Community Based Marine Conservation and Management Initiatives in the Western Indian Ocean
United Travel Agency situated at Gizenga Street-Zanzibar is the most popular and experienced Air Travel Agents. Efficiently managed and well known for its promptness in attending to the needs of its clients and guiding and advising intended travellers of the most economic and convenient connecting flights to almost any part of the world. UTA staff also maintain close, friendly relations with their esteemed clients and ensure satisfactory flight bookings to various destinations. UTA believes in providing excellent air travel services.
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The coast at Tshani-Mankosi, Eastern Cape
People want power! They want to take control of their lives and their livelihoods. And in our region, as heterogeneous as it may be, coastal communities have increasingly been adopting local arrangements to manage their coastal resources. They are doing so either on their own or in collaboration with government authorities or non-governmental organizations (NGOs).

Those who have taken a leap into collaborative management want greater participation in the decisions influencing the fate of their resources. This shift in the power base has happened because there is growing acceptance within many circles, from government to NGO, that better outcomes for people and coastal resources could indeed happen in our lifetime if user groups are involved in management of these resources. That's what democracy is about after all.

Cookie cutter approaches don’t work in our region, and the engagement of resource-users in resource management has taken different forms in different places. In some cases coastal communities and fisher groups have been empowered to develop and enforce locally-appropriate rules. These include Locally Managed Marine Areas (LMMAs) in Madagascar and Community Conserved Areas (CCAs) in Kenya. In other cases, collaborative arrangements are through associations of resource users.

These are still early days but solid information on collaborative arrangements in our region is already accumulating.

This issue of the WIOMSA Magazine describes the processes different countries have gone through in setting up their collaborative arrangements. Some authors don’t try to pull punches as they describe what has worked or not worked so well. The articles include those detailing community-based management areas in Kenya and Madagascar and associations of resource users such as the Kuruwitu Conservation and Welfare Association in Kenya, the Watamu Turtle Watch of Kenya and the Coastal Conservation Association of Mozambique. A small but potentially influential trend to watch is collaboration with businesses and the article on “Sharing Benefits from the Coast”, describes the effectiveness of benefit sharing arrangements between local communities and the private sector.

Enjoy the read!

Nirmal Shah
Co-Editor
Coastal resources in the Western Indian Ocean are vital for communities in the region, many of whom live in abject poverty. These resources also hold significant value for a number of different sectors such as mining, fisheries, forestry and tourism, many of which supply expanding global consumer markets.

Although these activities provide many opportunities for economic and income growth, global patterns indicate growing levels of economic inequality between custodians of these resources and those exploiting them, as well as an increasing incidence in absolute levels of poverty. Power imbalances between actors such as the state, the private sector, and community-level organisations, between producers and retailers, and between developing and industrialized countries, play a major role in determining such inequities, combined with a complex array of technological, market and political factors.

Benefit sharing has emerged as a popular term to describe interventions to redress inequalities, and thus alleviate poverty. The expression was originally developed in the context of bioprospecting, and the sharing of benefits between communities providing biodiversity and traditional knowledge, and companies using these resources for commercial products. But today the term is adopted much more widely by different sectors.

In the coastal context, understanding remains poor as to what benefit sharing really means in practice, and the linkages between benefit distribution and poverty reduction have not been fully explored. Important questions also remain about the extent to which communities benefit from use of coastal resources; the interventions used to distribute benefits; and the governance arrangements that enable or constrain the more equitable sharing of benefits from coastal resources.

The Project
To answer these questions a team at the University of Cape Town has been involved in research involving six coastal communities in South Africa and Mozambique, funded by WIOMSA from 2008 to 2011. In South Africa, research was undertaken in the communities of Sokhulu and Mbonambi in the KwaZulu-Natal Province and Mankosi in the Eastern Cape Province.

In Mozambique, communities included Gala in Maputo Province, and Conguiana and Josina Machel in Inhambane Province. These case studies represented marginalised or poor communities reliant on coastal resources and in most cases included a so-called benefit-sharing arrangement aiming to redistribute benefits to the poor. This may, for example, be in the form of a fishing committee to determine the allocation of permits, or a shareholder scheme to distribute profits from mining or tourism. We explored a diversity of arrangements between the state, community, non-governmental organisations (NGOs) and/or business and also investigated a range of sectors, including forestry, fisheries, tourism, and mining.

Because communities often pursue a diverse portfolio of livelihoods across sectors, we also explored interactions of benefits and losses between sectors.

We adopted a normative approach to the research – focused on determining what should occur, and the theory of practice required to effect this change. Through this lens we identified the local community as the unit of analysis, with research aimed at understanding the impacts of interventions in sectors such as mining, fisheries and tourism at a local level. Research findings, however, were also interpreted within the wider contextual framework of macroeconomic policies, national laws, political influence, markets and consumer trends, land ownership and tenure, customary rules and systems, and other external influences.

Both quantitative and qualitative research methods were used and included 515 household surveys, 46 focus groups and 61 key informant interviews.
Key Findings

Our preliminary findings affirm the significant importance of coastal resources to livelihoods in South Africa and Mozambique and the various ecological, economic, social and cultural benefits they bring to local people through activities such as fisheries, mining, and tourism. However, results of this study revealed that many of these benefits were paralleled by equivalent or greater losses incurred by the same communities. For example, although there may be economic benefits from mining, it also leads to the loss of livelihoods through negative impacts on agriculture, indigenous forests, tourism and fisheries.

Almost all households were involved in two or more economic sectors, demonstrating the significant linkages between sectors and their impacts on livelihoods. It is vital that these interlinkages are taken into consideration to enable coherency and effectiveness in policy implementation and economic development.

This finding was backed up by results from the household surveys which indicate that perceived benefits are not necessarily linked to direct economic benefits. For example, in KwaZulu-Natal, 18% and 33% of households in Sokhulu and Mbonambi respectively earned a monthly income through employment by Richard’s Bay Minerals, which mines titanium on the coastal dunes.

Despite this relatively large injection of cash into household economies, only 4% of households in Sokhulu and 22% in Mbonambi respectively benefited from mining. Interrogation of this finding revealed that the perceived ecological, social and cultural losses caused by mining have exceeded the perceived economic benefits that communities have received from this sector; 39% and 71% of households in Sokhulu and Mbonambi respectively believed they had suffered significant losses due to mining.

In Mozambique, tourism led to significant benefits for all three communities through employment, training, capacity development and enhanced livelihood opportunities, markets for marine resources and agricultural products. In Gala, for example, 44% of the community benefited from tourism interventions through employment and/or through the participation in tourism activities such as building a lodge for tourism accommodation, while at Tofo 33% of households benefited from tourism. From the fishers’ perspective, tourism can provide a much-needed source of income from demand for locally caught seafood. However, an increased demand for fish products by tourists may also lead to ecological losses through the unsustainable and uncontrolled use of resources, and this was been recognised by all stakeholder groups as a key concern.

Tourism also has positive and negative impacts on other sectors. For example, it can create a market for agricultural products that people grow in their fields, such as peanuts, fruit and vegetables, or for forest products like makuti. But the increased demand for coastal land for tourism can also lead to negative livelihood impacts if the land used for tourism was once used for agriculture or for the gathering of valuable forest products for food, building materials and medicines. Supplying tourist markets with these products also means that less is sometimes available for household consumption, or, in the case of makuti which is used extensively in tourist lodges, the product gains value and becomes too expensive for local use.

The research also revealed that the characteristics of different sectors and resources lead to different benefit outcomes. For example, although agriculture is mostly pursued for subsistence purposes, approximately 83% and 57% of households at Sokhulu and Mbonambi respectively benefited from this sector and did not associate it with significant losses, with a similar trend noted for forestry.

In contrast to mining, which is driven by a multinational corporation exploiting state-owned...
mineral resources, both agriculture and forestry are activities pursued in homesteads by individual households with autonomy in decision-making. This suggests a linkage between benefits, and the access, control and ownership of land and resources.

Rights and access to resources are also a central determinant in the fisheries sector, but these are underpinned to a large extent by the common pool nature of fisheries resources, and strong national and provincial government rules, applied in regulation and management. Although fishing permits were perceived by the majority of fishers as an important benefit, differences in benefit distribution are evident at all study sites as an effect of the management approach to fisheries resources. Although fishing permits were perceived by fishers to be a substantial benefit, the majority of fishers believed these permits were perceived by communities to have a great impact on the livelihood of local communities.

In the Eastern Cape Province of South Africa, a different management approach is in place with limited government intervention, but this has led to a greater proportion of monetary benefits among fishers. The absence of alternative livelihood options in this region also makes such opportunities all the more significant. Securing use and access to coastal resources is also important to both the tourism and fishery sectors in Mozambique.

The Tourism Ministry has identified the prime motivation for visiting Mozambique as its beach and island resorts, diving and snorkelling, nature reserves and sport fishing. The Tourism Ministry also has a joint vision for tourism and fishery development in the region.

Our research results suggest that political interference and patronage remain the major determinants of whether or not such mechanisms are effective. For example, although institutional arrangements have been set in place to foster greater equity in the sharing of benefits arising from the exploitation of coastal mineral resources, more than half of interviewed households in Sokhulu and Mbonambi believed these institutions were not representative and had failed to facilitate an effective distribution of benefits. This is attributed to the lack of accountability, transparency and procedural justice by those responsible for distributing benefits from mining within the communities (i.e. traditional authorities and local committees set up by the mining company). Where efforts were made to provide benefits (through, for example, social responsibility projects), these were either considered insignificant in relation to the losses incurred, or were absorbed by the community elite at the local level and as a result, did not reach the wider community.

In South Africa, this institutional failure is largely attributed to the frequently conflicting jurisdiction of traditional and state authorities, the failure of national government to clearly distinguish the roles of traditional leadership institutions and democratically elected local government representatives, and the
mismatch between local practices and top-down governance frameworks. Similar challenges are also found in the rural Mozambican context as there is an exertion of formal administrative powers by traditional entities amidst democratically elected structures, which has resulted in a dual governance system in rural areas, posing challenges to equitable benefit sharing.

In practice, this creates a major institutional blockage to benefit distribution as traditional authorities battle with local government, NGOs, companies, protected area authorities, and other actors, to maintain control over benefits and their distribution. At Sokhulu and Mankosi, for example, traditional authorities have demanded to receive levies from tourism directly, rather than these being channelled through a representative committee.

The net result of this conflict has been a failure in benefit distribution at local level. Important lessons can be learnt from the co-management structures set up at Sokhulu and Mbonambi, which were perceived to play an effective role in mediating between fishers and the fishing authorities and which were interestingly void of traditional authority representatives.

A central finding of the study illustrates the vital role played by external actors in initiating and implementing benefit-sharing arrangements. In both Mozambique and South Africa, for example, benefit-sharing mechanisms in the tourism sector differed between private tourism businesses and NGOs, with the latter promoting more participatory, inclusive and equitable institutional structures. Interestingly, some of the key benefits that emerged from NGO and private sector tourism initiatives were often those relating to the failure of government to deliver basic services such as health care, education, roads and drinking water.

This suggests, rather worryingly, the potential abuse of benefit-sharing interventions to absolve government of its core responsibilities, rather than the use of these interventions to add to the benefits that communities are already entitled to from the state. Even progressive policies that promote benefit sharing in some sectors do not necessarily translate to equitable benefits on the ground.

Power dynamics between the private sector, different government departments, traditional authorities and communities, fundamentally influence benefit distribution, as do internal power dynamics within communities. These dynamics are in turn influenced by the value of the resource, with higher-value resources such as minerals or prime coastal estate, attracting more political competition. Rights to these resources are, however, often ambiguous. In South Africa, for example, many coastal communities were forcibly removed from their land during apartheid, and their rights to this land and its resources remain unclear. In Mozambique, the state owns all natural resources and controls all rights of use and benefit but community access to these benefits is often thwarted by a confusing set of administrative and political processes.

The extent to which the benefit-sharing arrangement is endogenous and locally supported, or exogenous and externally imposed also plays a major role in determining whether intended benefits match the realities, needs and aspirations on the ground. Where there was a significant level of devolution and representative decision-making power in the mechanisms and institutional arrangements for access and benefit distribution (e.g. fisheries co-management at Sokhulu; tourism facility at Mankosi) communities perceived a greater level of tangible and intangible benefits.

However, where decentralisation of decision-making power was not efficiently manifested in the institutional arrangements for benefit distribution (e.g. mining, community conservation levies, conventional tourism) benefits were largely outweighed by losses. The more control people have over their resources the greater the chance of equitable benefits.

A key conclusion to emerge from the research points to the variable nature of coastal resource benefits and the different values placed on these benefits. These are not only realised as economic opportunities, but also encapsulate broader non-monetary benefits such as the recognition of rights, the sharing of power, greater dignity, capacity development and empowerment, decreased conflict, increased food security and enhanced social cohesion. In addition, this research has clearly shown that an understanding of benefits is incomplete without an understanding of losses, which are sometimes significant.

Combined, these findings affirm the growing number of studies that challenge conventional frameworks for understanding human well-being, focused on money, commodities and economic growth and point towards the need for a more nuanced and complex approach to development in general, and benefit sharing in particular. The multi-faceted nature of benefits, the reliance of communities on a diverse range of sectors for their livelihoods, and the inter-connectedness of benefits and losses between these sectors, further underpins the importance of viewing coastal livelihoods in an integrated and holistic manner.
Expansion of community based marine conservation in the WIO

Kame Westerman, Blue Ventures

The remarkable marine and coastal biodiversity of the western Indian Ocean (WIO) is vital for ecosystem health and local livelihoods, as well as commercial and international fisheries markets. Yet throughout the WIO, government agencies often lack the finances and resources to effectively manage the region’s vast coastlines, and over-exploitation has contributed to unprecedented degradation of fisheries stocks and marine ecosystem health in recent years. Exacerbating the effects of direct human exploitation, climate change impacts, such as increased frequency and intensity of warm water episodes and severe tropical storms, have further weakened the resilience and productivity of already stressed ecosystems.

Marine protected areas (MPAs) are a useful tool for both mitigating direct human pressures on the marine environment and buffering ecological resilience to climate change. However, unless MPAs are appropriately managed and provided with adequate resources, they may be ineffectual at meeting conservation objectives. Indeed many of the WIO’s MPAs currently suffer as a result of insufficient management resources at the community and government level, weak enforcement, or a lack of respect or awareness by neighbouring communities. Such limitations are often inevitable within conventional ‘top down’ approaches to coastal management, sometimes greatly undermining the potential effectiveness of MPAs.

One solution to these management challenges that has proven effective in a number of places around the WIO is the development of MPAs as locally managed marine areas (LMMAs), a method of management that empowers communities to govern the use of their marine and coastal resources independently. First developed in the Pacific Ocean, LMMAs are also often referred to as community managed marine areas or community based MPAs. An LMMA is defined as an area of near-shore waters and coastal resources that is largely or wholly managed at the local level by coastal communities, land-owning groups, partner organisations, and/or collaborative government representatives who reside or are based in the immediate area. A wide range of manage-

Above: A community meeting.
Photos © BV Garth Cripps
An essential component of both the marine conservation and social development interventions is adaptive management through frequent feedback.
community-based agents provide family planning and community health services throughout the region, working in areas not previously reached by public health practitioners. This provision of basic health services has met with great success over the last five years, with more than 30 agents trained to distribute contraception, diarrheal treatments and water purification solution, as well as give basic advice on maternal and child health. Giving women and their partners the choice to space childbirth, or to have fewer children, improves family welfare and ultimately reduces the number of people dependent on marine resources in the future. Likewise, healthy families are better able to be good stewards of their local environment.

Diversifying income-generating activities and providing environmentally sound alternatives to subsistence fishing is important in reducing pressure on the region’s fragile marine resources. To this end, Blue Ventures’ community-based aquaculture programme works with local fishermen and their families throughout the region to raise hatchery-reared sea cucumbers and cultivate seaweed. These mariculture products, sold on the international market through regional export companies, allow families to access additional income without increasing pressure on marine resources within the LMMA.

Formal education is promoted as a path towards individual success and increased social capital within the community. A school scholarship programme within Velondriake provides financial assistance to nearly 200 motivated children and young adults to attend primary and secondary schools, while a separate programme provides assistance for undergraduate, masters, and PhD students interested in pursuing higher education in environmental sciences.

In partnership with UNICEF, Blue Ventures hosts a number of weekly environmentally focused education sessions with local youth that incorporate computer skills, video production, and art. Informal, village-wide education presentations are conducted frequently across the entirety of Velondriake, bringing messages about environmental stewardship, health, and family planning to rural villages. Ongoing sessions with the Velondriake Association include record and book keeping, habitat monitoring techniques, and management and leadership skills to oversee the LMMA.

An essential component of both the marine conservation and social development interventions is adaptive management through frequent feedback. Socio-economic surveys are conducted with community members across Velondriake to better understand if and how the programmes are achieving their purpose. This also allows for gaps to be identified and for new programmes or interventions to be created to improve community marine management and local economic development. Blue Ventures recognizes that community members are the key stakeholders in all activities and that their support and buy-in for conservation projects is essential for the long-term success of any initiative.

Creating a Network

In recent years, the success of Velondriake has inspired replication and expansion of this LMMA model around Madagascar and the WIO, creating a network of community-led conservation areas. New initiatives have been established with the support of a number of communities and conservation NGOs looking to replicate Velondriake’s experiences. For example, an ambitious national initiative entitled Projet d’Appui aux Communautés des Pêcheurs (Project to Support Fishing Communities) funded by the African Development Bank, replicated Velondriake’s model for temporary octopus fishery closures throughout 50 coastal villages in southwest Madagascar over the last five years. This management tool was also recently incorporated into the national fisheries plan in the Mauritian island of Rodrigues, and piloted in 2012.

Several hundred kilometres north of Velondriake lies Belo-sur-Mer, a coastal village located adjacent to the Kirindy-Mite national park, a fine example of western dry deciduous forest and home to the world’s highest concentration of endemic baobab trees. Madagascar’s national park service (MNP) is working to expand the Kirindy-Mite national park offshore to protect the ecological integrity of a chain of coral cays. The seven barrier islands, located 15 - 20 kilometres west of Belo-sur-Mer, are surrounded by coral reefs that have, in recent decades, increasingly become the focus of an annual migration of fishermen coming from the south. The area is also home to extensive mangrove forests and seagrass beds, which are heavily utilised by local and migrant fishing communities.

The park service is working with Blue Ventures to incorporate lessons learned from the Velondriake LMMA within zoning plans for this new marine national park. While MNP is responsible for the management of the marine park, which includes a number of permanent no-take coral reef reserves, nascent community-based management initiatives have begun in communities around the park. These efforts have focused largely on management of mangrove fisheries, with temporary closures being used to target increased production
of the mud crab, Scylla serrata. Communities have also suggested the implementation of temporary octopus reserves, similar to those of the Velondriake LMMA. In combination with the national park, the combined area under management spans almost 100 kilometres in length and extends up to 25 kilometres offshore.

Blue Ventures also seeks to support Madagascar’s existing LMMAs and in June 2012 brought together 55 community members representing 18 LMMAs throughout the country for Madagascar’s first national LMMA forum. The forum was designed to support information exchange between LMMA-实施ing communities, allowing them to develop faster, adapt better to challenges, and have a stronger voice in regional and national decision-making. The forum resulted in the creation of a national LMMA network, MIHARI, an acronym that translates to “marine resource management at the local level”. The forum is intended to become an annual event which will hopefully lead to the further spread of the LMMA approach and raise general awareness of the LMMA approach among regional and national government.

Beyond Madagascar, visitors from Comoros, Seychelles and Rodrigues have travelled to Velondriake to learn about the steps involved in setting up the LMMA. While terminology may vary, similar community-based marine conservation efforts are now emerging throughout the WIO. As LMMAs gain popularity in the region, opportunities to collaborate and share relevant knowledge with other WIO management bodies become more prevalent and essential. In southwest Madagascar, a forum to facilitate communication and coordination of activities between LMMA supporters was established. Known as the Capricorn Coastal Alliance, because of its position spanning the tropic of Capricorn, members include NGOs such as Blue Ventures, WWF, WCS, MNP and ReefDoctor, as well as the regional offices of the Ministry of Environment and Forests and Fisheries authorities.

To further promote information sharing, Blue Ventures hosted a side event on LMMAs at the 2011 Western Indian Ocean Marine Science Association (WIOOMSA) symposium held in Kenya. The side event was attended by over 60 marine conservation practitioners and aimed to begin building these communication connections across the region, namely by developing a WIO LMMA directory and kickstarting much-needed dialogue on issues related to community-based management. Using a website dedicated to community marine conservation in the WIO, www.livewiththesea.org, the website connects marine conservation practitioners and helps to facilitate information sharing and collaboration. In addition, through connecting community members, LMMA practitioners can expect improved peer-to-peer learning and better community engagement and ownership of projects.

The side event at the WIOMSA symposium was recently followed up with a series of LMMA workshops and information sharing sessions at the 2012 IUCN World Conservation Congress in South Korea. Sixteen LMMA leaders, hailing from countries such as Fiji, Kenya, Madagascar, Vietnam, Papua New Guinea and India, came to the Congress to share their experiences in community-based marine management. In a workshop hosted by Blue Ventures, CORDIO, the Pacific LMMA Network, and the United Nations Environmental Programme (UNEP) World Conservation Monitoring Centre Topics, LMMA representatives discussed cost-effective and proven ways to tackle common conservation challenges faced by coastal communities around the world. The event enabled representatives from LMMAs and regional LMMA networks to connect in person and provided vital linkages for ongoing communication amongst LMMA communities worldwide.

The Future of WIO Marine Conservation

Although a relatively new approach to coastal management within the WIO, LMMAs have considerable potential for expansion throughout the region to meet the needs of coastal communities while safeguarding threatened marine ecosystems.

The rapid replication of innovative LMMA models in recent years illustrates the extent to which this approach offers low cost, adaptable, scalable and locally acceptable solutions to coastal conservation challenges, while at the same time empowering communities to take control of their own coastal environment and resources.

Blue Ventures is actively working with partner organisations across the region to build knowledge and understanding of similar initiatives in coastal conservation and community development. Ultimately, sharing experiences of best practices in community-based coastal conservation and development will be essential to protecting the critical biodiversity and marine ecosystems upon which the region’s diverse coastal livelihoods and cultures depend.

For more information on Velondriake and Blue Ventures’ work in community-based coastal conservation and development visit www.livewiththesea.org, www.blueventures.org, or contact Shawn Peabody at shawn@blueventures.org.
Kuruwitu is an area on the Kenyan coast, north of Mombasa and south of Kilifi which is largely unexploited by tourism or property development. The 10 km coastline is characterised by sandy beaches, coral reefs, lagoons, cliffs/coral platforms and caves. The lagoons situated between the reef and the beaches are important habitats and breeding grounds for a myriad of molluscs and crustaceans.

Inshore there is a unique terrestrial coastal forest which is a habitat to many mammals and other wildlife including bush babies, Sykes, blue and velvet monkeys, baboons, monitor lizards, hedgehogs, owls, genet cats and many other species of birds and animals.

The marine waters of Kuruwitu-Vipingo area are a very important biodiversity hotspot along the Kenya coast. The distinct coral reef ecosystem plays host to diverse coral assemblages populated by many species of ornamental fish and endangered sea turtles. The various ecosystems support many species of birds, fish, mammals, plants and other organisms some of which are endemic.

Local communities within Junju location, Kilifi District depend on fishing as their main livelihood with some subsistence farming, small scale business as a substitute. The local population is regularly augmented by a seasonal influx of part time or holiday property owners. In 2002, local house-owner, Des Bowden realized that overfishing and increased pressure marine resources had led to environmental degradation of an approximate 10 km stretch of the Vipingo beach and there was an urgent need to provide for remedial measures.

Following discussions with local residents, it became obvious that the fisherfolk and some land and property owners were also increasingly concerned with the problems associated with marine life and resources.

The older fishermen talked of amazing fishing in their youth, and with dwindling catches, had come to the realization that if the abuse of the biodiversity were to continue, there would be nothing left to fish, and their traditional livelihood would end. Fishing has always been the one way the largely uneducated population can consistently feed their families.

Des Bowden recruited concerned fisherman Dickson Juma and Bardale Tapata, an honorary KWS warden to help find the best way forward. They quickly established that the problems were:-

- Excessive and unregulated harvesting and collection of live fish, live corals and ornamental fish by commercial ornamental fishing organisations
- Noticeable decline in fish landing, size and diversity
- Encroachment of beach by property developers
- Increasing use of destructive fishing gears

A Coastal Model: The Kuruwitu Conservation and Welfare Association

By Tilda Griffin

Traditional styled fishing on an outrigger canoe
Photos © Des Bowden
• Overgrowth of urchins due to reduced numbers of urchin predators illustrating an imbalance in the ecosystem
• Immigration of Wapemba fisher-folk leading to overexploitation of marine life
• Noticeable decline in the income earned from fishing

Recognising these problems, the founding team pushed ahead with the initiation of an association with the twin aims of protecting the area and simultaneously bettering the lives of the local community. After discussion within the community and drawing on a range of experts in the field of marine conservation, a vision document was put together by Des Bowden with the help of Dickson Juma. The document incorporated the views of a wide section of the local community and this was presented at an inaugural meeting attended by over 60 of the local fishing community.

An agreement to proceed with the formulation of an association based on the Vision document was reached, and a committee was voted in. The committee was comprised of elders, fishermen, fishmongers and a minority of house owners. Founder, Des Bowden was voted in as Chairman and Dickson Juma, the vice-chairman. The rest of the committee comprised of a treasurer and members that represented each of the 6 landing sites that spread along the 10 km stretch - Mwanamia, Kijangwani, Kuruwitu, Kinuni, Vipingo and Bureni.

The Kuruwitu Conservation and Welfare association was officially launched with the initial goal to create a community-managed marine reserve for enhanced environmental conservation and management for improved livelihoods.

The primary objectives were to:-
1. Enhance the environmental management of coastal and marine resources through establishment of a Community Managed Marine Conservation Area
2. Identify and promote marine and land-based sustainable alternative livelihood for the local communities to reduce pressure on existing fisheries resources
3. Strengthen and build capacities among the existing local institutions to run and manage the marine resources by and for the local communities in perpetuity

The central feature of the management plan was to choose an area along the coast that was to be established and maintained as a no-take zone; a marine sanctuary inside the reef.

In order to choose the area most advantageous to the recovery of the ecosystem, the working committee approached various existing environmental agencies. As a result, the East African Wildlife Society became key technical partners alongside the Wildlife Conservation Society who have been researching the Kuruwitu area for over 10 years, documenting findings about climate fluctuation and the biodiversity within the area. This vital research gave the KCWA scientific data to support the Association concerns and in pinpointing the area of the reef that would give the greatest benefit if protected and left un-fished.

An area covering approximately 2 square kilometers was agreed upon as a no-take zone, boundaries were agreed, set and handful of members were selected to patrol and protect the area.

The membership structure was opened to the local community, house owners and local officials and very soon membership grew to over 150 members and their families. In the vision of the Management Plan, the money collected by association dues and donations, was to go towards the management of the marine sanctuary. This was seen as the key to income generation for the association by creating something that visitors would pay to see.

Awareness of the project slowly grew as news spread about the short-term sacrifices the community was making for the future of the marine ecosystem. Very quickly residents and visitors began to see the huge changes in the ecosystem and amazing improvements in coral growth, types and sizes of all sorts of marine life.

Through discussion within the KCWA, the remit of the association evolved. Established initially to give the community a say in the use of the vital marine resources and to mobilize against the aquarium fishing, the KCWA quickly realized these initial objectives through co-ordination and a focused approach.

With over 300 fishermen working on a limited stretch of sea, the general effects of over fishing were seriously depleting fish stocks.

Finding ways to create alternative sustainable sources of employment and income, enforcing sustainable fishing practices and looking at deep-sea fishing as an alternative, became the focus of the KCWA vision. As a result KCWA realized that the residents needed to be empowered to be able to become cohesive, coherent and consistent in their pursuit.

Strategic partners began to see KCWA as one of the most successful examples of a community initiative in marine conservation. The association managed to stop all aquarium collection throughout most of the designated area, and had achieved records in turtle laying sites along the Kenyan coast by introducing a
compensation system given to the people that found the nest. Following a presentation of the KCWA Management Plan, a small patrol/snorkeling motorboat was donated by African Foundation For Endangered Wildlife (AFEW) through the East African Wildlife Society and a small grant was received from Safaricom. At last the community started to see the fruits of their sacrifices.

With the support from the then EAWLS Executive Director Ali Kaka, Dishon Murage and Iregi Mwenja a funding proposal was developed and submitted to the Community Development Trust Fund (CDTF)-Community Environmental Facility for funding. Key components within the funding request was support for alternative sustainable income generating projects to support the 300 active fishermen so as to reduce pressure on the ecosystem.

The bid for funding to the CDTF was successful and KCWA was awarded a large grant with milestones over a span of 3 years.

The Kuruwitu Community Marine Conservation Project (KCOMACP) was formed aimed at protecting key sites, habitats and ecological processes enabling their recovery while providing the local community with a sustainable means of livelihood.

During this period, the KCWA has reached its core project objectives towards (i) poverty reduction and (ii) environmental conservation. Specific achievements are:-

- Recovery of degraded habitats i.e. coral reefs and seagrass beds have been observed within the closed areas and documented through scientific reports as well as on film on the Kuruwitu Conservation Area titled ‘Between a Rock and a Hard Place’ produced by the African Film Foundation.

Based on a baseline of 1999 (immediately after the coral bleaching effect brought about by El Nino), corals, both hard and soft have recovered by 200% and seagrass beds have recovered 60%.

- Drastic reduction of use of illegal fishing gears. Currently, no beach seines or aquarium fishing takes place within the area, both the no-take closed area and open fishing area. This has led to increase in fish numbers/biomass by 120% within the closed area from the 2005 baseline survey.

Recovery of fish populations and increased nesting of turtles has been observed and documented through scientific research. Generally, the project has ensured that the environment is conserved through safeguarding critical habitats, preservation of genetic diversity and conservation of endangered species.

- In addition, the project has significantly contributed to the economic and social well-being of the community through providing employment for local community members. Currently, the project employs a total of 14 community members as scouts for the beach and conservation area, and the offshore fishing enterprise. Another 10 tour guides are engaged by the project on a commission basis to support the eco-tourism component of the project.

Through initiation of nature based enterprises, the community is slowly diversifying income sources whereas capacity building programs have enabled community members to acquire new skills and enhanced knowledge related to environmental conservation and entrepreneurship.

Implementation of the project has involved collaboration between the community, government and the other relevant stakeholders. Collaborative engagement has enabled the establishment of the Kuruwitu Beach Management Unit, training of the BMU and development of a management plan covering the six landing sites. This has improved resource governance within the area by establishing governance structures and processes to ensure that the local community is capable of participating in sustainable environmental conservation and management.

KCWA’s training programs targeting the community through the BMU have built skills in self-governance, management, leadership and project management. Targeted marine education and awareness programs have enhanced community cohesiveness, community rights and participation enabling the community mobilize for collective action.

Photo: Kinuni Marine Sanctuary and ancient forest © Des Bowden
The impact of the KCWA in reducing poverty levels within the surrounding community have not yet been quantified. However, it is expected that through the various nature-based enterprises, there will be an increase in income to community members. Increased income to the project will also enable support to community needs such as water, sanitation and health while providing community members with an alternative means of livelihoods providing the basis for an increasingly resilient community. This will ensure that through the post-CDTF funding there will be opportunities for wealth and employment creation.

Outstanding Issues
While the KCWA has achieved almost all of its initial objectives, there are however some outstanding issues. At the outset of the project, establishment and success were the focus of the community vision. With this largely achieved, sustaining the association and building regular income streams has become the next frontier for the project.

Training and capacity building programs have been conducted to build the capacity of community members in KCWA and BMU in financial management and self-governance. Strengthening of local institutional capacity to empower locals to run the project without dependence on external support has been key to ensuring the sustainability of the project.

Community scouts to patrol the closed area and ensure sustainable fisheries activities in the open areas have been trained by the Kenya Wildlife Service through support from CDTF as well as community tour guides to support the eco-tourism activities. A team of 10 community members have been trained in biodiversity assessment to monitor the conservation area on annual basis to ensure environmental integrity. Meeting the monthly wages bill for these and other members has been difficult from KCWA income alone.

A 5-year strategy for KCWA has been developed for the period 2009-2014 to guide KCWA in its program activities. Additionally, a management plan for the period 2010-2015 has been developed to guide the management of the Kuruwitu beach management area, which also includes the conservation area. The management plan currently awaits approval by the Fisheries department. Plans to transform KCWA into a Trust currently await legal approval from the Attorney General Chambers after initial consultations with the community members were concluded successfully.

A number of nature-based enterprises have been established and are currently running successfully. This includes offshore fishing enterprises with one dhow of a capacity of 3 tonnes, fishing gear, freezers (2); a safari dhow with a capacity for 30 people and a glass bottomed boat with a capacity of 10 people.

Funds generated from this activity are ploughed back to the organization to cater for running the day to day activities of the organization including payment of wages. To ensure consistency, the project is currently building network with established tour operators such as Pollmans to provide visitors to the project area.

The PIC previously established to oversee the implementation of the CDTF funded project has been retained on an advisory capacity. The strategic partner currently is engaged as a technical advisor to the project guiding the project to the next phase which includes networking with business partners and implementing of the business plans.

Generally all the project outlined in the vision have gone to plan, however, new risks not identified curtailed the implementation of certain project activities. This includes lack of land to construct the eco-tourism center leading to the reallocation of funds under this component to other activities such as fisheries.

In addition, lack of funds to gazette the marine conservation area under the EMCA Act of 1999, compelled the PIC to seek alternative legal means to gazette the area. Eventually, the conservation area as well as the open marine waters were gazetted under the Fisheries Beach Management Unit Regulations of 2007.

Key lessons learnt by the KCWA and key practices for the future;

The development of a management plan for the conservation area as well as the open areas covering the six beach landing sites provided a template for the development of management plans for BMUs along the Kenyan coast.

By-laws developed by the Kuruwitu BMU in conjunction with the KCWA governing resource use within the closed and open area is a pioneering concept that is currently being replicated by other BMUs along the Kenyan coast.

Nature based enterprises particularly eco-tourism are also being replicated by coastal communities along the coast as an alternative means of income.

The concept of a community marine protected area by the KCWA has currently been replicated by a total of 11 coastal communities stretching from Lamu to Vanga. The CMPA are at various stages of development.

KCWA conclusion of the present phase of the project;

CDTF-CEF funding was necessary to kick start ecosystem rehabilitation and support enterprise
activities as incentives. CEF funding enabled the community purchase equipment and acquire skills like management and marketing, which is currently being used address economic and social well being of community members and increase income levels.

Failure to secure support from CDTF-CEF would have made it very difficult for the Kuruwitu community to shift from unsustainable livelihoods and this would have led to maintenance of low skill levels leading to continued ecosystem degradation and eventually loss of economic base of the country.

FUTURE PLANS

The Kuruwitu Conservation and Welfare Association together with the Kuruwitu Beach Management Unit have outlined the following as among the major activities to be implemented in the future.

This are:-

- Improving the physical infrastructure for the marine conservation area and the surrounding marine waters by purchasing a piece of land and constructing offices for staff
- Increasing the size of the protected area and introducing other sustainable fisheries management practices in the open areas such as temporal and seasonal closures
- Expand the nature based enterprises to include other profit making ventures such as poultry, dairy farming
- Construct eco-tourism bandas after purchasing a piece of land
- Develop linkages with the private sector both locally and international particularly in support of the eco-tourism business enterprise
- Improve marketing of the Kuruwitu Conservation Marine area through media such as the internet
- Continuously build the capacity of local community members in tourism management and resource governance
- Network with other BMUs within the coastal region and national to advance a national agenda for devolved management of natural resources to local communities
- Increase the visibility of Kuruwitu Marine Conservation area as an innovative example of community managed marine protected area for awareness and education purposes
- Participate actively in addressing community needs within the Kuruwitu sub-location by supporting initiatives such as community sanitation, water and health projects

7 years down the line, KCWA membership has grown to over 250 members and their families, which totals over 1,000 people. The Kuruwitu site has been visited by ambassadors (from around the world, NGO’s and environmental agencies, and groups from other communities along the coast interested in modeling the KCWA for their areas to achieve similar success.

Above: Recieving cheque from CDTF.
Below: The Kuruwitu Welfare Association Commitee Members
Photos © Des Bowden
Community Conserved Areas: Experiences from Coastal Communities in Kenya

By Dishon Murage

In the past few years, the development of Community Conserved Areas (CCAs) in Kenya has seen tremendous interest from local coastal communities with the consequence that there are currently more than 15 CCAs spread along the Kenyan coast. This is a new and encouraging development confirming the occurrence of the shift from the central government-controlled management of the marine and coastal environment, without the participation of local communities, to collaborative management involving local communities, non-governmental organizations and the central government.

Kenya, being amongst the first countries in Africa to establish MPAs in Africa in the 1960s, has been in the forefront in establishment and management of Government-managed MPAs, and now is taking a lead in the establishment of CCAs.

Generally CCAs can be defined as natural or modified ecosystems containing significant ecological services, biodiversity and cultural values where local communities are part owners/managers and the management is done through customary or established law.

The dramatic increase in CCAs could likely be attributed to on-going policy and legislative reviews that emphasize sustainable development, collaboration and partnership. This policy is reflected in new environmental legislation i.e. the Forestry Act, 2005 and the Fisheries Act, Legal Notice 402.

This has led to local community user groups and institutions, such as Community Based Organizations (CBOs) and the recently established Beach Management Units (BMUs) to play a more active role in conservation and sustainable management of marine and coastal resources through establishment of CCAs all along the coast. The development of the CCAs is also seen as response by local communities to address some of the threats which threaten local livelihoods. A closer look at history reveals that development
of CCAs in Kenya has taken place through two distinct phases. These are; The first phase between 2002 to 2007 marked by only two CCAs (Mkokoni in 2002 and Kuruwitu in 2005) established by CBOs, wholly dependent on the goodwill and support from the surrounding communities and lacking a firm legislative support and a second phase from 2008-currently, where the formation of the CCAs is through BMUs and legislative support has been drawn from the BMU Regulations of 2007 with marked support from other players mainly NGOs and government departments.

An analysis of the relative location of CCAs along the coast shows a disproportionate distribution with higher concentration in the South coast. This could likely be attributed to the region having the higher diversity and also experiencing the highest fishing pressure.

Some of the key drivers in the establishment of CCAs in Kenya have been the need to develop eco-tourism as an alternative income generating option, address illegal fishing particularly by migrant fishers and in other cases as a response to taking advantage of new legislation and staking ownership over local resources by local communities.

A keen analysis of most the recently established CCAs objectives reveals that most have been established with the following main objectives;

i). Development of alternative/sustainable livelihoods particularly nature based enterprises such as eco-tourism

ii). Enhancement of fisheries production by addressing illegal fishing practices or exclusion of fishers from outside the community deemed to be competing for the meagre fish resources within the area

iii). Conservation of biodiversity such as corals, seagrass beds, fish species usually at the enticement by NGOs and other players.

Generally, the development of CCAs follows a rather basic model which can be broken into three main stages (Initial Assessment, CCA Design and Planning; and Management Plan Development). However, as the development of CCAs in the country is relatively new, practitioners are called upon to adjust and re-evaluate the process to incorporate new knowledge and fit in different scenarios.

A key ingredient in the process is to ensure that communities feel that the development process belongs to them. One way to achieve this is ensuring good facilitation that assists the community to identify and articulate the challenges, threats and opportunities facing them and mobilizes the resources for the development of the CCA, a role that is currently being facilitated by a number of NGOs.

Experience from the East African Wild Life Society (EAWLS) and Fauna and Flora International (FFI), working in partnership in the development of CCAs in south coast specifically in Shimoni, Wasini, Mkwiro, Kibuyuni, Vanga and Jimbo has shown that CCAs have the potential to protect and enhance the recovery of degraded ecosystems and fish populations as well as provide local communities with alternative sources of income.

The CCAs are managed by BMUs from the respective villages of Shimoni, Wasini, Mkwiro, Kibuyuni, Vanga and Jimbo. EAWLS and FFI have provided support to the CCAs through the training of BMUs, the development of CCA By-

Laws, the mapping and demarcation of the CCAs, development of BMU training modules and the development of co-management plans.

Notwithstanding, some of the key results from this initiative include

- Enhanced participation of marginalized members of the community especially women and the youth in the management of the CCAs and the BMUs. For most of the CCAs, women are well represented within the BMUs Management Committees and women groups form part of the BMUs Assemblies.

- The establishment of the BMUs has also enabled communities who previously felt excluded in the management of natural resources to take legal ownership of these resources. However, there is a strong need to ensure that the still nascent BMUs are closely monitored to ensure that they continue to deliver on their conservation goals. Nevertheless, the incorporation of local communities in the decision making process has provided a better perception that environmental decisions are seen to be holistic and fair and for the interest of the communities.

- Enhanced collaboration between the government and the local communities as well as other stakeholders i.e. NGOs. The BMUs provide a channel to engage and mobilize community members to engage with the government in the management of local resources especially in monitoring and surveillance of the CCAs.

- The establishment of BMUs has also provided a local mechanism for conflict resolution especially between different fishing gear users as well as between different BMUs specifically in regard to the CCAs. However, in some cases the establishment of CCAs has led to an increase in conflicts between the different resources.

- The CCAs have also provided a channel for community members to develop alternative livelihood options especially eco-tourism which for some of the sites is doing relatively well.

- Finally, the development of the CCA has provided an opportunity to utilize local indigenous knowledge and scientific knowledge in defining and monitoring of the CCAs. This has also led to empowerment of local communities through co-generation of knowledge between researchers and increased capacity by local community members to use this knowledge in their day to day management of the CCAs.

Overall, CCAs present an emerging opportunity to address some of the key challenges facing fisheries and associated ecosystems within the Western Indian Ocean such as depletion of fisheries resources and destruction of sensitive habitats such corals through illegal fishing practices.

By engaging the local communities, CCAs when fully operational will increase the total area under protection from the current one of less than 10% of Kenya’s territorial sea, as a result ensure that more areas are sustainably managed thereby providing refugia for threatened species, protection of biota and ensure recovery of depleted fisheries.
Watamu Turtle Watch (WTW) is a non-profit organisation actively committed to ensuring the sustainable use of Kenya’s marine resources and the long-term protection of the marine environment, especially the endangered sea turtle. The name Local Ocean was chosen to inspire communities along the Kenya coast and around the world, to look after their own ‘local ocean’.

Watamu Turtle Watch is our flagship programme and incorporates 3 programmes; By-catch Net Release programme, a Nesting Programme where we patrol and monitor nesting beaches and nests, and a Sea Turtle Rehabilitation Centre, where we treat sick or injured sea turtles. It is the only Rehabilitation Centre in East Africa.

Our By-Catch Release Programme works with local fishermen to ensure turtles accidently caught in their fishing nets are safely released back into the ocean instead of being slaughtered. When the fishermen catch a turtle, they contact us and we collect the turtle from them. We offer a small financial compensation to the fishermen to cover the costs of their broken nets or hooks, phone charges and time and effort. When we receive the turtle, we assess its general health, if it’s healthy; we release it in a suitable location after we have tagged it and recorded various other details. This has provided us with invaluable data on migratory and nesting behaviours of sea turtles over the 10 years the programme has been running. If the turtle is unwell or injured, we bring it to our Rehabilitation Centre for treatment and only release it when it has recovered. We have safely released over 6,000 turtles through our By-Catch Release Programme; these turtles would have otherwise been illegally killed for their meat or their shell. WTW has put over 2.5 million shillings directly back into the community through this programme alone. So far in 2011, we have safely released 237 turtles, plain evidence that our programme is expanding thanks to the hard work and dedication of our team being available around the clock as well as through WTW building good relationships with the local community. With more awareness and more funding we will ensure this programme’s longevity and hope to expand it along the East African coast and one day to other endangered marine species.

To achieve our overall goal of promoting the sustainable use of and long-term protection of the marine resources we need to work with the community and spread awareness of marine conservation. Over the years we have developed and expanded and now incorporate many programmes to achieve this. We have an Education Programme where we work with schools, a Community Out-Reach Programme and we are currently developing an Alternative Income Generation Programme for the local community to relieve the pressure on over-exploited marine resources.

LOCAL OCEAN TRUST:
WATAMU TURTLE WATCH

Fikiri, The Trust’s By-Catch Release Programme Co-ordinator with a turtle during a release
Sustainable Marine Tourism In Mozambique: Zavora Community Planning The Future

By Yara Tibiriçá

The world is losing many of its giant animals, animals of long life and low reproductive rates. Most of the big charismatic animals are suffering from the threat of extinction. Some people would say “tourism is the best way to save these species”. Wildlife tourism can be a threat or can be a solution. How? What can we do? What have we done? For how long more can we wait?

This article tells the story of a new marine destination in Mozambique: Zavora - a diving destination that still in its first stage of development. Proper management now might ensure sustainable tourism; however waiting too long can result in irreversible mistakes. During the war the terrestrial megafauna of Mozambique was almost eradicated and much effort and resources will be needed to recover the terrestrial national parks. Today, the main tourism treasures of Mozambique are in the sea. Research has shown that tourists from all around the world are visiting Inhambane Province mainly to see manta rays (Manta alfredi and Manta birostris) and whale sharks (Rhincodon typus). Some destinations like Tofo beach have already developed tourism based on these species, others, like Zavora, have just been discovered.

Zavora is located 100km south of Inhambane town. Until recently, it was only known by South African anglers as an excellent fishing destination. Tourism was seasonal, directly effecting employment opportunities for locals. Around 4 years ago, the scenery began to change - the first dive center started to operate in the area. A few months later, Zavora started to receive divers, especially Europeans, interested to see sharks and manta rays. Tourism became less seasonal. People that had temporary jobs began to have permanent jobs and a few members of the local community also engaged in diving activities.

At the beginning, Zavora had massive potential to become a premier Mozambican shark tourism destination, but something bad happened... People who have been diving regularly in Zavora since 2006 say that “three to four years ago, we would see sharks on almost every dive. People were coming here mainly to see sharks. Unfortunately, nowadays we don’t see sharks as often as before. We see lights, lights of commercial fishing boats coming close to shore every night. What are they fishing? Nobody can tell, but we know that there is shark fining happening here”.

In less than 3 years shark sightings have reduced abruptly in Zavora and it is no longer the main dive attraction. Manta rays are now the main reason why divers come to Zavora, but for how long? And what will happen if their population also diminishes or disappears? Will diving tourism continue to be sustainable? In 2010, research conducted from March to November showed 82% manta ray sighting success in the shallow reefs of Zavora, no doubt an excellent opportunity for international tourism. However, in 2011 this rate changed to about 50%, disturbing everyone interested in the conservation of these remarkable animals.

What could be the reasons? Probably not tourism as there is still only one small dive operator in the area. The tourism value and biological characteristics of manta rays and whole sharks clearly show the urgent need for protection. However, no species of manta rays (Manta alfredi and Manta birostris) are protected in Mozambique.
In 2010, the Government of Mozambique began a consultative process to protect manta rays and whale sharks as species and also to create a Marine Protected Area (MPA) which would facilitate the implementation of law and good tourism management practices. The initial MPA project proposal was to include Tofo, Barra, Tofinho and Jangamo (TBTJ), where tourism is already developed, missing the chance to include Zavora, an area that is ecologically connected to TBTJ region, has a great amount of manta ray cleaning stations and is still in the early stages of development.

After the first workshop, the importance of Zavora was realized and it was included in the MPA's second proposal. Conversely, the inclusion of Zavora on the proposal is now unclear, since some documents include Zavora but others not, worrying conservationists, researchers and tourism sectors.

Even worst we are now in the middle of 2012 and nothing yet has put in place, not the regulation to protect the species, not the MPA. After the loss of the sharks, the slow process to put any protection in place and constant indecision about the inclusion of Zavora in the MPA proposal, stakeholders are extremely concerned to wait for top down decisions. How long will it take to create and enforce any law? Can the protection of the manta rays and their critical habitat wait? How long can we wait? The sighing rates from Tofo and Zavora clearly shows that not.

The number of fishing nets has increased rapidly in the last two years and manta rays are often caught on these nets as by catch. The meat is sold very cheaply or given away; however for tourism the price is too high. If manta rays disappeared from Zavora it would be the end of a promising industry that is now one of the main economic sources for several families in the region.

Last month more one manta was caught in Zavora and reported by the Association of Coastal Conservation of Mozambique (ACCM) to the Marine Megafauna Association (MMA), which has a large database of the manta rays of Mozambique. We found out that this specific individual has lived off the shores of Mozambique for about 10 years, with 4 recorded sightings. First spotted in 2003, then twice in 2005 and again in 2007. Its sighting in Zavora was the last one and unfortunately while she was still alive. How these things reflect in tourism? Maybe the sadness and water in the eyes of the tourist that took the pictures and her wish to not dive in this day, answer the question.

We can do a lot on the ground but for strong conservation, we will of course need the support from the Government to ensure that issues like illegal fishing will not destroy our efforts. Now it is time for Zavora community to make a stand, it is time to work hand in hand with authorities to design a good future. The project sounds interesting and the opportunity to plan prior development is unique and promising.

From my side, I hope to be able to write an article in 5 years with less questions and full of successful stories and I truly believe that people and Government can work together toward sustainable development in Zavora.
What is DLIST?
The Distance Learning and Information Sharing Tool (DLIST) is a tried and tested community empowerment and outreach tool that is active in the Western Indian Ocean region as part of the regional ASCLME project, since 2008, as well as a second phase in the Benguela Current region, since December 2010.

The web-based platforms
The web-based platforms, www.dlist-asclme.org and www.dlist-benguela.org, provide information sharing opportunities, including discussion forums, online photo and document libraries, targeted distance learning courses, travelling environmental film festivals and regular newsletters (see Figure 1 as an example from the DLIST ASCLME site). The DLIST approach has led to the formation of an active and growing Community of Practice (CoP) consisting of members from all sectors and levels of society. The members of the CoP share knowledge, perspectives and assist a coherent voice from the ground to inform the projects, policy makers, authorities, the private sector and donors about the realities on the ground. The DLIST web-based platforms function as a mechanism for exchanging views across the regions, and beyond, while being a user-friendly depository of valuable information related to marine and coastal issues in a time of severe environmental change. Through DLIST, mechanisms are also established for improved communication between grassroots communities and higher level structures as well as the sharing of knowledge and lessons learned between demonstration sites in the region.

DLIST has also offered a number of online distance learning courses. The course “Stakeholder Participation for a Better Future” has been very popular across the entire region (see Figure 2). This course is currently being upgraded and translated to Portuguese. In collaboration with the Cape Peninsula University of Technology (CPUT) the course “Environmental Engineering – Sustainable Development in Coastal Areas” has been offered once a year for both online distance learners and community members.

The DLIST approach in the WIO-region, supporting coastal communities to cope with environmental changes

Right: Students in Vilanculos registering on the DLIST ASCLME site.

Facing page: The DLIST ASCLME web based platform.
contact students in Cape Town. A new course is being developed with the University of Toamasina in Madagascar and CPUT in South Africa, focusing on global environmental issues, highlighting the most prominent issues in the coastal areas of the Western Indian Ocean. There are plans to later adapt this course for Angola, and it is anticipated that it will provide a useful mechanism for the exchange of ‘lessons learned’ between three major Large Marine Ecosystems in the Africa region.

DLIST demonstration sites
Local communities are often the first to see environmental change on the ground and they can assist by identifying urgent issues that need more research. To assist stakeholders without access to internet to actively participate in the planning process of the ASCLME project, each ASCLME country has a “DLIST demonstration site”. In these selected communities the DLIST team works closely with local stakeholders, applying a Local Economic Development (LED) approach for community based development planning. The purpose of Local Economic Development (LED) is to build up the economic capacity of an area to improve its economic future and the quality of life for all. LED is a process where public, business and non-governmental sector partners can work collectively to create better conditions for sustainable development.

The LED process is a highly participative exercise (see Figure 3) where a collective vision for the future is developed with input from a wide range of stakeholders. The process lists and analyses a range of social, environmental and economic issues and opportunities. Figure 4 shows a flow chart of the LED process in the demonstration site in Le Morne in Mauritius. The LED plans and the information collected in the process informs the ASCLME project by giving a country specific example of what issues are prioritised by a coastal community as a section of each country's Marine Environment Diagnostic Analysis (MEDA) report. The MEDAs in turn inform the Transboundary Diagnostic Analysis (TDA) and eventually the Strategic Action Programme (SAP) that will guide the implementation of the project in the years to come. The advantage of using the LED approach for planning is that the LED plans can also easily be incorporated into statutory processes in each country such as the regional development plans, both at the local and district level, and strategic frameworks such as the ASCLME Strategic Action Programme. This means that environmental change issues can be flagged officially at a national level for action and budget allocations made to deal with such issues, even before the ASCLME project will reach an implementation stage. Also other issues, by being highlighted in statutory planning processes, can be addressed through budget re-allocations from government bodies, donors and private sector. Therefore, the LED plan-
ning process increases the level of participative as well as integrated governance, while at the same time addressing issues on the ground as identified by the local communities.

An example of a LED planning process from Pemba in Zanzibar. The demonstration site community on Pemba Island is made up by two Shehias on Ras Mkumbuu; Wesha and Ndagoni. This is an area where open defecation in mangroves and beaches is still very common practice with around 75% of the households lacking access to any type of latrines. The main source of protein and income is through fishing, with bulk food like rice and cassava being farmed locally. With less fish in the sea, salt water intrusion in the rice fields, polluted water sources and problems with deforestation, the people in this area have increasingly low food security, suffer from hygiene related diseases, and lack alternative income generating activities.

Through the LED planning process this demonstration site community has identified options for alternative livelihoods activities, local solutions to address issues of deforestation and overfishing among other things. The DLIST team is trying to support the implementation of the interventions identified within the LED framework through sourcing of external support and funding.

The DLIST Team, in collaboration with Danida, the State University of Zanzibar (SUZA) and the Ministry of Health and Social Welfare, have developed a proposal for a Multi-purpose Resource Centre (MPRC) for the community. The MPRC is proposed to include a solar drying hub for food preservation, small class rooms for adult education and training activities and other much needed facilities such as rain water harvesting, toilets and a market area (see Figure 5). The MPRC proposal is finalised and the partners are looking for funding to start construction and implementation. The collaboration with SUZA and the Ministry of Health and Social Welfare has also brought a course in Environmental Health to carry out field work in the demonstra-

![LED planning process flow chart.](image)
tion site community. This has increased awareness on hygiene, sanitation and water related health issues and supported people with some of the health challenges they are facing.

Coastal communities and climate change
The close interaction with nine coastal communities in South Africa, Mozambique, Tanzania, Kenya, Seychelles, Comoros, Madagascar, and Mauritius, has highlighted that coastal communities all over the region suffer from consequences of environmental changes, such as coastal erosion, deforestation, sedimentation in the inshore areas and lagoons, changes in rain patterns, dying/bleaching coral reefs, increased intensity and occurrence of cyclones, salt water intrusion and sea level rise. Figure 6 shows an example of severe coastal erosion in Nioumachoi in Mohéli, Comoros.

These issues have huge impacts on peoples' livelihoods as there is less fish, crops are failing, and shortage of water supply and they have been raised as part of the LED planning processes. Interventions to address climate change related issues on a local scale are hence also part of the LED plans for the communities and range from proposed mangrove replanting activities to livelihoods diversification. In addition to the LED plans, DLIST is trying to increase awareness about climate change related issues among community members and what they can do to cope. To share lessons between the communities is also part of the DLIST activity and the DLIST web-based platform will introduce a special section dedicated to coastal communities and climate change issues.

The way forward...
So far the DLIST approach has proven to be very successful in all nine demonstration site communities. Information and ‘lessons learned’ are being collected, and it is anticipated that the demonstration site communities will benefit considerably from the LED Plans. Some of the proposed interventions will start being implemented in the coming year. For more information on the demonstration sites, please visit: www.dlist-asclme.org/demosites.

Most importantly, the plans resulting from the LED approach can easily be incorporated into other donor programmes – rather than re-inventing the wheel all over again. For instance, in all of the communities land-based pollution has been identified as a major threat to the inshore waters. The communities themselves often identified these threats, for instance the grey water running from the village of Le Morne straight into the lagoon. Therefore, donor programmes that aims to combat land-based pollution can easily link into these communities without starting a new initiative. Communities like the one in Kilwa made it clear that they are tired of outside interventions and programmes that lead nowhere however they view the DLIST approach as being very different, because it starts with their rather than outside agendas.

Facing page top: The DLIST team interviewing a group of elders in the demonstration community in Pemba.

Bottom left: Coastal erosion in News Item Nioumachoi in Mohéli, Comoros.

Bottom right: The proposed MPRC in Kichanjaani in Pemba.
Top: Kuruwitu Conservation and Welfare Association: Celebrating the arrival of the tourist dhow, the fishing dhow and the catermerans.

Inset Left: Kuruwitu Conservation and Welfare Association: Members meeting.

Inset Extreme left: Kuruwitu Conservation and Welfare Association: Committee Member.

Watamu Ocean Trust: George, a local fisherman in daily contact with turtle watch bringing in 1 of 3 turtles to the turtle watch.
Sharing Benefits from the Coast: Women collecting mussels at the beach near Sokhulu, Kwazulu Natal, South Africa
Marine Stewardship Council – Helping Seafood Sustainability In East Africa

Michael Marriott

Overfishing is one of the most serious environmental threats facing the world today. As seafood grows more popular, the pressure on already heavily exploited stocks is compounded. Yet, a decline in just one species may have far reaching consequences, affecting not just the people whose livelihoods depend on it but potentially the functioning of entire ecosystems.

Striving for seafood sustainability is particularly important in developing countries. These supply around half of the world’s seafood and employ some 150 million people in the fishing, aquaculture and fish production sectors. Nearly 10 million Africans depend on the fishing industry for their livelihoods, both in trade and as a source of protein, and in order to secure incomes and food security the continent’s fish stocks and marine ecosystems need to be preserved. This is far from simple. Even within managed stocks, responsible fishers, policy makers and legislators must grapple with the complexities surrounding an economically valuable resource that is not easily quantified, frequently moves across international boundaries and is subject to a raft of issues including: IUU fishing; substitution and mislabelling. Despite this, most seafood traders will still assure their clients that they sell fish only from legal, sustainable sources. Such declarations are meaningless if they are not true.

Though environmental awareness is on the up among businesses and individual consumers still rely heavily on the integrity of those that supply to them. Now, in many markets it is becoming necessary for suppliers to prove their claims, and many are turning to ecolabels. The premise behind ecolabelling is simple; an on-pack label provides a symbolic representation of certification against a standard. If a consumer is familiar with the criteria and standards upon which certification has been based they can choose the product that appeals to them.

To be effective certification and ecolabelling must be:
- Recognised by consumers, so that ultimately purchasing behaviour will change and sufficient incentive is created for producers to undergo assessment;
- Relevant to a real environmental need, especially where this can benefit from a change in consumer purchasing behaviour;
- Robust enough that the majority of producers are made to implement positive changes in order to qualify for certification. A weak standard is at risk of being used for greenwashing and a standard that is unreasonably strict will attract little uptake from producers;

The Marine Stewardship Council (MSC) works with fisheries, retailers, and other stakeholders to identify, certify and promote responsibly, environmentally appropriate fishing practices around the world. The MSC developed the world’s leading ecolabel for wild-capture fisheries and remains the only one consistent with the United Nations Food and Agriculture Organisation (FAO) Guidelines for Fisheries Certification and the International Social and Environmental Accreditation and Labelling (ISEAL) Code of Good Practice for Setting Social and Environmental Standards. Supported by a rigorous, science-based standard and awarded by impartial third-party assessment, it is not just another ‘green’ claim. Fisheries assessed against the standard are examined on all aspects of stock sustainability, ecosystem impacts and management.

In addition, supply chain companies wishing to use the eco-label on their products are audited to ensure traceability back to the certified fishery that caught it. To date 106 fisheries have gained MSC certification and 149 are under assessment, representing more than 10% of the annual global harvest of wild-capture fisheries. Along the coast of East and Southern Africa a number of fisheries have recognised that by adopting practices in line with MSC requirements they can provide long-term food security and jobs, and are using the MSC standard as a template for change. These include the rock lobster fishery in Kenya, octopus fisheries in Tanzania and Madagascar and the shrimp fisheries in Mozambique which are currently implementing Fisheries Improvement Projects (FIPs) in partnership with interested stakeholders. In Mozambique improvement plans are being realized through cooperation between WWF-Mozambique, the National Fisheries Administration (ADNAP), the Institute for Development of Small-Scale Fisheries (IDPPE), the Fisheries Research Institute (IIP) and the fishing industry. Implementing improvements is a necessary step towards better fisheries management, but maintaining these changes relies on continued market support.

A number of Fisheries Improvement Projects have been identified in East Africa and the MSC invites enquiries from anyone interested in supporting this work, or who would like to engage with fisheries in their existing supply chains. The MSC Southern Africa office is based in Cape Town, South Africa, and can be contacted on Tel: +27 (0)21 551 0620 or email capetown@msc.org.
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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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