheries Legislation, there remains a significant threat to dugong survival in Tanzanian waters, particularly from incidental capture in gill nets. Recommendations and priority conservation actions include the establishment of dugong sanctuaries or community managed areas in key dugong habitats. The management of these areas will require regulation of the use of gill nets and reduction in disturbance to critical seagrass habitat from commercial prawn trawling and dynamite fishing.

Sea Sense is continuing its efforts to conserve and protect the dugong in Tanzania and is working closely with fishing communities in Mafia and Rufiji Districts to incorporate dugong protection measures into key marine resource action plans and local bylaws. Funding is also being sought to map critical seagrass habitats and develop a National Dugong Management Plan. It is widely accepted that without a concerted conservation effort, dugongs will become nationally extinct in the near future.
Humpback whales (Megaptera novaeangliae) are sighted along the coast of Kenya, Tanzania and Mozambique every year. Adults reach 15 meters in length and weigh up to 40 tonnes (about six times the mass of an elephant). Seeing them rocket out of the water, often in pairs, is an unforgettable experience.

The ones that swim the 6,000 km of ocean waters from Antarctica to eastern Africa come from the south-west Indian Ocean sub-population, a small part of the 35,000 Southern Hemisphere total. Whale experts consider them a genetically fairly distinct group and estimates of the size of this sub-population will probably be of a few thousand, given that at least 1,700 have been recorded migrating north off South Africa’s east coast in 1998. Little is known of their precise breeding destinations and migration routes.

Off eastern Africa, the annual migration of Humpbacks is important to different people—from local fishermen preferring not to catch them in their tuna gill-nets and the inevitable drowning of whales to offshore oil and gas exploration companies using intensive acoustic instruments known to affect whales 25 km away, to the tourism industry which benefits from whale-watching activities.

The information gathered by the many whale watchers in the eastern Africa region is making a positive contribution to better understanding migration routes, numbers of whales involved and threats to their survival.

**HOW IT WAS DONE**

For 2008 and 2009, a Whale Sighting Form was circulated by email to interested parties in eastern Africa. In Kenya, sightings came from Kisite-Mpunguti Marine Park’s volunteer group, Global Vision International (GVI), from Vipingo near Kilifi and from Kiwayu Island in the north. In Tanzania, sightings came from Nungwi and Kizimkazi (north and south Unguja Islands, Zanzibar respectively), around Mnemba Island (NE Unguja Island), off Dar es Salaam and off Mikindani (Mtwara). At Ponto do Ouro in Mozambique, Dolphin Encounters recorded whales as did the Inhambane-based Whale Shark Conservation Program (All Out Africa). Three sailing yachts reported whales throughout the season, mainly off Tanzania and Mozambique. Whales were spotted in 34 locations in 2009, up from 16 locations in 2008.
While 60% of sighting records were partially incomplete, all included date, position, number of whales and the observer name. Only 30 recorded ‘other observations’ which provide valuable insights into whale behaviour. Some photos and video footage were also obtained.

What We Found

The eastern Africa Humpback whale season extends from July to December, based on 102 sightings (for 2008) of 404 whales; and 179 sightings (for 2009) of 526 whales. August is the main Humpback month. From September onwards, sightings decrease until the last few in late November and early December. Most sightings are from Tanzania where most of the ‘network’ is based at present.

In 2008 the most whales seen on one day was 40 on the 25th August with 72 being seen on the 16th August 2009 (the Synchronised Whale Watching Day). Forty percent of the sightings were of adult and calf which is a good indication since breeding and suckling are the main reasons why whales visit these warm waters. Feeding whales were also noted, so perhaps at certain times of the year and locations off eastern Africa; feeding is an option. The combination of sightings from several years is showing that whales are being seen at the same locations time and time again, suggesting that at least parts of the migration routes are well-established.

Most whales head south. For 2009, southbound whales were seen 96 times, compared to only ten sightings of whales swimming north. Other sightings included whales ‘milling around’, resting, entangled or dead, and twenty eight sightings with no direction details. After passing southern African shores, Humpbacks continue to the cold, nutrient-rich Antarctica waters to feed on the abundant summer krill and schooling fish.

A Synchronized Whale Watching Day was organised on Sunday 16th August 2009, and 72 whales were seen, from four locations: Vipingo, Kenya coast; SE Unguja Island and Ras Dege in Tanzania; and Ponta do Ouro, southern Mozambique (atop a lighthouse!). At three other locations: Chumbe Island and Mikindani (Tanzania) and Kisite (Kenya) despite putting in hours watching, no whales were seen. Interest is already gathering for this year’s Synchronised Whale Watching Day(s).

Humpback whales can be individually identified from good quality pictures showing dorsal fin and tail flukes. The network has produced a few useful pictures to add to the ever-increasing photo catalogue of Breeding Stock C. A team of researchers from the Institute of Marine Sciences led by Dr Berggren (Stockholm University) were until recently conducting boat surveys from July to September off South Unguja Island, Zanzibar to photograph individuals with the results being in preparation. The results will provide a valuable tool for monitoring eastern African whales in the future. Funding, to continue that programme and compile future sightings data, are still needed.
THREATS TO WHALES 
AND OTHER MARINE MAMMALS

Entanglement (and drowning) in gill-nets seems now to be a common feature of eastern Africa Humpback visits, with three separate reports in 2008 and four reports (of three whales) in 2009. On both years, an adult Humpback was successfully released, by divers in Kenya in 2008 and by Fisheries Department and Chumbe Island staff in Zanzibar in 2009. Gill-nets will remain a problem until their use is reduced or coordinated away from peak whale routes or seasons. A procedure for untangling netted whales might be useful.

A valuable awareness-generating activity, whale and dolphin tourism has unfortunately been badly managed in parts of Tanzania and Mozambique leading to harassment of the animals. In southern Zanzibar, results of studies now confirm that the lives of dolphins are disturbed and their social life damaged by such tourism. Urgent regulation is needed of tourist boat operators to minimize potential long-term negative effects. Disturbance from dynamite fishing, once again widespread in Tanzania, is likely to rank with seismic testing, meaning migrating whales probably alter course.

Even with several hundred Humpbacks visiting annually, compared to Tanzania’s large terrestrial mammals they are about as rare as the Black Rhino. National and regional efforts are needed to maintain their numbers. With this attempt to record seasonal movements and abundance of Humpbacks in eastern African waters we hope to continue to spark awareness and interest in their livelihood and into finding ways to reduce conflict and encourage amicable co-existence.

I wish first to thank the forty plus observers who participated over the last two years, in particular the Ras Dege Team (Fatuma, Skola, Saidi, Jay, Sala & Jeffrey), Sally Svendsen (Zanzibar One Ocean), Richard Schneider (SV ‘Mamba’), Mike Procopakis & Sara Glen (Mnemba Is. Lodge), Dale Andrews (Kipepeo), John Mbugani (Sea Sense), Eric Toyer (SV ‘Amarula’), John & Lyria van der Loon, Omari Yange, Jim Bell, Tim Horley, Sarah Markes, Paul Smithson and Dr Almeida Guissamulo (Eduardo Mondlane Uni., Maputo) for their data and encouragement; and second, to Nicole Bisang and Alex van Praag for assistance in putting the data together into the first Whales Ahoy! Newsletters (wherein everyone else involved are mentioned).

Mozambique's coastline covers 2770 km and has more than 40 islands in total. The coastline is divided into three: coral coast in northern part of the country; estuarine coastline with extensive mangrove forests in central Mozambique; and sandy coastline with parabolic dunes in the south.

Mozambique defines its critical habitats based on the area covered (extent) and the value offered to people. Thus Mozambique’s critical habitats are coral reefs, mangroves, and sea-grass meadows. The three habitats are classified as critical because about 40% (over 7 million people) of Mozambique’s population lives in coastal towns and villages and depend on marine resources for subsistence, that is, fish and edible invertebrates collected within mangroves, seagrass and coral reefs habitats.

The coral reef habitat stretches for 1860 Km covering northern Mozambique within the Quirimbas archipelago (Cabo Delgado), around Primeiras and Segundas Islands Archipelago and in the southern part of the country on the Bazaruto archipelago, Morrungulo-Tofo-Jangamo, Inhaca island and Ponta de Ouro (where the coral is more dispersed, occurring in small stretches and their growth is limited to waters subjected to less hydrodynamics).

The Mangrove forest habitat in Mozambique is massive, covering about...
3,961 hectares; largely in the centre of the country. These forests were successfully established due to considerable freshwater discharge from about 18 rivers (including the Zambezi, Pungue, Save and Buzi rivers). The mangroves of the Zambezi delta, alone extend continuously for nearly 180 km along the coast and up to 50 km inland. Other large mangrove areas are Quissanga-Ibo, Lumbo, Govuro and Morrumbene estuaries, Inhambane bay and Maputo bay.

Seagrass meadows are the most visible phenomenon in low spring tides in Mozambique and contribute enormously to local coastal livelihoods. There are 13 species of seagrass in Mozambique. The total area covered by seagrasses in Mozambique is still unknown except that Quirimbas archipelago, Fernão Veloso region and Maputo bay have the largest known areas of seagrasses. Estimates indicate that at least 439 hectares are covered by sea grass meadows in the country.

**Threats**

Mozambique’s major cities and towns- Maputo, Xai-Xai, Beira, Quelimane and Pemba are located on the coastline making accelerated development and habitat degradation very real threats to immediate critical habitats especially mangroves and seagrasses. Tourism, which has resulted in the expansion of settlements and infrastructure near the coastline, has increased up to 1000% in the last decade or so. These developments do not always take precaution against degrading the coastal zone and protection and conservation of marine habitats. This could be a threat to the long-term sustainability of industrial and semi-industrial fish catch which currently contributes up to 10% of Mozambique GDP. There are already apparent signs of overfishing and depletion caused by anthropogenic climate change. The deforestation of mangrove forest for firewood and timber, particularly in the dense population centres such as Maputo and Beira, is currently the main threat to mangroves. Mangrove deforestation in north east Maputo bay is being estimated at the rate of 17 hectares cut down per year. Seagrasses are also threatened by human activity especially in areas where clam collection occurs such as in Maputo bay. Other threats to seagrass are related to sedimentation due to floods as observed, for example, in 2000 where up to around 80% of seagrasses were buried in NW Maputo bay. Similar events occurred in the north coast of Inhambane province in 1999/2000 after intense floods and cyclones. In addition, cyclones removed a large portion of shoots and buried seagrass in the north and deeper areas of the Bazaruto Archipelago National Park. Damage from beach seine fishery has not been properly assessed, but where this fishery is intense near shore seagrass meadows appear heavily affected.

**A Network of MPAs**

The above snapshots of rather intense coastal zone development in Mozambique together with the existence of few or negligible conservation areas in early 90’s, has prompted a new vision and strategy that will allow for creation of new MPAs or the expansion of existing ones. New boundaries of the Bazaruto Archipelago National park (BANP) were established and its area of coverage increased from 600 to 1400 km² in 2002. This area covers a larger proportion, though still insufficient, of the known area occupied by 200 critically endangered dugongs Management plans for dugong are underway, after extensive survey periods carried out in the last 5 years. The surveys were meant to understand the reduction of dugong mortality from fisheries, population recovery, their movement and their forage seagrass species as well as biological studies.

There are only three coral reefs sites in Bazaruto. The newly discovered coral reefs – the Two Mile Reef and the 25 Mile Reef have now been included in the extended BANP. Other conservation mea-
sures include the stop-
page of drag and entan-
gling net fishing in BANP, except for small opera-
tions by the local popula-
tion residing in the island. Seagrass habitats and
its associated resources such as the sand oyster
and Portunus crabs are better protected.

The development of
tourism; especially in the
archipelago islands is
better planned, structured
and controlled under the
new management plan.

BANP has a migrating
route for marlin, sailfish,
tuna and Spanish macker-
el and restrictions on the
impacts of both commer-
cial, subsistence and rec-
reational fisheries within
the MPA are in place, an
action which has pro-
moted extensive recre-
ational fishing events
from the surrounding
resorts. Resident kingfish
populations appear to be
an abundant resource.

Wild fires in land (both
in the archipelago and
surrounding mainland are
better controlled). Local
communities are already
getting 20% of tourism
revenues (from the tourist
entry fee) according to
the law.

Quirimbas National
park (QNP) approxi-
ately 7506
km² was proclaimed in
2002. The marine compo-
nent of the park covers a
coastline of around 100
Km encompassing 11
islands. Major outcomes
of the recently establish-
ment of the QNP are the
increasing management
of marine resources
mainly through the cre-
ation of sanctuary areas
for fisheries; the elimina-
tion of negative impact
of migrant fishers; the
community also gets 20%
benefits of tourist entry
fee and total protection of
Rolas island.

Inhaca Island reserve
covers specifically the
three coral reefs, once
known as the southern
most reefs in the world.

It also has the largest
distribution of mangroves
in eastern Africa and has
one of the most extensive
African eelgrass beds.

The eelgrass was re-
cently stated by IUCN to
be vulnerable in a global
scale given its small area
and the threats. Inhaca
Island forest and marine
reserves were pro-
claimed back in 1965, 14
years after the creation
of the Marine Biological
Station. The recent main
achievements in relation
to conservation in Inhaca
include the following,
20% of tourist entry fee
has been given to local
communities since 2008,
the presence of the re-
serves prompted a recent
increase of projects that
have built many con-
ventional houses for the
local communities thus
preventing them deplet-
ing forest resources, and
the recent expansion of
main grid power lines has
brought a better quality
of life coupled associated
with an increase in educa-
tion. Turtle nest monitor-
ing has been going for
more than 20 years. In
2008, some 53 nests were
successfully monitored in
the whole of Inhaca and
Portuguese islands and

the WIOMSA magazine | no. 3 – December 2009
special features

for the first time nesting turtles were observed at Barreira Vermelha, Inhaca west coast. The main challenge for Inhaca has been the need for reinforcement of conservation initiatives for coral reefs and dugongs as well as regulating increasing tourism interest in the island.

Pomene Forest and Coastal Reserve, covering an area of 200 km² and proclaimed in 17 October 1972, still needs some reinforcement in its management after it was abandoned during the civil war. A Resident warden was appointed for the Reserve in 2008 and already benefits are trickling down to the community with 20% of gate fees being directed to the locals. Marromeu reserve covering an area of 1500 km² and gazetted in 8 June 1960 as a buffalo reserve was the sole Ramsar site proclaimed in 2004. Its importance is linked mainly to inland wetland habitats connected with Zambezi Delta mangroves, the large cape buffalo population and one of the most important wetland bird areas; a wattle crane population breeds in this area.

The Future

More MPAs are being planned to safeguard critical habitats. Some planned MPAs include Marine Reserve Machangulo-Ponta de Ouro in Southern Mozambique; Primeiras e Segundas islands archipelago (PSIA) in northern Mozambique; and Palma (Cabo Delgado) near the border with Tanzania. These sites have been selected as potential MPAs because of either their richness in marine species- turtle nesting sites, presence of dugongs, dolphins, whale shark habitats, or for their idealizes as tourism destinations; the presence of coral reef (PSIA are known as the southern most limit of coral reef belt in eastern Africa, the reefs described as the best reefs in terms of diversity and conservation in Mozambique); abundant fisheries and extensive mangrove and seagrass habitats. Cabo Delgado has been long used for small scale fishing by distance fisherman of Nampula (Mozambique) and Mtwara (Tanzania). It has been earmarked for proclamation because of its extensive shallow area that contains large areas of mangroves, seagrasses and coral reefs and the fact that it could eventually link with an already proclaimed park on the other side of the border in Tanzania.

Cabo Delgado has been earmarked for proclamation because of its extensive shallow area that contains large areas of mangroves, seagrasses and coral reefs and the fact that it could eventually link with an already proclaimed park on the other side of the border in Tanzania.
The Chagos has a checkered history as people in Seychelles and Mauritius well know and keeps popping up in the news because of the plight of the Chagossians (the expelled Chagos islanders) and because of the American base on Diego Garcia. Now there is a new twist. The British Government is thinking of turning the Chagos into a massive marine protected area. It envisages unilateral establishment by cabinet order to be issued by the Commissioner of the British Indian Ocean Territory (BIOT) of a British marine protected area in the 200-mile zone surrounding the Chagos Archipelago and the US military base at Diego Garcia, BIOT. The area proposed to designated would cover an ocean area of 545,000 square kilometres (210,000 square miles; i.e., the size of France).

The consultation began in November 2009 and was to run until 12 February but was extended to 5th March 2010. People were asked to make their opinions known on
the Consultation Document found http://www.fco.gov.uk/resources/en/pdf/21153320/mpa-consultation-101109. A facilitator from the British Foreign office met with me in Seychelles in late January to seek my opinions and those of other key stakeholders.

There are three options. Option 1 will be total prohibition of all fishery activities in the Chagos Archipelago (territorial waters and EEZ claimed); the second option will have selective prohibition of fishery activities except for continuation of the current commercial exploitation of pelagic tuna resources and the third option will prohibit near-shore fishery activities in ‘vulnerable reef systems’ only.

The Chagos Environment Network comprising of the leading British scientific and environmental organisations is pressing for option 1. Scientists say that by not allowing fishing and any other commercial exploitation that this large area would provide a unique safe refuge for all kinds of marine life, allow extremely important scientific research to continue, and many other benefits. The Chagos contain around 50 percent of the healthy reefs remaining in the Indian Ocean for example.

On the other hand others, especially fishing companies, are backing option 2. They say it is pointless to ban tuna fishing around the Chagos because it will continue elsewhere. Sceptics of this view state that it would indeed create a refuge for spawning and keep stocks healthy for the Indian Ocean tuna fishery going on elsewhere.

The sceptics have also noted that the co-mingling of science and the fisheries industry may not be conducive to good decision making. In a sensational revelation it was revealed in a recent article by Frank Pope in the Times newspaper that a company belonging to the British Government’s Chief Scientific Adviser Professor John Beddington and his wife is opposing Option 1 and backing Option 2. The company, MRAG, holds a government contract to manage fishing in the area. Although the management contract is out for tender every five years, MRAG has always won it, says Pope. The article states that neither MRAG nor the Foreign Office will confirm its value, but MacAlister Elliott, a company that tendered for the work in 2005, put in a bid of £1.4 million for three years. Upon taking his government position Beddington resigned his directorship but still controls the company with a majority shareholding; the remainder is owned by his wife, notes Pope.

But what do other governments think of this idea? The Government of Mauritius has made it very clear that it opposes the marine protected area unless resettlement and Mauritian sovereign-
The Chagos is defined in article 111 of the Mauritian Constitution as part of that country’s territory. Mauritius has since 1984 claimed a 200-mile EEZ of its own in the Chagos Archipelago including Diego Garcia. Updated geographical co-ordinates of the Mauritian EEZ – with a map entitled ‘Chagos Archipelago: Archipelagic Baselines” were published by the United Nations Secretariat in 2008.

Peter Sand, lecturer in international environmental law at the University of Munich and formerly senior legal officer at FAO and also UNEP says that in fact the British Government’s proposal amounts to unilateral ‘territorialisation’ of areas beyond a coastal State’s territorial waters (i.e., three nautical miles in the case of the BIOT), which has no basis in the 1982 United Nations Convention on the Law of the Sea (UNCLOS) – not even for noble environmental reasons.

The overall role of the United States would need to be clarified as well. To ‘exclude’ Diego Garcia, the site of the American military base, from the proposed MPA, as suggested by the Consultation Document, seems quite inappropriate, says Sands. Fred Pierce writing in The Guardian newspaper said: “Back in 1994, when Britain published the first biodiversity action plan for its surviving specks of empire, it literally removed the zone, known as the British Indian Ocean Territory, from the map. Now, rather than airbrushing out Chagos, the mandarins want to paint it green. Conservation seems to be the last hurrah of the British Empire.”

There is of course the question of how all this affects the Chagosians. The decision of IUCN’s Director General Julia Marton-Lefèvre to unilaterally support the British proposal has attracted ire and criticism. Klaus Bösselmans of IUCN’s Commission on Environmental Law, said it “violates IUCN’s own commitments towards sustainability”

The coral Diploastrea heliopora which survived the 1998 bleaching.

Masked Boobies. © Chagos Conservation Trust

“STOP PRESS”

April 2, 2010, London. British Foreign Secretary David Miliband announced the creation of a Marine Protected Area (MPA) in the British Indian Ocean Territory yesterday, doubling the total area of the world’s oceans under official protection. The new MPA includes a “no-take” marine reserve where commercial fishing, including whaling, will be banned. The islands and their surrounding waters cover 544,000 square kilometers.

because the plan would “invalidate... the right of the Chagos Islanders to return.” IUCN Members in the WIO region have said they were never consulted by the IUCN Secretariat. A Member in Mauritius informed me that in fact the case pending before the European Court of Human Rights in Strasbourg may well result in the Chagosians finally obtaining their right of abode in the Chagos.

At the end of the day, there may be no way around an arrangement with Mauritius, say various experts. A possible model could be the recent Mauritian-French arrangement on ‘cogestion’ (joint management) for the island of Tromelin. Tromelin – like the Chagos – is defined in article 111 of the Mauritian Constitution as part of that country’s territory, but is de facto administered by France as an overseas territory.
Dynamite Fishing in Tanzania - A Gigantic Explosion-in-Waiting

By Lucas Liganga

A recent map of dynamiting produced by the Washington-based World Resources Institute (WRI) shows massive dynamite fishing in Tanzania’s Indian Ocean coastal areas. The map, published by WRI in 2009, is enough evidence that dynamite fishing continues to be a massive problem while there is next to none in the neighboring countries of Kenya and Mozambique.

I carried a month-long survey, through my newspaper, The Guardian and discovered that rampant dynamiting or blasting has been on the increase along the country’s coastal waters, causing heavy loss to marine life. Dynamite fishing or blast fishing describes a practice of using dynamite, commercially available or home-made bombs or other explosives to stun or kill shoals of fish for easy collection. This practice has proved to be extremely destructive to the surrounding ecosystem, as the blast impact and shock-waves often destroy the underlying habitat structure, such as coral reefs, that supports the fish and other marine life.

“Dynamite fishing is highly destructive and the long-term effects are considerable, both environmentally and socio-economically. It is also a threat to national security,” observes Lindsey West, the Coordinator of Sea Sense. She says that coral reefs are completely destroyed or seriously degraded by dynamite fishing, which has been practiced in Tanzania for over 50 years.

“Each blast can kill thousands of fish and other living organisms within the surrounding area and completely destroys the reef habitat. As only three per cent of killed organisms are harvested, it is also the most wasteful fishing method.” She adds, “With numerous blasts occurring daily on reefs all along the coast, the cumulative effect has been devastating.”

West says coral reefs are among the most critical marine resources in Tanzania as they support livelihoods for over 8 million coastal people and are also an important source of income for the local and export-oriented fishing industry. “Natural coral reef recovery is very slow and can take up to 50 years. During this time there is a significant reduction in fish and invertebrate stock. Such a long-term reduction in fish productivity has severe economic consequences for coastal communities who rely solely on marine resources for their livelihoods,” says West.

West adds that there is a significant loss of potential revenue from the rapidly growing coastal tourism sector that far outweighs the short-term benefits of income from dynamiting. Dynamite fishing could discourage tourists who pay a lot of money for snorkeling or diving in healthy coral reefs because dead reefs lose all their attractions.

Despite all this relevant fisheries authorities are not taking punitive steps to curb the malpractice, which is destroying livelihoods of coastal people and causing inconveniences to guests in tourist hotels situated along the coast. A businessman who owns a tourist hotel overlooking the Indian Ocean along the beach in Dar es Salaam says dynamite fishing; being conducted near his hotel is damaging coral reefs in front of the entire Oysterbay seafront. “The damaged coral means no protection from the sea and environmental degradation is severe. Beach erosion has increased tremendously. Sea life is damaged. Infant fish population is killed,” he says preferring to remain anonymous fearing retribution from both the dynamiters and fisheries authorities.

He also says dynamite chemicals are causing pollution in the sea and will probably destroy and make certain marine life extinct. He adds that buildings close to the sea are being damaged due to the dynamite blasts, adding that the business of illegal arms and dynamites was also growing. “We have reported this matter to all relevant government departments. No action has been taken for last year. NEMC (the National Environment Management Council) has been helpful but (the task of controlling the fishing malpractice) is the responsibility of marine parks, marine police and the Fisheries Division,” laments the hotelier.

During the survey, the Guardian received email messages or comments on the situation of dynamite fishing from various stakeholders who mostly preferred to remain anonymous on the ground that the issue is too sensitive to reveal their identities. A num-
ber of these e-mails are featured below.

“Last year (2009) authorities (with Fisheries Division in the Ministry of Natural Resources and Tourism and the police) raided a shop in Kigamboni that makes home-made bombs for blasting. After a brief appearance in court the fellows were back in business without any further bother.”

“Where is the dynamite coming from? My brother-in-law has a small gemstone mine close to Morogoro and he is buys dynamite for about Tanzanian Shillings 8,000/- per blast at a nearby factory producing dynamite. Would it not be an idea to find out who buys there and what the regulations are? Can anybody buy dynamite in this country?”

“Someone must keep the supply (of dynamite) running and I am sure the supply is done by very few people. I can also imagine that the supply/demand dynamics are more towards a high supply is increasing the demand rather than a high demand is increasing the supply.

“Some explosives that the dynamiters are using are simple fertilizers which they can buy anywhere. The fertilizer is mixed with oil and compressed in a plastic bottle. When needed, it is ignited with a fuse or simply with a small quantity of sodium which, in contact with the water, it ignites causing an explosion.

Lindsey West says 1,120 dynamite blasts were recorded by her organization in 2008 in Temeke District and some other parts of Dar es Salaam. Available records, seen by The Guardian on Sunday indicate that blasts had been recorded on daily basis from April 2009 to January 2010 at Kimbiji-Ngobanya area in Kigamboni. For example, the records show that on December 21, 2009, there were 13 dynamite blast incidents from 7.08am to 4.24pm in the area, six blasts on December 30 and five blasts on January 1, 2010.

Investigations have further revealed that the main reason for the
persistence of dynamite fishing in Tanzania is the easy availability of dynamite and limited or lack of law enforcement. The Guardian learnt that the sources of dynamite are cement factories, road building projects, mining areas and the defence forces. “Fishers caught with dynamite or dynamited fish are released after a few days, contrary to fisheries laws, and on release the offenders return to intimidate local communities,” observes a source in the fishing industry. The sources told me that corrupt fisheries officers at the Dar es Salaam ferry market allegedly receive money from dynamite fishers rather than arresting them. The same is reported from Tanga.

The present prices of a dynamite stick is 33,000/- (about $30) which is good for about five blasts, with each blast costing slightly over 6,500/- (about five US dollars). It is reported that with one blast at a reef crest at low tide at Karange Island in Tanga Region, for example, where most blasts have been reported from over the last two years, fishers could in the past catch between 150 and 400 kilogrammes of fish, while many times the same amount cannot be recovered and is thus lost, not to mention the damage to corals and other marine life. With fish prices upcountry ranging from 3,000/- and 4,000/- and more (about 2 and $2.5) per kilogramme, the catch of one blast can be sold for between 500,000/- and 2m/- (about 384 and $1,700).

Investigations have found that it is thus obvious that the current fines of 100,000/- to 200,000/- (about 80 to $160) to be paid by fishermen when they are brought to court, in the few cases where the cases are taken to conviction, are quite insignificant and easily paid by dynamiters. It is also alleged that in most cases, a convicted dynamiter does not even have to pay the fine, as there exists an informal ‘Charitable Society of Dynamite Fishermen’ in Tanga that has about 50 members paying monthly contributions of 50,000/- (about $38) each. If a dynamiter is taken to court, this ‘charity’ steps in, bails him out and pays the fine for him. It is claimed that all the above is well-known by most local fishermen, but they fear for their lives and are too afraid to give information to the Fisheries Patrol Unit. It is said to be also common knowledge among fisheries staff, including staff at the Tanga Coastal Zone Conservation and Development Project, but because of collusion of some of them with dynamiters, those who try to enforce the law are being frustrated.

Another problem frustrating law enforcers like the Fisheries Patrol Unit is that patrolling is very expensive, and in addition, money is being wasted because dynamiters are warned in advance of the patrol unit movements, so
the patrol may spend the whole day at sea and fail to apprehend anybody. “Marine police have normally to be informed of the patrols one day in advance, so there is plenty of time to ‘warn’ dynamiters,” say the industry sources, adding that each patrol costs about 200,000/- (about $160) (120,000/- (about $92) for fuel for two 85HP engines, 10,000/- (about eight US dollars) allowance each for eight people involved). “Again, even done in partnership with various institutions and stakeholders. “There is need to generate knowledge and more awareness about the effects of dynamite fishing beyond reporting incidents of blasting,” says Tamelander. He senses that there is a broad lack of knowledge about what various acts and laws say about dynamite fishing or explosives in general, their possession, use etc. “For example, we need to understand the bottle- also be reviewed. “What makes for effective enforcement? Is there sufficient capacity in terms of money, people and tools? Is it simply a matter of designing better enforcement campaigns?” he queries, adding that enforcement campaigns without addressing other issues will have only limited impact.

Jason Rubens, the World Wide Fund for Nature (WWF-Tanzania Programme Office) Marine Programs Coordinator, says the WWF Tanzania Programme Office has been active in supporting the Government of Tanzania in addressing dynamite fishing, providing co-funding for government enforcement operations in 2006 and 2008 and assisting preparations for a national meeting on fisheries in December 2007. “However, the lasting impact of these interventions has been disappointing,” says Rubens. “What we have learned is that dynamite fishing may only be stopped through a joint effort by several branches of government, including fisheries, the police, the judiciary and others all working together. It is not the work of a single ministry or institution.”

“How long will it be before it (dynamite/explosives) is used for a more evil purpose such as terrorism? I am sure this is a cause for concern amongst the national security agencies,” queries Rubens. There is no other country in Eastern Africa or the western Indian Ocean that allows this practice to go uncontrolled. “This should give us confidence that we too can put an end to it once and for all,” he adds.

Major efforts and commitment are needed on a national scale to eliminate dynamite fishing from Tanzania, an illegal activity that is not practiced in neighbouring Kenya and Mozambique, together with action from the government to enforce fisheries laws and deal with corrupt officials. Vigilance is important, and involving stakeholders and the general public meaningfully for monitoring, reporting and supporting enforcement and public awareness campaigns is vitally needed, and will indeed be essential to support efforts to curb and eventually eliminate dynamite fishing. Tanzania is facing significant loss of marine biodiversity and the livelihoods of coastal communities are being severely affected by the unabated dynamite fishing.
Travel and learn: these are the words of many of my teachers when I was pursuing my course in journalism. Read and read extensively others told me. I have to admit I didn’t adhere to the latter to the fullest and that could be reason why I had never heard of Kitulo National Park nor did I know that there are 15 national parks in Tanzania.

Recently though, thanks to Tanzania National Parks (Tanapa) I got the opportunity of knowing more about these parks and even learnt that not all national parks have big game like elephants, buffalos, zebras, hippos and crocodiles but that a piece of land can be one even if it has only flowers, water sources and birds.

Perched at around 2,600 metres (8,500 ft) between the rugged peaks of the Kipengere, Poroto and Livingstone Mountains, the well-watered volcanic soils of Kitulo support the largest and most important montane grassland community in Tanzania.

Getting to the park, one drives from Chimala, 78km east of Mbeya along the surfaced main road to Dar es Salaam, head south along the rough but spectacular dirt road - called Hamsini na Saba (57) after the number of hairpin bends along its length - to the temporary park headquarters at Matamba, from where it’s another hour’s drive to the plateau.

Before the park was gazetted in 2005, the area was used for farming – dairy and potatoes because of the conducive climate. The government however decided to make it a park because of the water sources which were being degraded by the farming activities and the mass cutting down of trees from the numerous forests within the park.

Locals refer to the Kitulo

Kitulo National Park, the Serengeti of Flowers
Plateau as Bustani ya Mungu - The Garden of
God – while botanists have dubbed it the
Serengeti of Flowers, host to ‘one of the great floral
spectacles of the world’. Kitulo is indeed a rare
botanical marvel, home to a full 350 species of
vascular plants, including 45 varieties of terrestrial
orchids, which erupt into a riotous wildflower dis-
play of breathtaking scale and diversity during the
main rainy season of late November to April.

One of the most important watersheds for the Great
Ruaha River, Kitulo is well known for not only
its orchids, but also the stunning yellow-orange
red-hot poker and a variety of aloes, proteas,
geraniums, giant lobelias, lilies and aster daisies,
of which more than 30 species are endemic to
southern Tanzania.

Kitulo is also highly al-
luring to birdwatchers.
Tanzania’s only popula-
tion of the rare Denham’s
bustard is resident,
alongside a breeding
colony of the endangered
blue swallow and such
range-restricted spe-
cies as mountain marsh
widow, Njombe cisticola
and Kipengere seedeater.
Endemic species of but-
terfly, chameleon, lizard
and frog further enhance
the Park’s biological
wealth.

Outside the flower-
ing season one only
sees long brown grass
because temperatures
reach below zero degrees
killing all the flowers that
attract tourists from far
and wide. The only flow-
ers you see at this time
of year are grayish plants
used in the manufacture
of malaria medicine and
yellow ever green ones.

This doesn’t mean that
this Tabia is at a standstill
because there are many other attractions
at the park. For instance there is the Kilambo
waterfall. Underneath the
plateau run numerous
water streams and they
converge at a point and
fall a couple of meters
forming the waterfall.

For nature lovers this
waterfall is exquisite to
see and best to be seen
than to be told about. The
waterfall isn’t too far from
the gate that marks the
beginning of the park. The
fall is easily accessible,
only ten minutes walk
from the road and the hill
is gentle.

For adventure lovers, the
ideal place within the
national park is Numbe
falls. The falls are in the
Numbe valley that is
about 2400 metres above
sea level and one needs
to be extra fit physically
to go down the very steep
slopes to the waterfall, it
is however worth the trek
and the falls are breath-
taking.

The park also has the
Ndambwe Lake; a volca-
nic lake. The lake hosts
different species of ducks
and chameleons and is a
haven for campers. The
air at the lake is one of
the freshest you can ever
come across and the
sounds of crickets and
other insects bring music
to many an ear.

Kitulo National Park is still
very new and for this rea-
son there are no hotels
yet in the park. The only
accommodation avail-
able is found at Matamba
which also houses the
offices of Tanapa. Three
special campsites are
planned within the park,
catering to fully equipped
campers. Two moderately
priced church-run hostels
are situated on Matema
Beach.

There are 15 national
parks in the country and
more are being planned
for. Unlike Serengeti and
Ngorongoro parks that
are comparably more ex-
pensive for the domestic
market, Kitulo and Katavi
are a lot cheaper. Parks
are like any other learning
institution and high time
more people should go
and see things for them-
selves instead of being
told about them.
Above: Chagos Islanders in piroque in Diego Garcia. © Kirby Crawford.
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WIOMSA's mission is to generate the best in marine science through its comprehensive research funding program and then use the results to ensure that the marine environment is understood, protected, enhanced and maintained for the benefit of everyone that works and lives on the coastal areas of the Western Indian Ocean.

WIOMSA's vision and activities are based on the notion that quality science leads to better governance and management, which, in turn ensures a sustainable & stable marine environment needed in efforts to reduce poverty and ensure a better life for us all in the region.

WIOMSA, operates as a regional umbrella organization in Somalia, Kenya, Tanzania, Mozambique, South Africa, Madagascar, the Seychelles, Mauritius, the Comoros Islands and Reunion with a network of membership of over 1200 regional and international scientists, over fifty academic and marine research institutions and in partnership with organizations like SIDA, NEPAD, UNEP, EU, USAID and IOC/UNESCO.

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