

Governance: Legal and Institutional Frameworks

Akunga Momanyi

Opposite page: Aerial view of Dar es Salaam and the entrance of the port. © Matthew D. Richmond.

BACKGROUND AND CONTEXT

The Western Indian Ocean (WIO) region, also referred to as Eastern and Southern Africa, region includes the coastal states of Kenya, Mozambique, Somalia, Republic of South Africa and the United Republic of Tanzania on the continental mainland; and the island States of Mauritius, Comoros, France-Reunion, Seychelles, and Madagascar (see Figure 33.1).

The WIO region is recognized globally for its biological richness, and high ecological and socio-economic value. Recognizing this uniqueness, and the threats to the integrity of the coastal and marine environment due to pollution and habitat degradation, the governments of the WIO region, in 1985, signed the Nairobi Convention. This Convention offers a regional legal platform for the protection, management and development of the marine and coastal environment in the Eastern and Southern African region.

The Nairobi Convention framework is one of the many frameworks and institutions of governance in the WIO region. Others include national, regional and global institutions, and regulatory or policy frameworks with a mandate for governance as a practice of trade-offs for shared resources between transnational, national and sub-national institutions and actors. This chapter reviews the various governance frameworks, including the legal, institutional, and regulatory, while the Chapter 34 focuses on policy options for better governance of the coastal and marine environment of the WIO region.

Understanding governance of oceans and coasts

Governance of oceans and coasts is better understood as the process for policy making by competent institutions in a system of negotiation between nested governmental institutions at several levels (international, (supra) national, regional and local) on the one hand and market parties and civil society organizations on the other. Oceans and coastal areas include complex ecosystems with large networks of components that respond to human impacts in a non-linear, uncertain, and unpredictable way (Levin 1999) at all scales, from species to the Earth's subsystems, such as the biosphere and atmosphere. Governance of oceans and coasts is thus about sectorial activities and policy domains, such as fishing, shipping, non-renewable and renewable energy production (oil and gas production), sand extraction, and nature conservation. To realize the sustainable use of marine resources, it requires the cooperation and involvement of market parties, civil society actors and governmental actors at the national and sub-national levels. Consequently, the management of such complex systems requires adaptive governance, which is considered best suited for enhancing institutional synergy to manage the complex dynamics of Earth's social-ecological systems. Centralized governance structures using traditional top-down, "command and control" approaches that do not take social-ecological linkages into account are of limited effectiveness as they are premised on a false assumption of ecological equilibrium. Such

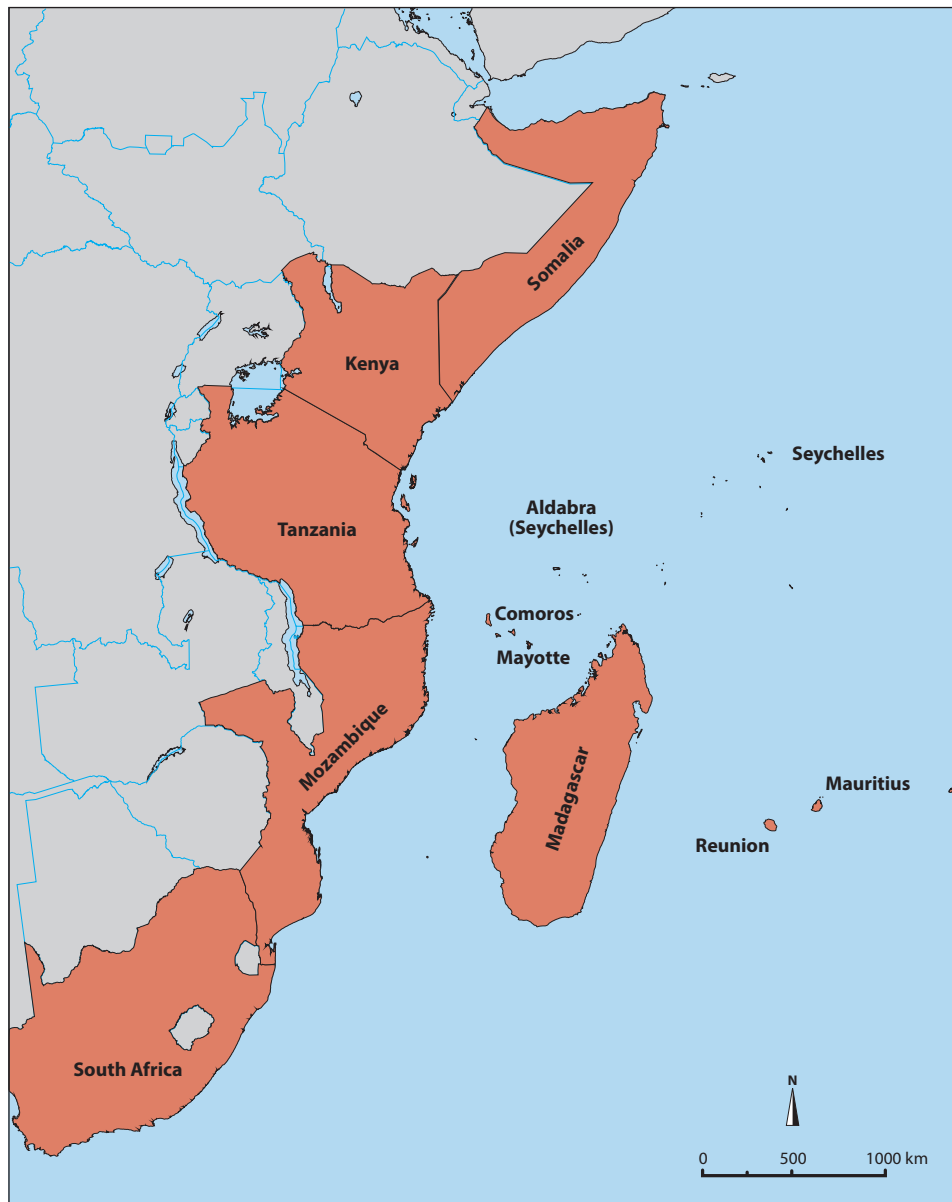


Figure 33.1. The Western Indian Ocean Region.

approaches have resulted in problems with compliance and increased conflict between ocean uses, and in some cases, governance failures.

The regional approach

The regional approach to environmental governance through regional environmental agreements has an advantage over global agreements, as there is greater similarity of interests, norms, perceptions, and values at the regional level that fosters international cooperation. Regional agreements use the conferences of the parties, the highest decision-making authorities of multilateral environmental agreements, to enhance institutional cooperation and coordination. These agreements are

managed by secretariats that use information provided by competent international organizations and intergovernmental and non-governmental bodies to influence change and to harmonize policy and legislative frameworks in the regions.

KEY GOVERNANCE CHALLENGES

The major concerns related to environmental integrity in the marine and coastal environment in the WIO are associated with three types of threats, namely, habitat destruction, pollution and weak governance structures. The major pollutant categories responsible for degradation of the coastal and marine environment in the region include

microbial contamination, high suspended solids, chemical pollution, marine litter and eutrophication.

In a study conducted by UNEP/Nairobi Convention Secretariat and WIOMSA (2009a) in the WIO region, under a project to address land-based sources and activities, eight key sectors (urbanization, tourism, agriculture, industry, mining, transportation (including harbours), energy production, and fishing and aquaculture) were found to contribute to environmental degradation. Consequently, effective governance and management of eight key sectors will directly mitigate against habitat destruction and pollution in the region.

Identifying ocean and coasts governance problems

The main problems and issues related to governance of oceans and coasts have, for the most part, been related to the intensifying nature of human interactions with the oceans and coasts and the in-ability of governance institutions to adapt. Governance processes have in the past primarily focused on regulating individual sectors, ignoring interactions between sectors and ocean ecosystems. While governance effectiveness varies, based on institutional architecture, often specific to a given place, socio-political context, legal and policy regime, ignoring interactions among sectors and their combined impacts on the coastal and marine ecosystems, has placed at risk the heritage, livelihoods, and cultures of coastal communities that rely on healthy marine environments.

Major governance weaknesses impinging on the coastal and marine environment of the WIO region have been identified and include policy and legislative inadequacies, limited institutional capacities, inadequate awareness, inadequate financial resources and mechanisms, as well as poor knowledge management (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

An analysis of the legal and policy frameworks in many of the countries reveals that there are many policy and legislative gaps. The credibility of the scientific record from knowledgeable science institutions is limited and states are unable to verify or adopt decentralized evidence-based environmental policies, and secondly, institutions empowered to make legal rules and adopt cooperative policies are weak and the coordination with relevant science institutions is poor.

Adaptive governance operates in an iterative manner rather than providing discrete conclusions based on science, acknowledging that our understanding of natural

systems is constantly evolving (Benson 2010). Consequently, there is an absence of relevant legislation and policy instruments for key sectors, coupled with weak coordination structures between knowledgeable scientific institutions and legal institution, as well as insufficient updating, implementation, enforcement and monitoring of existing legislations across the countries of the WIO region. Moreover, despite WIO countries being signatories to many international and regional instruments there is inadequate domestication of relevant international commitment and obligations into national laws. With regard to limited institutional capacities, there is apparent lack of mechanisms for effective coordination and inter-sectorial governance among the institutions involved in the governance of the coastal and marine environment. Also there is inadequacy of human and technical resources and capacity in institutions charged with responsibilities over the coastal and marine environment in the countries of the region.

The experience with marine Ecosystem Services Valuation (ESV) is extremely limited in the WIO region. Valuation experience is unevenly distributed across types of marine habitats, ecosystem services and geographic locations, with traditionally more studies assessing values of near-coast provisioning, regulating and cultural (especially recreational) services, such as coral reefs, beaches, fisheries and coastal properties. There are far fewer studies investigating the deep sea or the less well recognized cultural services such as spiritual well-being and heritage. Awareness understanding and appreciation of the economic value of coastal and marine ecosystem goods and services is extremely low. Awareness of ecosystem service valuation is low among policy makers and the limited use of valuation as a management tool among decision makers, legislators, the private sector and civil society, is a major governance concern.

Finally, it is apparent that there is poor knowledge management concerning coastal and marine issues in the WIO region, including inadequate scientific and socio-economic data to support policy making, monitoring and enforcement (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a). All the foregoing problems are severely complicated by the large and diverse stakeholder groups involved, especially at the national level, which often results in incoherent and inefficient management approaches (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

Regional institutions for governance of oceans and coasts

Global environmental changes are inherently unpredictable; hence, governing institutions at the regional level and the national level are required to be sufficiently flexible and able to adapt rapidly when necessary to, for example, nonlinear changes. At the same time, institutions must be stable and rigid enough to ensure that humanity stays within the “safe operating space”. Further, the globalization of market systems and global environmental change has made it difficult for local or national-level governance systems to manage effectively the threats and pressures placed upon marine ecosystem. Commonly cited institutional gaps in the governance of the coastal and marine environment at the regional/international and national levels include poor coordination and weak legal, institutional and policy frameworks. It is noted that there are only a few regional inter-governmental agreements, however, at the national level there is poor implementation of these agreements, which include non ratification of agreements that are specific to land-based sources and activities (LBSA), sea-based pollution, physical alterations and destruction of habitats, biodiversity conservation and other aspects of the coastal and marine environment. At the national level, absence or limitations in legal and regulatory frameworks, often being fragmented or sectorial as opposed to comprised of integrated legislation, and poor enforcement of legislation, are some of the key governance issues across the region (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

On policy frameworks there is apparent absence of coherent regional strategies, as well as lack of awareness and recognition of the economic values of coastal and marine resources, particularly at the policy-making levels.

A UNEP report (UNEP/Nairobi Convention Secretariat and WIOMSA 2009b) identified legal and institutional governance challenges in the region (see below). These are exacerbated by large numbers of stakeholders with diverse needs and interests; and governing their use of the environment without adequate systems in place frequently gives rise to incoherent and inefficient management approaches and efforts. Key generic governance challenges and their effects at national or regional levels are:

- *Inadequate technical capacity* – This constrains drafting, negotiation, ratification and/or implementation of relevant conventions. State legal services are often overstretched, so

that conventions are not ratified, and even when ratified, are not adequately implemented. Technical capacity needs to be enhanced through training and participation at technical meetings of relevant conventions (UNEP/Nairobi Convention Secretariat and WIOMSA 2009b).

- *Lack of sufficient financial resources* - Countries provide inadequate financial resources to institutions that govern activities in the oceans and coastal space. Some countries allocate insufficient budgets to the work related to ratification and implementation of the conventions. This undermines the ability to negotiate, ratify or implement conventions and protocols. Some countries are unable to meet their subscription requirements, or are years behind on financial contributions to conventions (UNEP/Nairobi Convention Secretariat and WIOMSA 2009b). Only small budgets are available for operational expenses, so that mandates cannot be dealt with efficiently.

- *Overlapping or uncoordinated institutional mandates* – Regional governments with devolved political systems (eg Comoros, Kenya, South Africa) tend to have several institutions with similar mandates falling under various government layers (eg national, provincial or local) or different departments. Such polycentric governance structures lay emphasis on the need for systems of governance to exist at multiple levels, yet preserve levels of autonomy in each. Coordination is equally a problem in countries with more centralized systems such as Tanzania, Mauritius and Mozambique.

- *Multiple sectors affecting coastal and marine issues* – Sectors and stakeholders include local government/authorities, agriculture, tourism, mining, oil and gas and renewable energy, forestry, fisheries, regional development and transportation. The sectors may compete for space and resources in coastal areas and their management objectives may differ and fall under different authorities. Hence, the coordination of governance objectives is complex, and not easily resolved.

- *Political goodwill and prioritization* – Some governments regard coastal and marine issues as of secondary importance, as reflected in allocations of small budgets and limited technical resources. Few countries (eg South Africa, Tanzania, Mozambique and Kenya) have sought to elaborate integrated coastal zone management (ICZM) policies, whereas an over-arching policy framework is lacking in others (UNEP/Nairobi Convention Secretariat and WIOMSA 2009b). The lack of political good will is also reflected in the low level of public education and aware-

ness of coastal and marine conventions and protocols (UNEP/Nairobi Convention Secretariat and WIOMSA 2009b).

- *Language and legal system constraints* – Mainland states of the WIO are mainly Anglophone, except for Mozambique (Lusophone, whereas island states are all Francophone). In addition, most countries in the region are bilingual, with strong traditional languages such as Swahili or Malagasy. Language, cultural differences and different legal systems complicate negotiations towards agreements, or collective bargaining potential.

- *Multiple regional affiliations* – WIO countries affiliate with different regional economic blocks, such as: Small Island Developing States or SIDS (Comoros, Mauritius, Seychelles); Indian Ocean Commission or IOC (all island states); East Africa Community or EAC (Kenya, Tanzania); Southern Africa Development Community or SADC (South Africa, Mozambique, Mauritius, Tanzania); and Common Market for Eastern and Southern Africa or COMESA (Comoros, Madagascar, Mauritius, Seychelles, Kenya, Tanzania, Mozambique).

Further to the economic blocks, the WIO countries equally subscribe to the Nairobi Convention; the South Western Indian Ocean Commission and the Indian Ocean Tuna Commission. These affiliations come without a common regional approach to tackling coastal and marine environmental and related issues (UNEP/Nairobi Convention Secretariat and WIOMSA 2009b).

- *Political instability* - Political instability can lead to a general breakdown of legal and institutional systems, and can affect participation in regional conventions and protocols (eg, the political situation in Somalia prevents it from participating in regional programmes).

LEGAL AND INSTITUTIONAL FRAMEWORKS

Constitutional Provisions

Environmental or related provisions are included in the constitutions of Kenya, Mozambique, Seychelles and South Africa (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c). For example, Kenya's recently promulgated constitution (2010) fundamentally changed the legal landscape for environmental conservation, management and dispute resolution. The constitution implicitly includes coastal and marine environmental protection, access to environmental justice, and obligations of the state with regard to international legal commitments.

Nevertheless, constitutional provisions are generally not explicit, and specificity and detail is addressed in framework legislation or sectorial laws. Constitutional recognition will arguably raise the profile and effect of environmental legislation, policies and institutions and lead to better protection of environmental resources.

Framework Environmental Laws

All WIO countries have framework legislation and instruments for environment affairs, including coastal and marine environments (UNEP/Nairobi Convention Secretariat and WIOMSA 2009b). Many of these laws are relatively recent enactments, such as the Environmental Management and Coordination Act (EMCA in Kenya, 1999); La Charte de l'Environnement Malagasy (LOI No. 90-033 in Madagascar, 1990); Environment Protection Act and Environment Conservation Act (ECA No. 73 of 1989), National Environmental Management Act (NEMA No. 107 of 1998) and the Marine Living Resources Act (MLRA, No. 18 of 1998) in South Africa; Environmental Management Act (Tanzania, 2004); and the Lei do Ambiente (No 20/97 in Mozambique, 1997). These laws incorporate recent international environmental law principles, such as the "polluter pays" and the "precautionary principle", as well as sustainable development, the establishment of environmental crimes, dispute resolution and avoidance, key institutions and environmental impact assessment (EIA) rules and processes. An important challenge in the region is to align framework legislation, and related instruments, to give more deliberate focus to coastal and marine environmental affairs.

Sector based laws

All the WIO countries have sector-based legislation and regulatory frameworks, including for coastal tourism, forestry including mangroves, manufacturing industry, coastal urban developments, agriculture, fishing, mining, oil and gas, and ports and harbours.

- *Tourism* - Commitments to the tourism sector are located in policy rather than legislative instruments. The most relevant laws are concerned with land tenure, land use and planning (eg the Physical Planning Act [Chapter 286] in Kenya; and the Town and Country Planning Act and Licences Act, in Seychelles). In South Africa, Mozambique, Seychelles, Mauritius, Comoros and Madagascar, land use and planning legislation do not deal directly with tourism, except that tourism infrastructure and development are subject to land use and planning legislation.

Framework legislation in most countries obliges developers of tourist establishments to obtain EIA authorization.

Most national tourism legislation is administered by central government or departments under their control. Legislation tends to encourage development and expansion of tourist activities and infrastructure. No WIO country prohibits tourist developments in its coastal zone, as long as government authorization procedures are followed. Sanctions and penalties are sometimes inadequate, so as not to discourage tourism development – this inconsistency may have longer-term consequences for coastal environments.

Effective enforcement of land-use and planning requires a system of policing or voluntary compliance based on incentives. Currently, local authorities deal with the regulation and policing of environmental standards in most tourist developments - though this system is not always effective. A regional challenge is to guide commercial coastal tourism towards a sustainable regime, using focused legislation, and institutions and policy instruments that are sufficiently sensitive to coastal and marine environmental concerns (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

Biodiversity – Relevant legislation and regulatory instruments for the protection of biodiversity are fragmented, sparse and indirect. For example, protection of mangroves is dealt with in framework legislation, where it is treated as part of the natural environment (forests/flora). However, mangroves are also threatened by competing land uses, such as salt works, aquaculture, mariculture and agriculture (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c). Therefore, a legal dilemma might arise when private landowners insist on changing land use at the expense of mangroves or other forests. At present, this would be possible if the area lies outside a designated protected forest or wetland, under direct state control. Better-focused laws and regulatory frameworks are required to protect biodiversity and avoid further deterioration (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

Ports and harbours - Legislation dealing with ports, harbours, land reclamation and damming of rivers, and particularly in the case of ports and harbours, is usually explicit. Ports are important in political, military or strategic terms because of the maritime zones claimed by coastal states (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c). Development and expansion of physical infrastructure, port capacity and administrative structures is the

focus of port legislation. Port authorities are traditionally state enterprises, acting in national or public interest. There are, however, some weaknesses in terms of environmental impact requirements and enforcement thereof, because both the port authorities and enforcers are public enterprises. Consequently, important coastal and marine environmental issues (such as dredging and port expansion into vulnerable habitats) might not receive requisite attention (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

Mining, land reclamation and related sectors - Mining legislation is often extensive and direct, whereas that for land reclamation, irrigation and damming of rivers is less direct. Because there are frequently compelling socio-economic reasons for land reclamation (for example agriculture, development of ports facilities, damming of rivers for irrigation), legislation tends to have weak and inoperative provisions or ineffective enforcement mechanisms. Perhaps the most effective legislation is EIA Regulations, and to a lesser extent, legislation that creates protected areas such as forest reserves, marine national parks and nationally controlled coastal or marine zones (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

The Land Reclamation Act 1991 (Cap 106) of Seychelles provides a framework for the authorization of land reclamation, rather than prohibition of reclamation. In Mauritius, sand mining from lagoons is prohibited. In South Africa, prospectors and miners are obliged to undertake environmental restoration programmes (Mineral and Mines Act, 1991, Part VI). Apart from a Minerals Act in Seychelles, there is also a Removal of Sand and Gravel Act (1982) (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c). Recent developments, such as the exploration and discovery of offshore oil and gas reserves, will likely have profound environmental consequences, with major legislative and governance challenges.

Agriculture and manufacturing industry – These sectors can pollute coastal and marine areas by introducing chemical by-products and other wastes. Fortunately, most coastal agriculture is rural and of subsistence level, with fairly low chemical concentrations, while manufacturing is concentrated in urban centres. Agriculture and manufacturing are high-profile socio-economic activities, and the focus of governance is on facilitating development, rather than imposing environmental standards (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c). Most countries have laws, institutions and policy frameworks for agricul-

ture, fisheries and forestry. A challenge is to systematically include best environmental standards and principles in sectorial laws and regulatory frameworks. Adopting the concept of integrated coastal area and river basin management (ICARM) may be a way forward.

Fisheries and marine living organisms - The South Africa Marine Living Resources Act (MLRA), 18 of 1998 (MLRA) provides for the declaration of marine protected areas (MPAs) by the Minister (sect 43). The Minister is empowered to establish such areas in order to protect the marine fauna and flora and the physical features on which they depend, to facilitate fishery management, to provide pristine communities for research; and to diminish any conflict that may arise from competing uses in the area in question, and related matters (sect 43(1) (a) to (c)).

Various “closed areas” have been declared by the Minister under the MLRA, with geographic details of such areas detailed in the regulations. Activities prohibited within MPAs without the requisite permission include fishing, destruction of fauna or flora other than fish, extraction of sand or gravel, depositing of waste or disturbing the natural environment, erecting structures within the MPA, and conducting any activity that adversely impacts on the ecosystems of the area (sect 43(2)(a) to (e)) (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

In the Tanzania fisheries sector there is some legislation such as the Fisheries Act 2003; Tanzania Fisheries Research Institute Act 1980; Marine Parks and Reserves Act 1994; and the Deep Sea Fishing Authority Act, 1997. Other national fisheries legislation includes Mozambique’s law No 3 of 1990: Licensing and control of fishing industry; and Kenya’s Fisheries Act chapter 378 (1991); and Mauritius’ 1998 Fisheries Resources Act and the 1998 Marine Resources Act (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

Water quality and pollution – Laws and regulatory frameworks directly concerned with water resources include the Seychelles’ Public Utilities (Sewage) Regulations 1997, Maritime Zones (Marine Pollution) Regulations, and EPA 1994 (Impact Assessment) Regulations 1981. Laws in South Africa include the Environment Conservation Act 73 of 1989, which deals with pollution control generally; and, the Services Act and the Dumping at Sea Act. In Kenya, the Water Act 2002 has also introduced rules for the protection and preservation of water resources, including subsidiary regulations on water quality and wastewater (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

NATIONAL INSTITUTIONS AND OVERSIGHT

The national institutions in most of the countries exist as overseers of the entire spectrum of the national environment, even in fairly decentralized systems such as the Comoros and South Africa. This arrangement sometimes obscures the importance of coastal and marine environments in national resource allocation and priority setting. Consequently, technical personnel and financial means are often insufficient to deal with the myriad of challenges posed by the use of coastal and marine environments – many of which are multi-sectorial and multi-disciplinary. An important challenge is to align institutions to give more deliberate attention to the use of coastal and marine environments. Alternatively, specific institutions to address issues in a more focused manner might be considered.

In Kenya, institutions with mandates on coastal and marine environment management have evolved with time. The Environmental Management and Coordination Act (EMCA, 1999) established the National Environmental and Management Authority (NEMA) to exercise general supervision and co-ordination over environmental matters. EMCA supports a National Environment Council (NEC), and Provincial and District Environment Committees as fora for stakeholder engagement in environmental protection and conservation (GOK: ICZM Action Plan 2010-2014). Other institutions are sector- or resource-specific, for example, the Kenya Forest Service (KFS), State Department of Fisheries and Kenya Marine and Fisheries Research Institute (KMFRI), Kenya Maritime Authority (KMA), Kenya Ports Authority (KPA) and Kenya Wildlife Services (KWS).

The Tanzanian legal system creates several institutions and vests them with a variety of responsibilities and environmental management tasks, through rather scattered legislation. Overlapping jurisdiction in enforcement reduces management efficiency. The Vice Presidential Office is responsible for the environment docket, through the Division of Environment, tasked with development of policy options and coordination of broad-based environmental programmes, including civil involvement in environmental activities, research and monitoring. The National Environment Management Council (NEMC) interacts with relevant sector ministries. All government ministries have an environmental section, for compliance. The Division of Environment, relevant sector ministries and local government authorities, use different laws and instru-

ments. Sector ministries work through the environmental sections established in each ministry while local government authorities are created under local government laws. Meanwhile, district and urban authorities are empowered to control pollution in rivers, streams, watercourses, wells or other water supplies in their areas. Still other regulatory institutions have similar functions under the different laws. Whereas institutions have the opportunity to function cooperatively this is not a legal condition.

In Mozambique, the main public bodies constituting the institutional framework are the Ministry for the Coordination of Environmental Affairs (MICOA), which is the main framework institution; National Directorate of Environmental Impact Evaluation (NDEIE); Centre for Sustainable Development of Coastal Zones; Centre of Sustainable Development of Urban Zones; Centre of Sustainable Development of Natural Resources; and National Institute of Hydrography and Navigation. MICOA is the central organ of the State apparatus (Presidential Decree n° 6/95) which directs and executes the environmental policy, and coordinates use of natural resources. MICOA interacts with various sector institutions, such as maritime administration, fisheries, mining, agriculture and forests, which also have environmental responsibilities (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

The primary national environmental institution in Comoros is the Directorate General of the Environment (“La Direction General de l’Environnement, DGE”) established under Decree No. 93-115 and elaborated by subsidiary regulation No. 93-20/MDRPE-CAB. The DGE is responsible for the management and implementation of the national environmental policy and action plan, and falls under the Ministry of Production and Environment. The ministry also houses the “Le Service de la Réglementation et du Contrôle (SRC)”, which elaborates on environmental legislation and their application, and a national institution for research in agriculture, fisheries and environment (“INRAPE”) (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

In Madagascar, the most relevant institutions are the Inter Ministerial Committee on Environment; National Council for the Environment; National Committee on Coastal and Marine Affairs; National Committee on Mines and Inter Ministerial Committee on Mining. Others are the National Office for Tourism, Marine Ports Agency, and the Fisheries Surveillance Agency (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c). Moreover, the Min-

istry of Environment, Water and Forests is responsible for national policy formulation and ensuring general compliance and enforcement. At the local and regional/provincial level, there are corresponding institutions with mandates over their defined geographical territories (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c).

In Mauritius, the Ministry of Environment and National Development Unit (MOE) has overall responsibility for protection of the environment, under the Environment Protection Act. It is supported by the Ministry of Agro-Industry and Fisheries, Mauritius Ports Authority (MPA), and the parastatal Waste Water Management Authority (WMA) operating under the aegis of the Ministry of Public Utilities (UNEP 2009c).

The Seychelles Ministry of Environment and Natural Resources is the parent ministry to several agencies: the Marine Parks Authority; Solid Waste and Cleaning Agency; Seychelles Fishing Authority; Island Development Corporation; and Water and Sewerage Division of the Public Utilities Corporation. The Ministry has several divisions, including pollution control and EIA division; pollution prevention and control; and conservation. The Seychelles Bureau of Standards is responsible for setting standards.

In South Africa, the Department of Environmental Affairs (DEA) administers the Sea-shore Act 21 of 1935, Environment Conservation Act 73 of 1989, and National Environmental Management Act 108 of 1998. Its mandate includes marine pollution and dumping at sea. DEA has a number of vessels and aircraft with which to patrol and enforce laws (UNEP/Nairobi Convention Secretariat and WIOMSA 2009c). The Department of Agriculture, Forestry and Fisheries (DAFF) administers fisheries exploitation according to the Marine Living Resources Act (18 of 1998).

The Marine Traffic Act, Merchant Shipping Act, Marine Pollution (Control and Liability) Act and the Marine Pollution (Prevention of Pollution from Ships) Act fall under the Department of Transport (DoT). A statutory authority, the South African Maritime Safety Authority (SAMSA), deals with maritime navigation, including the maintenance of standards by vessels, including oil tankers (UNEP 2009c). Commercial seaports fall under the National Ports Authority (NPA) and the South African Port Operations (SAPO) (formerly Portnet). The Directorate of Water Quality (Department of Water Affairs) deals with pollution of the marine environment from land-based sources (eg point sources or

seepage). The Mineral and Petroleum Development Act 28 of 2004 pertains to authorizations to mine terrestrially or offshore. The four coastal provinces administer certain legislation through provincial departments.

REGIONAL INSTITUTIONS

African Ministerial Conference on the Environment (AMCEN) - Established 1985, its mandate is to advocate for environmental protection in Africa. AMCEN led the process for the development of the action plan for the Environment Initiative for NEPAD (see below), and endorsed a framework NEPAD Environment Action Plan which commenced in 2002. AMCEN promotes a comprehensive regional report on the state of Africa's environment, the Africa Environment Outlook (AEO). AMCEN facilitated the revision of the 1968 African Convention on the Conservation of Nature and Natural Resources (Algiers Convention). Linkages between AMCEN and the African region's two marine and coastal conventions, namely, the Nairobi Convention and the Abidjan Convention, are being strengthened. The UNEP Regional Office for Africa serves as the AMCEN secretariat.

New Partnership for Africa's Development (NEPAD) - The NEPAD Environment Action Plan proposes four strategic directions: capacity building for environmental management; securing political will to address environmental issues; mobilizing and harmonizing international, regional and national resources, conventions and protocols; and supporting best practice and pilot programs. Priority sectors and cross-cutting issues are combating land degradation, drought and desertification, wetlands, invasive species, marine and coastal resources, cross-border conservation of natural resources, and climate change (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

African Ministerial Conference on Water (AMCOW) - AMCOW is a regional inter-governmental response on use and management of water resources for social and economic development and maintenance of African ecosystems. Functions include facilitation of regional and international cooperation through coordination of policies and actions amongst African countries regarding water resource issues; to review and mobilize additional financing for the water sector in Africa; and to provide a mechanism for monitoring the progress of major water resource, supply and sanitation initiatives (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a). The AMCOW institutional set-up consists of a Full Council of Ministers.

REGIONAL ECONOMIC INTEGRATION ORGANIZATIONS

Four main regional economic integration units are relevant to the WIO region: the Southern Africa Development Cooperation (SADC), Common Market for Eastern and Southern Africa (COMESA), Eastern African Community (EAC) and Indian Ocean Commission (IOC) (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

Southern African Development Community (SADC) - The objective of SADC (established in 1992, with headquarters in Gaborone, Botswana) is to "achieve development and economic growth, alleviate poverty, enhance the standard and quality of life of the peoples of southern Africa and support the socially disadvantaged through regional integration" (Article 5(1)(a)). In the preamble, member states commit to "coordinate, harmonise, and rationalise their policies and strategies for sustainable development in all areas of human endeavour..." and "agree to co-operate in the areas of natural resources and the environment" (Article 21(3)(e) (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a). The SADC Protocol is the key instrument for transboundary water management, including shared rivers and watercourses. There are currently fifteen members of SADC, six of which are also members of the Nairobi Convention (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

Sectorial sub-committees include Environment and Land Management, and Fisheries. There is no sector dedicated specifically to the marine environment but the Fisheries and Shared Water Courses Protocols are relevant to the coastal and marine environment. Similarly, there is no environmental assessment protocol for transboundary pollution and impacts. The Revised Protocol on Shared Water Courses follows from the International Water Courses Convention and encourages the establishment of institutions for all river basins in the region, to manage shared resources sustainably (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a). Specific agreements include the Permanent Joint Technical Commission between Angola and Namibia on the Kunene River Basin; the Limpopo Basin Permanent Technical Committee between Botswana, Mozambique, Zimbabwe and South Africa; and the Incomati Tripartite Committee. In addition, a number of multi- and bi-lateral treaties have been entered into by SADC that include countries of the WIO region (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

Common Market for Eastern and Southern Africa (COMESA) - The focus of COMESA is 'economic' integration (recently 'development integration') by 'the attainment of a fully integrated economic community through a combination of trade development and investment promotion and co-ordination'. Of 19 member states, 5 are from the WIO (Seychelles, Mauritius, Madagascar, Kenya and Comoros). Due to its "development" mandate, COMESA is unlikely to play a central role in marine and coastal governance (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

East African Community (EAC) - A regional economic integration organization with 5 member states (Kenya, Uganda, Tanzania, Rwanda and Burundi). Environmental aspects (including coastal and marine issues) fall outside its focal area (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

Indian Ocean Commission (IOC) - Established in 1984 and comprising of 5 island states (Comoros, Madagascar, Mauritius, Seychelles and French islands of Reunion and Mayotte), its objectives are cooperation in diplomatic, economic, commercial, marine fisheries, agriculture, scientific, technical and cultural fields, and conservation of resources and ecosystems. Inevitably, the principal focus of the five IOC countries is marine fisheries, to which most efforts and development are targeted. Fisheries Partnership Agreements (FPAs) are supported (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

REGIONAL AND INTERNATIONAL CIVIL SOCIETY ORGANIZATIONS

Non-state actors often lack traditional forms of political power or authority (legislative and executive). The key skills and resources that non-state actors possess derive from their intellectual, membership, political, and financial bases. More specifically, the different sources of non-state actor power are believed to include knowledge and information (Betsill and Corell 2008, Keck and Sikkink 1999); economic resources and position in the global economy (Falkner 2010, Newell 2000); organizational capacity, transnational networking and mobilization capacity (Falkner 2010); and legitimacy (Gough and Shackley 2001). The governance profile of environmental non-governmental organization (NGOs) stands out as particularly strong on raising awareness and, representing public opinion.

Western Indian Ocean Marine Science Association

(WIOMSA) - WIOMSA is a non-governmental and non-profit regional organization for promoting the educational, scientific and technological development of marine science throughout the WIO region (www.wiomsa.org). Among its flagship programmes are the Marine Science for Management programme (MASMA); several marine scientific symposia (notably the WIO Marine Science Symposium); publication of the WIO Journal of Marine Science; and joint initiatives on the Jakarta Mandate for implementation of the 1992 Biodiversity Convention (UNEP/Nairobi Convention Secretariat and WIOMSA 2009a).

Consortium for Conservation of Coastal and Marine Ecosystems in the Western Indian Ocean (WIO-C) - A consortium of existing regional, coastal and marine conservation programmes, to strengthen influence on decision-making processes. The 9 founding members (IUCN, WWF, WIOMSA, CORDIO, WCS, UNEP-Nairobi Convention, IOC, NEPAD, and Inter-Governmental Oceanographic Commission (IOC-UNESCO), are committed to anchor the Consortium in the Nairobi Convention.

The World Conservation Union (IUCN) - The IUCN was established in 1948 and brings together 83 States, 110 government agencies, over 800 non-governmental organizations (NGOs), and some 10,000 scientists and experts from 181 countries in a unique worldwide partnership (www.iucn.org).

The IUCN has played an important role in developing treaties to protect wildlife, and for the conservation of natural resources. It has also undertaken numerous studies and produced many publications or assisted in their development. Its key global contributions include the 1992 Convention on Biodiversity, the World Conservation Strategy which has been published since 1980, and an on-going series of Red Data Books listing endangered species of plants and animals.

The IUCN East African Regional Programme Office (EARO) was established in 1985, and through its ability to galvanise funds from international donors, and to coordinate and manage implementation of programmes and activities, the EARO has contributed to several important interventions in the WIO region. These include advocacy for rare, threatened and endangered species and habitats, as well as education and awareness programmes. Examples are numerous and include the facilitation of the Tanga Coastal Zone Conservation and Development Programme in Tanzania; the Eastern Africa Marine and Coastal Ecosystems Programme; its partnership with other organizations

to implement the Jakarta Mandate for the implementation of the 1992 Biodiversity Convention; its support of the Kisite Marine Park in Kenya; and, its support of Tanzania's Mnazi Bay-Ruvuma Estuary Marine Park and the Moheli Marine Park in the Comoros. In addition, the organization has been assisting the region in the development of marine protected areas (MPAs), and particularly with the production of a 'Toolkit' to help MPA managers find the resource information they need; as well as also working in collaboration with the IUCN World Commission on Protected Areas to introduce the concept of 'assessment of management effectiveness'. All these initiatives have a direct bearing on land-based marine pollution.

World Wide Fund for Nature (WWF)

WWF was established in 1961 and operates in more than 100 countries. It has a global marine and coastal component with several initiatives. These include a dedicated marine programme in WIO Region. The WWF projects that have specific coastal and/or marine interventions include those in coastal forests in Kenya and Tanzania, on threatened marine turtles and on and climate change. The WWF works in close partnership with the Nairobi Convention and other stakeholders to promote the marine and coastal environment of the WIO region.

GLOBAL INTER-GOVERNMENTAL INSTITUTIONS

United Nations Environment Programme (UNEP) - UNEP is a specialized UN programme with an environmental mandate. Its main role is generally that of a catalyst for action by other institutions or states. It normally undertakes studies on environmental issues, but implementation of projects is undertaken by the UN as a whole, often with the aid of regional governmental or non-governmental organizations and individual states. UNEP's mandate on management of the environment includes the legal and policy regulation of human activities that have any measurable impact on the environment. UNEP has played an influential role in the development of various instruments of environmental law. As early as 1974, UNEP adopted a regional approach to the management and protection of the oceans and seas of the world, which led to the Regional Seas Programmes (RSPs), including the 1985 Nairobi Convention framework for the WIO region.

Although it is an international institution with a global environmental mandate, the location of its physical head-

quarters in Nairobi makes it a central player at African, regional, and WIO levels. UNEP's key strength is unparalleled, especially in convening on environmental issues within the region and beyond. However, it does not have individual country offices or presence, unlike other UN agencies, detracting from its country-level efficiency.

International Maritime Organization (IMO) - The IMO was established in 1948 to "promote adoption of high standards in maritime safety, navigation efficiency and prevention and control of marine pollution from ships." IMO's framework of conventions and soft law instruments do not establish any international enforcement or regulatory authority for coastal and marine environments. Much of the responsibilities and obligations defined in these instruments devolve to coastal, flag and port states. Kenya, Mozambique and Tanzania fit into at least two of the foregoing categories. The Eastern Africa regional office in Nairobi deals with vessel-based pollution, maritime safety and ports in the region.

The Food and Agriculture Organization (FAO) - Established by the 1943 UN Conference on Food and Agriculture, the FAO is a specialized agency dealing with the sustainability, monitoring and improvement of agriculture and fisheries production on a global scale. It gathers and analyses production figures, and disseminates statistics, promotes international action with respect to research and management (for example the SWIO Commission) and supports resource use education and administration. FAO has also promoted international environmental law making (Birnie and Boyle 2009) and was involved in the development of the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas, the 1993 Agreement to Promote Compliance with Conservation Measures on the High Seas, the 1995 Code of Conduct for Responsible Fisheries and the Agreement on Straddling and Highly Migratory Fish Stocks. In collaboration with UNEP, it developed the 1998 Rotterdam PIC Convention.

Inter-Governmental Oceanographic Commission of the United Nation Educational, Scientific and Cultural Organization (UNESCO-IOC) - Provides scientific advice based on research, a "diversity of knowledge and expertise," and an independent source of publicly accessible information. UNESCO-IOC is active in marine scientific research projects and has increasingly involved developing countries in joint research. Usually UNESCO-IOC conducts research at the regional level through inter-governmental commissions such as those dealing with land-based pollution, pol-

lution from dumping, and fisheries. The research organization is visible and active in the WIO region. UNESCO was responsible for the adoption of, and performs secretariat functions, for the 1971 Ramsar Convention and the 1972 World Heritage Convention.

UN Development Programme (UNDP) - A specialized UN agency with a mandate to advance socio-economic development. Unlike the UNEP, it has individual country presence, and has offices in the countries of the WIO region. It is therefore visible and arguably influential, especially in socio-economic spheres. Its involvement in the WIO region is as the principal channel of multilateral, technical and investment assistance to developing countries. This includes environmental programmes, such as the Global Environmental Facility (GEF), which makes funds available to developing countries, and supports capacity-building.

GOVERNANCE RESPONSES AND INTERVENTIONS

Numerous national, regional and global institutions, laws and conventions operate in the WIO region, often with overlapping mandates, and all too often in an uncoordinated manner. Although multiple organs and levels might have been expected, given the complexity of human interactions with the environment (ie, many countries, cultures, resources, and interests), they give rise to inefficient use of governance instruments and resources. A common characteristic of national legislation is that they are scattered and fragmented across sectorial disciplines. This is in line with

a sector-based approach to governance of public affairs, which has prevailed over the decades, and accounts for apparent overlaps, duplications and contradictions in national legislation and institutional frameworks.

Nevertheless, legal, institutional and policy responses appear to have been characteristically similar, both acknowledging that many anthropogenic activities causing coastal and marine pollution and degradation stem from legitimate socio-economic activities, and that these activities have environmental consequences that need to be regulated. At national level, there appears to be a dilemma regarding appropriate legal, institutional and policy responses. Some national legislation merely facilitates rational exploitation, while giving environmental considerations short shrift. In some cases, there is only peripheral legislation (for example tourism) while substantive legislation is absent, or reliant on general land use and planning legislation. In yet other cases, laws adopt a “command and control” approach rather than an integrated or participatory approach, which encourages voluntary compliance with incentives instead of prohibitions and penalties. Many of the legal instruments reviewed appear to play a regulatory role to facilitate orderly and rational access and utilisation of coastal and marine resources without degrading the environment. WIO countries have at least some form of EIA regulation, whether in the respective national framework or sector legislation or in subsidiary legislation or decrees. The evolving ICZM laws and policies are more participatory, and may bring a future paradigm shift.

References

- Benson, M.H. (2010). Adaptive management approaches by resource management agencies in the United States: implications for energy development in the interior West. *Journal of Energy and Natural Resources Law* 28, 87-118
- Betsill, M. and Corell, E. (eds.) (2008). *NGO diplomacy: The influence of nongovernmental organizations in international environmental negotiations*. MIT Press, Cambridge
- Birnie, P., Boyle, A. and Redgewell, C. (2009). *International law and the environment*. 3rd edition. Oxford University Press.
- Falkner, R. (2010). Business and global climate governance: A neo-pluralist perspective. In *Business and global governance*. (eds. M. Ougaard and A. Leander) pp. 99–117. Routledge, London
- Gough, C. and Shackley, S. (2001). The respectable politics of climate change: The epistemic communities and NGOs. *International Affairs* 77(2), 329–346
- Keck, M. and Sikkink, K. (1999). Transnational advocacy networks in international and regional politics. *Int. Soc. Sci. J.* 51(159), 89–101
- Levin, S.A. (1999). *Fragile dominion: Complexity and the commons*. Perseus Books, Reading
- Newell, P. (2000). *Climate for change: Non-state actors and the*

global politics of the greenhouse. Cambridge University Press, Cambridge

UNEP/Nairobi Convention Secretariat and WIOMSA (2009a). *Transboundary diagnostic analysis of land-based sources and activities affecting the Western Indian Ocean coastal and marine environment*. UNEP, Nairobi, Kenya

UNEP/Nairobi Convention Secretariat and WIOMSA (2009b). *Regional Synthesis Report on the Status of Ratification of International Conventions related to Land Based Sources and Activities in the Western Indian Ocean (WIO)*

Region. UNEP, Nairobi, Kenya

UNEP/Nairobi Convention Secretariat and WIOMSA (2009c). *Regional review of policy, legal and institutional frameworks for addressing land-based sources and activities in the Western Indian Ocean region*. UNEP, Nairobi, Kenya

UNEP/Nairobi Convention Secretariat and WIOMSA (2009d). *Strategic Action Programme for the Protection of the Coastal and Marine Environment of the Western Indian Ocean from Land Based Sources and Activities*. Nairobi, Kenya 156 pp.

