



Newsbrief

Small and forgotten yet important fishery: The small shrimps (uduvi) of the Rufiji Delta, Tanzania. By S.B. Mahongo, P.O. Onyango & C.A. Mwakosya

One of the studies recently funded under WIOMSA's research program, MARG I, focused on appraising the marketing of sergestid shrimp *Acetes* locally known as *uduvi*. This is a small planktonic shrimp which is widely distributed in the tropical, subtropical and temperate estuaries and coastal waters. In the coast of Tanzania, the species commonly found is *Acetes erythraeus*. This species measures 16 to 33 mm, and rarely grows to 48 mm. In the western Indian Ocean, it is found all along the coast from Somalia to South Africa, and Madagascar. When alive, this small shrimp is almost transparent in colour. It becomes milky or yellowish when dead.

Uduvi is fished for several reasons ranging from food for human consumption in Tanzania, India and Japan; in the making of a fermented paste used as an ingredient for cooking in South East Asia and for animal and bird feed in Spain and Portugal. This implies that *uduvi* has a high potential to both local and international populations. In fact in Tanzania, it is important to both the rural and urban communities, especially the poor, and in places where fish resources are scarce. Uduvi is particularly important in contributing to livelihood security for poor households and in supplementing income during years of poor agricultural production.

However, even with this potential, not much is known about the quantity of *uduvi* fished and traded. The operational costs and price margins of fishers and dealers are not clearly understood. The marketing forces and channels, price relationships, supply seasonality, handling, processing and storage are also not adequately

documented. The lack of knowledge in prices, quantities sold and a marketing chain formed the backbone for which this study was designed.

The study was carried out at markets in Dar es Salaam and in Rufiji Delta where a high proportion of households suffer damage to



Plate 1: Dried sergestid shrimps (*uduvi*) ready for cooking



Plate 2: Women fishers in the Rufiji Delta in action. The dish on the head is used for carrying the catch.

crops and livestock from wild pigs, elephants, monkeys, warthogs, hippos and birds, and livestock losses mainly to predators such as cats and birds of prey. With rising population and demand, expansion of this fishery to maintain food security is therefore a priority concern.

The study pointed out that *uduvi* trade is grossly underdeveloped. This is evidenced by the fact that market information is not known. For instance price information and availability of

this species is not well understood by the buyers, the processing (sun drying) and transportation mechanisms are dependent largely on external factors such as adequate sunshine and available transport on lorries coming to Nyamisati, (a local port for transporting goods to the island of Mafia), access to a seat in a the passenger vehicle or reliance on lorries).

Fishing of *uduvi* is in addition not only a fishing story but it is also a gender, poverty and food

security issue. The fishing and processing is exclusively undertaken by women with help from their children. These women come from amongst the poorest families in the delta. They depend on agriculture and use *uduvi* as supplements for both incomes and food. In other words *uduvi* in Rufiji, provides a source of cheap protein to residents in the delta, as well as a source of cash to women fishers. Through *uduvi* fishing in Rufiji, women are able to contribute to household incomes instead of relying on the income from men who prefer to engage in the lucrative prawn fishery.

Once fished, *uduvi* is transported to lucrative markets specifically in Dar es Salaam where they are received in Kariakoo Market before distribution to other nearby markets including: Magogoni Ferry, Tandika, Temeke and Magomeni.

Buying and selling prices are more or less stable throughout the year, despite perceived fluctuations in supply except for selling prices in April which appear to be highest. This suggests that traders aim at maintaining the profit margin throughout the year. The month of April is the period of scarcity, but due to constant demand, the selling prices are slightly higher, and so are the corresponding profit margins.

In conclusion, the study recommends that:

- a) Given the importance of *uduvi* to the population that handles and uses it, some form of management of the product can go a long way in improving the fisheries of this crustacean resource.
- b) Although *uduvi* is traded at low quantities, it could be the case that poor transport infrastructure contributes to the low trade. It is therefore important to improve transport especially in the Rufiji Delta so as to increase trade in *uduvi*.
- c) There is need to promote other uses of *uduvi*, this may have an effect in diversifying the handling and processing methods.
- d) Further studies should be focused on among other aspects, assessment of the *uduvi* stock in the Delta, supply trends and costs of fishing.



Plate 3: The small shrimp catch includes small fish species locally known as *mbarata* (including sardines - *dagaa*), which is sundried immediately by spreading on the beach.



Plate 4: Storage of sundried *uduvi* in a basket (left) and in a sack of 60-70 kg (right) for the retail and wholesale market at Kariakoo. Dried *dagaa* and smoked prawns can also be seen in the background.

WIOMSA NEWS:

WIOMSA Board meets in Nairobi

The 22nd meeting of the WIOMSA Board of Trustees was held in Nairobi on the 6th of March 2010. This was the first meeting this year and it was attended by the full Board including the newly co-opted Board members, Prof. Micheni Ntiba and Dr. Indumathie Hewawasam. The Board passed a number of key decisions during the meeting which are highlighted below.

The Board resolved to actively engage in promoting WIOMSA and its activities in the media. Official guidelines for media communication will be developed for this purpose.

- **Production of a book on 20 Years of WIOMSA.** The Book will use WIOMSA's own outputs and activities to reflect growth and development of marine and coastal science as well as Integrated Coastal Management in the region as a whole.
- **Amendment of the Constitution.** A number of constitutional amendments were proposed and the legal implication of these will be discussed with relevant experts before the amendments are presented to WIOMSA members for approval in the next General Assembly.
- **Organization of the 7th WIOMSA Scientific Symposium.** The Board selected the theme of the 7th Symposium to be "Dealing with Global Change" and recommended that the Symposium should be held the second half of 2011, preferably in October 2011. Two expressions of interest to host the Symposium were received by the Board. The bids were from a consortium of four Madagascar-based organizations (Comité National pour la Gestion Intégrée des Zones Côtières, Institut Halieutique et des Sciences Marines, World Wide Fund for Nature-Madagascar and Wildlife Conservation Society-Madagascar) and from the Kenya Marine and Fisheries Research Institute. The decision on where it will be hosted will be finalized once the Board receives additional information from the institutions bidding to host the event.
- **Membership Strategy.** In recognition of the importance of the payment of the membership fees to the long-term sustainability of the Association, the Board made some important decision aiming at increasing the number of paid members.
 - Members who have not paid fees will not be considered as members but rather constituents of WIOMSA until they pay up.
 - The focus of membership drive will shift from individual members to Institutional Membership. A new fee structure for Institutional Membership was passed. Fees will be paid according to the number of registered members in the institution- with institutions with less than 10 members paying US \$ 500, those between 10-20 members paying US \$ 1000 and those with over 20 members US 1500.
 - Corporate Membership category be suspended until it is included in the Constitution and benefits- commensurate with the fees charged- established.
- **Establishment of a professional consulting function at WIOMSA.** In response to the *decision* of the Fourth WIOMSA General Assembly held in Reunion in August 2009 requesting the Secretariat to explore the possibility of establishing a WIOMSA consulting firm and based on the consultancy report, the Board decided to formally establish a professional consulting function at the WIOMSA Secretariat.



Board Members at the Hilton, Nairobi.

WIOMSA Hosts Certification Meeting

Dar es Salaam was the location for the meeting "Further Development of WIO-COMPAS Programme: Scoping Level 3 and Development of Synergies between Training and Certification", held from the 17th to the 20th of February 2010. The meeting brought together 7 experts from Kenya, Madagascar, Seychelles, South Africa and Tanzania, with a rich experience and knowledge in MPA Management and the WIO-COMPAS program. The participants contributed strongly to the range of interesting and valuable discussions on many aspects of the WIO-COMPAS programme, and reached agreement on some critical areas of activities to take the programme further. Workshop participants were given an update of the progress with the Level 1 event scheduled for South Africa this year.

The main objective of the meeting was to develop ideas and competences for the Level 3 component of the programme. The participants successfully debated on and developed Level 3 competencies which will be used as a basis to develop range statements for the level. Other workshop achievements included the profiling of Level 3 candidates; the identification of potential assessors; the development of Level 3 assessment processes, instruments and tools; and funding sources for the level. The meeting also explored at length the necessary synergies between the competences required for certification at the three levels of certification and training available in the region.

The workshop allowed for many brainstorming sessions amongst participants and as such the highly interactive meeting gave rise to ideas that will shape the future of WIO-COMPAS. Such discussions centred around the need for ensuring the credibility of the assessors, and therefore the programme as a whole; the potential for moving from certification of

individual professionals to certification of MPA sites; the possibilities for establishment of MPA fora at country, sub-regional and regional levels; the potential for linking with other organisations in order to extend the range of the programme; and the need to develop a strategic marketing plan and some ideas on how to go about this.



Cross section of WIO-COMPAS participants.

Climate Change Coordinator joins WIOMSA



Edward Kimakwa joins WIOMSA as the coordinator for the regional project on climate change in the Western Indian Ocean. Edward brings to WIOMSA a wealth of experience on regional and global environment and biodiversity conservation issues, including fisheries, climate change and marine policy. He holds a BSc. in Natural Resources Management (Egerton University, Kenya) and an MSc. Biology of Conservation at the University of Nairobi, Kenya). Edward has also done short term courses on aquatic sciences, climate change, project planning and policy.

Until his appointment to this position, Edward has been working with WWF-

Eastern & Southern Africa Programme Office (ESARPO) as a Policy Officer for the Eastern African Marine Ecoregion Programme (EAME). In September 2009, he was appointed as a Fisheries Programme Officer for the new WWF Coastal East Africa Initiative based in Dar Es Salaam, Tanzania. As part of the WWF Coastal East Africa Initiative, Edward led the design and coordinated the implementation of several marine policy and fisheries projects, covering Kenya, Tanzania and Mozambique, and to some extent Somalia, South Africa and the Indian Ocean Island States. He has been instrumental in developing two important initiatives within the WWF – Network in partnership with development partners. He was part of the core team,

which developed and designed a new global marine fisheries programme called the “Smart Fishing Initiative” and the Coastal East Africa Initiative (CEANI). The two programmes are now being implemented. Edward also participated in the designing and rolling out WWF climate change initiative on institutional mapping in Kenya, Tanzania and Mozambique.

Before joining WWF in 2006, Edward worked as a Fisheries Officer with the Fisheries Department in the Ministry of Fisheries Development in Kenya since 1997. He played a key role in initiating and implementing short-term and long-term fisheries management and biodiversity conservation initiatives at national and regional level. In 2004, Edward was appointed the Head of Fisheries Research Unit, where he was responsible for strengthening collaborative research to support policy and decision making for sustainable fisheries management. He was also responsible for environmental and biodiversity issues related to fisheries, including environmental impact assessments and audits, climate change and biosafety.

Edward's contribution to environment and biodiversity conservation at regional and global level has been outstanding. Edward is not only technically knowledgeable, hard working and ready to utilize wisely every opportunity that comes on his way but is also attune to the political and strategic issues related to conservation in East Africa and the Western Indian Ocean.

Western Indian Ocean Journal of Marine Science, Volume 8(2), out!

The latest WIOJMS consists of the following articles:

1. Eddy formation around South West Mascarene Plateau (Indian Ocean) as evidenced by satellite 'global ocean colour' data – M. Rezah Badal, S.D.D.V Rughoopath, Lars Rylberg, Ian S. Robinson and Charitha Pattiaratchi
2. The Changing Global Climate and its Implication on Sea Level Trends in Tanzania and the Western Indian Ocean Region – S.B. Mahongo
3. Levels of ABA, its precursors and dehydrin-like proteins during mangrove leaf development and senescence – Flora AbdulRahman Ismail, Masoud Muruke, Jan W.M. Derksen and C. Mariani
4. Litter fall and decomposition of mangrove species *Avicennia marina* and *Rhizophora mucronata* in Maputo Bay, Mozambique – Stela M.C. Fernando and Salomão O. Bandeira
5. The breeding pattern and variations in timing and reproductive output of the commercial sea cucumber *Holothuria fuscogilva* in Kenya – N. A. Muthiga and J. A. Kawaka
6. Zooxanthellae Densities are Highest in Summer Months in Equatorial Corals in Kenya – Jelvas Mwaura, Gabriel Grimsditch, Joseph Kilonzo, Nassir Amiyo and David Obura
7. Coral reef monitoring in Tanzania: an analysis of the last 20 years – Christopher A. Muhando
8. The Structure of Marine Fish marketing in Kenya: The Case of Malindi and Kilifi Districts – Andrew Wamukota
9. Intertidal Rock Pool Fishes in the Natural Reserve of Glorieuses Islands (Western Indian Ocean) – P. Durville and P. Chabanet
10. A cost effective light trap for sampling tropical fish and crustacean larvae – James M. Mwaluma, Boaz Kaunda-Arara, Melckzedek K. Osore, and Joseph Rasowo



Deadline for the Second MASMA Climate Change Call fast approaching!

The deadline for submission for full project proposals on any of the WIOMSA priority research topics- excluding coral reef and reef-based fisheries- is set for 21 April, 2010. On March 13, 2007, WIOMSA through the MASMA Programme announced the second Call inviting full proposals to be submitted for Commissioned research on climate change. The decision to announce the second Call was reached by the MASMA PC in realization that most of the proposals selected for evaluation in the first Call were mainly focusing on research related to coral reefs or coral reef-based fisheries. Get your proposals in before then!

New Members Appointed to MASMA PC

The MASMA Program Committee is pleased to welcome on board four new Members; Professor Kassim Kulindwa; Associate Professor Ron Johnstone; Professor Adriano Macia and Dr. Noeline Rakotoarisoa. The new PC members were appointed by the WIOMSA Board of Trustees during the extra-ordinary Board meeting held in November 2009.



Professor Kassim Kulindwa is an economist and senior researcher at the University of Dar es Salaam. He studied in Tanzania (University of Dar es Salaam), Canada (University of British Columbia) and Sweden (Gothenburg University). He has more than 27 years work experience and has done extensive research on natural resources and the environment with a focus on sustainable development issues, poverty reduction and livelihood issues in Tanzania. These include sustainable resources use and resources management of fisheries, forestry, water resources, wildlife and minerals. Environmental issues including wetland values and the economics of climate change.

Presently he is involved, together with several other team members, in a long term NUFU funded research project on the Mafia Island (including the Marine Park) in Tanzania, on a research titled, 'Coastal fisheries of Tanzania: the challenges of globalisation to resource management, livelihoods and governance' where he especially focuses on resource use by local communities with a focus on marketing and value chain analysis of the small scale fishing communities fish business with the objective to find the best way small scale fishing communities could benefit from the fisheries resources around them in a sustainable way.

Kassim has been the Associate Dean, Research and Publications, University of Dar es Salaam, Acting Dean, Faculty of Humanities and Social Sciences, Dar es Salaam University College of Education. He was also a Board Member at the Centre for Environmental Economics and Policy in Africa, (CEEPA) University of Pretoria in the Republic of South Africa where he is now a member of the Research Committee. Further, he is a member of several associations including the Tanzania Coastal and Marine Forum, the International Society for Ecological Economics (ISEE), the African Society for Ecological Economics Board (ASEE) and advisory National Committee Member, East African Marine Eco-region-(EAME).



Associate Professor Ron Johnstone heads a research team engaged in coastal ecosystem function, sustainability and management projects for the University of Queensland, Australia. Prior to his current position, A/Prof Johnstone served as deputy director of the Centre for Marine Studies at the University of Queensland for 5 years, as well as the Assessment and Monitoring theme leader in the Coastal CRC, and as a member of the scientific advisory committee for CRC Reef. He has a long professional history in coastal nutrient and ecosystem function research, as well as in the communication of science to the community, government, and private sector bodies. In addition, A/Prof Johnstone has a longstanding international reputation in his field, having spent approximately 20 years undertaking CZM research and project management in over 13 countries on behalf of government and international donor agencies including IOC-UNESCO, Sida, and the World Bank.

Johnstone's current work within Australia focuses on the understanding of benthic habitats, with an emphasis on nutrient processes and dynamics in coastal ecosystems. This includes aspects such as the influence of land-based inputs on coastal ecosystem function and its influence on specific outcomes such as toxic algal blooms. His current international projects include work in Vietnam, Laos, Cambodia, and Tanzania funded by international donors. The focus in this work is climate adaptation and the ecosystem elements underpinning this.

Ron is affiliated to the following Professional Associations: IOC-UNESCO/World Bank Targeted Working Group on Global Coral Bleaching; Scientific Advisory Committee – CRC Reef; Executive Management Group for the CRC in Coastal Zone, Estuary, and Waterways Management; Council Member of the Australian Coral Reef Society. Ron has also served as member on the WIOMSA Board of Trustees.



Professor Adriano Afonso Macia Junior is an Assistant Professor in Marine Ecology, University of Eduardo Mondlane (UEM) in the Department of Biological Sciences. He studied in Mozambique (UEM) and in Sweden (Goteborg and Stockholm Universities). Adriano is a Marine Ecologist with vast experience in coastal zone studies (ecology of fish and invertebrates of the intertidal/sub tidal areas, mangroves, seagrass and coral reefs); including prawn stock assessment. His area of interest is the nursery function of coastal habitats such as mangroves, seagrass and intertidal flats for

commercial juvenile penaeid shrimps and fish for conservation and management purpose, (also includes the understanding of the connectivity between these coastal ecosystems).

Adriano lectures Marine Ecology & Scientific Methods for undergraduate students, Scientific Writing and Publication and Advanced Marine Ecology and Coastal Biodiversity and Conservation for graduated students (MSc) at UEM. He supervises local and foreign under and graduated students and is involved in teaching regional courses on Marine Ecology and Scientific Methods on Ecology in Namibia and Mozambique (Inhaca Island and Pemba). He teaches an international course on Tropical Ecosystems for PhD students from Goteborg University. He is also the Director of the Master Course in Aquatic Biology and Coastal Ecosystems at UEM. He has participated in the conception and implementation of regional research projects on coastal areas as well as acted as a local coordinator of EU projects such as: STD-3 "the interlinkages between coastal ecosystems" (mangroves, seagrasses, coral reefs and sandy beaches); as a partner and co-ordinator of the INCO-DC "Macrobenthos of the Eastern African mangroves: life cycle and reproductive biology of exploited species; as partner and researcher in Catchment 2 Coast project involving research of the anthropogenic influences on the Incomati catchment area on commercial shrimps and mangrove health in Maputo Bay. He participated in "The ecology of Inhaca Island"- funded by NORAD for management of Inhaca Marine and terrestrial Reserves. He was also recently the UEM Local coordinator for the regional TRANSMAP project "Transboundary Network for Marine Protected Areas for Integrated Conservation and Sustainable Development: biophysical, socio-economic and governance assessment in East Africa" with the aim of developing a scientific knowledge for creation of transboundary networks.



Dr. Noeline Raondry Rakotoarisoa is the Programme Specialist for Ecological Sciences in UNESCO Regional Office for Science and Technology in Africa (ROSTA) at the UN Headquarters in Nairobi, Kenya. She has a PhD in Plant Ecology from the University Paul Sabatier, in Toulouse, France. Noeline R. Rakotoarisoa returned to Madagascar in 1984; having spent most of her life outside her country. As a Plant Ecologist, she has been a Researcher and Lecturer at graduate and post-graduate level in Science Faculties of the Universities of Mahajanga (1984-1993) and Antananarivo (1993-2000); serving as the Assistant

Dean and then Dean (1996). As the first Dean of the faculty, she was involved in the creation of the Natural Science Faculty at the University of Mahajanga between 1984 and 1987.

Noeline's passion is in contributing to the in fight to alleviate poverty while conserving Biodiversity. She also has an interest in Sustainable Development issues and it is through this that she discovered the UNESCO Man and the Biosphere Programme. From 1984 to 2000, she coordinated UNESCO/MAB programme in Madagascar, acquiring strong experience in project planning and management. In particular, she was in charge of the Mananara Biosphere reserve project and contributed to the success of the project and to insure the sustainability of its management model. In 2000, she joined UNDP as the Programme Officer in charge of Environment and Rural development; working closely with national authorities and institutions in the framework of the second Environmental Plan of Action especially in designing policies in the area of Natural Resource management (coastal, marine and terrestrial), through ICAM-management transfer to communities. Her international career with UNESCO took off in 2004 when she took up a post in Dakar, Senegal and then in Nairobi where she has worked since June 2007; in charge of the implementation of UNESCO ecological programmes in Africa.

Launching the ReCoMaP Pond in Mbuo, Mtwara, Tanzania. By Aviti Mmochi

The mood was festive in Mbuo village (date) as the villagers lead by the Ushirika Cooperative waited for the guest of honour, the District Administrative Secretary for Mtwara District Mr Lucas Kambelenje, to take the scissors to cut the ribbon; officially launching the 1st modern commercial milkfish pond in Mtwara and Lindi Regions (fig. 1). This was a culmination of the first year of the Regional Programme for the Sustainable Management of the Coastal Zones of the Countries of the Indian Ocean that was awarded to WIOMSA and is being executed under coordination of Dr. Aviti John Mmochi of the Institute of Marine Sciences of the University of Dar es Salaam. The program has successfully trained 66 fish farmers and fisheries officers to become extension officers and provide outreach services. The Project with three stations namely Mtwara/Lindi, Pemba and Tanga, has trained 22 extension officers in each station.

The training was both theoretical and practical. The theoretical part was done using and testing a Swahili manual for milkfish farming with 4 chapters namely 1. site selection and pond construction, 2. pond preparation and stocking, 3. pond management and feeding and 4. harvesting, storage, processing and marketing. The practical part involved actual site selection and pond construction and management. The pond in question is 1 ha in size, divided into six small ponds (fig. 2). The pond is already stocked with

15,000 milkfish fingerlings and 5000 prawn post larvae. The manual used for the training will be published as part of the ReCoMaP project.

The launching was decorated by Makonde traditional dance “sindimba” and green and white T-shirts with ReCoMaP, WIOMSA and University of Dar es Salaam logos and the words “Tujikomboe na Umaskini Kupitia Ufugaji wa Samaki” translating to “Lets liberate ourselves from poverty through fish farming”. Aye, that was just the beginning of the fun as one of the new extension officers had just harvested fish from his pond at the nearby village of Ndumbwe! (fig.3). Knowing this in advance, we first facilitated him to visit Pride FM radio station, the most popular in the region, where he was interviewed on milkfish farming process and prospects. The interview was followed by a lot of questions from callers and indeed quite a number of people attended the launch party and bought his fish after listening to the radio show.

As if this was not enough, we took the opportunity to buy some fish from Mr Yahya and facilitated the ladies in Mbuo to cook a milkfish rice meal which was then distributed to all the people who attended. As is traditionally African, the guest of honour was awarded the biggest milkfish; half a kilo. Knowing that the bigger the milk fish, the more bones it has, what was I do to- serve our guest

more bones than flesh? I quickly intervened by requesting the ladies to give him an additional smaller fish and confided to the guest of honour to start with the smaller fish! The bone debate aside, milkfish is delicious and every body was very happy. Mr Yahya harvested 683 kg (1649 fish with an average weight of 0.426 kg) of fish from an area of 1600 m² (0.430 kg/ m² or 4 tons/ha) and sold them at one million six hundred and two thousand five hundred equivalent to ten million per ha.

We also took the opportunity to launch the milkfish farming manual that was developed by WIOMSA through the Sustainable Coastal Communities and Ecosystems (SUCCESS). We took some time to explain the economics of milkfish farming which was really appreciated by bankers that participated in the ceremony and who promised to try and convince their respective banks to include mariculture in their list of economically feasible projects

During the launching in October 2009, I was pleasantly surprised to find out that for the one year of the project the number of ponds had increased tremendously from a mere 6 ha to 24 ha (Fig. 4) the highest growth rate in Tanzania. We are now anxiously waiting from for the harvests not only from the ReCoMaP demonstration ponds but also the associated ponds by training and partial support.



Fig. 1 Launching of the ReCoMap Pond



Fig. 3 Fish harvested from Ndumbwe being sold at Mbuo during the launching

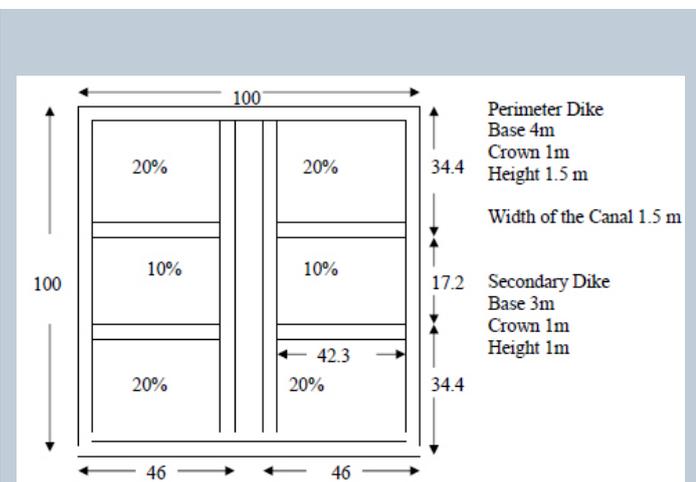


Fig. 2 Sketch drawing of the 1ha milkfish demonstration pond

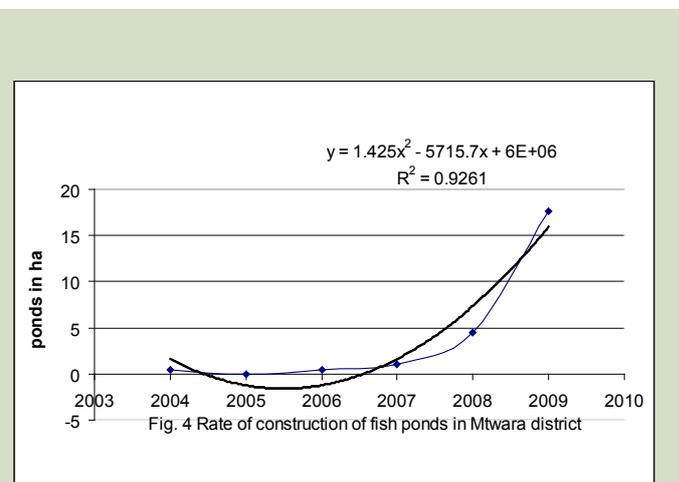


Fig. 4 Rate of construction of fish ponds in Mtwara district

NEMC hosts first MEDA stakeholders workshop for ASCLME Project

Tanzania's National Environment Management Council (NEMC) hosted the first national Marine Ecosystem Diagnostic Analysis (MEDA) Stakeholders' Workshop on 22nd March, 2009 at the Giraffe Ocean View Hotel in Dar es Salaam. The Workshop was formally opened by the NEMC Director of Environmental Planning and Research, Mr. Ruzika Muheto and attended by 37 participants including the MEDA experts, representatives from Tanzania Government, WIOMSA and regional projects/programmes such as WWF, SWIOFP and ReCoMap, environmental scientists, sociologists and various other stakeholders.

In his opening remarks of the Workshop, Mr. Muheto underscored the significance of the ASCLME Project operating in Tanzanian waters in particular and the western Indian Ocean in general. The Director pointed out that the main task in the day's event should be to enrich the presentations that have been compiled by the various thematic experts and align them devoid of duplication and other errors so that when the reports are incorporated into the subsequent stages of the Transboundary Diagnostic Analysis (TDA) and the Strategic Action Plan (SAP), these will be wholesome.

Before inviting the MEDA experts to make their respective presentations, the Tanzania National Focal Point Leader of the Project, Ms Rose Sallema Mtui gave a brief introduction highlighting the purpose of the ASCLME project and its close collaboration with other GEF/World Bank funded Projects – the South Western Indian Ocean Fisheries Project (SWIOFP) and the project on addressing land based sources of pollution in the Western Indian Ocean region (WIOLaB). She presented the background of the ASCLME Project and described how the orientation of the two ocean currents defines the Somali and Agulhas LMEs in perspective.

The MEDA Coordinator, Dr. Desiderius Massalu, presented the MEDA format. He reminded the participants that all countries participating in the ASCLME Project already possess substantial data and information, which unfortunately, are often scattered and not always easily retrievable. It is for this reason that the ASCLME Project emphasizes on archiving in national data centres for the ongoing benefit of countries, and for the purpose of building country ownership of the TDA/SAP process. In supporting participating countries to work together to develop TDAs and SAPs, the ASCLME Project encourages this diagnostic analysis as a national activity for each of the countries to develop a comprehensive document. This will be an integrated resource combining up-to-date, comprehensive state-of-the-environment information together with a causal chain analysis, diagnostic of coastal livelihoods, cost-benefit analysis of possible interventions and a monitoring and indicator assessment programme.



Workshop Banner.

Once complete, the MEDAs will form the factual basis of each country's contribution to the regional TDAs. MEDAs will capture essential information related to the dynamic biophysical

processes that define the LMEs, and identify areas of concern that will feed into the TDAs, and the SAPs. As such, they are fundamentally important to the success of the ASCLME Project.



Participants.

The Tanzania MEDA experts made detailed presentations concentrating mainly on the following:

- Biophysical environment comprising physical oceanography, chemical and biological oceanography, coastal zone and the continental shelf, microfauna, meiofauna and macrofauna. By Y. Shaghude, S. Sadri, S. Mahongo & D. Shilla
- Human environment comprising the population, health and infrastructure. By R. Lokina
- Economy and coastal livelihoods comprising tourism, mineral extraction and fisheries activities. By V. Haule
- Planning and management including disaster management, sensitivity mapping and monitoring. By V. Makota

After the thematic presentations, the participants made several comments and suggestions and also proposed a number of changes, which will be most useful in enriching the MEDA. In particular, the Director of Tanzania Coastal Management Programme (TCMP) Mr. Jeremiah Daffa urged the experts to use recent data, cite the facts and add foot note to explain any discrepancies.

On closing the workshop, the Head of the Tanzania Marine Parks and Reserves Unit Mr. Abdillah Chande, thanked all the participants for their intellectual input. He informed them that the MEDA will also contribute nationally scoping relevant publication and information resource for the management of Tanzania's coastal and marine ecosystem.

Mr. Chande said, "Combined with the other MEDAs from the rest of WIO, what we have done here will add a new dimension to the management of the two LMEs by better understanding the overall state of the environment within each country".

The Agulhas Somali Current Large Marine Ecosystem (ASCLME) is a five years Project operating in nine countries of the western Indian Ocean (WIO) region but Somali is not a direct beneficiary. The Project aims to ensure the long-term sustainability of the region's living resources by introducing an [ecosystem-based approach to management](#). The Global Environmental Fund (GEF) provides the funding for the ASCLME Project along with co-financing from Country and other international partners. The United Nations Development Programme (UNDP) is responsible for implementing the Project while United Nations Office for Projects Services (UNOPS)

BV celebrates its 50th Expedition in Madagascar!

In celebration of Blue Ventures' 50th volunteer expedition to Andavadoaka, Madagascar, a celebratory open day was held on 21st November 2009. After six years in Madagascar, and 12 months of recent political instability that have affected the work of many NGOs throughout the country, Blue Ventures was proud to be able to celebrate such an important achievement.

The village of Andavadoaka was invited to the BV research centre to participate in educational games, competitions, and to see presentations and posters of the projects supported by BV. Visitors also experienced on-land demonstrations of the underwater survey methods used by staff, volunteers and Velondriake community scholars to monitor the coral reefs within the Velondriake Marine Protected Area (www.livewiththesea.org). Representations of fish and coral surveys were constructed, and Velondriake scholars and volunteers were on hand to explain the conservation relevance of Blue Ventures' marine research to community members.

A pirogue (local dugout canoe) race was held from Andavadoaka beach to Nosy Fasy – a small sand cay - and back, a distance of approximately 6 km. A team from

Ampasilava were the clear winner, and Flora, a volunteer onboard the victorious pirogue, was suitably impressed with the skills of her Malagasy helmsmen. In the early evening, a quiz was organised on conservation within the region, before the prize giving for the pirogue race.

Blue Ventures looks forward to continuing its work with the communities of Madagascar and expanding its support for community-led marine conservation programs.



Open day scuba barrels, © Blue Ventures

The Art of Science; the Science of Art: Scientists and pupils crossing new frontiers



© T. Joyeux (Oceanopolis)

Video Conference

Reunion is a remarkable island, renowned for the variety of its shoreline landscapes from lava flows to coral reefs, steep cliffs to its white sandy beaches. But how do children from Reunion Island perceive their coast in the early 21st century? What does it mean to them? Reunionais children are getting the opportunity to express their perception of the Island and its shorelines by taking part in an art drawing contest that is open to primary school children of 9 years.

Organized by the Marine Reserve of Reunion Island, the Regional education authority, IRD, Aquarium of La Reunion, private and other institutions; the drawing contest is the brain child of Dr. Gilbert David and Dr. Pascale Chabanet of IRD. It is one of several activities meant to promote the exchange between arts and sciences that was initiated during the Sixth WIOMSA symposium in 2009. The contest hopes to demonstrate how the

shoreline environment, that is very important for islanders, has changed in these last few decades due to natural or human activities.

The competition was to close in December 2009 was extended to the 1st of April 2010 to enable more children to participate. So far 20 magnificent drawings have been received and the best 12 will be displayed in an exhibition at the Aquarium in Reunion (L'Aquarium de la Réunion) between June and July 2010 and at the Reunion Science Festival- part of the National French Festival- in October 2010. Attractive prizes are on offer for the winners and their schools. First and second place winners and their respective classmates will be treated to a visit of the Marine Reserve aboard "le Grand Bleu" which is a glass bottomed boat. They will also visit L'Aquarium de la Réunion. Scientists will accompany the pupils on these visits. The third place winner's class will get entry tickets for L'Aquarium de la Réunion on coral reefs and fishes.

Dr. Chabanet intends to make the interaction between scientists and children a regular program and extend it to cover the entire WIO region. She has already set the interaction in motion in Reunion, where in September 2009; excited Reunionais pupils were linked via video-conference to pupils in France the metro pole at the Aquarium Océanopolis in Brest, France. Other plans include the development of a pedagogic calendar, from the best drawings, in English and French for schools in the region.



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Pupils eager for Pascale's autograph.



Buhlemvelo Mussle Committee Members- Richard's Bay- South Africa.



Max Troell closing up on a wild herb.



Ineffective Camouflage © M. Osore



Sand Mining



Ian Bryceson Capturing a bird's eye- view in Richard's Bay.



Enjoying barrel scuba Diving. © Blue Ventures



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Pascale & her charges smile for the cameras.



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