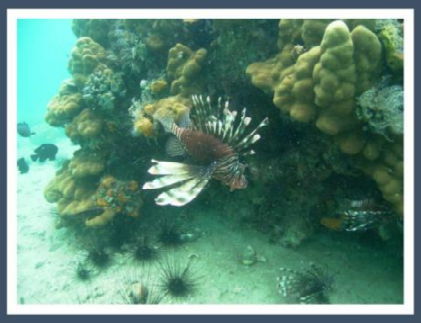
United Republic of Tanzania









Legal and Institutional Framework for Effective Management of Marine Managed Areas in Tanzania

Report on Mainland Tanzania

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Report on Mainland Tanzania

Marine Parks and Reserves Unit
Division of Fisheries
Ministry of Livestock & Fisheries Development
United Republic of Tanzania

2012

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Authors:

Mwita M. Mangora
Mwanahija S. Shalli
Bernice McLean
Heche Suguta

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2012

Executive Summary

Background: Countries around the world are increasingly becoming aware of the need to protect and especially to manage the coastal and marine resources. In Tanzania, the government's commitment is both state sponsored and through bilateral agreements with international donor agencies that advocate sustainable development through sustainable management of natural resources. To fulfil this commitment, a number of initiatives have been commissioned in Tanzania over the last couple of decades. One of these initiatives is exemplified by the Blueprint 2050 which substantially reviewed and drew a road map of management of coastal and marine resources for the present and the coming couple of decades. The Marine and Coastal Environment Management Project (MACEMP) was crafted as one of the various efforts to realizing this vision. This comprehensive project aimed at strengthening the sustainable management and use of coastal and marine resources in the territorial seas and Exclusive Economic Zone (EEZ). The objectives of MACEMP was to enhance revenue collection, reduced threats to the environment, better livelihood for coastal communities and improved institutional arrangements for effective management of Marine Managed Areas (MMAs) in the country. MACEMP extended its support to the legal and institutional structures so that effective management of MMAs is realized through establishing a supported comprehensive system of MMAs in the territorial sea built on Integrated Coastal Management (ICM) strategy that empowers and benefits coastal communities.

Objectives: The aim of this task was to study the legal and institutional framework and make recommendations for effective management of marine managed areas in Tanzania. This report has as a point of departure, a synthesis report on options for a national system of MMA networks for the United Republic of Tanzania, as well as a report on the legal and institutional framework for MMA management in Zanzibar.

Findings: This report presents an analytical review from a study of the legal and institutional framework for MMAs in the mainland Tanzania for effective management of MMAs in the country. The documentation reviews field consultations with policy and decision makers, conservation practitioners, local communities and private investors on the existing legal and institutional framework. It assesses how these can be improved to enhance effective management and conservation of coastal and marine resources for sustainability in development through amalgamation of various models including legally stated MPAs, and other community-based conservation MMA arrangements where applicable.

The review revealed that coastal and marine resources in Tanzania are under increasing threats due to ever increasing numbers of resource users with competing interests. It is from this understanding that a number of coastal and marine resource management initiatives have been advocated and implemented in the last couple of decades in Tanzania. To address these threats, the concept of MMAs in Tanzania is coined within an ecosystem-based management approach that covers different models of protection for biodiversity conservation, resource management for sustainable biological productivity, ICM and adherence to regional and international conventions on conservation practice. In mainland Tanzania specifically, conservation and management initiatives of coastal and marine resources are governed by three main legislative mechanisms: the Fisheries Sector Policy and Strategy Statement of 1997, Fisheries Act of 2003, and MPR Act of 1994. At present MMAs in Mainland Tanzania are divided in two major forms namely; Marine Parks and Reserves commonly referred to as MPAs, which are legally binding forms of protection, and Integrated Coastal Zone Management (ICZM) initiatives that include various forms of collaborative fisheries and mangroves management arrangements. Institutionally, the Fisheries Act of 2003 provides for the formation of village marine resources management units namely, Beach Management Units (BMUs).

Although the overall management of MMAs in the country is generally considered to be positive, challenges do exist to effective enforcement of both legal and community-based (collaborative) MMA agreements. For instance, there is a lack of a common vision and mission for the systems of MMAs in the country. The over-riding trade-offs involve issues of resource management, resource use patterns, and poverty reduction. As such misconceptions and misunderstanding are common between stakeholders and even partners in conservation. Legal and institutional frameworks need to be designed to reflect these challenges and may require specific mechanisms to address them. Some operational challenges involve the focus on fisheries resources and industry for development rather than biodiversity conservation and the lack of explicit legal provisions for co-management arrangements. While understanding and recognition of the importance of involving local communities in conservation and management is growing, several problems still exist as a result of conflicting interests among stakeholders and overlapping jurisdictions over marine resources among government institutions and agencies. The institutional framework for MMAs in Mainland Tanzania is both multi-sectoral and multi-scaled across the central government and local government authorities.

Conclusions: This review of the legal and institutional framework for MMA management in mainland Tanzania highlights a variety of key challenges. The existing framework does not explicitly cater for management objectives of different management models of both formal and informal MMAs. Although there is a general positive trend in the reform and development of laws and policies at the national level to support ICM and MPAs, most of the legislative provisions are essentially still sectoral and largely uncoordinated. Options for

addressing the challenges in the current legislation include: i) modifying/harmonising some of the legal instruments for MMA management; and ii) establishing a mechanism for coordination of different authorities, organisations and community groups around MMA networking. Developing an overarching ocean policy that would provide impetus and means for enabling greater cohesion in marine management by mainland Tanzania, may be useful. The development of policy, can however, be a costly and extended process and may be less practical than development of a strategy for supporting practical implementation. The synthesis report that informs both this report and the Zanzibar MMA report, proposes the initiation of a process for development of a framework to establish a National Network System. Such a framework would provide an overarching strategy and vision for managing the country's MMAs as a cohesive whole rather than on an isolated, ad hoc manner.

The absence of clear mandates among institutions reduces the effectiveness of coastal and marine management as institutions largely operate in an isolated manner. This fragmented operational system results in a climate of uncertainty and inconsistency in law enforcement. Lack of coordination and cooperation among government institutions further hampers the process of promoting integrated fisheries, coastal, and marine resources management often results in conflict among stakeholders. Conflicting power relations and competing sectoral jurisdictional interests were apparent during field consultations. Outside the legal frameworks, other arrangements such as the formation of committees to oversee the management of collaborative management areas in non-MPA areas were reportedly acceptable as they received support from communities. It is recommended that establishment of technical forums would be relevant to serve as coordination arms to address sectoral legal conflicts amongst different authoritative institutions at all administrative levels.

Stakeholder consultations for this study revealed a lack of implementation of a common vision and mission for the systems of MMAs in the country. The MMAs are currently managed on an individual basis rather than as a cohesive network. While the network approach is a relatively recent phenomenon and while the country is still grappling with managing existing areas effectively, it would be useful to develop a framework providing overarching guidance for selecting MMAs and managing them as a cohesive whole.

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Acronyms

AC	Advisory Committee
APAI	African Protected Areas Initiative
BMU	Beach Management Unit
BoT	Board of Trustees (for MPRU)
CBD	Convention on Biological Diversity
CBFM	Community Based Forest Management
CCC	Central Coordinating Committee (for TCZCDP)
CFMA	Collaborative Fisheries Management Area (for RUMAKI)
CITES	Convention on International Trade in Endangered Species
CMAP	Collaborative Management Area Plan (for TCZCDP)
CMA	Collaborative Management Area (for TCZCDP)
DFB	Division of Forest and Beekeeping
DMRs	Dar-es-Salaam Marine Reserve systems
DSFA	Deep Sea Fishing Authority
EAME	Eastern African Marine Ecoregion
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
FAO	Food and Agriculture Organization
GEF	Global Environmental Facility
GMP	General Management Plan
ICM	Integrated Coastal Management
ICRAN	International Coral Reef Action Network
ICRI	International Coral Reef Initiative
ICT	Information and Communication Technology
ICZM	Integrated Coastal Zone Management
IUCN	International Union for Conservation of Nature
JFM	Joint Forest Management
KICAMP	Kinondoni Integrated Coastal Area Management Programme
LGA	Local Government Authorities
MAB	Man and the Biosphere
MACEMP	Marine and Coastal Environment Management Project
MBREMP	Mnazi Bay-Ruvuma Estuary Marine Park
MCU	Marine Conservation Unit
MIMP	Mafia Island Marine Park
MLHHSD	Ministry of Lands, Housing and Human Settlements Development
MMAs	Marine Managed Areas
MLFD	Ministry of Livestock and Fisheries Development

MNRT	Ministry of Natural Resources and Tourism
MoU	Memorandum of Understanding
MPA	Marine Protected Area
MPR	Marine Parks and Reserves
MPRA	Marine Parks and Reserves Authority
MPRU	Marine Parks and Reserves Unit
NBSAP	National Biodiversity Strategy and Action Plan
NEMC	National Environment Management Council
NEP	National Environmental Policy
NEPAD	New Partnership for African Development
NGO	Non Government Organization
NICEMS	National Integrated Coastal Environment Management Strategy
NSGRP	National Strategy for Growth and Reduction of Poverty
PA	Protected Area
PRSP	Poverty Reduction Strategy Paper
REMP	Rufiji Environmental Management Project
RUBADA	Rufiji Basin Development Authority
RUMAKI	Rufiji-Mafia-Kilwa
TACMP	Tanga Coelacanth Marine Park
TANAPA	Tanzania National Parks Authority
TCMP	Tanzania Coastal Management Partnership
TCRC	Tanga Coastal Resource Center
TCZCDP	Tanga Coastal Zone Conservation and Development Programme
TMRs	Tanga Marine Reserves System
TSEEZ	Territorial Sea and Exclusive Economic Zone
U.S	United States
UK	United Kingdom
UNCLOS	United Nation Convention on the Law of the Sea
UNDP	United Nation Development Programme
UNESCO	United Nations Education, Science and Culture Organization
VEC	Village Environmental Committee
VLCs	Village Liaison Committees
VPO	Vice Presidents Office
WCPA	World Commission on Protected Areas
WIO	Western Indian Ocean
WWF	Worldwide Fund for Nature

1 Introduction

1.1 Background to the study

The Rio 1992 Agenda 21 and Johannesburg 2002 Earth Summits on Sustainable Development set the roadmaps for parties to adhere to the international consensus on sustainable development. The central advocacy theme resulting from the two summits holds that poverty alleviation and conservation of natural resources are essential for sustainable development to be achieved. Since then, countries have become increasingly aware of the need to protect and especially to manage the coastal and marine resources (Kelleher 1999; IUCN-WCPA 2008). There is a realization that creating wealth today without ensuring the protection of marine resources for future generations will put the created wealth on line (Ruitenbeek et al. 2005).

A feature of developing countries, including Tanzania, is the dependence of the poor on natural resources for their livelihood. It is essential therefore, to mainstream environmental sustainability into poverty reduction efforts. In Tanzania, efforts towards realizing this commitment are articulated in the Tanzania Development Vision 2025 (Planning Commission 2000), Poverty Reduction Strategy Paper (PRSP) of (URT 2000), and National Strategy for Growth and Reduction of Poverty (NSGRP) (VPO 2005). The government's commitment is both state sponsored and through bilateral agreements with international donor agencies that advocate sustainable development through sustainable management of natural resources. The fourth National Report on Implementation of the Convention on Biological Diversity (CBD) (VPO 2009), suggests commendable progress in conservation initiatives both from the government and in partnership with local and international conservation agencies, NGOs and programmes. With regard to these developments, a number of coastal and marine resources management and conservation initiatives have been commissioned in Tanzania over the last decade.

In 2004, the World Bank commissioned a study across 24 coastal villages in mainland Tanzania and Zanzibar to assess the relational role of Marine Protected Areas (MPAs) in poverty alleviation (World Bank, 2004). This study provided baseline information on socio-economic variables in coastal MPAs areas and in areas where potential for future MMAs existed. It explored the links between the coastal and marine environment and poverty and identified long-term management options for poverty alleviation through community-driven coastal and marine resources management. Results showed little difference in poverty levels between fishing households that are in or near MPAs and those outside of MPAs.

The establishment of MMAs does however, appear to have a significant impact on poverty rates among those households that can benefit from the alternative employment opportunities generated. The study further provided insight into the importance of poverty reduction and livelihoods in conservation of coastal and marine resources, contrasting with arguments that question the relevance of incorporating poverty and livelihoods agendas in

conservation. For example, Terborgh (1999), Oates (1999), Kramer et al. (1997) and Brandon et al. (1998) argue that conservation programs are diluted by strategies that promote community development embodying socio-economic issues, and that foster greater local participation in decision-making. In contrast though, IUCN-WCPA (2008, p 3) provide a list of benefits that can be accrued from appropriately placed and well managed MPAs. This supports Pollnac et al. (2001) who found from a case study of MPAs in the Philippines, that integrating conservation with promotion of livelihood opportunities significantly improves the success of MPAs.

The publication "Blueprint 2050" by Ruitenbeek et al. (2005) undertook a comprehensive review coastal and marine resources and outlined a road map for improved management for the coming decades. It set out the Vision for sustaining the marine environment in Tanzania stating in the preface that: "Blueprint 2050 provides us with an opportunity for reflection and strategic visioning on the sustainable use of our coastal and marine resources which are vital to the economy of Tanzania" (Ruitenbeek et al., 2005, p v). This vision presents a commonality of purpose towards to protecting and managing the country's coastal and marine ecosystems in an ecologically, socially and financially sustainable fashion that alleviates poverty and respects the political and institutional realities in the country. The Marine and Coastal Environment Management Project (MACEMP), was crafted as one of the various efforts to realizing this vision. This comprehensive project aimed at strengthening the sustainable management and use of coastal and marine resources in the territorial seas and Exclusive Economic Zone (EEZ).

Anticipated objective results of the MACEMP would be enhanced revenue collection, reduced threats to the environment, better livelihood for coastal communities and improved institutional arrangements that will enhance effective management of Marine Managed Areas (MMAs) in the country. The 10-year programme also envisaged establishment of a system of networks of MMAs as a means of achieving sustainable use of marine and coastal resources. Under MACEMP, the Marine Parks and Reserves Unit (MPRU), the government unit charged with overseeing the legal establishment and management of MPAs has been implementing activities under project's Component 2: Sound Management of the Coastal and Marine Environment. The objective of this project component is to establish and support a comprehensive system of MMAs in the territorial sea built on Integrated Coastal Management (ICM) strategy that empowers and benefits coastal communities.

In order to develop effective management for MMAs, there is a need to strengthen the legal and institutional framework of the operational bodies charged with overseeing the establishment and management of both formal marine protected areas and community based conservation arrangements. In particular, the MPRU and Fisheries Division in partnership with concerted conservation donor agencies, NGOs, and the private sector as appropriate. The primary legal and institutional entities referred to here are the Fisheries Act of 2003 and the Marine Parks and Reserves (MPR) Act of 1994, which provided for the establishment of MPRU under the Division of Fisheries Development in the Ministry of Livestock and Fisheries Development. Currently, the MPRU is in the process of undertaking proposed major reforms aimed at strengthening its institutional structure and management capability.

It has been proposed that the structure of MPRU be changed from a semi autonomous unit under the Division of Fisheries Development to an autonomous Marine Parks and Reserves Authority (MPRA) (Part I, section 1 of the proposed revision of Marine Parks and Reserves Act), that would efficiently incorporate co-management arrangements and network systems of MPAs.

The present study was commissioned to review the domestic legal and institutional framework and draw on lessons and best practices from within and outside the region that can be embraced for effective management of MMAs in the country. The documentation reviews and field consultations with policy and decision makers, conservation practitioners, local communities and private investors on the existing legal and institutional framework and how these can be shaped-up to enhance effective management and conservation of coastal and marine resources for sustainability in development through amalgamation of various models including legally stated MPAs, and community-based conservation arrangements were applicable are considered and presented in this report.

1.2 Description of Services

1.2.1 Objectives and Scope

The overall objective of this work was to review the legal and institutional frameworks in support of strengthening institutional capacity, legal back-ups, and advocating co-management approaches and networking of Marine Managed Areas (MMAs).

To accomplish this objective, the terms of reference required undertaking of the following activities:

1. Revision on the network of Marine Managed Areas (MMAs), focusing on management options, criteria for network and principles
    i. Review and draw lessons and best practices from the existing MMAs network system.
    ii. Identify and describe the ecological and socio-economic characteristics of the primary marine and coastal ecosystems in Tanzania.
    iii. Identify a set of management options for MMAs network system and other identified ecological system, which can be incorporated in the MMAs network system.
    iv. Examine to what extent the ecosystems should be managed as a network system (suggesting principles).
    v. Develop criteria and guideline for selection of MMAs network system including but not limited to the following:
        - Ecological connectivity
        - Social and economic connectivity
        - Fisheries management
        - Sectoral/institutional collaboration
        - Common goals
        - Potential for sharing research information and lessons learnt from MMAs within and outside the Western Indian Ocean (WIO)

vi. Draw experiences from other MMAs network systems within and outside the WIO region.
vii. Study on policies, legal and institutional basis for supporting MMAs network system in the country.

2. Revision on Co-Management Arrangements
   i. Review of the existing co-management approaches and structures (Beach Management Units (BMUs), Marine Parks, Marine reserves) in marine conservation.
   ii. Propose an effective collaboration approach in terms of empowerment and partnership.
   iii. Review the existing policies, legal and institutional basis supporting co-management approaches and propose areas for improvement.
   iv. Identify key stakeholders and develop criteria for setting boundaries of MMAs.

3. Revision on Institutional capacity and Strengthening Opportunities
   i. Develop and review of existing structures to facilitate execution of the MPRU Vision, Mission, and its implementation strategy.
   ii. Define roles and responsibilities in the proposed MPRU management structure
   iii. Develop a mechanism of MMAs to improve the management-stakeholders relations in the reviewed structure.
   iv. Review guiding policies, legal status in order to harmonise with international conventions and conservation protocols.
   v. Identify specific roles of MPRU and individual MMAs in relation to Local Government Authorities, partners and other stakeholders.
   vi. Identify capacity requirements in terms of human, infrastructure and equipment for the two institutions.
   vii. Propose financial mechanisms for sustainability of MPRU and individual MMAs.
   viii. Review and draw lessons and best practices from the existing relevant institutional structures, operational strategies and business plans for similar organs within and outside Tanzania, preferably in the Western Indian Ocean region.
   ix. Develop and recommend appropriate operational strategies and business plan to suit the needs of the MPRU.
   x. Identify and propose the number, positions and qualifications of staff required and their carrier development for realizing the operations of MPRU objectives.

1.2.2 Methodological Procedures and Activities

i. To undertake review of the relevant literature including but not limited to legislative documents, policy and strategy papers, management and action plans and reports, peer reviewed articles and books.
ii. To undertake consultations/in-depth interviews with key stakeholders including but not limited to; Fisheries Departments, MPRU and other Government agencies, Local Government Authorities, Community groups, resource users, private sector, local and international NGO's through individual and focused group discussions using semi-structured interviews/checklists. These consultations were to ascertain personal opinions and specific field practical experiences. A guiding set of issues/questions used during

consultations is presented in Annex 1. A complete list of visited sites and consulted stakeholders during May 2012 is presented in Annex 2.

During the course of this work, a significant amount of data was gathered. It was not within the scope of this report to use all of the data for as detailed an analyses of individual issues as would be sufficient to have a much focused understanding of particular legal and/or institutional issue relating to MMAs in the mainland Tanzania. Instead the data gathered is utilised to inform management decisions and planning by providing a current picture of the legal and institutional framework in place and practitioners' view on realities on the ground that can be utilised in strategic thinking and decision making for the better future of MMAs.

iii. To provide progress reports as per schedule of payments and whenever needed.
iv. Organize and facilitate stakeholders' workshop to discuss and reach consensus on the findings
v. Prepare and submit final report detailing the components within the scope of the work.
vi. Recommend on the best options for improved management of the combined MMAs network system (existing and identified ecological systems).

1.2.3 Outputs

This report contributes to the overall output of this consultancy work, which is to produce a combined synthesis (in a separate volume) together with that of Zanzibar on the management of MMAs in Tanzania.

2 Marine Managed Areas in Mainland Tanzania

2.1 Concepts and definitions

2.1.1 The IUCN guidelines

The International Union for Conservation of Nature (IUCN) through its World Commission on Protected Areas (WCPA) has been on the forefront in providing international guidelines on concepts, establishment, management and governance of protected areas (Kelleher 1999). Through a series of conferences, workshops, publications (scientific and technical reports and guidelines), the role of IUCN is internationally recognised (Kelleher 1999). Countries have striven to follow and adhere to the guidelines especially on the categorization and management regimes of their protected areas (an outline of this categorisation is provided in the associated synthesis report to this document). While IUCN guidelines are never binding, they have proved valuable in facilitating a global system of defining, recording and classifying protected areas and the wide variety of country wide specific aims they embody. National legislation have acknowledged and incorporated the guidelines. IUCN has strived to fulfil this purpose by means of:

- Alerting governments of the importance of protected areas;
- Encouraging governments to develop systems of protected areas with management aims tailored to national and local circumstances;
- Establishing universal terminology in describing protected areas in order to reduce the confusion which arises from adoption of many different classifications;
- Creating an international standard to help global and regional accounting and comparison between countries;
- Providing a framework for the collection, handling and dissemination of data about protected areas; and
- Improving communication and understanding between all those engaged in the conservation of protected areas.

2.1.2 Adoption at the country level

Coastal and marine resources in developing countries, including Tanzania, are under increasing threats due to ever increasing numbers of resource users with competing interests. Resource degradation and declining fisheries and other related coastal and marine resources are reported to have increased within the last 50 years (Crossland et al. 2005). Responding to the losses, and building on opportunities to manage the resources that

remain and support sustainable livelihoods have thus become urgent conservation and development objectives over the recent past.

This highlights the concept of ecosystem health in the management of MMAs from the practical perspective that ecosystems are affected by human activities, but also livelihoods and prosperity of the people depend upon the robust condition of the same resource systems (IUCN 1988). Application of this at the country level is varied. In the Blueprint 2050 (Ruitenbeek et al. 2005), the concept of MMAs in Tanzania is coined within such an ecosystem-based management approach. This is inclusive of different models of protection for biodiversity excellence, resource management for sustainable biological productivity, integrated coastal management (which simultaneously defines empowerment, livelihoods, and land-use planning) and adherence to regional and international conventions on conservation practice.

The newly adopted IUCN definition of a protected area (PA) (Dudley 2008), that it is "a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values". Conforming to this definition, MMAs in Tanzania have evolved as management tools to safeguard natural resources by restricting and/or controlling the activities and access to the resources therein through various arrangements including state legal frameworks for MPAs and locally or community-based arranged mechanisms governed by designated local by-laws and MoUs. Characteristically, whichever model is applied, it is being advocated to win the support and participation of local communities (Ruitenbeek et al. 2005; Sesabo et al. 2006).

In mainland Tanzania, legally based MPAs are established in the form of marine parks and marine reserves under the Marine Parks and Reserves (MPR) Act No. 29 of 1994. This Act is currently under review. The definition of an MPA within the existing MPR Act states that:

- "Marine Park or Marine Reserve" means an area designated as a marine park or marine reserve pursuant to section 8;
- 8.--(l) The Minister, may after consultation with the relevant local government authorities and; by a resolution of Parliament, and also by notice published in the *Gazette,* declare any area within territorial waters or exclusive economic zone or any island or coastal area to be a marine park if.....
- --*(1)* The Minister may, after consultation with the relevant local government authorities and by notice published in the *Gazette,* declare any area within territorial waiters or exclusive economic zone or any island or coastal area to be a Marine Reserve if.....
- (3) Notwithstanding the provisions of subsection (1), the Minister responsible for National Parks may after consultation with the relevant local government authorities; declare any marine park or any part of a marine park to be a national park in accordance with the provisions of section 3 of the National Parks Ordinance as long as that declaration provide specific assurance that.....
- (4) A marine park or reserve shall, unless specifically provided to the contrary in the notice of declaration of such an area or general management plan of the area,

include all submerged or dry land, waters, airspace, tideland, and subsoil within the area described.

The definition is slightly modified in the proposed revision of the Act to include fresh water bodies, the territorial sea and EEZ:

- "Marine Park or Marine Reserve" means an area designated as Marine Park or Marine Reserve either in fresh or marine water bodies pursuant to Section 15;
- 15.- (1) The Minister, may after consultation with the relevant local government authorities and by a resolution of Parliament, and by notice published in the *Gazette*, declare any area within territorial waters or Exclusive Economic Zone or any island or coastal area or any fresh water body to be a marine park or marine reserve, if;
  - (2) Marine park or marine reserve shall, unless specifically provided to the contrary in the notice of declaration of such an area or general management plan of the area, include all submerged or dry land, water, airspace, tideland and subsoil within the area described.

The MPR Act do not explicitly defined MPAs, rather the description given in the regulations of the MPR Act, provides for marine parks as relatively large multiple use zoned areas while marine reserves are smaller areas in which extractive use is prohibited. The Act in itself also provides for possibilities of transforming MPAs into national parks under the Tanganyika National Parks Ordinance, Cap 412 of 1959.

According to Dudley (2008), it is largely expected that the new IUCN PA definition described above supersedes the existing definition of an MPA. States are subsequently adopting the new PA definition and its practical application in order to gain the international recognition of their MPAs. In Tanzania, the MPR Act currently under review is practically proposing to accommodate this new PA definition (Part VI, section 15 of the proposed MPR Act revision) as described above.

Furthermore, a proposal for the MPRU that is proposed to change into Marine Parks and Reserves Authority suggests an extension of the jurisdictional mandate of the MPRU to inland water bodies/wetlands. This is ideally supported by the new IUCN PA definition, which is more inclusive of freshwater bodies than the previous one through the replacement of the key phrase of "*area of land and/or sea*" with "*a clearly defined geographic space*" which give room of coverage of protected areas that conserve inland water features like rivers and lakes. The challenge will be however, how the existing PAs within or linked to freshwater bodies under Tanzania National Parks Authority (TANAPA) are treated. It is important that this is explicitly provided for by the proposed revision of the MPR Act.

In practice however, one thing that the IUCN definition is silent on is whether MMAs should keep people out. This has remained a looming concern of local communities where MPAs are established in Tanzania with the perception that the major aim of MPAs is to exclude people in a range of modalities and scales from access and user rights on land and natural resources, livelihood diversification to medium and large investment undertakings by investors. Legal and institutional implications of the effective management of MMAs in Mainland Tanzania are analysed in the relevant sections below.

2.2 Coastal and marine resources

2.2.1 Physical and social ecological setting

The coast of Mainland Tanzania runs approximately North-South, stretching over 1424 km defined as a total length of the boundary between the land area (including islands) and the sea (World Factbook 2011) from Mahandakini village in Tanga on the northern border with Kenya to Ruvuma River estuary in Mtwara bordering Mozambique in the South. The territorial seas comprise 37000 km^2 in area. There are five coastal regions in the mainland: Tanga, Coast (including Mafia Island), Dar es Salaam, Lindi and Mtwara. Together they encompass an estimated 15% of Tanzania's land area and host about 25% of the population (with current estimate of population standing at about 40 million people).

This extensive coastal and marine environment is endowed with diverse, resource rich and important natural systems including coral reefs, seagrass beds, beaches, estuaries and extensive mangrove forests. Among the countries of Eastern Africa, Tanzania has the greatest reef area (3580 km^2; Spalding et al. 2001). The coastal communities rely strongly on these coastal and marine environments and the resources therein for their livelihoods as primary providers of both food and income.

High dependence on the coastal and marine resources for human uses, compounded with ever increasing population, has increased the pressure on coastal and marine resources from competing users with various interests. It is from this understanding that a number of coastal and marine resource management initiatives have been advocated and implemented in the last couple of decades in Tanzania (Samoilys and Kanyange 2008).

2.2.2 Resource status

The following specific briefs on the status of the coastal and marine ecosystems in mainland Tanzania are mainly drawn from the National Report on Implementation of Convention on Biological Diversity (CBD) (VPO 2009, p 24-31).

2.2.2(i) Fish Resources

The fish groups that dominate the marine demersal or deeper catch are bream, grouper, parrotfish, snapper, rabbit fish and emperor fish. Other species include octopus and lobster that are usually collected by hand from reef flats at low tide or by divers. Prawn and shrimps are mainly found in estuarine waters in the mouths of large rivers. Sea cucumbers and cockles are usually found gathered at low tide in the intertidal flats. The crab species are dominated by two species, both of which are of commercial importance. These are *Scylla serrata*, commonly known as the mud or mangrove crab and *Portunus Pelagius,* commonly known as blue swimming or sand crab.

2.2.2(ii) Coral Reefs

Fringing and patch reefs occur along much of the mainland coast that is dissected by the major river outlets and offshore islands. Mafia Island has extensive reefs, particularly in the South, many of which remain in good condition. Likewise there are many reefs around the Songo Songo Archipelago in good condition, especially those furthest from the mainland. Well-developed coral reefs are also found along the coast of Tanga in the North and Mtwara in the South.

2.2.2(iii) Marine Mammals and Sea Turtles

An outstanding diversity of marine mammals exists in Tanzania. The most commonly seen is the dolphin. However, there are other marine mammals such as whales and dugong, which are also known as seacows. Out of the ten species of dolphins found in the Western Indian Ocean, eight species have been reported in Tanzania waters. These are Indo-Pacific bottlenose dolphin (*Tursiops aduncus*), bottlenose dolphin (*Tursiops truncata*), Indo-Pacific humpback dolphin (*Sousa chinensis*), Spinner dolphin (*Stenella longirostris*), Pantropical spotted dolphin (*Stenella attenuata*) Risso's dolphin (*Grampus griseas*), rough-toothed dolphin (*Steno brendanensis*) and *Sousa plumbes* which is a subspecies of the Indo-Pacific humpback dolphin. They are typically found in Mtwara, Bagamoyo and Tanga areas. Humpback whales often occur off the Tanzanian coast between July and December along their migratory route to Antarctica.

Five species of sea turtles are found in Tanzanian waters: Green turtle, Hawksbill turtle, Olive Ridley turtle, Loggerhead turtle and Leatherback turtle. Two of the five species Green and Hawksbill are known to nest in Tanzanian waters.

2.2.2(iv) Sea grass beds

Sea grass beds are widely distributed in intertidal, and subtidal mud and sand flats, coastal lagoons and creeks, and in sandy areas around the bases of shallow, patchy and fringing reefs, particularly in the shallow waters around the Mafia and Songo Songo archipelagos. They are found in abundance in sheltered areas of the coast around Tanga, and tidal zones fronting the deltas of Ruvu, Wami and Rufiji rivers and around Kilwa. Thirteen species of sea grasses have been recorded in Tanzania.

2.2.2(v) Plankton

An estimated 265 taxa of phytoplankton are found in coastal waters around Dar es Salaam and 41 species of microalgae are found in coastal waters of Bagamoyo. Although Zooplankton is important in the marine food web, very little is known on its existence in the coastal waters of Tanzania.

2.2.2(vi) Mangroves

Mangrove forests occur in all the major river mouths of Pangani, Wami, Ruvu, Rufiji, Matandu and Ruvuma. The Rufiji delta supports the largest single mangrove forest in eastern Africa, covering about 53,000 hectares. Mangroves and shallow coral reef resources represent accessible open access resources for coastal inhabitants, which are highly diverse and productive.

2.2.3 Policy and legislation

Conservation and management initiatives of coastal and marine resources are governed by three main legislative mechanisms: the Fisheries Sector Policy and Strategy Statement of 1997, Fisheries Act No. 22 of 2003, and MPR Act of 1994. Other key supporting frameworks include the National Forest Policy of 1998, Forest Act of 2002, Wildlife Policy of 1998, and the Wildlife Conservation Act of 1974. These and other legislative tools as discussed in Section 3, are established to ensure that fisheries and other associated coastal and marine resources in Tanzania are developed with proper conservation and management measures, so that they are used at their optimum and sustainable yield, to achieve economic growth, human development, and employment creation, while maintaining a sound ecological integrity.

2.3 Types of Marine Managed Areas

2.3.1 The context

Marine Managed Areas (MMAs), include both formal MPAs classified under the IUCN categories of protected areas as well as other models of marine management as discussed in the associated synthesis report. MMAs are essential tools to conserve the biodiversity of the oceans and to maintain biological productivity, especially of fish stocks. At present MMAs in Mainland Tanzania can be classified as two major forms. The Marine Parks and Reserves commonly referred to as MPAs, which are legally binding forms of protection.

The second type includes Integrated Coastal Zone Management (ICZM) initiatives that cover various forms of management including ICZM interventions, collaborative fisheries management and mangrove management arrangements. The latter ICZM category of MMAs, generally empower communities to manage coastal and marine resources within and adjacent to their respective areas. Tanga Coastal Zone Conservation and Development Programme (TCZCDP) is iconic for this arrangement. Rufiji-Mafia-Kilwa (RUMAKI) seascape project under WWF also adopted this practice and largely shares the experiences and lessons from TCZCDP. Institutionally, the Fisheries Act of 2003 provides for the formation of village marine resources management units namely, Beach Management Units (BMUs). These are community-based formations of individual resource users at village levels.

The concept of BMUs has been drawn from around Lake Victoria where they have been functioning as foundations of the fishery co-management system focusing on efforts to increase compliance (Ogwang et al. 2009). Building on their success stories, BMUs have consequently been incorporated into the Fisheries Act No. 22 of 2003 to accord them with the necessary legal powers to exercise their functions. Collaborative Fisheries Management (CFM), while not formally recognised in the legislation, is an approach that is gaining ground in mainland Tanzania. This involves the promotion of collaboration among coastal communities through groupings of BMUs to manage a dedicated marine area.

2.3.2 Marine Parks and Reserves

Mainland Tanzania currently has three Marine Parks and 15 Marine Reserves (Table 1) established and gazetted under the MPR Act. The Marine Parks include Mafia Island Marine Park (MIMP), which was the first to be gazetted in 1996, Mnazi Bay-Ruvuma Estuary Marine Park (MBREMP) was gazetted in 2000 and Tanga Coelacanth Marine Park (TACMP) which is the youngest marine park, gazetted in 2009.

Table 1: MPAs and collaborative MMAs in mainland Tanzania

Marine Managed Area	Year established	Area (km^2)
Dar es Salaam Marine Reserves System (DMRs)		
(North: Mbudya, Bongoyo, Pangavini & Funguyasini)	1975	350
(South: Kendwa, Makatumbe, Sinda)	2007	58
Maziwe Island Marine Reserve	1975	2.6
Mafia Island Marine Park (MIMP)	1996	822
Tanga Coastal Zone Conservation Development Programme (TCZCDP)	1994 - 2004	1914
Rufiji Environmental Management Project (REMP)	1998 - 2008	
Mnazi Bay-Ruvuma Estuary Marine Park (MBREMP)	2000	650
Kinondoni Integrated Coastal Area Management Programme (KICAMP)	2000 - 2006	
Rufiji-Mafia-Kilwa (RUMAKI) Seascape Programme	2004	9000
Mafia Island Marine Reserves System (Nyororo, Shungimbili and Mbarakuni)	2007	21
Tanga Coelacanth Marine Park (TACMP)	2009	552
Tanga Marine Reserves System (TMRs)	2010	

The fifteen marine reserves include Dar-es-Salaam Marine Reserve systems (DMRs), which comprises six small island reserves of Bongoyo, Pangavini, Mbudya, Makatumbe, Sinda, Kendwa and one sand bank of Funguyasini. The DMRs are the oldest legally gazetted MMAs in Tanzania, dating back to 1975 under the then Fisheries Act of 1970.

Other marine reserves are Maziwe island located in Pangani district in Tanga which was declared in 1975, Nyororo, Mbarakuni and Shungimbili marine reserves located North of Mafia Island were declared in 2007. The most recently established marine reserves are the Tanga Marine Reserves which include a system of four small islands of Kirui, Mwewe, Kwale and Ulenge, North of Tanga declared in 2010.

2.3.2(i) Mnazi Bay-Ruvuma Estuary Marine Park

Mnazi Bay-Ruvuma Estuary Marine Park (MBREMP) is located in Mtwara Rural District, South of Mtwara town in southern Tanzania. MBREMP stretches over the last 45 kilometres of coastline to the Ruvuma River that form the border with Mozambique. It was officially declared a Marine Park through a Government Notice No. 285 on 4th August 2000. The Park covers a total area of 650 km^2. Unlike other MPAs in Tanzania and the east African region, MBREMP is unique for its high land to marine area ratio, which represents 33% (220 km^2 of land). It includes the northern portion of Ruvuma Estuary, and Mnazi Bay to the headland of Ras Msangamkuu. There are also three important islands of Namponda, Membelwa and Kisiwa Kidogo. Within MBREMP there are 11 villages and 8 sub-villages. The park is home to a population of over 30,000 people.

2.3.2(ii) Mafia Island Marine Park

Mafia Island Marine Park (MIMP) is the pioneer and the largest marine park in Tanzania established in 1996. The move to enact the Marine Parks and Reserves Act 29 of 1994 was driven by the legal need to gazette MIMP. It covers an area of 822 km² around the South end of Mafia Island inclusive of the inhabited small islands of Chole, Juani, Jibondo and Bwejuu as well as several uninhabited islets and the associated waters. Mafia Island and its chain of small islets lie approximately 120 km South of Dar es Salaam and 20 km offshore from the eastern extent of the Rufiji Delta. The main island of Mafia is about 48 km long and 17 km wide at its widest point, surrounded in the West and South by smaller islands and islets.

The huge Rufiji delta influences the biophysical ecosystem characteristics of Mafia Island ecosystem through supply of nutrients to the marine food chain. Its geographical region harbours complexes of estuarine, mangrove, intertidal flats, seagrass beds, coral reef and marine ecosystems containing important nesting grounds for sea turtles. Hence, the Rufiji-Mafia-Kilwa (RUMAKI) seascape programme by WWF and its potentially international recognition as a critical site for biodiversity and therefore a Ramsar site candidate.

The most recent biophysical survey undertaken on the western coast of Mafia Island, reveal that that the reefs in that area are degraded and measures should be taken to restore them to a higher level of productivity (Frontier, 2009). Surveys were also conducted into mangrove creek fish and intertidal species which found that intertidal harvesting of fish and invertebrate species for local consumption did not seem to produce many deleterious effects (Frontier, 2009).

2.3.2(iii) Mafia Island Marine Reserves System

The Mafia Island Marine Reserves were declared in March 2007. There are three distinct areas within this declaration based around the islands of Nyororo, Shungimbili, and Mbarakuni, which are located to the northwest of Mafia Island. These marine reserves are situated in the shallow stretch of water approximately 35 km off the coast of mainland Tanzania with a total area of 21 km^2. They face the Rufiji river mouth and are therefore heavily influenced by the outflow from this major river system (Frontier Tanzania 2010). A General Management Plan (GMP) has yet to be developed for the reserves and therefore management of the reserves is still on ad hoc patrol surveillance for enforcement through the MIMP.

The MPRU indicates that GMPs are in the process of being prepared. Studies on biophysical assessment of the three marine reserves and socio-economic survey of communities adjacent to the marine reserves have already been done by Frontier Tanzania (Frontier Tanzania 2009, 2010). These revealed the presence of species of high biodiversity importance (including important elasmobranchs) and the need for adjustment of the current demarcation of the reserves as In several cases the reserve areas are delineated in such a way as to omit areas of high ecological importance. The socio-economic survey revealed the importance of the Island of Nyororo as a stop off and trading post between Mafia and the mainland thereby serving a much wider group than those who stay there. Further socio-economic surveys are recommended. In the meantime, there is an ongoing process to engage private investors for operating eco-lodges and/or tented camps.

2.3.2(iv) Dar es Salaam Marine Reserves System

The Dar es Salaam Marine Reserves (DMRs), formerly encompassing four small islands of Bongoyo, Pangavini, Fungu Yasini and Mbudya, was designated in June 1975 through the then Fisheries Act of 1970 directly under the Fisheries Division. Makatumbe, Sinda and Kendwa islands were declared marine reserves in 2007 and are recent additions to DMRs. For over 30 years, enforcement of the gazettement of DMRs was never fully implemented and their status as a marine reserve remained on paper alone. This was primarily due to the fact that the law establishing the island reserves did not provide for an institutional authority or mechanisms to oversee its management and conservation measures. It is only since 1999 that two regulations, Marine Parks and Reserves Declaration and User Fees were enacted to harmonise the Marine Parks and Reserves Act of 1994 with the Fisheries Act of 1970 with regard to the management of Marine Reserves.

A formal transfer of DMRs and the task to manage the reserves was placed under the MPRU. Nevertheless, the first operational GMP for the DMRs came into practice 6 years later in 2005. To date this GMP has not yet been revised either. From the manager's point of view, the rapid growth of Dar es Salaam city has increased pressures on the islands Reserves. This, coupled with the global change phenomenon, calls for urgent baseline re-assessment of the biodiversity of the reserves, a measurement of the rate of erosion of the islands, and monitoring of other threats.

2.3.2(v) Maziwe Island Marine Reserve

Maziwe Island was designated as a Marine Reserve in 1975 in the same time as the DMRs. It is located at a distance of about 8 km to the southeast of Pangani river mouth and has an area of approximately 2.6 km^2. At the time it was one of the most important nesting sites in the coast of East Africa for three species of marine turtles. The submerged island was at one time vegetated with palm trees, forest and shrubs and locally used for ritual performance. It disappeared in 1978 due to sea erosion caused by cutting down of trees for fire woods and other unregulated tourist uses coupled with possible changed in climatic variables.

The island has experienced significant erosion and can now only be seen at a low tide. However, Maziwe remains an ideal place for swimming, snorkelling and diving as well as research expeditions and sunbathing but it is likely no longer the best nesting habitat for the endangered green sea turtles. During the start of implementation of the Tanga Coastal Zone Conservation and Development Program (TCZCDP) in 1994, Maziwe Island marine reserve was incorporated into one of the programmes Collaborative Management Area Plans (CMAP), the Ushongo Collaborative Reef and Reef Fisheries Management Plan.

Since the completion of TCZCDP and incorporation of its activities into respective District Council plans, MPRU has gone into an MoU with the Pangani District Council to collaboratively oversee the management of Maziwe Island Marine Reserve. Under the auspices of the MoU, the MPRU has also designated one District Fisheries Officer as Honorary Warden in an effort to establish a presence closer to the site. MPRU has been providing roughly US$ 2000 per year to Pangani District for managing the reserve, but the fund has been used primarily for allowances for the Honorary Warden (Hurd 2003). Since the closure of TCZCDP, Maziwe continues to receive little or no monitoring and evaluation and therefore the impact of gazettement are not well known. MPRU is consequently challenged to revamp its management role over this omniscient marine reserve. While there may be opportunities to resolve this following the establishment and operation of TACMP, the persistent inadequate human and financial resources, is again a stumbling block.

2.3.2(vi) Tanga Coelacanth Marine Park

Tanga Coelacanth Marine Park (TACMP) was gazetted through the Government Notice No. 307 of 28th August, 2009 as a third marine park in the country after MIMP and MBREMP. TACMP is located on the northern coastline of Tanzania, extending from North of Pangani River estuary along a 100 km coastal strip towards Mafuriko village just North of Tanga City. It includes the bays of Tanga City and Mwambani, Tongoni estuary, and three small islands of Toten, Yambe and Karange. In total, the park covers an area of 552 km^2 of which only 15% is terrestrial. It encompasses 9 villages and 9 Tanga City localities (Streets and/or suburbs) with an estimated resident population of about 45,000. Unlike the other two marine parks, TACMP spans over two administrative districts of Muheza and Tanga. One of the salient drivers for the establishment of the park and which holds its uniqueness is the occurrence and high rates of incidental catches of the CITES-listed and iconic Coelacanth, *Latimeria chalumnae,* after *which* the park is named.

A description found in the prepared GMP that awaits approval of the responsible minister indicates that TACMP area supports a number of ecologically important and diverse habitats. Inshore waters are characterized by fringing and patch coral reefs, sea grass beds, mangrove forests, and several estuaries and bays. Major geographical features found within the northern part are Toten Island, the islands of Yambe Karange, and Mwambani Bay. The islands are covered by stands of coastal forest, with steep submerged slopes leading eastwards into the Pemba Channel. One recommendation from stakeholders received during the research was that since the two MMAs fall within the TCZCDP area, and for the purpose of avoiding possible duplication and reinventing the wheel on field methods for especially monitoring and evaluation, they may take advantage of the huge information database created by TCZCDP now managed by the Tanga Coastal Resource Center (TCRC) which was purposely established to oversee the information accrued over the TCZCDP life time.

2.3.2(vii) Tanga Marine Reserves System

Tanga Marine Reserve systems (TMRs) are the most recent additions in the list of MMAs in mainland Tanzania. These were gazetted through a Government Notice No. 212 of 11 June 2010. This marine reserves system encompasses the four island reserves of Kirui, Mwewe, Kwale, and Ulenge which form a unique ecological system lying along and adjacent to a coastline and surrounding waters that comprise of a diverse of coastal and marine habitats ranging from luxuriant fringing corals, seagrass beds and an almost continuous strip of mangrove stands (Mangora and Shalli 2011). As the islands were once inhabited, they have remained with cultural values linked to the adjacent communities such as historical ruins, traditional and spiritual connections as ancestral graveyards and sacred groves. These are potential amenities for community-based ecotourism and other recreational promotions.

Preparation of a GMP for these new Marine Reserves is underway (Mangora and Shalli 2011). Research suggests that the GMP development should be completed soon, before the understanding of adjacent communities of the status and the collaborative role in enforcement and cost-benefit sharing is destroyed. It was noted during the discussions with MPRU Manager that plans are underway to establish an MoU with Mkinga District Council to manage the reserves system in a similar way to the arrangement reported for Maziwe Island Marine Reserve. However, field lessons on Maziwe arrangements, indicate that there are still unresolved challenges in terms of management effectiveness due to the incapacity (both personnel and finances) of the District Councils to fulfil MoU obligations (Hurd 2003).

2.3.2(viii) Saadani National Park

While not within the mandate of the Marine Parks and Reserves Unit, the Saadani National Park (SANAPA) is the only National Park in Tanzania to link terrestrial and marine ecosystems. SANAPA includes a substantial marine areas as well as the Wami River Estuary. SANAPA was formally established in 2005 and is the newest addition to the Tanzania National Park Authority. The Park is located approximately 80 kilometres north of Dar es Salaam and approximately 25 kilometres west of Zanzibar.

SANAPA encompasses a mixture of forest, woodland, savannah, and mangrove habitats, as well as 70 km^2 of ocean with offshore coral reefs and one of the two breeding sites in Tanzania for endangered green turtles (Chelonia midas). SANAPA and surrounds is subject to some significant pressures. A rapid assessment conducted in 2007 revealed the primary threats to be pollution and upstream impacts in the Wami River Basin and over-utilisation of natural resources including illegal removal of mangroves and conflicts among artisanal fishermen and commercial trawlers. Recommendations were made for increased information gathering to fill in gaps in data on the ecology of the estuary, reduction of threats on the estuary, and intensified patrolling by Saadani National Park staff (Anderson et al, 2007). SANAPA represents an important area to include within the MMA network approach and stronger links are needed between TANAPA, the MPRU and other relevant management authorities (i.e. the Forest and Beekeeping Departments) to achieve this.

2.3.3 Community-Based Conservation

The salient forms of community-based MMAs in mainland Tanzania are those of the TCZCDP, KICAMP, REMP and RUMAKI, which have been implemented as conservation programmes in collaborative arrangements with communities and LGAs outside legally established marine parks and marine reserves.

2.3.3(i) Tanga Coastal Zone Conservation and Development Program

The TCZCDP was effectively operational from 1994-2004 and involved a strong community-based approach to marine protection and management. The model was based on enabling coastal communities in Tanga, Muheza, and Pangani Districts to care for their own resources through an adaptive management approach to sustainable coastal resource use. As such, the TCZCDP embrace the rich historical experience of integrated coastal area management in the Tanga region. The decentralized nature of the TCZCDP activities (developing institutional capacity at village, ward and district levels on resource management), was consistent with the provisions of the Local Government Reform Act of 1998 and the Land Act and Village Land Act of 1999. Fisheries management interventions involved the establishment of collaborative management areas, which were formally gazetted through village by-laws and approved at national level (Samoilys and Kanyange 2008).

The programme devised and relied on a reef closure system based on these community-based, collaborative fisheries management plans. Six Collaborative Management Area Plans (CMAPs) were developed and instituted covering the entire 150 km of the region coastline (and on average 5 km into the sea). It is through these collaborative arrangements that Maziwe Island Marine Reserve was incorporated in to the Ushongo Collaborative Fisheries Management Area Plan. Other key aspects of the programme included the reduction of destructive and illegal fishing through surveillance patrols and gear exchange for beach seines, regular monitoring of coral reef health and artisanal fisheries, and implementation of alternative livelihood strategies such as seaweed farming.

The establishment of TACMP utilised the legacy of the TCZCDP as a point of departure. Upon it closure in 2004, activities of TCZCDP were transferred. A transitional period occurred from 2005 when lead technical agency, IUCN, handed over the TCZDP to government. In 2007 funding from the donor, Irish Aid, ceased and the programme operations were transferred to the office of the Regional Administrative Secretary and incorporated into respective district plans. These are centrally coordinated at the regional level through the Tanga Coastal Resource Centre (TCRC), which was formed as a caretaker. TCZCDP is widely acknowledged as a practical model for effective community-based coastal and marine resources management due to:

- A core strategy of action planning;
- The use of issue-based plans;
- Cause and effect solving of problems;
- Participatory monitoring, evaluation and adaptive management (Samoilys and Kanyange 2008; Harrison 2010); and
- A long-term commitment of donor funds over a total of 12 years, which enabled TCZCDP to operate and change through an adaptive management process.

According to Samoilys and Kanyange, the main achievement of TCZCDP was the development of a collaborative approach to preparing the CMAPs that are satisfactory to both communities and the government, and that share implementation among villages, District administrations and regional/national authorities (2007). The model of the CMAPs is based on shared fishing grounds among several villages in each CMA, which differs from the Beach Management Unit (BMU) approach which advocates for collaboration among a group of people associated with a specific landing site – a much smaller geographic area. Experiences and lessons from TCZCDP are further documented by Wells et al. (2007a,b).

2.3.3(ii) Rufiji Environmental Management Project

Financed through the Royal Netherlands Embassy in Tanzania, and implemented by the IUCN in partnership with Rufiji District Council, (National Environment Management Council) NEMC, Rufiji Basin Development Authority (RUBADA) and the (Ministry of Natural Resources and Tourism) MNRT, the Rufiji Environmental Management Project (REMP) was a community-based project that aimed at promoting the long-term conservation through 'wise use' of the lower Rufiji forests, woodlands and wetlands, such that biodiversity is conserved, critical ecological functions are maintained, renewable natural resources are used sustainably and the livelihoods of the area's inhabitants are secured and enhanced.

To achieve this aim, the project promotes: (i) the integration of environmental conservation and sustainable development through environmental planning within the Rufiji Delta and Floodplain, (ii) the sustainable use of natural resources to enhance the livelihoods of local communities by implementing sustainable pilot development activities based on wise use principles, (iii) awareness of the values of forests, woodlands and wetlands and the importance of wise use at village, district, regional and central government levels, and to influence national policies on natural resource management emphasising the non-sectoral, multi-biome, integrated approach to the environment.

2.3.3(iii) Rufiji-Mafia-Kilwa Seascape Programme

Rufiji-Mafia-Kilwa (RUMAKI) seascape programme is a WWF Tanzania Programme Office initiative (with initial funding from WWF UK) in partnership with District authorities (and local communities) of Rufiji, Mafia and Kilwa, and NEMC. MIMP is also a partner. These institutional stakeholders have committed to facilitate the development of coastal livelihoods through the sustainable management of coastal and marine resources in falling within the programme area. The programme started in July 2004 as a response to the need for community-based mechanisms to protect the coastal and marine resources that principally fell outside the geographical boundaries of MIMP. It could therefore potentially curb the leakage effect that would be exerted as a result of the full enforcement MIMP.

This strategic concept for RUMAKI seascape programme is very relevant to the use of MPAs in conjunction with other management tools, such as ICM, marine spatial planning and broad area fisheries management as they offer the cornerstone of the strategy for marine conservation (IUCN-WCPA 2008, p 3). Christie et al. (2002) and Cicin-Sain and Belfiore (2005) also indicated that the benefits that MPAs can deliver are related to the effectiveness of the management outside of the MPAs. With these supportive empirical case studies, the primary purpose of RUMAKI Seascape programme is to deliver improved socio-economic well being of coastal RUMAKI communities through sustainable, participatory and equitable utilization and protection of their marine and coastal resources.

2.3.3(iv) Kinondoni Coastal Area Management Programme

Started in the year 2000, the Kinondoni Coastal Area Management Programme (KICAMP) had its overall objective, to improve the understanding and management of marine and coastal resources in the Kinondoni District. The programme focuses on four components namely: i) coastal land and water use planning; ii) coastal community development; iii) coastal surveys, assessment and monitoring; and iv) education, information and communication. In particular, KICAMP formulated a comprehensive conservation plan focused on the use of land and water resources in coastal areas of the District. For example, the programme resulted in the ban of excavation of sands in Kunduchi-Mtongani as a way to prevent further beach erosion. Households in the programme area were made aware of the value of mangroves and involved in their protection.

2.3.3(v) Bagamoyo ICM Action Planning

The Bagamoyo District has embarked on a process of ICM action planning with support from the TCMP. The District has developed a collaborative fisheries management (CFM) plan for seven of the nine coastal villages with the goal to: rebuild fish stocks and associated habitats to levels that allow for increased and sustainable fish catches by artisanal fishers, and that results in improved income for artisanal fishers in the Bagamoyo District (Torell et al, 2006). Following a rapid ecological assessment by a team of scientists and village fishermen, a selection was made of four CFM no-take areas or reef closures.

A Central Coordinating Committee (CCC) comprised of twenty-eight members from seven coastal villages (four members per village) is responsible for coordinating issues associated with the CFMA. The reef closure was extended to the end of 2011 after which time the closure will be reassessed to determine a way forward. Figure 1 below illustrates the location of some of the MMAs mentioned above. Some of the key lessons from collaborative management of marine and coastal resources are discussed further in Section 5.

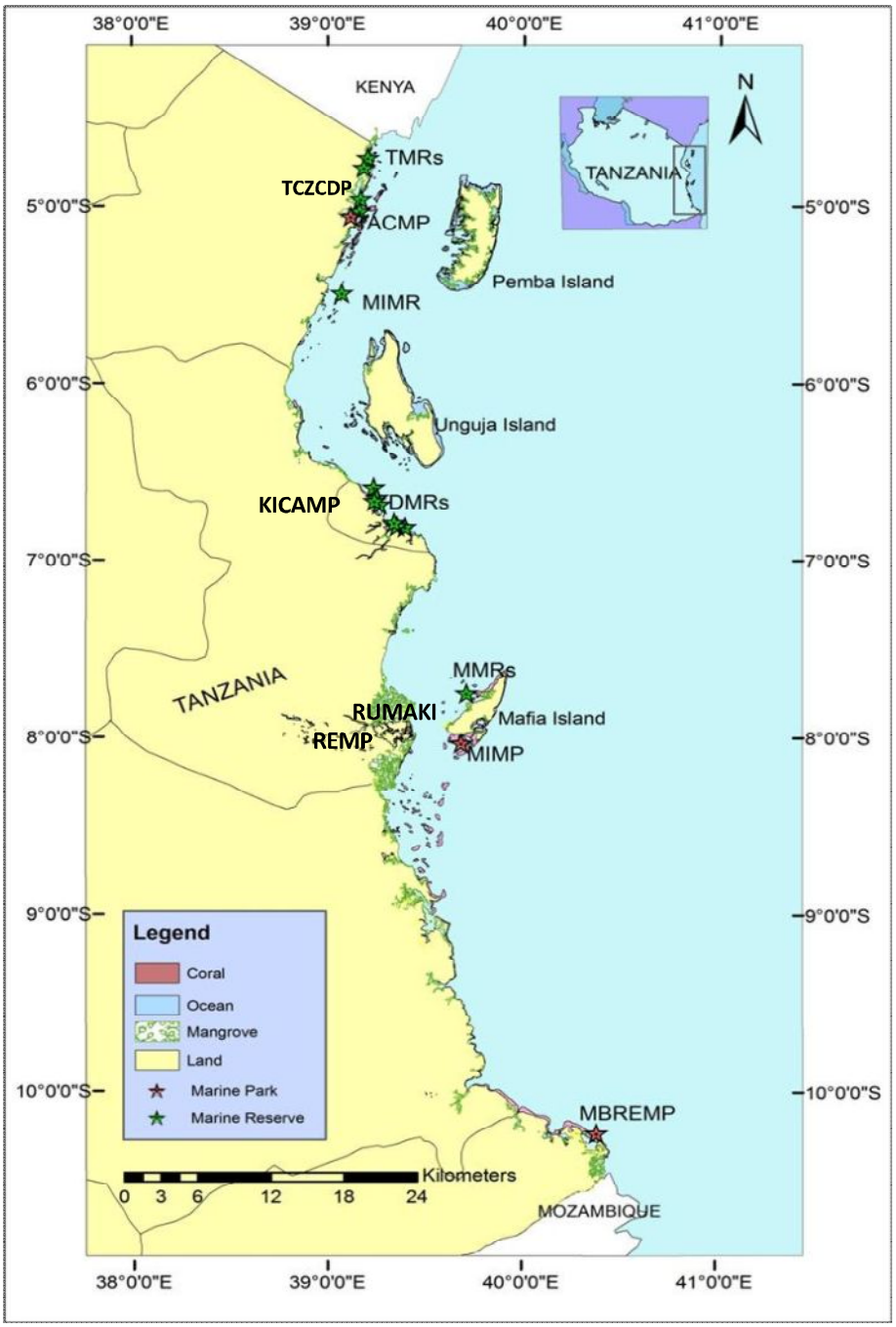


Figure 1: Map showing the MMAs for mainland Tanzania

2.3.4 Challenges of Managing MMAs

The research for this assessment revealed generally positive feedback on the overall management of MMAs in mainland Tanzania. Field experience indicates that practitioners recognise that effective implementation of MMAs can boost revenues from coastal tourism, provide a good system of record keeping (where even District Councils relies on data from MMAs), and generally improve coastal and marine resources. Nonetheless, a few exceptional challenges are faced by MMA managers that are largely unique to their context, unlike PAs in terrestrial environments. Dudley (2008) lists some of the particular characteristics common to MMAs across the world, which is often absent or relatively uncommon on land. They are:

- MMAs are designated in a fluid three-dimensional environment; in some instances, different management approaches may be considered at different depths;
- There are usually multidirectional flows (e.g., tides, currents);
- Tenure is rarely applicable in the marine environment as marine areas are considered to be "commons" to which all users have a right to both use and access;
- Full protection may only be necessary at certain times of the year, for example to protect breeding sites for fish or marine mammals;
- Controlling entry to, and activities in, MMAs is frequently particularly difficult to regulate or enforce, and boundaries over external influences can rarely be applied;
- MMAs are subject to surrounding influences from outside the area of management control and managing marine areas as separate units is problematic; and
- The scales over which marine connectivity occurs can be very large.

During stakeholder consultations (especially with MMA managers) for this study, all of these issues were mentioned as critical challenges to the effectiveness of enforcing both legal and community-based (collaborative) agreements in protecting the designated MMAs. For instance, there is a lack of a common vision and mission for the systems of MMAs in the country. The MMAs are currently managed on an individual basis rather than as a cohesive network, understandable given that the network approach is a relatively recent phenomenon and that the country is still grappling with effective management of existing areas. No overarching guidance exists for selecting MPAs or Reserve areas at this stage. Principal trade-offs are on the bases of resource management, resource use pattern, and poverty alleviation and misunderstandings often emerge between different stakeholders. Local authorities in particular, often perceive that areas of their jurisdiction are appropriated for MMAs.

For these particular characteristics, and for the development of effective MMA networks, legal and institutional frameworks need to be designed that reflect these challenges and to develop specific mechanisms to accommodate them. These challenges are analysed in the context of their implications for both national and local legal and institutional frameworks in order to enhance effective management of MMAs in mainland Tanzania.

3 Legal Framework for Marine Managed Areas

3.1 Policy and Legal Framework

Environment, livelihoods, and poverty reduction are main objectives of Tanzanian Government policy, legislative and institutional framework that govern natural resource management and utilization. As such, poverty alleviation and protection and integrity of coastal and marine resources are policy priorities that should efficiently be backed up with rational legal and institutional mechanisms for effective management of the resources. To this end, the government has continued to adopt a number of initiatives for the protection of coastal and marine environments in terms of policies, legislation and institutional mechanisms. The existing legal and institutional framework is largely sectoral and has encountered instances of contradicting repercussions that need be addressed for the effective management of MMAs. There exists therefore some policy, legislative and institutional gaps that need critical scrutiny for harmonization to better practice and enforcement, and providing for efficient coordination of institutional jurisdictions.

This section examines relevant policies and legislation pertaining to the management of MMAs in mainland Tanzania, how they are mutually dependent on each other and how they are conflict. Suggestions are provided for promoting synergies and harmonisation of the framework. The analytical review and recommendations thereof are enriched with expertise and practitioner responses accumulated during field stakeholder consultations. Case, areas, MMA/MPA specific examples are used to highlight the drawbacks that requires inter-sectoral or inter-institutional attention to craft any credible remediation. Emerging best practices are also gauged and recommended for adaptive management.

3.1.1 Policy and strategy framework for MMAs

The umbrella guiding policy on environmental protection and management is the National Environmental Policy (NEP), 1997. Following this environmental policy, the government developed a National Biodiversity Strategy and Action Plan (NBSAP) in 1998 as one of the requirements for the international Convention on Biological Diversity (CBD) which was signed in 1992 and ratified in March, 1996 (VPO, 2009). With the NBSAP in place, implementation began through a set of three major identified thematic areas: aquatic biodiversity, agro-biodiversity and terrestrial biodiversity. An important action of relevance to management of MMAs was the formulation of a National Integrated Coastal Environment Management Strategy (NICEMS) in 2003 to safeguard conservation and sustainable utilization of coastal biodiversity (VPO, 2009). While the NEP serves as an overall policy arm, the NICEMS serves as a specific benchmark for the management and sustainable use of

coastal and marine resources. Table 2 provides a summary of these two key policy and strategy frameworks and a number of policies that are congruent to the management of MMAs in mainland Tanzania. Generally, these policies and strategies have clear identified goals and objectives in the overall management of natural resources. However, there are some weaknesses in the course of implementation.

In general there is lack of awareness of the policies and strategies by most stakeholders. This is compounded by the lack of direct linkages among sector institutions (especially at the ministerial level) and their staff in the Districts under the sector. This creates communication and command chain breakdown between the District level and the ministries in the implementation of policies. Some specific examples include weaknesses in the fisheries policy related to inadequate staff in the implementation of the policy-making management of fishing areas difficult. Problems of overlapping roles and activities are common. Reference is made to field consultation responses over the conduct of tourism activities in MMAs where the Ministry of Lands and Human Settlements Development (MLHSD), Ministry of Natural Resources and Tourism (MNRT) and Ministry of Livestock and Fisheries Development often overlap in exercising and overseeing the procedures for allocation of investment areas along the coast and approval of investment plans and monitoring. This has often reported to lead into violation of rules and regulations concerning location of investments in the beach.

Table 2: National sectoral policies and strategies relevant to MMAs in mainland Tanzania

Sector	Policy/Strategy	Authority	Goal and Relevance to MMAs
Environment	National Environmental Policy (1997)	VPO/NEMC	Provides general explanation on the management of the environment and natural resources. Recognizes other sector contributions and roles in management of the environment. Clarifies the governance and rights issues as they relate to other sectors and their involvement. Specific to MMAs, serves as umbrella environmental management policy for addressing issues of land degradation, environmental pollution, loss of habitat and biodiversity, and deterioration of aquatic systems and deforestation. Guiding principles for EIA Advocates for sustainable fisheries (fishing gear/methods, control of marine pollution etc.)
	National Integrated Coastal Environment Management Strategy, 2003	VPO/NEMC/TCMP	Calls for participation of all relevant stakeholders in planning and implementation issues. Promotes sustainable use of coastal and marine resources. Guide for sector specific and cross-sectoral policies on coastal and marine environment.
Fisheries	National Fisheries Sector Policy and Strategy (1997)	MLFD/Division of Fisheries Development	Promotes conservation, development and sustainable management of fisheries resources for the benefit of the present and future generations. Guides protection and sustainable use of fish stock and aquatic resources (productivity and biological diversity) and associated ecosystems. Emphasizes sustainable management and utilization rather than development. Highlights improved involvement of fisher communities in planning, development and management of the fisheries resources. Promotes collaboration on cross-sectoral issues between fisheries and other sectors.
Forestry	National Forestry Policy (1998)	MNRT/DFB	Enhancing the contribution of the forest sector (including mangrove forests) to the sustainable development and conservation and management of natural resources for the benefit of the present and future generations. Advocates community-based conservation of forest resources Ensures sustainable supply of forest products and services, increased employment and foreign exchange earnings, ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil fertility.
	National Bee-keeping Policy (1998)	MNRT/DFB	Enhances contribution of beekeeping to the socio-economic development. Guides beekeeping practices inside or around bee reserves and apiaries that fall within mangrove forests

Land	National Land Policy (1995)	MLHHSD	Guides secure land tenure system Guides integrated land use planning in both urban and rural areas Guides optimal use of land resources; and ecological balance of the environment.
Wildlife	The Wildlife Policy of Tanzania (1998)	MNRT/Division of Wildlife	Protection and sustainable utilization of the wildlife resources and their environments. Advocates maintenance of the natural heritage (flora and fauna), fragile ecosystems including wetland areas, sites under pressure and endangered species, with participation of, and benefits to, the local communities.
Tourism	The National Tourism Policy (1999)	MNRT/Division of Wildlife	Advocates community participation in the management and utilization of the common coastal resources. Requires tourism investors to share benefits with surrounding communities. Provides a good distribution of roles and responsibilities for other sectors; recognising the LGAs role of preparing land use plans, supervise its distribution and monitor its use.

3.1.2 National legal framework

The legal framework in the United Republic of Tanzania is mainly based on the Constitution of the United Republic of Tanzania as the mother law of the land. The Constitution obliges the State and all its organs to ensure that the natural resources and heritage are harnessed, preserved and applied to the common good of Tanzanians [(Article 9(1) (c)]. This constitutional provision is logically extended to cover the environment. As such, and like for any other disciplines, all environment and natural resources management-related Acts, subsidiary legislation, judicial decisions and customary laws (where applicable) are construed within the realms of the constitution of the land. Table 3 presents a summary of relevant national legislation for safeguarding the coastal and marine ecosystems and the resources therein for the sustainable development while ensuring integrity of the ecosystems.

3.1.3 Framework of international conventions and treaties

Issues of international relations are considered Union matters. As a result, the Union government has the mandate to ratify legal instruments for conservation and management of environmental resources. Implementation of the provisions of such agreements are enabled through an executive act rather than a legislative act since Tanzania applies the 'dualist' approach in incorporating international provisions into the domestic arena. Thus, international or multilateral agreements ratified by the government, are only binding when they are explicitly adopted or incorporated by the mainland National Assembly (Majamba, 2005).

Together with the domestic legal framework pertaining to management of MMAs in mainland Tanzania, there are a number of legally binding and non-binding international conventions or treaties and international programmes and initiatives (summarized in Table 4 and Table 5) relating to management of MMAs that the United Republic of Tanzania has ratified as a member and/or party. Adoption of these international frameworks requires countries to fulfil the provisions of the frameworks at national and local levels for the conservation initiatives to bear the international recognition and reputation. How these are defined and put into practice in the local context is part of the subject matter for the present assessment in enhancing effective management of MMAs.

Table 3: Statutory framework relevant to MMA management in mainland Tanzania

Sector	Legislation	Authority	Goal and Relevance to MMAs
Environment	Environmental Management Act (EMA), No. 20 of 2004	VPO/NEMC and LGAs	An umbrella legal and institutional framework for the sustainable management of the environment at all administrative levels in Mainland Tanzania. Outlines principles of environmental management, environmental impact & risk assessment, prevention and control of pollution, waste management, and environmental quality standards, public participation, compliance and enforcement. Provides for implementation of NEP Overrides all other laws (sector laws) on environmental management issues that are inconsistent with the provisions of EMA. Places an obligation for EIA for all development projects.
Fisheries	Fisheries Act, No 22 of 2003	MLFD/Division of Fisheries	The principal fisheries management (including licencing, registering, enforcement and inspection) legal framework in and outside protected areas. Protecting, conserving, developing, regulating or controlling the capture, collection, gathering, manufacture, storage or marketing of fish, fish products, aquatic flora or products of aquatic flora. Adopts the EIA as required by EMA. Provides for formal recognition of Beach Management Units (BMUs) as a common management instrument defined as "a group of devoted stakeholders in a fishing community whose main function is management, conservation and protection of fish in their locality in collaboration with the government."
	Marine Parks and Reserves (MPR) Act 29, 1994	MPRU	Provides for establishment of MPRU under the Division of Fisheries Provides for establishment, management and monitoring of MPAs. Currently under review with a proposal for a provision to establish an autonomous Marine Parks and Reserves Authority. Incorporate specific MPA EIA and adopt EMA common EIA. Provides for transforming MPAs into National Parks under the Tanganyika National Parks Ordinance, Cap 412 of 1959.
Fisheries	Territorial Sea and Exclusive Economic Zone (TSEEZ) Act, No. 3 of 1989	Ministry of Foreign Affairs	Provides for implementation of the UN Convention on the Law of the Sea (UNCLOS). Provides for creation of marine protected areas especially within the EEZ. Provides for the prevention and control of pollution

	Deep Sea Fishing Authority (DSFA) Act, 1998 (yet to come into operation)		Provides for the management of fisheries resources in the EEZ. Promote, regulate and control fisheries activities (licensing, monitoring, controlling and surveillance) in the EEZ Establish the Deep Sea Fishing Authority
Forestry	Forest Act, No. 14 of 2002	MNRT/DFB	Management of coastal forests including mangroves. Declaring mangrove forests as protected areas. Incorporates EIA as a tool for managing the forests.
	Beekeeping Act, No. 15 of 2002	MNRT/DFB	Provide for the orderly conduct and improvement of beekeeping products.
Wildlife	Wildlife Conservation Act, No. 12 of 1974	MNRT/Division of Wildlife	Provides for management of wildlife environmental resources outside National Parks
	Tanganyika National Parks Ordinance, Cap 412 of 1959	MNRT/Division of Wildlife/TANAPA	Provides for establishment and operations of TANAPA Adopted by MPR Act for transforming MPAs into national parks without jeopardizing the original rationale of particular MPA.
Tourism	Tourism Act 29, 2008	MNRT/Division of Tourism	Provides for legal and institutional control of tourist activities and related facilities and services through registration, licensing and enforcement.
Land	The Land Act, No. 4 of 1999		A basic law in relation to the management of land. Categorizes land management regimes into general, reserved, and village lands. Provide legal procedures of change and/or transfer of land uses e.g. from village or general land to reserved (protected) areas like MPAs. Provides for mechanism of land use planning.
Land	Village Land Act, No. 5 of 1999		Provides for communal and/or customary land use and tenure rights. Provides for participatory land use planning mechanism
Mining	Mining Act, No. 14 of 2010	Ministry of Energy and Minerals	Regulate mineral, petroleum and gas explorations and mining along the coast and marine territorial waters including those under or within MPAs. Adopt the EIA requirement by the EMA
Governance	Local Government (District Authorities) (LGA) Act, 1982 Local Government (Amendment) Act, 1999		Provides for local authority to designate, declare and manage community based MMAs through designated by-laws Provide administrative and procedural participation of local communities in MPAs

Table 4: Legally binding international frameworks that are relevant to MMA management in mainland Tanzania (Ruitenbeek et al, 2005)

Convention/Treaty/Programme	Goal and Relevance to National MMAs
Convention on Biological Diversity and the Jakarta Mandate, 1992 [ratified 1996]	Lays out measures to be taken by Parties for conservation and sustainable use of biodiversity, including the establishment of a system of protected areas, or areas where special measures need to be taken to conserve biodiversity. The Jakarta Mandate, an associated instrument, lays out specific requirements for marine biodiversity conservation through five key areas: integrated coastal management (ICM), sustainable use of living resources, MPAs, mariculture and alien species. Guide countries to use the IUCN categories system in reporting progress on establishing and maintaining protected area systems.
The Ramsar Convention on Wetlands , 1971 [ratified 2000]	Provides for designation of sites of 'international importance' that meet criteria covering representative, rare, unique wetland types or those especially important for conserving biodiversity. Sites must be managed but may be subject to 'wise' use and do not require formal protected area legal status. Persuade governments to designate sites under Ramsar when they would be reluctant to make them national protected areas although the protection afforded by the Convention is itself a legal support.
World Heritage Convention , 1975 [ratified 1977]	Provides for the protection of outstanding examples of the world's cultural and natural heritage. They include monuments and natural areas.
United Nations Convention on the Law of the Sea (UNCLOS) , 1982 [ratified 1985]	Gives coastal states jurisdiction over their inland waters, territorial seas (out to 12 nm from the coast) and Exclusive Economic Zone (EEZ) (200 nm or 370 km from the coast) provided they do not infringe the right of innocent passage by foreign ships.
Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention)	Regional Seas convention, covering protection of the marine and coastal environment in the Eastern Africa Region. Requires and advocates for the establishment of a regional programme for the creation of a network of MMAs.
Convention on International Trade in Endangered Species (CITES), 1975 [ratified 1979]	Provides for protection of wildlife against over-exploitation and prevent international trade from threatening their survival.

Table 5: Non-legally binding international frameworks relevant to MMA management in mainland Tanzania (Ruitenbeek et al, 2005)

Convention/Treaty/Programme	Goal and Relevance to National MMAs
World Summit on Sustainable Development	The Plan promotes sustainable development in relation to conservation and the environment, and sets several targets including the establishment of representative networks of MPAs worldwide.
UNESCO Man and the Biosphere Programme (MAB)	Promotes sustainable use and conservation of biodiversity by improving the relationship between people and their environment. An initiative to develop a global network of 'biosphere reserves.
FAO Code of Conduct for Responsible Fisheries	Provides guidance on sustainable fisheries management, and recommends that all critical fisheries habitats be protected.
International Coral Reef Initiative (ICRI)	A partnership of nations and organizations aimed at stopping the global degradation of coral reefs and related ecosystems. Recommend for the establishment of MMAs.
International Coral Reef Action Network (ICRAN)	- A global partnership of international organizations, NGOs, research and conservation organizations that are part of ICRI and focuses on sustainable development of coral reef areas.
African Protected Areas Initiative (APAI)	A Pan-African process under the New Partnership for African Development (NEPAD) established to provide guidance on protected areas (including coastal and marine issues) and promote implementation of the African Convention.
WWF Eastern African Marine Ecoregion (EAME) Programme	A partnership programme addressing large-scale conservation, MPAs and sustainable use of marine resources in mainland Eastern Africa.

3.1.4 Operational Mechanisms of the Legal Framework for MMAs

3.1.4(i) Broad legal and institutional issues

The implementation of legal mandates emanating from various legal instruments on MMAs is sectoral and uncoordinated and spread over a number of institutions with limited means of communication. This call for government efforts to create linkages that would simplify the integration of legal frameworks. Examples are the cases of the Fisheries Act, 2003, the DSFA Act, 1998 and the Territorial Seas and Exclusive Economic Zone Act, 1989. Whereas the Division of Fisheries Development and the Deep Sea Fishing Authority should operate under the auspices of the Ministry of Livestock and Fisheries Development, TSEEZ Act is under the auspices of the Ministry of Foreign Affairs. Similarly, whereas the DSFA Act and the TSEEZ Act are in essence the institutions that are supposed to control and regulate the EEZ (though they may collaborate with or delegate these functions to other mechanisms, e.g. the Fisheries Act), the practical modalities to fulfil this are not clearly provided in either Act.

This emphasizes an issue that the IUCN Guideline for Marine Protected Areas (Kelleher 1999) highlights to Nations, to avoid formulation of complex regulations that are often confusing the beneficiaries. For this, IUCN argues that the simpler the national rules are, the more likely it is that they will be followed at the local level. For example, imposing a strict no-fishing rule inside MMAs is much easier to understand than prohibition of fishing between specified periods of time, areal zoning. In addition, the definitions and terminology in the legislation should use words that reflect the intentions, goal, objectives and purposes of the legislation and are in a language that is clearly understood by those affected. Terminology is likely to differ from country to country but, where it is practiced, there is some advantage in adhering to standard international terminology to easy collaboration especially where cross boarder initiatives are to be realized.

3.1.4(ii) Fisheries Act, MPR Act, Forest Act and LGA Act

While the Fisheries Act provides detailed national guidelines on the sustainable management of fisheries resources and industry for development rather than empirical biodiversity conservation (Table 3), the contextual operationalization of management of MMAs is formed in mainland Tanzania either through National or Local Instruments. At the National level legal backed establishment of MPAs through MPR Act requires a responsible Minister to table the proposal for resolution and consent of the Parliament. Article 9 of the current and 15 of the proposed new MPR Act provides for the Minister to, after consultation with the relevant local government authorities (including village councils) to declare areas within territorial waters or in the EEZ or any coastal island or coastal area to be an MMA.

The declaration may be in response to a national government initiative, or to requests made by individuals, research organizations, NGOs, the private sector or a local government authority. Upon completion of the process, a Notice of the Declaration of an MPA is gazetted in the Government Gazette and becomes a law. Similarly, the Act provides that the Minister

responsible for National Parks may, after consultation with the relevant local authorities, declare any marine park or part of a marine park to be a national park in accordance with the provisions of section 3 of the National Parks Ordinance as described in Table 3 above. The provision for this transformation means that TANAPA as an autonomous authority may have a legal room to influence the management of MPAs under MPRU.

These overriding jurisdictional powers demonstrate the cross-sectoral legal operational ambiguities that may potentially ruin the effectiveness of management of MMAs. Another important overlap is with regard to the mangrove forests that happen to fall under MMAs. On establishment of MMAs, already mangroves are protected under a different legislation, the Forest Act, which provide for all mangrove forests as state forest reserves, governed under a different institutional body, the Division of Forest and Beekeeping that is provided with mandate to oversee proceeds related to forest management and use. A key feature of the Forestry Act is its provision for promoting community-based forest management (CBFM) and Joint Forest Management (JFM) with the local communities that are dependent on the forest resources. These arrangements may in instances potentially conflict with the provisions and practice of MMAs especially in marine reserves.

From this analytical review, it is argued that under the current setting, the autonomy of MPRU is too limited to fully exercise its role in overseeing establishment and management of MMAs in the country. Field consultations revealed further that it is this lack of autonomy that drove the decision to revise the MPR Act to provide for transforming and/or establishment of an autonomous Marine Parks and Reserves Authority similar to TANAPA. While there were parallel ideas that MPRU could be merged with TANAPA, proponents of an autonomous MPRA argue against this. The reason was that if MPRU was placed under TANAPA it would completely lose its autonomy and be subsumed under TANAPA, which deals primarily with terrestrial issues. To provide for due conservation value of coastal and marine resources, the creation of an autonomous body – authority or agency, is thought to be the best option and this is envisaged to benefit MPRU in that it can therefore receive more support from the ministry as its mandate will be clearly defined.

The cost effectiveness of the transformation of the MPRU into the body corporate model for the MPRA would need to be a key consideration, given that with more autonomy comes more responsibility to operate efficiently and cost effectively. The emphasis by the MPRU for financing their operations is currently on the generation of revenues purely from tourism. This approach needs to be revised to assess additional sources of financing to support the MPRU as it currently operates. Should the new MPR Act be passed, this issue would become imperative. As previously mentioned, other provisions of the revised MPR Act include the incorporation of fresh water bodies under the mandate of the MPRA. This has jurisdictional repercussions with both the Wildlife Act and the Fisheries Act and the potential overlap in mandates would need to be clarified. Concern was raised during the research about the degree of involvement of relevant stakeholders in the MPRB and advisory committee to the Board. The appointment of the advisory committee by the Board (and not as an elected representative from the relevant representative groups) was a key issue raised. In the revised Act, the Advisory Committee is still appointed by members of the Board which raises concerns about participation and transparency of the proposed Authority. This point is discussed further in the next section.

Another contrasting facet concerning the MPR Act is that community-based arrangements for MMAs are not explicitly within the scope of MPR Act (although participation is required in the formulation of the GMPs). Instead, at the local authoritative level, the declaration is governed by the LGA Act and designated by-laws where by local authority may decide on its own initiative or through request from some other entity or individual to declare a marine protected area. In such cases, the local authority designates and provides for management of such community-based MMAs under the LGA Act. By-laws are prepared to give legal backing to the designation and management of the MMAs; these are in turn approved at different levels and become legally binding. Depending on the purpose, these by-laws, provided they don't override the national legislation, may provide for the licensing mechanisms and fees schedules for fisheries and other resource extractive use. Other arrangements that can be addressed under LGAs by-laws include the zoning of marine areas for management purposes (e.g. closed reefs) or the roles and responsibilities of villages in managing their coastal resources (Hurd 2003).

How best this operationalization in establishment of MMAs is practiced largely determines the success and excellence of respective MMAs. In addition, clearly articulated motives and rationale for designating these conservation areas are key to effective management. Field lessons from the community-driven successes of the TCZCDP and challenges in the present operationalization of TACMP and TMRs may prove useful in the application of best practices from TCZCDP. Presently TACMP and TMRs lie entirely within the operational areas of the former TCZCDP. Intuitively it sounds like TACMP and TMRs have come to extend the operations of TCZCDP though in a narrowly thematic focus and on a different legal basis. Adopting the Fisheries Act, TCZCDP operated following the LGA Act and designated by-laws while the MPAs are entities of the MPR Act. It is a question of how best this legislation are brought together in a meaningful recourse to secure effective continuation of the accumulated successes of TCZCDP into the TACMP and TMRs.

3.1.4(iii) TSEEZ Act and DSFA Act

Tanzania uses the Acts to vest itself with sovereign rights over the EEZ, which includes rights to explore, exploit, conserve, and manage the natural resources, whether living or non-living, and rights to any economic activity in the EEZ. The wording also gives jurisdiction to Tanzania to ensure "the protection and preservation of the marine environment" in accordance with Article 56(1)(b) of UNCLOS. But in practice most of the TSEEZ Act gives priority to the utilization of marine resources rather than to their protection or conservation.

Some powers and mandates stipulated in the DSFA Act, especially those relating to fisheries, safety and protection of the marine environment, are provided under other laws such as the Fisheries Act, 2003 and Merchant Shipping Act, 1967. While the operationalization of the DSFA Act is pending for long now, it is clear that even when the Act comes into operation it will face implementation difficulties due to its institutional set up which poses both structural and functional problems. Foreseeable structural problems are related to the way the DSFA will depend on other institutions to implement its MCS mandates.

The Act is void of a defined "system of collaboration". Specifically for example, officials of those institutions mentioned under the DSFA Act are not recognised under the Act as "authorised officers". With this, functional problems may arise because the Act does not explicitly specify the extent of power that may be exercised by enforcers of the Act. In addition the Authority has been given the mandate of outlining national policies on fisheries, which conflicts with the Fisheries Act that provides for the same function by the Ministers responsible for fisheries.

Conflict of jurisdictional interest (and custodianship) exists between TSEEZ Act and DSFA Act. Enforcement of the TSEEZ Act is vested across a variety of administrative units: fisheries, defence, police, customs and immigration. This introduces a potential coordination challenge. As such, uncertainties remain under the DSFA Act. For example, it is unclear how the Ministry of Foreign Affairs will coordinate or link with the Ministry of Natural Resources and Tourism in the management of marine resources in the EEZ.

The management of fisheries resources in the EEZ is in principle regulated under the DSFA Act. The DSFA Act was enacted for purposes of regulating the deep sea in the EEZ and is to be "construed as being in addition to and not in derogation of the TSEEZ Act and shall for all intents and purposes complement that Act." But as noted earlier, DSFA Act remains pending for the Minister responsible to appoint the date of its coming into operation.

This presents a challenge for the Fisheries Act and the MPR Act on how best the legal mechanisms can be harmonised for effective management in situations where MMAs are to be established in the domain of deep sea and EEZ as the MPR Act provides for in Article 9.

3.2 Challenges in implementing the laws

3.2.1 Institutional challenges in implementing legislation

The implementation of the laws has floundered due to a number of challenges. The major crosscutting challenges that undermine the capacities of most institutions to implement the laws include:

- Budgetary constraints as most of the institutions are state owned and depend entirely on government subventions;
- Inadequate personnel, resources and technical capacity;
- Lack of information sharing; and
- Lack of institutional coordination (e.g. while there are provisions in the MPR Act and National Parks Act of transforming MPAs into national parks, there is virtually no collaboration between MPRU and TANAPA regarding coastal and marine managed areas. For instance, Saadani NP encompasses critical coastal and marine habitats, yet it is not a concern of MPRU. This is critical for formulation of networks that may involve bringing together PAs that fall under different uncoordinated jurisdictions.

3.3 Lessons from elsewhere and application in Tanzania

The present assessment calls for an urgent resolution to these challenges in Tanzania. Lessons are increasingly documented from elsewhere (Purwaka and Sunoto 2002; Pollnac et al. 2001) on the design of principles and best practices by which MMAs are made sustainable and effective in practice. Experiences and lessons from other areas indicate that, this is largely possible where a legal framework is harnessed in the way that promulgates enforcement in an effective and consolidated mechanism of managing the resources under protection. For example, Alder (1996) emphasizes that planning and management of MMAs are constrained by manageable factors that include:

- Overly complex legislation and therefore resentment in compliance (as described earlier in section 3.2.4 above);
- An absence of political support;
- A lack of funding; and
- Insufficient information and education for the decision-makers and resource users.

Underpinning this is the observation that most MMAs are still implemented as more conventional exclusionary protected areas with little involvement of local communities and little local input to decisions on user or access rights to the resources in the MMAs. Pollnac et al. (2001) drawing experience from the Philippines proposed the following requirements for effective MMAs:

- Community involvement in negotiating the objectives of the project and in subsequent management and monitoring;
- Political commitment; and
- The integration of conservation with promotion of alternative livelihood options.

These conclusions were persistently echoed in the stakeholder consultations, indicating that there is a need to scale up on participatory approaches to MMA establishment and management and/or decentralization. Two particular cases were noted from the discussion with village representatives from Msimbati (for MBREMP) and Kigombe (for TACMP). In Msimbati, there was a concern over the modalities of sharing the revenue collected from the entry gate that is located within their village. The argued that the village would have expected to take advantage of directly receiving a share from the gate collections as long as it remains within the village premises. This indicated a gap in community understanding of the legislation that governs such MMA revenue disbursements. In Kigombe, there was surprisingly a concern that the community understanding of the operation of TACMP is confined to the coelacanth caves and surrounding reefs. There appeared to be no community understanding of the concept that TACMP includes villages that have no direct link with day-to-day marine activities (essentially non-fishing villages like Msakangoto and Mtiti).

Weaknesses in discharging the EIA practice across various sectors exemplifying the challenges that face the legal practice not only with regard to management of MMAs but also to other related sectors. The EMA and its related regulations provide for conduct of EIA as a mandatory requirement for all projects or development activities which by their nature

are likely to have significant adverse impacts on both the environment and public health before any such project is allowed or disallowed to proceed. The overall institution that is vested with responsibilities to oversee the legal enforcement of the provisions of EMA on EIA is the National Environmental Management Council (NEMC), which is under the Division of Environment in the VPO. However, due to financial constraints and the shortage of technical personnel, NEMC is doing very little in monitoring of projects issued with EIA certificates. For example, in an EIA training manual: Environmental impact assessment: for whose needs?

Katima (2003), presents a case study that highlights the legal and institutional weaknesses in enforcing EIA in Tanzania. It is pointed out that while Tanzania is keen to attract investments to foster the country's socioeconomic development, preference has in many cases sacrificed policies geared towards sustainable development for short-term economic gains. Even though multinational financing institutions also make EIA mandatory before any development project can be funded, this has not been observed in practice because the EIA regime is short of the enabling factors like the government's political will; institutional support; proper development objectives; and trained personnel.

In addition to the above legal complications, a jurisdictional challenge exists over the management of Latham Island. While Latham Island most definitely requires more effective protection from the increasing pressures that threaten the productivity of the island, a lack of clarity exists in terms of jurisdiction of the two sides of the Union. The island is a unique area as it is an offshore atoll to which local fishermen are going more frequently over the last 3 years. There are also recent reports of dynamite fishing around the island. One undisputed fact is that Latham must be protected in some way. Possibly, for the time being through a joint authority or committee between the Union government and Zanzibar government to manage the island while a jurisdictional dispute is resolved. This issue is also discussed in the associated synthesis report.

3.4 Priorities for improvement

The above discussion has highlighted the challenges inherent in implementation of provisions in the current legislation. The issues discussed point to the need for:

- Modifying some of the legal instruments pertaining to MMA management to:
  - Embody the vision for the future sustainable use and management of Tanzania's marine and coastal resources in networks that encompass all types of MMAs. To this end, the aim should be to:
    - clarify jurisdictional mandates among authorities responsible for different types of marine management;
    - recognise the respective roles of stakeholders in managing marine areas;
    - support decentralisation and the greater involvement of a diversity of stakeholders in MMA management, particularly in the Marine Parks and Reserves Board of Trustees and the Advisory Committee to the Board;
    - support the management of MMAs as networked areas; and
    - require the application of EIA requirements within the MMAs to guide development.

- Providing more substantially for community-driven, adaptive management initiatives to be established as part of the MMA networks;
- Establishing a mechanism for coordination of different authorities, organisations and community groups around MMA networking.

It may be useful for the country to think about developing an overarching ocean policy that would provide impetus for and a means to enabling greater cohesion in matters of marine management by mainland Tanzania. The development of policy, can however, be a costly and extended process and may be less practical than development of a strategy for supporting practical implementation.

The synthesis report that informs both this report and the Zanzibar MMA report, proposes the initiation of a process for development of a framework to establish a National Network System. Such a framework would provide an overarching strategy and vision for managing the country's MMAs as a cohesive whole rather than on an isolated, ad hoc manner. Such a framework may also be more effective than developing more policies or legislation but would need a high level of political buy-in to ensure that the process is participatory.

Regardless of the challenges contained within provisions of the existing policy and legislation, there remains a serious problem with enforcement of the provisions of the laws. The following section discusses the Institutional arrangements for MMA management and examines what the challenges may be from an institutional perspective.

4 Institutional Framework for Marine Managed Areas

4.1 Institutional governance for MMAs

Institutional arrangements are essentially the "rules" influencing performance and can be both formal and informal rules. The formal institutional arrangements are codified in constitutions, statutes, regulations, plans and policies. The informal institutional arrangements are manifest in social expectations such as the rules governing relationship within a community. Informal institutions are embedded within the traditional norms and therefore bear both spatial and temporal variations.

They are implicitly important foundations for formal institutions and where these are best matched; they often result in surpassing successes in management of coastal and marine resources (Shalli, 2011). For instance, an assessment conducted by Mclanahan et al (2006) of alternative approaches to coral reef management in Papua New Guinnea and Indonesia, found greater conservation effectiveness in all areas under traditional management and at one co-managed reserve when compared to nearby unmanaged areas.

The study suggests that traditional management institutions reflect local understandings of human-environment interactions that are an integral part of local cultures and traditions, and provide communities with tangible benefits. Thus, in areas lacking resources for proper enforcement, traditional management regimes that better meet a range of community goals may achieve greater conservation success than systems designed primarily for tourism and biodiversity conservation (Mclanahan et al 2006).

Governance is often confused with the government and/or administration. It is rather a strategic and operational management that involves interactions between and among legislation, institutions (stakeholders), principles and processes. With respect to who holds decision-making and management authority and responsibility about protected areas, IUCN distinguishes four broad governance types in protected areas that are applicable in MMAs in Tanzania (Table 6).

Note that governance types describe the different types of management authority and responsibility that can exist for protected areas but do not necessarily relate to ownership. In mainland Tanzania, ownership of MMAs remains with the state, which either manages directly or delegate management to communities, NGOs or others.

Table 6: Types of governance for MMAs in mainland Tanzania (after Dudley, 2008)

Governance type	Description and application
Governance by government	A government unit such as a MPRU, which reports directly to the government (Division of Fisheries Development, Ministry of Livestock and Fisheries Development). The Unit holds authority, responsibility and accountability for managing MPAs and determines its conservation objectives, develops and enforces its management strategy and plans. Government sometimes retains control of a protected area – decides the objectives and planning of managing an MPA – but delegates daily management tasks to LGA, NGO, or community. For example, the arrangement that MPRU has with Pangani District Council on the management of Maziwe Island marine reserve. Participatory approaches are however increasingly common and generally desirable and thus provides room for mixed governance among the four types.
Shared governance	Formal and informal institutional mechanisms and processes are employed to share management authority and responsibility among governmental and non-governmental actors. Often referred to as co-management and varies in operational forms collaboration, participation or joint management. Examples are TCZCDP, RUMAKI, KICAMP, REMP described under section 2.3.3.
Private governance	Individual, cooperative, NGO or corporate control and/or ownership, and management of marine area (sanctuaries). There are currently no such arrangements in mainland Tanzania but they are practiced in Zanzibar, e.g. Chumbe Island Coral Park. The authority for managing the sanctuaries rests with the landowners, who determine the conservation objective, develop and enforce management plans and remain in charge of decisions, subject to applicable legislation.
Governance by local communities.	Community conserved areas established and run by local communities through various forms of customary or legal, formal or informal, institutions and rules. Rules generally intertwine with cultural and spiritual values. The customary rules and organizations managing natural resources often possess no statutory legal recognition or sanctioning power. Nevertheless, whatever the structure, the governance arrangements require that the area under the control of indigenous peoples/local communities has identifiable institutions and regulations that are responsible for achieving the protected area objectives.

Applying a given type of governance is one thing while the functioning of a particular governance system adopted is another. For MMAs in all of the governance categories, effectiveness in management is a key expectation that provides a measure of performance and achievement of the conservation goals. Quality of governance has great influence in achieving the envisaged management effectiveness. Quality refers to how well a governance regime is functioning. In other words, the concept of governance quality applied to any specific situation attempts to provide answers to questions such as "Is this 'good' governance? and "Can this governance setting be 'improved' to achieve both conservation and livelihood benefits?" (Dudley 2008).

The guiding principles for governance for effective management of MMAs in mainland Tanzania are summarized in Table 7. However, implementing these principles introduces a myriad of legal and institutional challenges that requires continuous revisions and adjustments if there is to be effective management.

Table 7: Relevant guiding principles and their practical challenges for quality governance in management of MMAs in mainland Tanzania (after Dudley, 2008)

Principle	Descriptive applicability	Challenges in practice
Legitimacy and voice	Requires social dialogue and collective agreements on MMAs management objectives and strategies on the basis of freedom of association and speech with no discrimination related to gender, ethnicity, lifestyles, cultural values or other characteristics.	Requires long term plans for sensitization and awareness raising before actual institution of MMAs. Inadequate resources (materials and personnel) to fulfil the long term plans. Often establishment of MMAs are fast tracked because of limited resource availability to maintain preparatory dialogues with communities.
Fairness	Sharing equitably the costs and benefits of establishing and managing protected areas and providing a recourse to impartial judgement in case of related conflict.	Take long to realize and translate empirical socio-ecological benefits of conservation especially at local/individual levels. As such stakeholders often feel that their sacrifices for conservation is earning due compensation from the protected resource excellence especially in terms of improved livelihoods.
Do no harm	Ensuring that the costs of establishing and managing protected areas do not create or aggravate poverty and vulnerability of communities in and around particularly MMAs.	
Subsidiarity	Management authority delegated to the lowest possible organisation to enhance interactions and effective government-community communication.	There is no effective public communication strategy and there remain persistent concerns from stakeholder, especially the private sector and partner NGOs of limited transparency and effective participation on the MPRU side. Absence of shared responsibility with LGAs. Although the structure in the MPR Act is superficially correct, it doesn't work in practice. A gap remains between stakeholders (communities, private firms) and MPAs. MPRU is challenged by NGOs to recognize the establishment of associations in the Act but is against organized committees. VLCs are essentially seen as part of the MPAs and not representative of the villages as they are in practice not independent nor accountable to the community.
Performance	Effectively conserving biodiversity whilst responding to the concerns of stakeholders and making a wise use of resources.	
Accountability	Having clearly demarcated lines of responsibility and ensuring adequate reporting and answerability from all stakeholders about the fulfilment of their responsibilities.	
Transparency	Ensuring that all relevant information is available to all stakeholders.	

4.2 Government institutional structures

The institutional framework within which management of MMAs in Mainland Tanzania is harnessed is both multi-sectoral and multi-scaled across the central government and local government authorities. The existing laws and regulations provide various government institutions with varying degrees of (often conflicting) authority to carry out coastal and marine resources management as discussed earlier (Masalu 2003). The overarching legal framework for environmental management in mainland Tanzania is the EMA, 2004. This confers the task of overall coordination of environmental management in the country and provision of the central support functions to the Ministry Responsible for Environment, under the Vice President's Office. These functions concern the organization, coordination of regulations and the establishment of a coherent context for environmental management.

The placement of environment portfolio under the Vice President's Office is advantageous as it offers strong policy and political influence, strong capacity for inter-sectoral coordination and a high visibility for environmental management. The Act confers the role of management of specific natural resources or environmental services, such as agriculture, fisheries, forestry, wildlife, mining, water, and waste management to respective sector ministries, and the LGA. The functions conferred by the EMA are guided by respective sector specific policies and legislation. For MMAs, the legislative back-ups are multi and cross-sectoral at various administrative levels as presented in Figure 2.

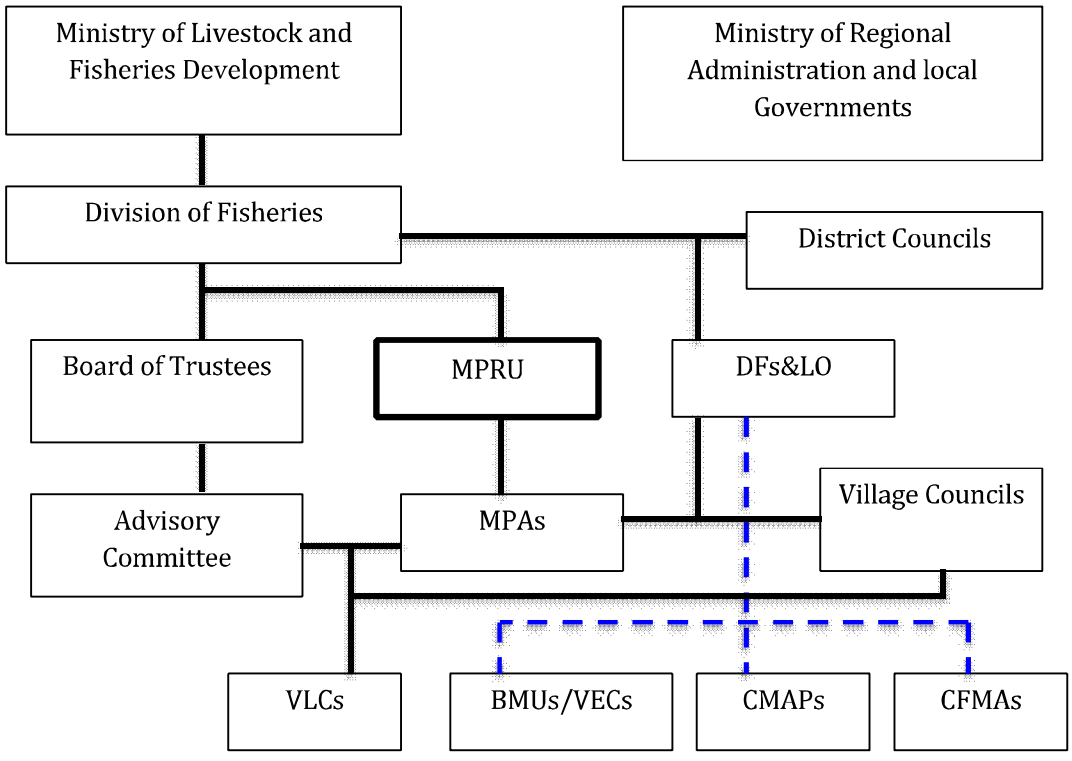


Figure 2: Institutional relations on management of MMAs at various levels

4.2.1 Division of Fisheries Development

The Marine Parks and Reserves Unit oversees the establishment and management of MMAs while LGAs oversee other forms of community-based collaborative MMAs arrangements. Figure 3 illustrates the structure of the Division of Fisheries Development within which MPRU falls in the Ministry of Livestock and Fisheries Development.

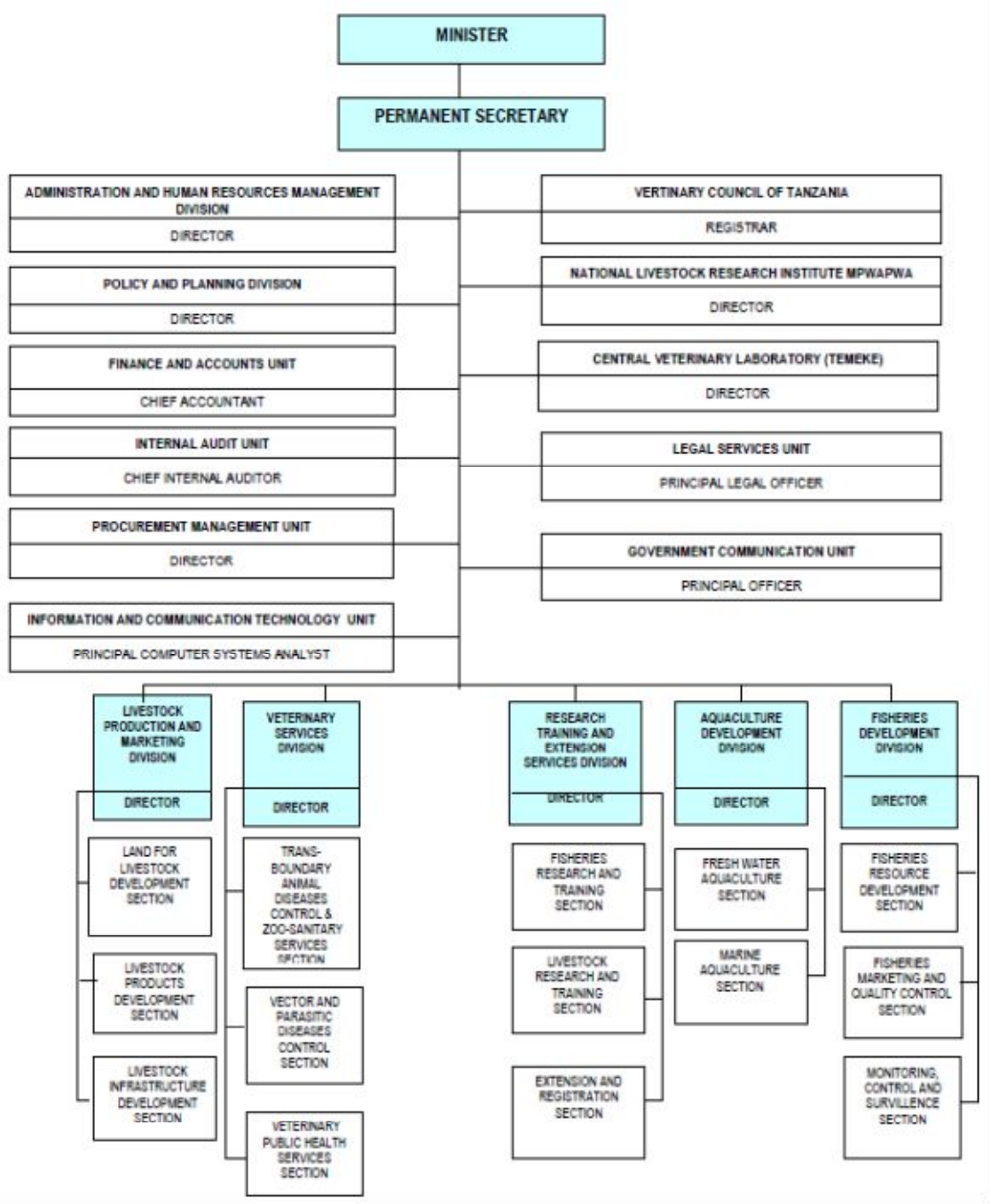


Figure 3: Organogram of the Ministry of Livestock and Fisheries Development

The Division is the custodian of the Fisheries Policy and Strategy Statement of 1997 and the Fisheries Act of 2003 and is charged with overseeing management and development of fisheries resources for sustainable development that ensure improved livelihood of fisheries dependent communities without compromising environmental conservation.

4.2.2 Marine Parks and Reserves Unit

4.2.2(i) Administrative operations

The Marine Parks and Reserves Unit was established and operates under the provisions of the MPR Act of 1994, which also provides for the establishment, management and administration of MPAs operational in mainland Tanzania to ensure sustainable use of the marine resources. The unit exercises semi-autonomous authority under the Division of Fisheries Development in the Ministry of Livestock and Fisheries Development. The MPRU organization chart (Figure 4) indicates that the Unit is managed by the Board of Trustees. This organizational set up places MPRU under two lines of reporting, that is the BoT and the Division of Fisheries Development.

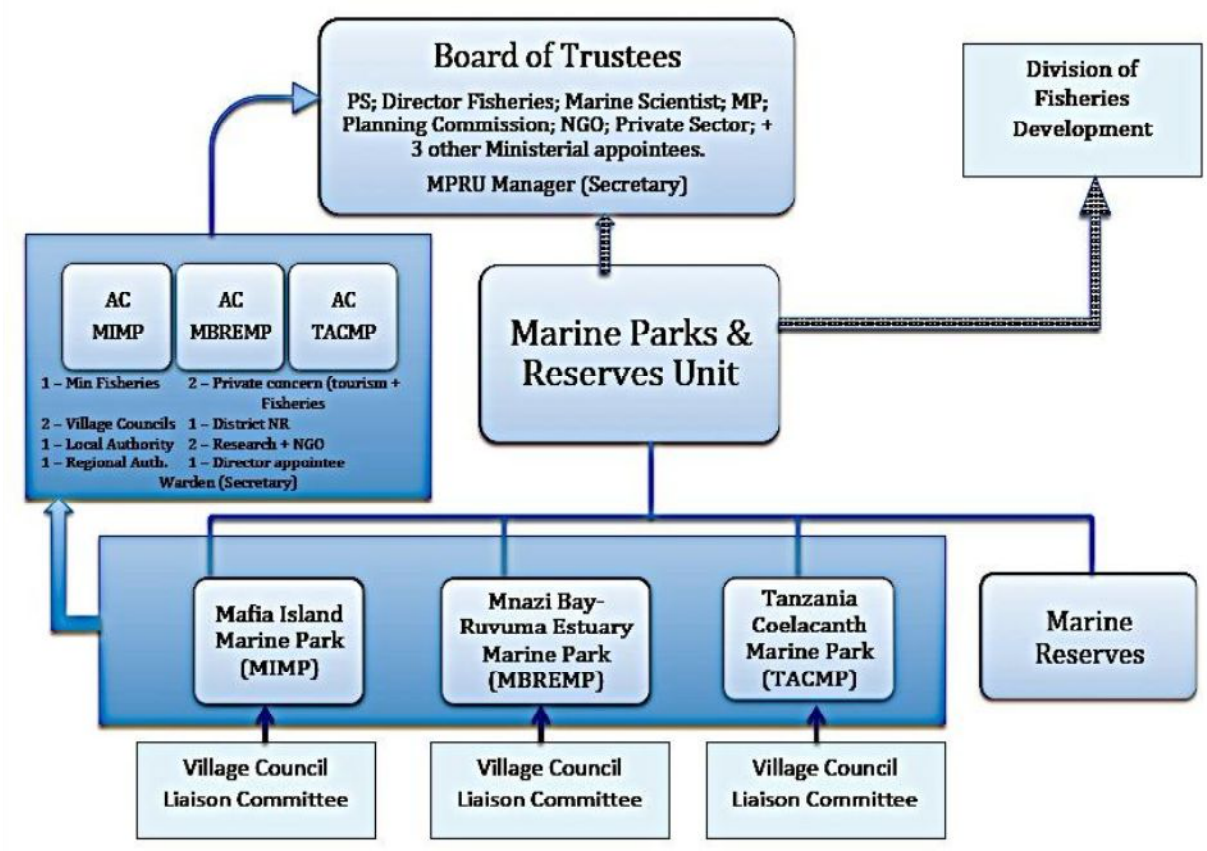


Figure 4: Organisational chart indicating dual lines of reporting for the MPRU

In accordance with the Act, the MPRU Manager is answerable to both the Board of Trustees and the Director of Fisheries. The first appointment of the BoT came into force in 1996 following the first declaration of a marine park, the MIMP. Refer back to Chapter 2, section 2.3.2 for detailed description of the existing MMAs in the country.

While the hierarchy management structure of MPRU is relatively simple and self-containing, jurisdictional roles in discharging of duties at different levels are subject to improvement to enhance effectiveness and efficiency. For example, there is need to address the complicated double line of reporting. It is from this background that the proposed transformation of MPRU into a full flagged autonomous authority is included in the revised MPR bill.

4.2.2(ii) MPRU Vision, Mission and Values

Vision: Marine Protected Areas in Tanzania become the joy and pride for all.

Mission: To establish and manage Tanzania's marine protected areas for sustainable use.

Motto: Let us share the gift of nature together

Core values:

- Marine and coastal resources are conserved for sustainable development
- Communities are involved and fully participate in the management and conservation of marine and coastal resources.
- Management of Marine Protected Areas (MPAs) and delivery of high quality services from them is carried out efficiently.

In order to drive towards its vision and achieve its mission MPRU has the objectives to:

- Manage Marine and coastal areas so as to promote sustainability of the use, and the recovery of areas and resources that have been over exploited or otherwise damaged.
- Ensure that communities and other local resident resource users in the vicinity of the Marine protected area that depend on the resources for their livelihood are involved in all phases of the planning, development and management.
- Ensure that communities share in the benefits of operations of the protected areas and have the priority in the resource use and economic opportunity accrued by the establishment of a protected area.
- Promote community oriented education and dissemination of information concerning conservation and sustainable use of the marine protected area.
- Stimulate the rational development of underutilized natural resources.
- Protect, conserve and restore the species and genetic diversity of living and non-living marine resources and ecosystem processes of marine and coastal areas; and
- Facilitate research and to monitor resource conditions and uses within the marine protected area.

To fulfil these objectives, the duties of MPRU are guided by the following activity strategies:

1. To put in place and legal tools for smooth management of MPAs.
2. To consolidate human resource capacities in the MPRs management t.
3. To publicize and disseminate Marine Parks and Reserves information such as regulations and its amendments to all stakeholders.
4. To establish and maintain boundary development in all Marine Parks and Reserves.
5. To develop and establish an effective revenue collection system in all MPAs as per law.
6. To undertake 5 year strategic planning exercises including a Mid and Long Term MPRs Financing strategy to reduce excessive Board's dependency on government funding.
7. To improve the economic welfare of local communities living inside Marine Parks and Reserves by promoting ecologically, socially and economically acceptable practices.
8. To develop and maintain open and consultative procedure between the Board, Marine Parks and Reserves management, local government authorities and other stakeholders in relation to institutional arrangements, mandates and administration.
9. To put in place generic management tool for guiding development within MPAs.

4.2.2(iii) Operationalization

For performance indication, monitoring and evaluation, the MPRU strategic plan and activities are geared to address five key result areas. These key result areas implicitly form operational units within the MPRU administration. These are:

- Legal Framework, Organisation and Management
- Conserve Biodiversity, Cultural Resources and Ecosystem Processes
- Financial Mobilisation, Accountability and Sustainability
- Information, Education and Communication
- Research and Monitoring

The draft MPRU of the new strategic plan for the next 5 years (2012-2016) it is mentioned that MPRU will strive to establish 3-5 new MPAs. But there does not seem to be any rationale for it, or capacity to manage the existing MPAs. While MPRU has strived to discharge it functions using a mixture of both top-down and bottom-up approaches, there are yet emerging concerns from some stakeholders that MPRU seems to have a very rigid idea of what they want to do – which is very top-down. MPRU is criticized especially by the private sector that it being driven away from its core function of conservation and only seems to aim at the collection of revenue rather than conservation outcomes. This is a critical management factor that MPRU or rather MPRA (once the proposed Act revision is approved) will need to resolve in order to maintain the supportive atmosphere from conservation partners in the private sector.

4.2.2(iv) Leadership hierarchy - lines of administration and reporting

Board of Trustees: As depicted already in Fig 5 above, the Board of Trustees (BoT) for Marine Parks and Reserves in mainland Tanzania operates under the umbrella of the Ministry of Livestock and Fisheries Development. The core function of the Board is to advise

the responsible Minster on the overall policy and legislative matters pertaining to the management and conservation coastal and marine resources. Specifically the BoT is charged with the functions of:

- Formulating policies on marine parks and related facilities and activities;
- Overseeing the Marine Parks and Reserves Conservation and Development Fund;
- Advising the Director of Fisheries Development on management of marine reserves;
- Advising the Minister on approval, revision and amendment of general management plans of MPAs;
- Designating specified marine and coastal areas as marine parks, marine reserves or buffer zones;
- Preparing and ensuring implementation of regulations, and other matters affecting marine parks and reserves.

The Unit and Unit Manager: The Unit is within the Division of Fisheries Development, and is by the provision of the MPR Act established by the Director of Fisheries Development, who, in consultation with the BoT, appoints the Unit Manager. Functions of the Unit are to:

- Establish, monitor, control, manage and administer of marine parks and reserves;
- Seek funds for establishment and development of MPAs;
- Expend such funds in furtherance of MPAs;
- Implement provisions of MPR Act and subsidiary legislation;

Operationally, the Unit, with consent of the responsible Minister, may undertake any of the following additional functions:

- Establish, operate or manage office and service for the purposes of their duties under the MPR Act, in the publicizing of their activities, the promotion of interest in conservation, and the assistance of visitors to the marine parks;
- Promote educational material and informational services to local resident users of the park or reserve;
- Establish, operate or manage or grant concession or licenses to other persons to operate or manage on their behalf any rest camps, lodges, restaurants or other places of accommodation of visitors travelling to or from any marine park or for the accommodation of visitors to any place of aesthetic, geologic, historic or scientific interest which may be operated in connection with any marine park;
- Operate transport services for the conveyance of visitors.

Advisory Committee: The MPR Act provides for formation and functions of ACs for marine parks. The core role of these ACs is to advise the BoT in consultation with the Warden in Charge on regulations, technical, scientific, and operational matters related to day-to-day running of the particular marine park. These committees constitute the representative of Marine Park stakeholders including the local community, local government academia, private sector and conservation NGOs.

Warden in Charge: Each marine park has a Warden in Charge who is vested with responsibilities to administer the Park subject to the control and authority of the Board and advice of the Advisory Committee. The warden appoints officers to administer the marine park in consultation with the Board.

Village Liaison Committees: The MPR Act provides for formations of VLCs as a structure to involve village councils representing communities in the vicinity of MPAs, which affects or is affected by MPAs. Either directly or through VLCs, each Village Council as provided by the MPR Act shall:

- Participate fully in all aspects of the development of any amendment of regulations, zoning or GMP;
- Advise Warden in Charge, AC, and/or Unit Manager concerning matters relevant to management and conservation of park;
- Serve as a liaison between members of the village or community and the Warden, Advisory Committee, Unit Manager, and the BoT.

Field consultation responses indicated that the current structure of MPRU is problematic as earlier indicated due to dual reporting responsibilities. The Unit Manager reports to the BoT as well as the Director of Fisheries Development who also seats in the BoT. It is reiterated here again that because of this complicated accountability arrangement, it is being proposed that MPRU needs to shift from being a unit into an agency or authority. It is argued that it has now become bigger than a unit on the bases that it manages three marine parks and 15 marine reserves with strategic plans to have at least three more MPAs within the five-year lifetime of the next strategic plan 2012-2016. With the proposed structural shift, the authority will be able to justify increased budget and staff deployment to overcome increased responsibilities. However, with the envisaged increase in budget allocation due the restructuring of the MPRU, it important to make sure that accounting is similarly aligned with the government budgets. This is because there is a danger in transforming it into a business model while it continues to bear a public service brand.

Down to individual MPAs level, field practitioner responses indicated that MPAs need to reform. Stakeholders were of the feeling that MPAs are in the domain of the public but government use of a top-down approach jeopardizes this. A literal argument put up by especially local communities is that fisheries are a common heritage and therefore needs to be managed as such. It has to be acknowledged that management can't be in the hands of only single body.

4.2.2(v) Resources

Staffing: Both the Unit and individual MPAs are current understaffed. A note from the Unit Manager is striking that on an overall, MPRU with its outpost MPAs requires a crew of about 200 but only 66 staff is currently deployed. This is a huge institutional shortfall to expect effective delivery and management of MPAs. For example, TACMP has only four staff, all of which have been borrowed from MIMP, demonstrating that establishment of the park was largely an ad-hoc move and the government has not yet been ready and able recruit the necessary personnel for it to effectively function. There is urgent need of expertise in community development, marketing and tourism in particular for outposts in MPAs. At the Unit head office expertise in ICT (system administration), law and accounting (internal auditor) and urgently needed.

Financing: source and sustainability: While the ideology of MPAs is primarily embraced in biodiversity conservation to attain sustainable utilization of the coastal and marine resources, financing towards achieving this goal is an important management entity if successes are to be recorded, Sources and sustainability of the available and devised financial mechanisms and modalities are even vital. Spergel (2001) describes more than 25 different ways of raising revenues for protected areas in general, from which specific types of PAs may make up recipes that suite specific country legal and institutional situations for effective operations and sustainability. This guide is recommended across various cadres of conservation practitioners, policy and decision makers in governments, donor agencies and conservation NGOs and therefore a accessing and complete reference on the report is highly recommended. Sources of financing MPAs in mainland Tanzania fall under two major categories, external and internal sources:

- External sources of funding for MPAs include the annual budget allocations from the central government, grants and donations from conservation and development donor agencies such as UNDP and World Bank/GEF. For the MPAs in Tanzania, it is often characteristic that this form of funding takes the lead in the initiations of protected areas. Unfortunately the dependency on contributions and donations is not on domestic sources rather on external agencies, corporations and foundations.
- Internal sources of funding include collections from user fees such as tourism entrance fee, concession fee and research and filming fee.

These sources are stipulated in the MPR Act (Part IV, section 7), which provides for establishment of the Marine Parks and Reserves Revolving Fund, which is deemed to serve as a repository for:

- All funding received from the Government for use within or relating to the Unit or any MPA;
- All voluntary subscriptions, donations or bequests received by the Unit or any MPA from any source;
- All proceeds from user and entry fees, tourism levies, proceeds from licensing fees and other charges imposed by MPAs in respect of the use, development of, or any activities in the MPAs;
- Revenue from the sustainable resource use or development activities conducted by the Unit;
- Any other sum or property, which may be vested in the Unit or MPA as a result of the performance of its functions.

While none of these ways of raising revenues provides a panacea, and while a combination of approaches is largely needed, the internal generation of funds is critical to sustainable financing of MMA management (James et al. 1999). However, like in many other developing countries, MMAs in Tanzania have largely and heavily depended on government subventions with uncertainties of the levels each year in. For example, over the last 2 fiscal years, MPRU reported to have been receiving hardly 40-50% of their budget requests. This, as James et al. (1999) denote, poses critical challenges in meeting basic conservation management. As a result, MMAs in Tanzania like in many other developing countries are liable to becoming mere “paper parks” when they lack sufficient funds to pay for recurrent expenses like staff salaries, patrol vehicles, or wildlife conservation programs. Therefore, to sustain operations in the long-term, MMAs in mainland Tanzania should look for sustainable financing

strategies/mechanisms as indicated by different stakeholders during the field consultations. This however has already been a global concern that rather than external sources, PAs should be more financially self sustaining by generating their own income (Kelleher 1999).

Adopting a definition by Hurd (2003), financial sustainability refers to the consistent supply of revenues over time sufficient to meet the costs of core operations of MMAs. Essentially, sustainable financing ensures basic costs are covered for the foreseeable future. In the wake of the global concern PAs financial sustainability, MPRU do not have sustainable funding. From different consultations and expert opinion the following were put forward with regard to financial sustainability for MPRU and its outpost MPAs. These are restated in Table 8 with additional notes on comparative advantage and disadvantages of each:

- The government should increase its funding share. For this, James et al. (1999), also recommended that relying on government funding may be more sustainable in the long run than relying on international donors. Increased government funding demonstrates that biodiversity conservation is an important national priority, rather than simply the concern of a few private organizations or international donor agencies. However, government funding may be vulnerable to sudden shifts in government spending priorities in times of economic crisis.
- Entry fees are the most common kind of protected-area user fees. They may generate enough revenue to pay for a large portion of a park's operating costs, especially in parks where visitor numbers are high and the entry fees are also relatively high. Therefore, for efficient and viable operation, it was indicated that MPRU should improve coastal tourism attractions with the inclusion of ruins (where available). This may include the need for increasing awareness among locals to undertake coastal tourism. According to Dar es Salaam Marine Reserves, only a small number of local visitors has been observed. Local tourism is important because foreign tourist numbers may suddenly drop as a result of domestic or international political or economic crises. However, it may be politically difficult to charge fees for use to locals for what was previously treated as a free public resource.
- There is a need for alternative funding sources like Blue Carbon trading from growing corals and conserving sea-grasses and also from mangrove forests. Therefore, MPAs would be paid for the conservation efforts of the marine plants for carbon sequestration.
- Oil and gas companies that conduct activities within the ocean should assist to finance MPRU. Using natural resource "rent" to finance protected areas has a powerful logic: It compensates for the extraction of one type of natural resource by conserving another. This is exemplified by US-NPS (1997) that the U.S. Land and Water Conservation Fund draws its revenues from the fees paid by oil companies to the U.S. government for offshore oil and gas leases. Also, that some countries require utility companies, telecommunications companies, and energy companies to pay money for the right-of-way to construct and maintain electric power transmission lines, telephone lines, broadcasting towers, or natural gas pipelines inside protected areas. The fee must be used to pay for conservation of the protected area in which the construction or maintenance activity occurs.

In addition to the existing models of financing MPAs in Mainland Tanzania, there are other potential financing models that can be tested and integrated into the management plans of

MMAs in the country through a business plan that is separately developed to form part of this volume. MMA managers also need information to understand which methods, models, etc. work best in their given situation. These are in an overall briefly elaborated in Table 8 which is largely drawn from Spergel (2001), complemented by field based practitioner reported experiences with indications of their applicability and requirements for legal and/or institutional reforms to suite the purpose, drawing specific examples from an overview of the financing situation of MMAs in Mainland Tanzania by Hurd (2003).

Table 8: Comparative profile of different potential sources of financing MPAs in Tanzania. (Spergel, 2001, and field research)

Source category	Types	Purpose description	Advantages	Disadvantages
Government subventions	Annual budgetary allocations	Recurrent expenses	More sustainable in the long run. Demonstrate national commitment and priority in biodiversity conservation, rather than simply the concern of a few private organizations or international donor agencies.	Vulnerable to sudden shifts in spending priorities and budget cuts in times of economic crisis. Distracted decisions on political patronage and agendas over conservation criteria.
Direct donor grants and loans	Grants, loans	Seed fund for MPA establishment, technical and infrastructural support, community-based project implementation.	Ideal for short term funding of impact projects.	Subject to changes in donor priorities over conservation.
Donor funded conservation trust funds	Endowment funds Sinking funds Revolving funds	Capital provision for establishment of conservation trust funds to finance: - Single MMA - System of MMAs - Cross border MMA - Conserve endangered species - Local community projects	Sustained, long-term funding for PAs. A way of channelling a large international grant into many small local grants. Can be used to strengthen "civil society" through participation and empowerment.	May involve high administrative costs where the fund has to provide substantial technical assistance to grantees in the design and implementation of projects. Fund's management board often finance many unrelated projects that lack a common focus.
Self generated revenues	User entry fees	Supplementing, rather than replacing, government budget allocations and donor grants.	May generate enough revenue to pay for a large portion of a park's operating costs, particularly when visitor numbers and entry fees are relatively high.	Vulnerable to perceptive satisfaction of visitors. Political repercussions on charging fees for use of once regarded free public resource. Liable to sudden shocks as a result of domestic or international political or economic crises. Liable to government spending for other purposes. May not be accessible for MPAs royalties whereby the central treasury priorities are not aligned with biodiversity conservation.
	User concession fees	Charge for the right to operate businesses i.e. lodges, stores, restaurants, tour companies, or other commercial facilities.	Generate large income. Fairness and advocate the "user pays" and the "polluter pays" principles in apportioning costs of protection.	
	Recreational activity permit fees	Charge for specific recreational activities.	Advocates willingness to pay as long as it is demonstrated that the money goes into protecting the park's coral reefs, rather than into the government's general budgetary accounts.	
	Royalties for natural resource extraction: oil, mining, timber and fishing	Compensation for the extraction of natural to conserve another		

Self generated revenues	Fees for the right of way for infrastructural construction.	Utility charges for companies for the right of way to construct and maintain infrastructures like power and telecommunication lines, broadcasting towers, gas pipelines etc.	Advocate user pays and polluter pays principle.	While the primary requirement to effect this may be that the fee must demonstratively be used to pay for conservation of the protected area in which the construction or maintenance activity occurs, the danger is that as it falls under the central government treasury, where the allocation may not necessarily favour conservation.
	Payment for ecosystem services	Carbon offset credits as PES from mangroves, growing corals, and seagrasses.	Encourage avoided deforestation and/or degradation on natural forests, corals and seagrasses and enhance community collaboration through restoration of degraded systems.	Dependent on carbon market forces and willingness to pay from multilateral polluter companies.
	Fines for illegal logging and fishing	Sales from confiscated materials that were illegally used and/or taken from protected areas.	Enhance law enforcement on protection of natural resources	Money from fines and forfeiture are paid into the central treasury where there may be no priority for conservation.
	Income from commercial operations run by MPAs	MPRU and individual MPAs may themselves aspire to directly own and operate visitor concessions such as lodges, restaurants, and stores inside MPAs.	Potentially easy adopted way to raise finances for conservation.	MMAs managers are often civil servants or scientists rather than business people, and their decisions are often constrained by political drivers that conflict raising of prices for lodging and other visitor services, even when costs go up.

While the Government Notice No.92 of 17th April 2009 (followed by a public notice by MPRU dated 1st June 2009 emphasizing on the same), published a schedule of fees for all activities undertaken within the MPAs boundaries (Table 9), reservations remain from a section of stakeholders over the legal authenticity and applicability of some of the scheduled fees. For instance, private hotel operators have lodged a court injunction on the proposed concession fees. The relationship between the MPRU and private investors has deteriorated over this issue as investors maintain that the concession fee is not legal as under the current land law, while authorities suspect the private sector of attempting to avoid payment of revenues. The suggestion is that the MPRU cannot legally charge a concession fee as most of the land falls under "general use" category and not "Reserve Land". While there is a possibility of transferring land from one category to the next, if land is moved to "Reserve land", every landowner must be compensated. The legalities of erecting access control is therefore also brought into question. This issue requires legal clarification to reduce the uncertainty, establish a valid framework for revenue generation and disbursement and rebuild the relationship between the respective parties.

Lessons and experiences from other areas across the world indicates that many parks in developing countries charge entry and concession fees that are far lower than what international visitors would be willing to pay and in comparison to the true market value (Barnes 1998; Spergel 2001). Many parks also do a very poor job of actually collecting entry fees. Concerns are that revenues from visitor fees will eventually decline unless a large part of the revenues are invested back into maintaining the protected areas where the fees are collected. Special legislation is usually needed in order to earmark and tap on these revenues for conservation. To address this challenge, some countries now let individual PAs to keep a significant part of the collected fees. In Ecuador for example, there is a Special Law for the Galápagos National Park that requires that 90 percent of the US$100 park entry fee must be used to protect and maintain the Galápagos' natural environment (The Nature Conservancy 2001, access and complete reference to this report is highly recommended). In Brazil's the law that govern the National Protected Areas System authorizes the country's environmental agency to collect an environmental compensation fee equal to one-half of 1 percent of the construction costs or annual maintenance costs of any pipeline, electric power transmission line, or broadcasting tower that is located in a national park.

Allocating different user fees rates between locals and foreigners is not a new thing for MMAs in Tanzania. The same is applied in the national parks under TANAPA. Many other countries also apply similar pricing systems where foreigners pay higher fees than locals (Lindberg 1997; The Nature Conservancy, 2001).

Table 9: Scheduled user fees for MPAs in mainland Tanzania as provided in the government notice No 92 of 2009

A: ENTRANCE FEE FOR EACH PERSON PER DAY IN THE MARINE PARKS		
	Tanzanians	Non Tanzanians
(i) For each person above the age of 15 years	Tshs 2000	US$ 20
(i) Between the age of 5 years and 15 years	Tshs 1000	US$ 10
(iii) Children below the age of 5 years	Free	Free
B: ENTRANCE FEE FOR EACH PERSON PER DAY IN THE MARINE RESERVES		
	Tanzanians	Non Tanzanians
(i) For each person above the age of 15 years	Tshs 2000	US$ 10
(i) Between the age of 5 years and 15 years	Tshs 1000	US$ 5
(iii) Children below the age of 5 years	Free	Free
C: BOAT AND SPORT FISHING LICENSING WITHIN MARINE PARKS ONLY		
(i) Boats powered by engines of 40hp or less (including mashuas) trading in marine resources	US$ 50 per month	
(ii) Boats powered by engines of more than 4hp trading in Marine Resources	US$ 100 per month	
(iii) Visiting leisure boat privately owned and non-commercial	US$ 100 per entry for max 5 days	
(iv) Visiting commercial leisure boat including chattered	US$ 200 per entry for max 5 days	
(v) Game fishing boat	US$ 200 per entry for max 5 days	
(vi) Cruise ship/tourist passenger boat	US$ 1000 per entry for maximum of 5 days	
(vii) Visitors staying at lodges and fishing in a boat owned by registered Business in the Marine Parks or visiting game fishing boats shall pay for a fishing license	US$ 50 per entry of 5 days	
(viii) Fishermen on game fishing boats each pay a fee	US$ 50 for period up to 5 days	
D: LICENSED BOAT OPERATING WITHIN MARINE RESERVES ONLY		
(i) Passenger boats with a carrying capacity of seven (7) passengers	US$ 300 per month	
(ii) Local registered leisure boat	US$ 20 per month	
(iii) Foreign registered leisure boat	US$ 50 per entry	
E: CONCESSION		
(i) Permission to operate public services (e.g. restaurants & night camping) in the Marine Reserves	US$ 1200 per month	
(ii) Permission to operate public services (e.g. tourist hotel & night camping) in the Marine Park	US$ 1500 per month	
(iii) Night camping fee in both Marine Parks and Marine Reserves	US$ 20 per person per night	
F: COMMERCIAL FILMING FEES		
Image capture of any type, i.e. still photograph, motion picture photograph, still or conventional video imaging, for commercial purposes, in any Marine Park or Marine Reserve	US$ 1000 per period of up to seven (7) days.	
G: REVENUE SHARING AMONG MPRs AND KEY STAKEHOLDERS A portion of net revenue from user fee shall be shared among the MPRU, District Councils and Local Communities in the vicinity of Marine Protected Areas as per Marine Parks and Reserves Act. The distribution percentage shall be as follows.		
(i) Marine Parks and Marine Reserves (MPRU)	70%	
(ii) District Authorities	10%	
(iii) Local Communities	20%	

4.2.2(vi) Information and communication

The MPRU needs to develop a communication strategy that should be included in the strategic plan. Although it was noted that there is a database through MACEMP assistance, the challenge remains as to how to get information into the database. The database is not used for decision-making or planning for specific conservation activities. It is currently just a repository of information. There is a need for more awareness of the kind of information needed for monitoring of conservation activities and planning for new areas. Efforts are needed to develop capacity amongst MPRU and MPA personnel to input information in the database. There is no regular submission of information in and shifting from paper reporting. This is largely attributed to lack of competent personnel in the area of ICT. The MPRU website for instance is dormant and it seems the last time it was updated was in the 2007. When advocating for networking, information and communication technology is instrumental for dissemination and sharing of information, results and documentation. This should urgent be fixed and the website has be live and reliable where stakeholders and partners can access and communicate with MPRU from fingertips.

4.2.3 Towards a more effective and cohesive management of MMAs

The above discussion provides an overview of the MPRU as the institution with the broad mandate for managing formal MPAs in mainland Tanzania. The discussion has revealed a number of requirements for strengthening the approach and operations of the MPRU to achieve a more inclusive and participatory style and to collaborate with other relevant parties to manage Tanzania's marine areas more comprehensively as a system of networks. These relate primarily to:

1 Modifying the complex double line of reporting responsibilities to both the BoT and the Fisheries Division;
2 Diversifying revenue streams to reduce reliance on either government allocation or on tourism revenues alone;
3 Strengthening human resources and capacities for effective management, monitoring, evaluation and reporting, and communication;
4 Clarifying current legal issues relating to MPA establishment and revenue generation and disbursement; and
5 Embracing the overall vision for strengthened MMA governance and promoting sectoral collaboration with relevant parties that have a mandate or interest in alternative approaches to MMA management (including other government departments, development partners, NGOs, CBOs and the private sector).

The next section discusses alternative approaches to MMA management in mainland Tanzania.

5 Collaborative management in Marine Managed Areas

5.1 The collaborative management concept

The post colonial institutional frameworks in most colonized countries maintained the colonial legacy of top-down institutional arrangements that neglected the development of lateral collaborative arrangements in order to secure power over valuable natural resources that were controlled by tribal chiefs and ethnic groups (Boateng 2006). The evolving social, cultural, economic and political transformations highlighted the need for recognition of the traditional institutions and for integration of the formal institutional frameworks to these informal (traditional) institutional frameworks (Purwaka and Sunoto 2002; Shalli 2011). This can be achieved through education and research, strong community participation and collaborative decision-making approach (Figure 5). This will broaden the ownership of the laws and policies, empower people, and also increase their commitment to implementation, which could likely lead to sustainable management of coastal and marine resources. The reality often leads to an unequal power balance despite the attempt to develop institutions and policies to ensure participation and equity in the management of and access to coastal and marine resources. Thus in most developing countries the policy and decision maker (state) tends to overshadow the sphere.

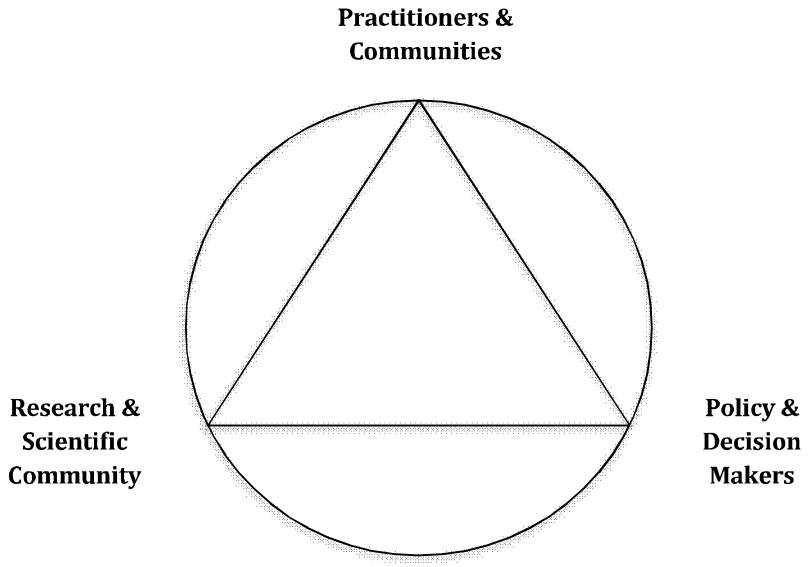


Figure 5: Tripartite pillars for understanding conservation practice for effective management of coastal and marine resources

Blueprint 2050 (Ruitenbeek et al. 2005) conceptualizes the term co-management as used to describe a situation in which some or all relevant stakeholders in an MMA, usually the local community, jointly manage an MMA with the conservation agency that has jurisdiction over it. It is a flexible concept because there are many social contexts in which participation in management takes place, with different time scales, actors, processes and results.

In its simplest terms co-management means that there is more than one player and it involves an arrangement and/or an agreement on how the rights and responsibilities associated with a resource are shared between a cross section of stakeholders often including government, communities, individuals, and NGOs. Such an arrangement usually does not pertain to shift ownership over the concerned resource. The conceptual ideology of co-management from the communities' point of view is based on the fact that if there is an assured and demonstrated stake the management, the more likely that they will look after the resource in a way that it will still be useful for the present and future generations. It legitimizes community involvement and respects the community's need for socio-economic development and use of their traditional rights, while maintaining government interest and concern on for instance a given MMA.

Two models of co-management arrangements exist:

- **Simple co-management** - No specifically defined rules of how rights and responsibilities are shared; instead only processes for defining the rules of sharing are fixed. For example, the arrangement may only state who is in charge of monitoring and who will hold enforcement responsibilities, and that we the costs and income are shared equally; and
- **Adaptive co-management (ACM)** – in addition to the simple co-management rules, this goes further to include agreements on the review process that allow time to time change of the arrangements to adapt and reflect to the experience and new emerging conditions. For example where there are changes due to ecological, social or political uncertainties, operating rules may need to change too. The spirit behind adaptive co-management is strengthened through ongoing learning and negotiations.

An empirical example of ACM in Tanzania is that of the TCZCDP which demonstrated the use of a few formalized instruments for sharing, learning and subsequent adaptation of management styles. This is a practical example of the application of effective methods for community-based coastal and marine resources management that strategized on issue-based action planning that adapts to outcomes. Currently RUMAKI is also adopting this ACM strategy and performance indications are encouraging.

5.2 Legal arrangements

Co-management may be instituted either formally or informally. Formal co-management is necessarily bound with existing legislation, and where they do not exist, formulation of laws for that purpose is a prerequisite (Purwaka and Sunoto 2002). Legislation on natural resources conservation and management in mainland Tanzania have increasingly provided for decentralized jurisdictional control of natural resources by LGAs and communities.

However, contrary to the terrestrial based resources, where most experience on applicability of the legislation like the Forest Act, Wildlife Act, Land Act, Village Land Act that advocates communal management arrangements, there is limited similar legislation for coastal and marine resources, the communal seas for that matter. Ruitenbeek et al. (2005) cite lessons from the Philippines that indicate that designing community seas is a possible legal undertaking in efforts to strengthen co-management arrangements. In Tanzania the Fisheries Act provides for the formation of BMUs, which are a potential natural starting point for designating communal (or community) seas. This is furthermore a good opportunity as well to rectify the observed shortfall in the Fisheries Act and address the need for an explicit spatial designation of BMUs in place of the implicit mention of the spatial extent of the "beach" in their title.

Unlike terrestrial environment, complexities exist on issues and interests in the management of coastal and marine resources, which emanate from the nature of interactions between land, sea and seabed. Four problems are related to the management of coastal and marine resources (Boateng 2006): i) No clearly defined boundaries; ii) International in nature (because water travels); iii) It is dynamic, due to the interaction of physical and human processes; and v) It is characterised by multiple users. Although the Fisheries Act provides for some sort of co-management arrangements, where the concept of BMUs is advocated, this remains rather vague (Ruitenbeek et al. 2005), and field experience considerably indicate increased jurisdictional conflicts with other sector legislation that decentralizes powers like the Forest Act, Wildlife Act, LGA Act.

Essentially, the main thrust of co-management arrangement is that it permits some flexibility such that if conditions change, institutional arrangements will adapt accordingly. Ogwang et al. (2009) emphasised that co-management is a learning process, as almost all situations differ and require different arrangements, systems and processes over time. However, this is what often emerges as a challenge in most of developing countries as they strive to strengthen conservation models for collaborative conservation and management. Institutions have persistently been rigid to adaptively transform their rights, responsibilities and embrace outcomes (Mangora 2011).

5.3 Making partnerships

5.3.1 Engaging and empowering stakeholders

Retention of state ownership of management of natural resources and the persistent feelings amongst communities that they are being dispossessed of their customary access and user rights on resources which they depend on for their livelihoods is widely cited as fundamental cause of land and natural resource conflicts in areas within and around PAs in Tanzania (Shauri, 1999). Shauri (1999) and Mangora et al (*in press*) further present what is largely a critique from local communities in and around MMAs in particular that, the continued state ownership and control of resources perpetuates the "biodiversity-first" philosophy of exclusionary conservation. This perpetuates the growing need for the legal and institutional framework for management of MMAs to recognize local communities'

interests in Tanzania. There is emerging understanding and recognition that conservation and management can no longer disregard interests of rural communities, especially adjacent to protected areas. There is also a realization that communities must obtain benefits if they continue to bear significant costs of living with MMAs.

Co-management in that manner facilitates awareness and participation. However, several problems still exist as a result of conflicting interests among stakeholders and overlapping jurisdictions over marine resources among government institutions and agencies. For example, practitioner responses largely indicated that there need to be a strong political will to really address the roots of the problems, i.e., conflicts of interest and overlapping jurisdictions among stakeholders, including governments, the coastal communities and the private sector. Decentralization is not apparent. As such the role of LGAs in managing coastal and marine resources is not significant yet where there is no external aid, not only financial but also technical. This is exemplified by the TCZCDP, REMP, KICAMP that have failed to extend beyond donor assistance and the programmes transferred to respective LGAs.

Lessons from other areas outside the WIO region indicate that where such confusion prevails over the status of existing written laws and regulations, local coastal communities apply their own unwritten traditional laws. These traditional laws are for example, in Indonesia recognized by the legal system (Purwaka and Sunoto 2002). The existing Fisheries Act and the Marine Parks and Reserves Act in for Mainland Tanzania do not make provisions for recognition of customary laws and practices. Traditional or customary usage rights practiced by coastal communities that for example exclude outsiders are critical considerations that need to be reflected in the legislation to encourage better management, and voluntary enforcement of the laws (Ruitenbeek et al. 2005).

It is therefore recommended that responsible government institutions should consider integrating traditional institutions and practices into the national legal system and to develop community-based marine fisheries management, even if these integrating efforts will take time and resources (Pomeroy and Williams 1994). For this, where customary laws or practices are consistent with MMA laws, they form the basis for community support to especially MMAs (Ruitenbeek et al. 2005).

5.3.2 The tripartite institutional relations

Participation of the stakeholders (especially resource users) is very important in the management of coastal and marine resources. Any institutional arrangement or management plan, which does not involve the resource users, is likely to conflict with users' interests as well as the informal institutions of the users. Such conflict normally brings ill feeling among users and may possibly cause more resource degradation and depletion rather than resource management. Kelleher (1999) and Boateng (2006) emphasize that stakeholders in conservation of coastal and marine resources need to firmly be aware of this. This means that involved institutions whether within or outside MMAs should co-exist in harmony (Kelleher 1999, Figure 6) especially where multi use and competing interests on issues like fishing, tourism, biodiversity tend to override on each other.

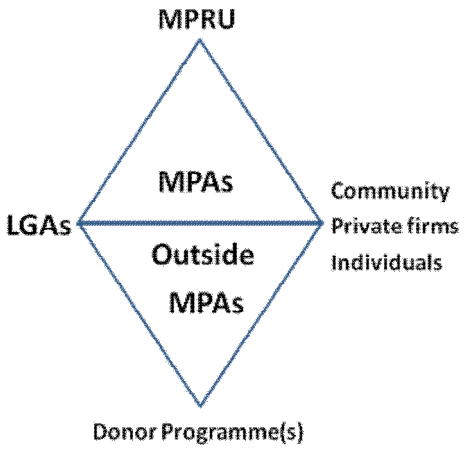


Figure 6: Illustration of tripartite lines of marine resource co-management in mainland Tanzania

5.4 Best practices and lessons in co-management

The following section provides an insight into some of the positive developments in co-management arrangements for MMA management in mainland Tanzania. These experiences are useful to inform the principles and criteria for operationalization of MMA networks.

5.4.1 Legislative based arrangements

5.4.1(i) VLCs in MPA areas

As described previously, VLCs are the grassroots formations provided for in the MPA Act to serve as participatory and representative local community organs in the management of marine parks. However some stakeholders are still concerned the there is a big gap between communities and MPAs in the MPR Act. Village Liaison Committees are therefore seen as essentially part of the marine park structure and not representative of the respective villages. VLCs are not independent to meet the communities' expectations. They are not really active and not accountable to the community in a meaningful manner.

Harrison (2010) suggested MPAs consider developing linked VLCs to support MPA management with MPRU under the coordination of VECs at the village level. He further recommends that each liaison committee utilise lessons learned from the CCC experience under the TCZCDP CMA process and refer the linked VLCs as Community-Park Liaison Committees. This avenue of strengthening local level networking deserves support. This can be considered in the current revision of the MPR Act to give these committees legal rights to manage, monitor, patrol and police the marine resources within their area. Such powers would enable communities to enforce laws, and would grant them ownership.

5.4.1(ii) BMUs outside MPAs

Centralized government top-down approach in fisheries management decisions have proved inadequate in ensuring sustainability of the industry especially in Africa (Hara and Nielsen 2003; Nunan 2006). It is increasingly being accepted that that without the involvement of the resource users and other stakeholders, especially those whose livelihoods depend on the resource, in management it may not be possible to reverse the increasing degradation of the fisheries resources. Consequently, a shift from the command and control approach by governments to a co-management approach has been inevitable. In response then, provisions have been made in all fisheries legislation in countries around Lake Victoria to facilitate the involvement of the resource users in fisheries management through the creation of local co-management units, the Beach Management Units (BMUs). Kenya, Tanzania and Uganda have subsequently developed harmonised BMU guidelines for the establishment and operations of these institutions (Fisheries Division 2005 (Tanzania); Department of Fisheries 2006 (Kenya); Department of Fisheries Resources 2003 (Uganda)).

To facilitate coordination of development of management plans and address conflicts, networks of BMUs were formed to bring together village units to a ward level. The networks are designated representative of networked units at higher levels of governance. BMUs bring together a whole range of local stakeholders in fisheries including fishers, boat owners, managers, fish processors, fishmongers, local gear makers, and dealers in fishing equipment. The primary advantage associated with the BMU model of co-management arrangement is that recognition of the fact that those who use resources directly tend to have a greater knowledge of their local environment and the fishing practices employed in it than do the distant administrators of a top-down system. The model also boosts the legitimacy of any interventions that are subsequently made which a primary principle of a good governance.

Although there are still a number of challenges over sustainable management of Lake Victoria fisheries, it is standing as the world's largest system of co-management. Ogwang et al (2009) provide an account of the historical background, formation procedures, operation and successes of BMUs. It is from this reputation that, Tanzania decided to adopt the BMU co-management system from the lake to the ocean and apply it in its coastal and marine resources (fisheries) management. However, BMUs are only eligible in non-MPA areas as already in these areas there are VLCs (described above), provided for by governing legislation for MPAs. This adoption has however not been without challenges and problems. First from the coastal and marine point of view, the terminology of BMU is confusing and for some stakeholders it seem to reckon that BMUs are not really established to manage fisheries in its practical sense. Their spatial designation of what the "beach" entails in their title over the marine environment is not explicitly stipulated in the legislation. While the formation and operation of BMUs have legal status, their financial sustainability remains an overarching challenge. Formation processes of BMUs along the coastal have largely been enabled through donor assistance projects like MACEMP and WWF-RUMAKI. Reliance on these kinds of sources of financial support is not sustainable as these programmes/projects are often short termed. For instance, evidence already exists that BMUs formed under MACEMP assistance are in operational crisis due to lack of funding and technical

consultations. Fisheries departments in LGAs are extremely incapable of handling these organizations as they also have been relying on MACEMP assistance to render technical support to the formed BMUs in their areas of jurisdictions. Field consultations revealed that lack of funding has hindered recurrent training and sensitization sessions that are supposed to be done regularly to ensure that new recruits in the fisheries understand and appreciate the importance of sustainable fisheries resource exploitation and management for posterity. As such most of the reigning BMUS don't have enough knowledge of their roles and mandate or of the ecosystem that they are supposed to look after.

Development of operational by-laws as provided for by the Act has in most cases never been completed to legitimize the organizations. With this administrative drawback, there's a misunderstanding about community-based conservation and BMUs. There is a power struggle in Village Councils who feel that BMUs are seizing the powers of Village Environmental Committees (VECs) provided for under the LGA Act. Thus, most BMUs have remained on paper. BMUs were envisaged to be established in all villages along the coast but there is no follow-up and some haven't even met yet. Much has been left undone as the fisheries LGAs are under capacitated. Only a few specific BMUs e.g. Kilindoni in Mafia and Somanga in Kilwa are operating well in the RUMAKI area through support from WWF. From the communities' side, there is still deep hostility, misconception and political sentiments in some areas especially those close to MPAs that BMUs are just a different fashion MMA.

5.4.2 Programme-based arrangements

5.4.2(i) CMAPs of TCZCDP

TCZCDP worked directly with local governments and communities to develop and manage their natural resources. The mechanism to achieve this was through a designated model of collaborative fisheries management, which resulted in the formation six CMAs, each with a formal Management Plan (CMAP). The Program has made it a priority to work through existing local government structures and processes In contrast Hurd (2003) claims that the process for establishment of MMAs traditionally overshadows the reasons for creating them it in the first place. Hurd further claims that MPAs are essentially top-down, and centrally-managed. The goals of marine conservation and sustainable resource use by, and for, the local communities appear to be secondary to their needs.

5.4.2(ii) CFMAs of RUMAKI

As discussed previously, BMUs as a model of co-management should significantly improve livelihoods by empowering communities, strengthening linkages with government and enabling agencies to work with the BMU Networks when appropriately applied with adequate legislative and institutional frameworks in place (Ogwang et al. 2009). RUMAKI is applying this experience to provide technical assistance in the formation of CFMAs, the networking of BMUs in non-marine park villages in the RUMAKi operational area. Six CFMAs

are spatially demarcated (Figure 7) with assistance from WWF. Unlike BMUs, CFMAs do not have any legal support but support co-management. Guidelines for CFMAs already exist.

The CFMA concept was drawn from TCZCDP CMA (CMAP) experience. Success are already evident as the government has embraced the concept and uses the terminology in many official documents. The concept is being embedded within the undergoing revision of the fisheries policy. Stakeholder discussions are underway to include it in the Fisheries Act.

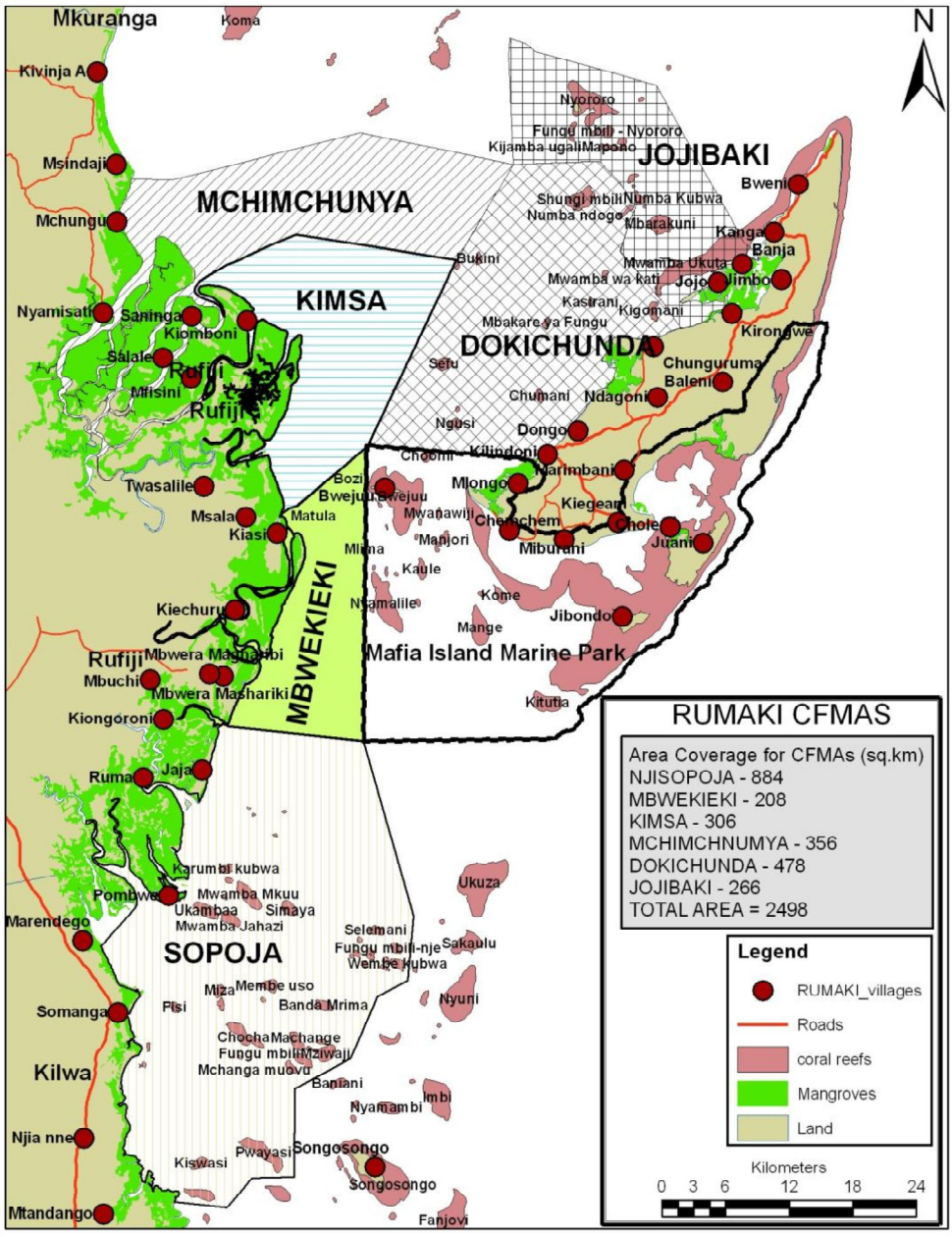


Figure 7: Map of RUMAKI area of operation showing designated CFMAs as groups of BMUs network

6 Network of Marine Managed Areas

6.1 The concept and criteria for networking

The NICEMS 2003 provides useful linkages between environment and poverty, and strongly advocates an integrated, participatory approach to coastal management. It also addresses the networking of MMAs: "The national coastal program shall work with the BoT and MPRU to establish new MPAs (under the MPR Act) in areas with significant biodiversity and where local communities support the concept of a park". It recognises the potential for: "...a system of MPAs to play a central role within the nation's overall ICM strategy".

IUCN (IUCN-WCPA 2008) emphasises that protected areas should not be seen as isolated entities, rather as part of broader ecosystem conservation approaches that are implemented across the landscape or seascape. For this however, two terms seem to be variously and often interchangeably used to represent a management concept that provides for and recognizes linkages for MPAs, ICM, bioregional approaches and trans-boundary conservation, a network and a system of MMAs. A network of MMAs can be defined as: a collection of individual MMAs operating cooperatively and synergistically, at various spatial scales, and with a range of protection levels, in order to fulfil ecological aims more effectively and comprehensively than individual sites could do alone. Networks also display social and economic benefits, albeit that these may only develop as ecosystems recover.

Based on the IUCN understanding (IUCN-WCPA 2008; Laffoley 2008), Ruitenbeek et al. (2005) defined the term network in the Tanzanian context as a grouping of MMAs that are linked, either physically through the movement of organisms and/or water flow, or through common management institutions and personnel. The term "system" as used in the Blueprint 2050 describes one or more networks that are set up under a strategically planned and harmoniously operated, multi-institutional framework that recognize:

- ecological networks connecting physical sites deemed ecologically critical
- human networks linking people and institutions for effective conservation.

The objectives of establishing the national MMA network system are to preserve sustainable utilization by residents in and near the MMAs, development of genetic resources, education and research, and eco-tourism and recreation. From the definitions and the objectives, Ruitenbeek et al. (2005) remarks in the Blueprint 2050 that it is clear there is a need for networking not only between ecological areas/systems but also between management and stakeholders. As such field consultations and lessons from available literature (for example Figure 8) revealed the following criteria which are interdependent for establishing a network system of MMAs: ecological representativeness, social and financial viability, and multi-stakeholder participation.

These criteria were emphasized by Ruitenbeek et al. (2005) and grouped them into four pillars to provide a generalized guide framework for local networks or larger systems:

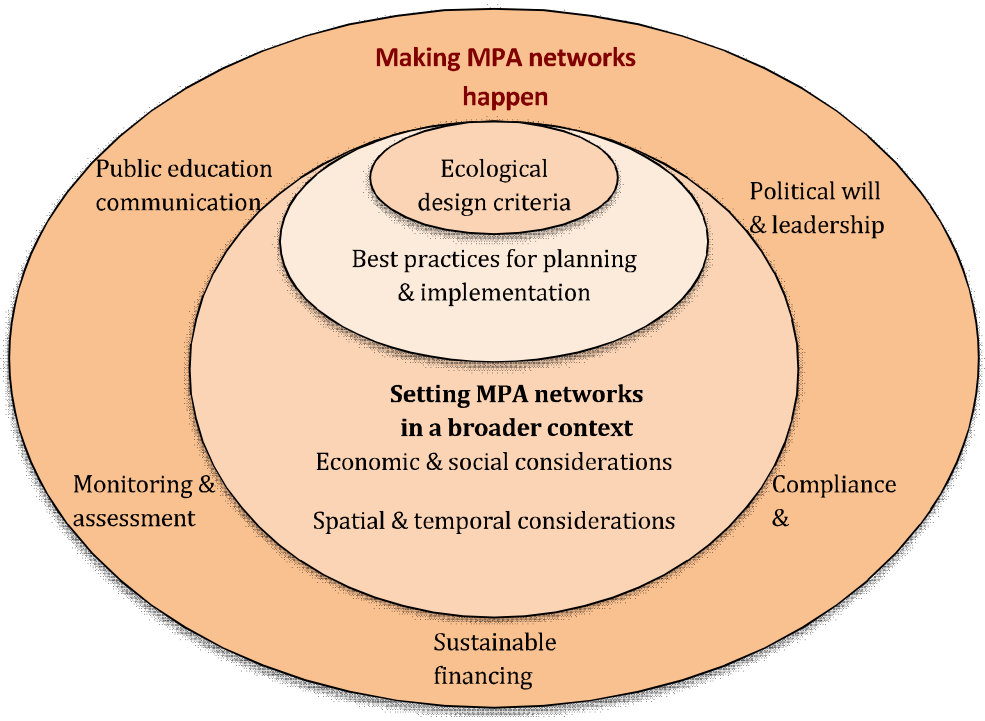


Figure 8: Illustration of overlapping factors and processes needed for successful networking of MMAs (from IUCN, 2008)

Ecological Protection that encompass ecological characteristics of representativeness, comprehensiveness, adequacy, connectivity and resilience. This is the backbone of the other three pillars. This pillar puts emphasis on adequacy of scale, a diversity in management regimes that captures a precautionary approach and promotes flexibility and adaptation. For example, in the MMAs of mainland Tanzania and the east Africa region at large there has been an overemphasis on coral reefs, while mangroves and other associated wetlands are largely under-represented. Resilience ensures that the risk of damage or extinction is spread across replicated habitat types in the network so that if one MMA is eliminated, others stay intact. For example, reefs in Chole Bay in MIMP largely escaped the 1997/98 bleaching while those of Tutia experienced extensive bleaching (Ruitenbeek et al. 2005).

Poverty Alleviation in tackling widespread poverty in coastal areas. Alternative income generating activities and greater participation through adaptive co-management can improve local livelihoods and reduce the vulnerability to external shocks.

Financial Sustainability is an overriding concern at both the network and system level. Provision of financially sustainable mechanisms that ensures longevity of the resource base is essential. Cost effectiveness and revenue generation are core principles. The system also calls for revenue sharing mechanisms among stakeholders and among areas and networks; this intends to provide equitable rent sharing and a safety net to reduce vulnerability.

Institutional Robustness that looks at the legislative and institutional setup. While these frameworks are relatively comprehensive, they lack capacity for implementation, and some issues and gaps remain. The most pressing issue is the extent to which harmonization of instruments and legislation is necessary both within the country and across the borders.

6.2 Opportunities, strengths and weaknesses

6.2.1 Legal and institutional issues

Domestically the legislation is void on networking of MMAs. There is a need for provisions that foster the creation of a network of MMAs. The ongoing revision of MPR Act may be a good opportunity for this domestically. However, a significant institutional challenge involves areas that may need joint management between mainland Tanzania and Zanzibar as they are governed by different jurisdictions as fisheries is not a union sector. Stakeholders consulted suggested that to address this challenge there should be a bilateral committee between the mainland and Zanzibar that can be charged with mandate to discuss and reach consensus on various issues of interest to both sides pertaining to coastal and marine resources. This challenge even extends to far offshore resources and those with potentially jointly managed jurisdictions with other sovereign governments.

6.2.2 Level of networking

6.2.2(i) Local area networking

The current CFMAs in RUMAKI area and the TCZCDP CMAs provide an excellent example of how local resources users can work together to manage their own resources. A key feature of the RUMAKI and TCZDCP is the reef closures whereby communities' management organisations such as BMUs in RUMAKI and CCC in TCZCDP (and more recently, Bagamoyo) determines from the local/traditional knowledge with a scientific guide which reefs are to be closed and for how long. These best practices can potentially be replicated throughout the coast of the mainland Tanzania.

6.2.2(ii) National level networking

It is proposed that over the next few years an enormous increase in the world's marine protection efforts is going to be needed. Such an increase will require that many more MMAs are not only created but also effectively managed. The new MPRU strategic plan for example proposes to establish three new MPAs within its operational timeframe 2012-2016. Realisation of this ambition is one thing but in many regions of the world, one of the main challenges to establishing new MMAs is to demonstrate the benefits that they can provide to maintaining and replenishing fisheries stocks. Networking is one of the management approaches that is advocated to safeguard MMA systems both at national and cross-border levels (Loffoley 2008).

Basing on the Blueprint 2050 definition of network of MMAs, eight extensive national systems of networks are suggested for Tanzania (further discussion on this is provided in the associated Synthesis Network report). Each of these proposed networks contains a number of different forms of MMAs including:

- formal MPAs;
- locally designated communally managed areas (CMAs); and
- lightly regulated areas overseen by other authorities including NGOs and private entities.

Briefly described below are the six of the eight proposed networks in the Blueprint 2050 by Ruitenbeek et al. (2005), which fall under the legal and institutional jurisdictions on the mainland Tanzania. The other two under the sole jurisdiction of Zanzibar are only implicitly mentioned to demonstrate the relevance of harmonization of the management regimes enhance networking across the jurisdictions.

Tanga Region Network: The northern circuit that includes the districts of Mkinga, Tanga (including the City), Muheza and Pangani. This is also part of the trans-boundary area with Kenya. The region already has a legacy of local network of CMAs from the TCZCDP. Three MPAs exist in the area: Maziwe Island Marine Reserve, TACMP and TMRs. This northern network has a potential for a transboundary network system with Pemba Island which fall under the Zanzibar jurisdiction. The island network consists of Misali Conservation Area, Pemba Channel Conservation Area, Wambaa Makoongwe Conservation Area and Ngezi Forest Nature Reserve. It is also a potential transboundary site with Kenya.

Dar es Salaam-Bagamoyo Network: A threatened site the site that faces pressures from the expanding city of Dar es Salaam. The network encompass important cultural heritage in Bagamoyo which is a potential World Heritage Site, DMRs and recently discovery of important green turtle nesting sites in Temeke with Sukuti reef as an important feeding ground. This network is ideal for a system with Unguja island network under Zanzibar jurisdiction where there are important sites as Menai Bay Conservation Area, Chumbe Island Coral Park, Mnemba Conservation Area, and Jozani-Chwaka Bay National Park.

Rufiji-Mafia and-Kilwa-Songo Songo complex: This is a globally important seascape; potential exists for World Heritage designation for parts of the area in Kilwa and Mafia. Rufiji delta is a recognized Ramsar site. Currently hosts MIMP, Mafia Marine Reserves and a WWF-RUMAKI programme.

Mtwara/Lindi Districts Network: This southern block includes the MBREMP and is of a significant transboundary importance with Mozambique. It is also potential for World Heritage designation.

Latham Island: This is a small fossil coral oceanic island of less than 3 ha but is of critical importance for its masked booby colony, and is also an important breeding site for other seabirds such as sooty terns, brown noddies, swift terns, and black-naped terns. It is considered the most important seabird island off the coast of East Africa. Nevertheless there is a jurisdictional dispute over the island between the union government (mainland Tanzania) and Zanzibar.

The EEZ: This is the area out to the limits of the EEZ which is integrated within the system as it overlaps with the MMAs all the other networks described above. This overlap implies that co-management of these areas for different resource uses is important.

6.2.2(iii) Transboundary networking

As summarized in Tables 4 and 5, Tanzania is party to many international legally binding and non-binding instruments relevant to the protection of marine and coastal ecosystems. But, these mechanisms are not self-executing in the country unless they are adopted under domestic law. Although Tanzania has signed and ratified many international conventions relevant to marine and coastal protection, it is only UNCLOS and CITES that have been followed by specific implementing legislation. The common approach for Tanzania has been to implement conservation treaties with a general implementing legislation. An example of such a case is the Marine Parks and Reserves Act, which does not say which treaty or treaties it purports to implement.

Similarly, trans-boundary issues relating to MMAs have no formal home within Tanzanian legislation. But, many proposals for MMAs will affect not just one country but their neighbours too. This is why regional cooperation between countries is so important in coastal and marine conservation. Because of the boundary less ecological ecosystems in the ocean, applying an ecosystem based management approaches will mean involving cross boarder state jurisdiction. This ecosystem-based fact is potential effective way for countries to work together. Two important transboundary areas and resources exist for Tanzania:

Tanga (Tanzania) - Msambweni (Kenya) trans-boundary area extends from Chale point and Gazi Bay in the North, to Maziwe Island near the Pangani River in the South. This area is of ecoregional importance because the intricate mangrove forests (9 species) at Gazi Bay support the tallest trees in Kenya. The shores provide important bird feeding area (15% of world population of Crab Plovers) and nesting sites for Green and Hawksbill turtles. The rich seagrass beds (12 species) support dugongs. The 100 or more isolated coral reefs reveal high diversity of genera (64) and endemic fish species. Species of dolphins also occurs in this area.

Mtwara (Tanzania) – Quirimbas (Mozambique) is located on the southern Tanzania-Mozambique border, extending from Mtwara town in Tanzania South to Pemba town in Mozambique. The site includes Mnazi Bay, the Ruvuma Delta, Mocimboa da Praia, Pemba Bay and the 30+ islands of the Quirimbas Archipelago. This area is of global importance because it is located where the South equatorial current meets the African coast, Extensive complex of reefs with high coral diversity (> 48 genera), important turtle feeding and nursery site and feeding area for crab and migratory birds. Also, the unique Ruvuma dunes (near Msimbati in Tanzania) system is with likelihood of rare or endemic flora and important nursery grounds for Humpback whales, Dugong, turtles, dolphins, birds (including crab plovers) and pelagic fish.

Discussions have reportedly begun between Tanzania and Kenya and Mozambique over the options for further collaboration on management of these transboundary areas. With the support of the MACEMP project, initial discussions were held but further support is needed to undertake a dedicated process towards establishing and managing such areas effectively.

There is a distinct need for decision-making processes that extend beyond the borders of individual countries. They illustrate the necessity of creating administrative structures designed to nurture ecologically sustainable and socially acceptable development that function within different national governments.

While national governments are central to the decision-making processes that are of regional interest, the role of regional scientific and research institutions such as WIOMSA and research projects like TRANSMAP have an increasing role as they begin to provide more effective channels for cooperation and collaboration among a number country specific stakeholders who have common interests at a regional level. An organization like WIOMSA is vita in retrieving and disseminating scientific findings that may inform policy, legal and institutional frameworks on best practices towards trans-boundary management models.

6.3 A Framework for the establishment of MMA networks in mainland Tanzania

Managing MMAs within a system of networks will go a long way towards utilizing promoting the sustainable utilization of marine and coastal resources in Tanzania. It will however, still not be sufficient for comprehensive protection of marine ecosystems and biodiversity. This will only be achieved by extending spatial planning and ecosystem-based management to the oceans as a whole. To move towards more effective management of marine biodiversity, it may be useful for both mainland Tanzania and Zanzibar to consider the three-level system of spatial planning for MMAs recognized as essential by the CBD. This encompasses:

Level 1: A core system of No Take Areas within a large MPA/MPAs.
Level 2: A larger system of multiple-use MMAs, including fishery management areas.
Level 3: A national MMA system embedded within a national integrated coastal management programme and overall management framework for the EEZ.

Level 2 is possibly most characteristic of the current marine management arrangements on each side of the Union with Level 1 being implemented in selected areas (i.e. Mafia Island). The different areas are not yet managed as a cohesive system but rather as individual entities managed by different agencies, NGOs and private sector and civil society stakeholders.

While a comprehensive 3-level approach may take many years to realize, and requires a dedicated planning process to develop a framework to aspire to for constant improvement of management efforts. Considering this 3 level system, it may be worth examining options for a 4-level system for mainland Tanzania as follows:

Level 1: A core system of No-Take Areas within a large Marine Parks and Reserves:

- Core Zones within Marine parks
- Reserves systems
- Other no-take areas

Level 2: A larger system of multiple-use MMAs:

- Marine Parks (MIMP, MBREMP, TACMP)
- CFMAs
- BMUs
- ICM initiatives

Level 3: An MMA system embedded within a national ICM programme and overall management framework for protected areas in Zanzibar

- ICZM Strategy
- EEZ management / zoning

Level 4: A national MMA network system for Zanzibar and mainland Tanzania and overall management framework for the EEZ

Further discussions on the creation of a national MMA network system are discussed in the associated Synthesis report.

7 Conclusions

From the above analysis, it is clear that Tanzania has a broad range of laws and institutional frameworks for designating and managing its MMAs. This analytical review of the legislation and institutions that have a role in the management of marine and coastal resources in Mainland Tanzania has indicated that there is a variety impinging frameworks. It is also noted that the existing framework does not explicitly differentiate management objectives for different formal MPAs and both formal and informal community-based management arrangements (BMUs, CMAs, CFMAs) despite the distinction both in their management objectives but also the management models applied.

Although there is a general positive trend in the reform and development of laws and policies at the national level to support integrated coastal management and MPAs, most of the legislative provisions are essentially still sectoral and largely uncoordinated. Commissioned efforts are still needed to create institutional linkages. In areas where administrative arrangements have been made to coordinate various institutions involved in the management of coastal resources, success has been recorded (e.g. In the case of TCZCDP, Wells et al. 2007a).

Implementation of effective marine conservation and management is currently hampered by legal constraints, misinterpretation, conflicts of interest, and overlapping jurisdictions.

Options for addressing the challenges in the current legislation include:

i. Modifying/harmonising some of the legal instruments pertaining to MMA management to:
   - Embody the vision for the future sustainable use and management of Tanzania's marine and coastal resources in networks that encompass all types of MMAs. To this end, the aim should be to:
     - clarify jurisdictional mandates among authorities responsible for different types of marine management;
     - recognise the respective roles of stakeholders involved in managing marine areas;
     - support decentralisation and the greater involvement of a diversity of stakeholders in MMA management, particularly in the Marine Parks and Reserves Board of Trustees and the Advisory Committee to the Board;
     - support the management of MMAs as networked areas; and
     - require the application of EIA requirements within the MMAs to guide development.
   - Provide more substantially for community-driven, adaptive management initiatives to be established as part of the MMA networks; and

ii. Establishing a mechanism for coordination of different authorities, organisations and community groups around MMA networking.

Developing an overarching ocean policy that would provide impetus for and a means to enabling greater cohesion in matters of marine management by mainland Tanzania may be useful. The development of policy, can however, be a costly and extended process and may be less practical than development of a strategy for supporting practical implementation. The synthesis report that informs both this report and the Zanzibar MMA report, proposes the initiation of a process for development of a framework to establish a National Network System. Such a framework would provide an overarching strategy and vision for managing the country's MMAs as a cohesive whole rather than on an isolated, ad hoc manner. Such a framework may also be more effective than developing more policies or legislation but would need a high level of political buy-in to ensure that the process is participatory.

The absence of clear mandates among institutions makes for ineffective coastal and marine management. Each institution largely focuses on particular resources and deals with its own interests. This fragmented operational system is often referred to as a characteristic of the top-down approach in place of community participation. The result is a climate of uncertainty and inconsistency in law enforcement. Lack of coordination and cooperation among government institutions further hampers the process of promoting integrated fisheries, coastal, and marine resources management and there is often conflict among stakeholders. Each party tends to see laws and regulations from a different sectoral perspective and with different interests in minds of the responsible managers. This was apparent especially in dealing with grass root formations of village organs both in MPA and non-MPA villages. Conflicting power relations and competing sectoral jurisdictional interests were apparent during field consultations.

Outside these legal frameworks, other arrangements like the formations of (CCC) for overseeing management of CMAs (TCZCDP model) and CFMAs (RUMAKI and Bagamoyo models) in non-MPA areas were reportedly acceptable because they are established in the auspices of an approach that render full community backing. It is recommended that establishment of technical forums would be relevant to serve as coordination arms to address issues concerning sectoral legal conflicts amongst different authoritative institutions at all administrative levels.

Stakeholder consultations for this study revealed a lack of implementation of a common vision and mission for the systems of MMAs in the country. The MMAs are currently managed on an individual basis rather than as a cohesive network. While the network approach is a relatively recent phenomenon and while the country is still grappling with managing existing areas effectively, it would be useful to develop a framework providing overarching guidance for selecting MMAs and managing them as a cohesive whole.

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Annex 1: List of Questions for Stakeholder Interviews

Network of Marine Managed Areas (MMAs, including review on management options, criteria for network and principles

a) Review the existing MMAs network system.

Network system proposed by the government to address four key aims including ecological protection, poverty reduction, financial sustainability and institutional robustness:

i. Four networks associated with mainland Tanzania:
   a) Tanga region network including the districts of Muheza and Pangani (~1600 km2);
   b) Dar es Salaam-Bagamoyo region network (~1200 km2);
   c) Rufiji-Mafia-Kilwa-SongoSongo region (~6700 km2); and
   d) Mtwara/Lindi region (~1000 km2).
ii. Two networks in Zanzibar: a) Pemba Island (~1500 km2); and b) Unguja Island (~2300 km2)
iii. One network around Latham Island: A small fossil coral oceanic island with critical biodiversity (~170 km2); and
iv. An offshore network that includes areas extending to the limit of the EEZ: it may overlap with the marine areas of other networks and will require a co-management approach for different resource users (~ 200 000 km2).

Questions/Actions:

- *What are the experiences from elsewhere, best practices, regional connectivity*
- *Is it adequately supported through the legal and institutional framework (from international conventions, regional policies, national policies and laws right down to local level by-laws)? If not, what is required, what are the gaps?*
- *Are the feasibility and connectivity aspects of these proposed networks realistic?*
- *Will it work practically and how can it be improved?*
- *What is required to make it work economically?*
- *What staffing capacity is needed?*
- *How will authorities collaborate with stakeholders to make sure it works practically?*
- *Drivers for establishing the MMAs*

b) Identify and describe the ecological and socio-economic characteristics of the primary marine and coastal ecosystems in Tanzania.

Questions/Actions:

- *Collate and analyse all available data from the existing sources (government agencies, NGOs, academic institutions and projects)*
- *Include cultural heritage and laws and regs around it.*
- *Include marine transport and laws and regs around it (due to high impacts of marine pollution from vessels).*
- *What are the key gaps in existing knowledge on the ecological and socio-economic characteristics of marine and coastal ecosystems in Tanzania?*
- *Are these characteristics being monitored and evaluated over time? If so, how?*
- *Is/How is this information being collated/shared?*
- *How can the M&E be improved?*

c) Identify a set of management options for MMAs network system and other identified ecological systems which can be incorporated in the MMAs network system.

Questions/Actions:

- *What are the current management approaches being used?*
- *Are these working and how can they be improved?*
- *What are the best practices emerging from Tanzania management of MMAs?*

d) Examine to what extent the ecosystems should be managed as a network system (suggest principles i.e. Adaptive management, collaborative and participatory management, decentralized and integrated decision-making, a precautionary approach that promotes decision-making based on the best available scientific knowledge, and sustainable and equitable management).

Questions/Actions:

- *What context-specific principles may contribute to the success of individual MMA implementation as well as the national MMA network system?*
- *How can the existing networks be better managed as a system?*

e) Develop criteria and guideline for selection of MMAs network system including but not limited to the following;

- Ecological connectivity
- Social and economic connectivity
- Fisheries management
- Sectoral/institutional collaboration
- Common goals
- Potential for sharing research information and lessons learnt from MMAs within and outside the Western Indian Ocean (WIO).

f) Draw experiences from other MMAs network systems within and outside the WIO region

Questions/Actions:

- *Which other countries in the region (and around the world) are moving towards management of MMAs as a network system? Is it working?*
- *What lessons can be drawn from them?*

g) Study on policies, legal and institutional basis for supporting MMAs network system - Review and analyse all relevant legislative and regulatory provisions at the national and sub-national level and consult with key decision-makers and relevant specialists and stakeholders to ask:

Questions/Actions:

- *Assess and describe the institutions that are currently tasked to manage MMAs.*
- *What are the key challenges for these institutions in carrying out their mandate?*
- *What is needed to improve them? (Staffing, resources, capacity etc.)*
- *What are the existing policies, laws and regulations governing MMAs?*
- *Are they adequate? Do they need to be improved? If so, how?*
- *How do they interact with land-use planning legislation and policies?*
- *Do they cover the option for management of MMAs as a network system? If not, how can these be changed to do so?*
- *How effectively are the laws implemented? What are the challenges?*

Co-Management Arrangements

a) Review of the existing co-management approaches and structures (BMUs, Marine Parks, Marine reserves, Marine sanctuaries, ICM , MCAs) in marine conservation

Questions/Actions:

- *What are the commonalities and differences between the different approaches?*

- *How can efforts be standardized to prevent any unnecessary complexities that may be hindering progress?*
- *How can successes at the individual MMAs be scaled up among the proposed networks?*
- *What are the strengths and weaknesses of each approach*
- *How can any potential weaknesses be mitigated*
- *What kind of collaborative management approaches could be developed to promote empowerment of coastal communities towards effective co-management arrangements?*

b) Propose an effective collaboration approach in terms of empowerment and partnership

Questions/Actions:

- *What will work practically and will be sustainable over the long term?*

c) Review the existing policies, legal and institutional basis supporting co-management approaches and propose areas for improvement

Questions/Actions:

- *What mechanisms exist to support co-management approaches? (i.e. by-laws, Management Plans, MoUs, informal arrangements etc.)*
- *Are these adequate? How can they be improved?*
- *What are the legal and regulatory gaps in terms of supporting co-management?*

d) Identify key stakeholders and develop criteria for setting boundaries of MMAs

Questions/Actions:

- *Who are the key stakeholders for each MMA and how are these stakeholders engaged with by the MMAs?*
- *Are existing engagement mechanisms effective? If not, what are the key issues and how can they be addressed?*
- *Which MMAs currently have boundaries and how are these demarcated and maintained? Are the boundaries viable and if not, what are the issues?*
- *What kind of methodology can be used to identify specific areas for inclusion/exclusion in MMA networks?*
- *What criteria must be considered for setting boundaries of MMAs? Ecological relevance, enforceability, human and financial capacity, political will, conflicting activities…?*

Institutional Strengthening

a) Develop and review of existing structures to facilitate execution of the MPRU and MCU Vision, Mission, and its implementation strategy.

Questions/Actions:

- *What is the vision and mission of each institution? Do these reflect the needs of the country? Are they aligned with each other in terms of the network system approach?*
- *How does each institution operate? What are their guiding principles and strategies? Are these sufficient and how can they be improved?*
- *What kind of budget do they operate with and where does the budget originate from (i.e. revenues, government funding, tourism concessions etc.)?*
- *Do they have sufficient number of staff, skilled specialists, resources to operate efficiently? If not, what is needed?*
- *What are the key weaknesses of the institutions and how can these be addressed?*

b) Define roles and responsibilities of the proposed management structure of MPRU and MCU.

Questions/Actions:

- *What is the mandate of each institution? Does it cover the MMA network management effectively?*
- *Are the roles and responsibilities supported through the legislation and by-laws?*

- *Are there any areas of conflict or duplication in the law with other sectors (fisheries, forestry etc.)? If so, what are the options for resolving the conflicts?*
- *Are any further regulatory instruments needed to support the implementation of responsibilities of the institutions?*

c) Develop a mechanism of MMAs to improve the management/stakeholders relations in the reviewed structure.

Questions/Actions:

- *Do the MMA management plans offer sufficient support for stakeholder engagement?*
- *What kind of mechanism(in addition to the management plans could be used to improve the relations between stakeholders and MMA managers?*

d) Review guiding policies, legal status in order to harmonise with international conventions and conservation protocols

Questions/Actions:

- *Compare the status of the conventions and convention protocols, with desktop reviews and the finding of the field work and meeting results*
- *Are there any international conventions that Tanzania has not ratified? Why not? How can the government be encouraged to ratify them and implement them at the national level?*

e) Identify specific roles of MPRU/MCU/MMAs in relation to LGAs, partners and other stakeholders

Questions/Actions:

- *What are the roles of the LGAs, partners and other stakeholders with respect to MMAs?*
- *Are there any areas of conflict or duplication with roles of the MPRU/MCU/MMAs and the LGAs, partners and other stakeholders? How can these be resolved?*

f) Identify capacity requirements in terms of human, infrastructure and equipment

Questions/Actions:

- *What are the key capacity requirements of the 2 institutions?*

g) Propose financial mechanisms for sustainability of MPRU/MCU and other MMAs

Questions/Actions:

- *What options exist for sustainable funding for the MMAs? MLRF? Revenues? Etc…*

h) Review the existing relevant institutional structures, operational strategies and business plans for similar organs within and outside Tanzania, preferably in the Western Indian Ocean region.

Questions/Actions:

- *How are similar institutions with similar mandates functioning elsewhere?*
- *What lessons can be taken and applied to the Tanzanian context?*

i) Develop and recommend appropriate operational strategies and business plan to suit the needs of the MPRU

Questions/Actions:

- *Work with the MPRU to develop a business plan*

j) Identify and propose the number, positions and qualifications of staff required and their career development for realizing the operations of MPRU/MCU objectives

Questions/Actions:

- *What are the specific objectives of the institutions?*
- *Are there sufficient staff with adequate skills to meet these objectives?*
- *Is there a plan for maintaining and improving on the staff on a sustainable basis?*

Annex 2: List of Stakeholders Consulted

Site	Date	Name	Title/Affiliation
Mtwara	1/05/2012	Redfred Ngowo	Acting Warden In charge – Mnazi bay Ruvuma Estuary Marine Park
		Robert Katikiro	Community Development Warden – Mnazi bay Ruvuma Estuary Marine Park
		Juma Hassan Waziri	Village Liaison Committee (VLC) Chair - Representative community adjacent to Mnazi bay Marine Park (Msimbati - village)
		Salum Athumani Mussa	Village Chair - Representative community adjacent to Mnazi bay Marine Park (Msimbati - village)
		Zainab Shafii	Acting Village Secretary - Representative community adjacent to Mnazi bay Marine Park (Msimbati - village)
		Abdallah Swaleh	Village Executive Officer for Mtandi Village (formerly, part of Msimbati village) - Representative community adjacent to Mnazi bay Marine Park
	2/05/2012	Ali Mpenya	Acting District Executive Director /Cooperative Officer - Mtwara District Council
		Sebastian Nyantahe	Land Valuer - Mtwara District Council
		Halifa Saidi	Land Surveyor - Mtwara District Council
		Denis Kitali	Town Planner - Mtwara District Council
		Jonia Rwebangira	Land Officer - Mtwara District Council
		Stanslaus Chowaji	Acting District Agricultural and Livestock Development Officer (DALDO)/An Extension Officer - Mtwara District Council
		Maria Ngatata	Livestock Officer - Mtwara District Council
		Mohamed Lilanga	Cooperative Officer - Mtwara District Council
		Nyamayao Saidi	Community Development Officer - Mtwara District Council
		Augustino Mwangozi	Forest Officer - Mtwara District Council
Mtwara		Mbago Mogela	Mangrove Officer - Mtwara District Council
		Oga Dadi	Acting District Fisheries Officer - Mtwara District Council

	3/05/2012	M.W. Kakusa	Port Master - Mtwara Port
Dar es Salaam	4/05/2012	Dr. Chande	MPRU Manager - MPRU
		Anita Julius	MACEMP Coordinator/Senior Conservation Warden - MPRU
		Athuman M. Mkwavila	Accountant - MPRU
Tanga	7/05 – 10/05/2012	Hassan Kalombo	Coordinator - Tanga Coastal Resource Center
	8/05/2012	Captain Andrew Matillya	Harbour Master - Tanga Port
		Catherine Msina	Acting Warden In charge/ Licensing and enforcement Warden - Tanga Coelacanth Marine Park
		Ismail Luwongo	Accountant - Tanga Coelacanth Marine Park
		January Ndagala	Research and Monitoring Warden - Tanga Coelacanth Marine Park
		Mashauri Kanyama	Acting Village Executive Officer - Representative community adjacent to Tanga Coelacanth Marine Park (Kigombe Village)
		Ayoub Suleiman	Village Council Member - Representative community adjacent to Tanga Coelacanth Marine Park (Kigombe Village)
		Tajiri Twaha	Village Liaison Committee (VLC) Secretary - Representative community adjacent to Tanga Coelacanth Marine Park (Kigombe Village)
		Sybille Riedmiller	Private Tourism Investor - Chumbe Coral Park
	9/05/2012	Saidi Nyoro	Secretary BMU/Vyeru Harmlet Chair - Representative community adjacent to Tanga Marine Reserve System (Monga-Vyeru Village)
	10/05/2012	Evaristo Kalolo	Acting City natural Resource Officer, City Council Fisheries Officer - Tanga City Council
		Aminieli Mashafi	Acting City Council Community Development Officer - Tanga City Council
		Amulike Mahenge	Town Planner - Tanga City Council
		Yusuph Kajia	Mangrove Forest Officer – Tanga Catchment Forest Project
		Steve Attwell	TATONA & Fish Eagle Point
		Eric Allard	TATONA & Advisory Committee member TCMP
		Lynne Waltenberg	TATONA & Yacht Club
		Hans Grubble	TATONA & Sisal Pizzeria & guesthouse
		Clarens Burdes	TATONA & Capricorn Beach cottages
		Geoffry Quick	TATONA
		Odlin Isaacson	TATONA & TIC conferences & Hotel
		Sean Fowler	TATONA Capricorn Beach cottages

		Anette Murless	TATONA treasurer & Usambara resident
		Julitta Mackniece	TATONA chairperson & Panori hotel
Dar es Salaam	11/05/2012	Salim Ngomuo	Warden – Dar Marine Reserves
		Jean de Villiers	Tourism investor Mafia Island
		Rose Sallema	NEMC
	14/05/2012	Fatma Sobo	Ministry of Fisheries
		Rashid Hoza	Ministry of Fisheries
		Yunnus Mgaya	Former Chair of MPRU BoT
	15/05/2012	Benezer David Mwangombe	Acting MPRU Manager HoD HR/Admin
		Modest Kiwia	MPRU Planning manager
		Jeremiah Daffa	TCMP Member of MPRU BoT
	16/05/2012	Lindsay West	Seasense Coordinator
		Boniventure Mchomvu	Seasense Education officer
		CK Rumisha	MNRT planning department
	17/05/2012	John Mapepele	MPRU Head communications section
Mafia	15/05/2012	Joachim Henjewele	Head of Land, Natural Resource and Environment Department - Mafia District Council/District MACEMP Coordinator/Member of MIMP AC
	16/05/2012	Ayoub Yasin Sabu –	Acting District Fisheries Officer/Mariculture Officer - Mafia District Council
		Emanuel Kingu	Principal Agricultural Field Officer 1 - Mafia District Council
		Daudi Ali Kimbite	Kilindoni BMU Secretary/Secretary of Fishing Cooperative (Wavuvi Wapeni Cooperative Society)/Chair of local NGO Mafia Awareness Center for Government Policies (MAACEGOPO)
Mafia		Munezero Kanyangemu	Tourism Officer - Mafia Island Marine Park (MIMP)
		Ali Rashid Mgeni	Community Development Warden - MIMP
		Albert Makala	Extension Officer/Environmental Education - MIMP
		Anthony Melele	Community Development Warden - MIMP
		George Msumi	Warden In Charge - MIMP
		Cotilde Gama	Assistant Accountant - MIMP
		Silima Muhilini Juma	Village Liaison Committee (VLC) Secretary for Kiegeani Village - Representative community adjacent to Mafia Island Marine Park (Kiegeani Village)
	17/05/2012	Humud Salim	Project Manager – RUMAKI Seascape/WWF



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