REVIEW OF THE POLICY, LEGAL, REGULATORY AND INSTITUTIONAL FRAMEWORKS FOR LAND-BASED SOURCES AND ACTIVITIES MANAGEMENT IN THE WESTERN INDIAN OCEAN (WIO) REGION

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List of Abbreviations and Acronyms

ASCLME	Aghulhas Somali Current Large Marine Ecosystem
ACLME	BenguelaCurrentLargeMarineEcosystemBiodiversity(Mozambiqe)
CDS	Centre for Sustainable Development for Coastal /Urban Natural Zones (Mozambique)
CICE	Inter Ministerial Consultative Committee on
CITES	Convention for International Trade in Endangered
COP	Conference of Parties
DEAT	Department of Environment and Tourism (South
DFA	Development Facilitation Act (South Africa)
DOE	Divisition of Environment (Tanzania)
DOT	Department of Transport (South Africa)
DWAF	Department of Water Affairs and Forestry (South Africa)
ECA	Environmental Conservation Act (South Africa)
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMCA 1999	Environmental Management and Co ordination Act
EMPS	Environmental Management Plan of Seychelles.
EPA	ordination Act Environmental Protection Act (Mauritius)
ERMA	Environmental Regulation on Mining Evaluation(Mozambique)
FAO	Food and Agriculture Organization
GN	Gazette Notice
ICZM	Integrated Coastal Zone Management
INRAPE	Institut National de Recherche pour l'Agriculture, la Pêche et l'Environnement
KMA	Kenya Maritime Authority
KMFRI	Kenya Marine and Fisheries Research Institute (Kenya)
LBSA	Land Based Sources and Activities Management
MENR	Ministry of Environment and Natural Resources
MICOA	Ministry for the Co ordination of Environmental Affairs (Mozambique)
MMA	Mauritius Marine Authority
MOE	Ministry of Environment (Mauritius)
MPA	Mauritius Ports Authority Mauritius
MPRDA	Minerals and Petroleum Resources Development Act (South Africa)
MWI	Ministry of Water and Irrigation (Kenya)
NDEIE/DNAIA	National Directorate of Environmental Impact
NEAP	National Environment Action Plan (Kenya, Mauritius)
NEAP	National Environmental Action Plan
NEMC	National Environment Management Council (Tanzania).
NEP	National Environment Policy (Mauritius),(Mozambique)
NET	National Environmental Tribunal (Kenya)
NPA	National Ports Authority (South Africa)
NSP	National Sewerage Plan (Mauritius)
PAE	(National) Environmental Action Plan (Comoros)
PNE	National Environment Plan (Comoros)
POPs	Persistent Organic Pollutants
Rs	Rupees (Mauritius)

RSP	Regional Seas Programme(s)
SABS	South Africa Building Standards
SAPO	South Africa Port Operations
SEACAM	Secretariat for Eastern African Coastal Area
SMP	Sewerage Master Plan (Mauritius)
SPAW	Specially Protected Areas and Wildlife
SPAW	Special Protected Areas and Wildlife (Protocol) Species
STAR	Societe de Traitement et Assainissement Regional (Seychelles)
SWAC	Solid Waste and Cleaning Agency(Seychelles)
UNDP	United Nations Development Programmes
UNEP	United Nations Environment Programme.
WEHAB	Water, Education, Health, Agriculture and)
WIO	Western Indian Ocean Region
WIOLAB PMU	Western Indian Ocean Land Based Project Management
WMA	Waste Management Authority (Mauritius)

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Executive Summary

This is a Nairobi Convention Regional Report on national, legal, policy, regulatory and institutional frameworks in the countries participating in the Project "Addressing Land-based Activities in the Western Indian Ocean" (WIO-LaB): Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa and Tanzania. The report depended primarily on national reports of studies carried out simultaneously in the participating countries. The main purpose of the reports is to provide baseline knowledge of the gaps in the legal, policy, regulatory and institutional frameworks for dealing with Land-based Sources and Activities (LBSA) issues in the Western Indian Ocean (WIO) Region. The report forms part of a process towards the development of a new LBSA Protocol to the Convention for the management, protection and development of the coastal and marine environment in the Eastern Africa region (in short referred to as Nairobi Convention). The study is intended to create momentum towards necessary changes in legal and other frameworks as the Region looks forward to implement the proposed LBSA Protocol.

In the preparation and finalization of this report, the Consultant worked closely with and reported to the WIO LaB Project Management Unit (PMU), housed within the UNEP Nairobi Convention Secretariat. The Consultant received and reviewed country reports prepared by national consultants on the existing national legal, policy and regulatory frameworks relevant to land-based activities and sources affecting the marine and coastal environment. The national consultants were recruited by the WIO LaB PMU in consultation with the national focal points, and were reporting to the national focal points and national legal and technical taskforces, which were supported by the WIO LaB Project. The National Legal and Technical Review Taskforces were responsible for validating the national reports.

The regional report prepared by the Consultant was presented to the Regional Legal and Technical review Taskforce for review and validation. The latter was established with its own TOR and structure, and necessary linkages with the WIO-LaB PMU and the National Legal and Technical Review Taskforces.

The study indicates that all the WIO countries are faced with land based sources and activities that are causing marine and coastal area pollution and environmental degradation. However, these LBSA also happen to be related to, in many respects, important socio-economic sectors on which economies and communities depend; they include agriculture, coastal tourism, ports and harbour developments, damming of rivers, urban developments and construction, mining, fisheries, manufacturing, among others. The consequent key threats to the coastal and marine environment include pollution and the degradation of coastal habitats and of coastlines (erosion).

Each of the countries has its own set of LBSA related laws, policies, regulatory and institutional frameworks. Some of the countries have constitutional provisions on environmental matters generally, but none with LBSA specific provisions. In addition, each of the countries has a framework environmental law, usually supported by a key framework institution. These framework laws and institutions provide for, albeit briefly, LBSA matters.

There are also major policy and regulatory instruments in most of the countries concerning environmental issues generally. It is noteworthy that up to 2008, none of the countries had a national policy framework dedicated to LBSA as such. However, in recent years Integrated Coastal Zone Management (ICZM) related policies have developed in Mozambique, South Africa and Tanzania. There have been similar developments in Mauritius, Madagascar, Comoros and Kenya.

Each of the countries has several sectoral legislations, policies and institutions affecting the major LBSA sectors and activities such as coastal tourism, forestry, ports and harbours, mining and extraction, fisheries, urban developments, agriculture and manufacturing. This is largely because major socio-economic activities are usually organized in a typical sectoral manner and concepts of integrated planning have not taken root. Some of these instruments are old colonial enactments; some are very new or fairly recent.

However, none of the countries has dedicated LBSA legislation, policy or institutions as such. Neither is it evident that there are such plans. But there are proposals in some of the national reports and in the current report to move towards unified LBSA legislations and institutions. Other proposals are that there be reviews and amendments of existing laws and other instruments to introduce such integrated instruments. In addition, there are several other gaps identified in the national studies and regionally which will require interventions.

Regionally, it seems that the countries are generally looking for guidance from the new LBSA Protocol to the Nairobi Convention currently under development. The proposed new LBSA legislations or reviews of existing frameworks are to help facilitate the smooth and timely ratification and implementation of the LBSA Protocol once the same is adopted.

The assessment concludes that it is imperative and urgent to create a regional legal framework in the region in the form of the proposed LBSA Protocol to the Nairobi Convention. The countries should also take concrete measures to domesticate and implement the LBSA Protocol once the same is ratified. Equally important is that, within the framework of the Nairobi Convention and the WIO LaB Project, the countries should establish, strengthen and implement environmental impact assessment (EIA) regulations nationally and regionally. While there may be limitations such as lack of political will, and the fact that LBSA are important socio economic and livelihood issues, there should still be bold and specific prohibitions of certain degrading activities and practices such as beach sand mining, and disposal of raw sewage to the ocean.

The countries should also intensify efforts at better implementation and enforcement of existing laws and policies, because this has been identified as a major weakness across the region. Finally, sustainable funding remains a major challenge for the LBSA interventions in the region. It is strongly recommended that the countries individually and as a region seek more sustainable funding mechanisms, including the establishment of strategic partnerships, grants and long term low interest credit facilities.

Among the recommendations in this report include measures to assist countries in achieving the above objectives, by expediting the domestication and implementation of the LBSA Protocol nationally and regionally; the establishment and strengthening of EIA regulations, as well as regulations for the prohibition of certain degrading activities and practices such as sea disposal of raw sewage and sand mining; strengthening the implementation and enforcement of existing requirements; and the establishment of sustainable funding and strategic partnerships.

Finally, below is a tabulated summary of common weaknesses in LBSA governance in the WIO Region, as well as challenges and opportunities.

Table 1: Common weaknesses in LBSA Governance

Category	Regional/international governance	National governance
Legal framework	• Absence and/or shortcomings in regional inter-governmental agreements. • Shortcomings in the ratification and implementation of inter-governmental agreements	• Absence and/or shortcoming in national legal and regulatory frameworks • Fragmented (sectoral as opposed to integrated) legislation • Poor/lack of enforcement of legislation
Institutional framework	• Absence of a regional 'champion' providing oversight on LBSA Governance • Shortcomings in collaboration and coordination between regional institutions • Lack of adequate regional financial mechanisms	• Restricted capacity of national institutions • Inadequate cooperation and conflicting mandates of national institutions • Insufficient stakeholder (including private sector) involvement • Lack of adequate financial mechanisms and resources
Policy framework	• Absence of coherent regional policies and strategies • Lack of awareness and recognition of the (economic) values of coastal and marine resources at the level of policy makers	• Absence of coherent national policies and strategies • Lack of awareness and recognition of the (economic) values of coastal and marine resources at the level of policy makers

Table 2: Regional challenges and opportunities regarding legal and regulatory issues

Challenges	Opportunities
Lack of harmonization of existing legislation	• Draft model LBA legislation • Promote principals of regionally integrated ICM
Financial constraints for enforcement	• Opportunities to mobilize resources to finalize regional programme • Coordinating activities through existing regional organizations (IOC, SADEC, EAC, COMESA, UNEP)
Limited access to environmental justice	• Sharing of national best practices (legal, policy, institutional) • Ongoing capacity-building programme for legal stakeholders
Lack of environmental consideration in planning laws	• Draft model LBA legislation • Ongoing capacity-building programme for legal stakeholders
Lack of environmental education in curricula	• Ongoing capacity-building programme for legal stakeholders

1. INTRODUCTION

1.1. Context

The environmental health and well–being of our oceans and seas has assumed a prominence in recent decades, attributed largely to growing scientific knowledge and understanding; the gradual demystification of the oceans and seas; increased and diversified uses of the marine water masses; the actual and potential environmental risks of use; and geopolitical realities. There are, broadly, two main sources of marine and coastal environmental pollution and degradation, namely, land-based sources and activities, and sea-based sources and activities. The former is considered to account for most (up to 80%) of the global marine and coastal environmental degradation, with very grave consequences on biodiversity, livelihoods, economies and human societies. The impacts of human activities on the marine and coastal environment generally, and in particular in the Western Indian Ocean(WIO) Region include: habitat destruction and degradation through direct activities such as land reclamation, coastal developments (mainly urbanization and tourism), dredging and destructive fishing activities; modification and alteration of habitats and deterioration of water quality through pollution; and damage to biological communities and living resources through non sustainable levels of harvesting(*UNEP/GPA/WIOMSA 2004*). The *World Resources Institute (2002)* reported that more than one-third of the world's coastlines were under a high degree of threat from development related activities.

Among the major responses to the environmental problems of marine and coastal areas is the establishment and development of appropriate legal and institutional mechanisms at the international, regional and national levels with the most prominent internationally being the UNEP, and particularly the Regional Seas Programmes (RSPs). The WIO Region, covered by the Nairobi Convention, is one of the existing UNEP-RSPs. The establishment of the UNEP/GPA in 1995 was a direct response to the challenges posed by increasing marine and coastal pollution and degradation from land-based sources and activities. The WIO LaB Project is building upon previous work and seeks to, among others, strengthen the regional legal basis for addressing land based sources and activities causing marine environmental degradation in the WIO Region.

The Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region and the Protocol concerning Protected Areas and Wild Fauna and Flora (SPAW Protocol) in the Eastern African Region and the Protocol concerning Co-operation in Combating Marine Pollution in Cases of Emergency (Emergency Protocol) in the Eastern African Region were enacted in Nairobi on 21 June 1985. They constitute the current regional legal framework for the protection and conservation of the marine and coastal environment of the Eastern African region.

The Nairobi Convention Area covers the mainland countries of Somalia, Kenya, Tanzania, Mozambique and South Africa and the island states of Seychelles, Reunion (France), Madagascar, the Comoros and Mauritius. The Convention and its protocols came into force in 1996 and each of the countries has ratified the instruments.

Since 1999 subsequent Nairobi Convention Conference of Parties (COPs) have called for the review of the Convention and its protocols to bring them up to date as modern and dynamic legal instruments better suited for the protection and conservation of the marine and coastal environment of the Region. They have in addition called for the development of a new Protocol on Land based Sources and Activities (LBSA Protocol). The Convention and its protocols should also respond to developments in relevant law, including other RSPs. In particular, COP 3 (Maputo, 2001) and COP 4 (Antananarivo, 2004) of the Nairobi Convention called upon the Executive Director of UNEP to expedite the process of revision of the Nairobi Convention and its protocols as well as the development of the LBSA Protocol (C.P. 3/6; C.P.4/7).

The proposed LBSA/A Protocol is a tacit acknowledgement of an existing legal gap to confront the increasing challenge and severity of land-based sources and activities causing pollution and degradation of the coastal and marine environment in the WIO Region. The Global Programme of Action on Protection of the Marine Environment from Land-Based Activities (UNEP-GPA, 1995) has identified at least nine (9) pollutant nodes across most of the RSPs, and many of these are manifested in the WIO Region. The nine (9) pollution nodes include: municipal wastewater (MWW), heavy metals, litter, nutrients, oil, physical alterations and destruction of habitats (PADH), radioactive substances, sediments mobilization, and persistent organic pollutants (POPs) *(www.gpa.unep.org)*

The revision of the Convention and its protocols and the development of an LBSA Protocol are expected to be carried out within the broader framework of the implementation of the Nairobi Convention Work Programme for the period 2004-2007.An important part of this work plan would be implemented under the UNEP/GEF WIO-LaB Project(UNEP/ GEF: 2004)

The development of a new LBSA Protocol to the Nairobi Convention is covered under Objective II Activity (E) of the WIO LaB Project Document and the same is further elaborated in the WIO LaB Project Plan of Implementation(UNEP/GEF: 2004)

Other important and supporting activities and outputs are covered under Objective II which concerns “Strengthening the regional legal basis for preventing land based sources of pollution, including implementation of the GPA” Activity (A) and Activity (B): Activity (A) concerns a review of gaps in national legislation, regulatory and institutional frameworks relevant to land based sources and activities while Activity (B) is on the review of the status of ratification and implementation of appropriate international conventions by countries in the WIO Region, and possible assistance to countries to develop plans for ratification and/or implementation. The present assignment is confined to the activities and outputs under Activity (A) above, and concerns the following participating countries: Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa and Tanzania.

The main purpose of this regional synthesis review of gaps in national legislations, policy, regulatory and institutional frameworks relevant to LBSA is to, firstly, identify the legal provisions/areas that will require review or amendment, or new enactments or establishment as appropriate; secondly, create an understanding of the assistance needs in the countries with respect, especially, to the possible enactment of new unified or harmonized legal instruments on LBSA at the national level; and thirdly, to

create momentum and the necessary frameworks for national level implementation of the proposed LBSA Protocol to the Nairobi Convention, which is currently under development.

The review has shown that in virtually all the participating countries, there indeed are gaps at various levels in the existing legal and institutional frameworks. This is mainly because LBSA issues are predominantly multi faceted and cut across major socio economic sectors and therefore affect very many different interests. It has also identified, across the region, various needs for assistance, particularly towards the enactment of new, unified or harmonized legislations and other supporting instruments relevant to LBSA. This is expected to create and sustain momentum towards, not only the effective participation in the development of the LBSA Protocol, but more importantly, its national level implementation upon adoption.

The regional synthesis also seeks to create linkages with the process of the development of the LBSA Protocol to the Nairobi Convention and the revised Convention itself. The report recommends practical steps to be taken to enact, amend, review or otherwise align national legislation and other instruments and mechanisms in order to achieve national level implementation of the Nairobi Convention and its protocols, particularly the LBSA Protocol that is under development currently.

Part of this review process are all national, provincial/regional, and local instruments, institutions and mechanisms relating to land based sources and activities, and particularly those concerning the UNEP GPA pollution nodes, which include:

- municipal wastewater,
- heavy metals,
- litter,
- nutrients,
- oil,
- physical alterations and destruction of habitats(PADH),
- radioactive substances,
- sediments mobilization; and
- Persistent organic pollutants (POPs).

Among the relevant institutions and agencies within the countries include those responsible for national or provincial environment, agriculture, ports and harbours, tourism, mining and oil exploration, marine fisheries, forests, marine and coastal research, rivers and other inland water bodies, manufacturing industry, trade and licensing, urban developments and physical planning, infrastructure development and the like.

The report is intended to put into regional perspective issues of national legal, regulatory, policy and institutional arrangements in each of the countries and particularly any gaps in those instruments of governance and other areas of commonality or synergy. This would also initiate region wide responses and interventions, such as assistance programmes and activities under the WIO LaB Project. It is also intended to benefit the on going development of the LBSA/A Protocol to the Nairobi Convention by seeking, firstly, to understand the legal and other governance structures in the countries; and secondly, by empowering and

strengthening those structures in preparation for the national level and region wide implementation once the new Protocol is adopted and ratified.

The synthesis report will be particularly important and relevant for regional and national policy makers, law makers and implementers, managers and administrators in the various sectors and operations in the coastal, marine and even upstream areas which all have LBSA dimensions. Of immediate concern are those in the region and in the individual countries who are directly and indirectly involved in the development of the LBSA/A Protocol, including the Regional Legal and Technical Taskforce and the respective National Legal and Technical Taskforces; the WIO LaB Project management and implementing authorities and the Nairobi Convention machinery as a whole; donors, partners and other stakeholders.

1.2 Country Profiles

1.2.1 Brief Description of Geographical Location and Characteristics

The WIO Region also refers to Eastern and Southern Africa region bordering the Indian Ocean. (hereinafter referrred to as the WIO region in the report.). The region comprises of both mainland and island states on or near the western region coast of the Indian Ocean, and generally between the tropics of Cancer and Capricorn, although South Africa goes beyond the tropics. The Western Indian Ocean (WIO) region extends from Latitude 12^0 to 30^0 S and Longitude 30^0 to 80^0 E. The region represents a large array of marine and coastal settings, ranging from small island states and large countries with extensive coastline and tropical and subtropical climates. The continental coastal states are Somalia, Kenya, Tanzania, Mozambique and South Africa and the island States are Mauritius, Comoros, Reunion (France), Seychelles, and Madagascar (see Figure 1). The region is traversed by the Equator, with Kenya astride the Equator, and its climatic conditions are generally tropical, with moderate sub-tropical conditions in South Africa.

Figure 1: Map of the WIO region

The region is traversed by the Equator, with Kenya astride the Equator, and its climatic conditions are generally tropical, with moderate relatively sub-tropical conditions mild winter in South Africa.

The mainland WIO Region has a coastal zone with an estimated surface area of 4,080, 148 km sq. along a coastline of 13,041 km from Somalia to South Africa. The Island States cover a total land area of about 602 846 km sq., with a coastline of 6,360 km including over 400 islands and islets *(SEACAM, Vol.1, 2001).* Largest (in terms of surface area) of the island states is Madagascar, the fourth largest island in the world, while South Africa is the most prominent on the mainland. Some of the island states, such as Comoros and Seychelles are archipelagic states, in the sense that they are composed of several small islands. All the island states typically are comprised of more than one island, with Seychelles, with the least landmass in the Region, having as many as 115 islands and islets. The Comoros has three islands, Grand Comoros, Mohéli and Anjouan, islands which cover a total of 1,659 km sq. and the length of its coast is about 340 km.

The South African coast is about 3,000 km long extending from the border with Namibia in the west to Mozambique in the east. It links the eastern and western coasts of Africa and connects the sub continent to the Atlantic, Indian and vast Southern Oceans. As such the South African coast provides the meeting point for two of UNEP Regional Seas Programmes (RSPs), namely the Abidjan Convention which governs the western side of the continent and the Nairobi Convention which governs covers the southern and eastern side of the country (Glazeweski, 2006).

Both mainland and island coastal systems exhibit some important similarities in terms of ecosystems and habitats such as coral reefs, rocky shores, sea grass beds, coastal vegetation and mangrove forests, estimated at over 630,000 ha. *(SEACAM Vol.1,2001).* The island states also share some bio-geographical history. with mainland Africa, The with granitic and volcanic islands features, and in the WIO Region exhibit a relatively high level of endemism due to their isolation, which results, among others, in. Madagascar is being the most endemic-rich country in Africa *(UNEP, 1999, in cited by SEACAM Vol., 2001).* Mozambique, Madagascar and Comoros share the waters of the Mozambique Channel

1.2.2 Description of Key Coastal and Marine Resources.

The main coastal and marine resources in this region include abundant fisheries, scenic and serene beauty ideal for tourism and holiday making, natural ports and harbours, mangrove forests, coral reefs, seagrass meadows, coastal forests, arable land for agriculture, sand for construction and diverse mineral resources. All the countries of the region access their fishery resources in their territorial waters and Exclusive Economic Zones (EEZ), although in many cases they lack capacity to superintend the resources found with their EEZs. Species rich coral reefs, rocky shores, sandy beaches and lagoons are some of the best endowments of nature for most of the countries of the Region, with Comoros, Madagascar and South Africa being home to endemic or rare or threatened species, as well as rare sites. All the countries in the WIO Region have significant marine protected areas (e.g Bazaruto, Quirimbas, Cabo Delgado, Malindi-Watamu, Kisite-Mpunguti, Mafia, etc). The seabed and its subsoil are not, currently, significantly understood and exploited, but it is believed that there may be some nodules of precious minerals on the seabed, and natural gas and oil in the subsoil of the continental shelf

The region has some of the best natural ports, harbours and bays, especially on the mainland coasts of Kenya, Tanzania, Mozambique and South Africa. In addition, mangrove forests, wetlands and other coastal ecosystems provide important habitat to many endemic and rare species of animals *(SEACAM Vol.1,2001.)*

1.2.3 Population Characteristics and Demographics.

The WIO region has a population of approximately 159 million people out of which approximately 24% (38 million people) live within 100km of the coast (see Table 3 below). The population density varies in the region (UNEP/GPA and WIOMSA, 2004b) with some countries such as Madagascar and Mozambique being sparsely populated with population density of 27 and 23 people per square kilometre respectively, while other areas such as Mauritius and Comoros are very densely populated with 581 and 315 persons per square kilometre respectively *(The Encyclopedia of Earth, 2007).* Urbanization and availability of ports and harbours have attracted high concentration of population in some coastal areas (UNEP/GPA and WIOMSA, 2004b). According to World Bank projections, the annual population growth rate in the region in 2005 ranges from 1.0% in Seychelles, 1.1% in South Africa, 1.8% in Tanzania to 1.9% in Mozambique, 2.1% in Comoros, 2.3% in Kenya and 2.7% in Madagascar *(World Bank, 2007).*

Table 3: Land area, population size and GDP of the Western Indian Ocean countries

Country	Area (km^2)[1]	Pop. (millions)[2] 2007	% Coastal pop. In 2000[3] <25km	<75km	<100km	GDP 2007 (US$ billions)[4]	GNI Per Capita 2007[2] (US$)	HDI[5] 2005	Pop. growth rate[2] 2007	Life expectancy[2] 2006
Comoros	2,170	0.63	100	100	100	0.45	1,150	0.561	2.0	63
Kenya	582,650	37.53	6.1	7.5	8	29.51	1,540	0.521	2.6	53
Madagascar	587,040	19.67	23.2	45	55	7.33	920	0.533	2.6	59
Mauritius	2,040	1.26	100	100	100	6.36	11,390	0.804	0.7	73
Mozambique	801,590	21.37	32.7	52.1	59	7.75	690	0.384	1.9	42
La Réunion (France)	2,517	0.76	100	100	100	4.6	6,000	-	1.4	74
Seychelles	455	0.09	100	100	100	0.73	15,450	0.843	0.5	72
Somalia	637,657	8.70	30.5	52.7	55	-	-	-	2.9	48
South Africa	1,219,912	47.6	23.4	35.9	39	277.6	9,560	0.674	0.4	51
Tanzania	945,087	40.43	13.6	17.3	21	16.18	1200	0.467	2.4	52
TOTALS		178.04	20.1	30.4	34.3					

Abbreviations: HDI – Human Development Index

Sources: Gossling, 2006; (4) World Bank, 2009 (5) UNDP Human Development Report, 2007

1.2.4 Major Socio- Economic Activities in the Coastal Area.

The socio-economic characteristics of the WIO region are dictated by availability and patterns of natural resources utilization. Among the most significant coastal and marine resources are fisheries, coral reefs, mangroves and coastal terrestrial forests, seagrass beds, coastal wetlands, minerals, and agricultural land. These resources provide several uses as a result of extractive activities of subsistence and commercial value. The coastal communities depend on these resources for their livelihood particularly for acquisition of food, fuel, shelter, and income. Therefore, the condition of these resources determines the communities' social and economic status. However, the WIO countries are different in terms of marine and coastal resource endowments, size of population and economic settings.

The WIO countries are at various stages of economic growth with considerable differences in the Gross Domestic Product (GDP). Majority of the countries are classified as 'poor' by World Bank criteria. Table 3 above provides the GDP, GDP Per Capita and GDP Per Capita (PPP) for each of the countries of the WIO region. Since the GDP and GDP Per Capita (PPP) estimates vary significantly from one source to another, data from UNDP has been used in this analysis. Table 3 shows that the mainland countries have relatively higher GDP compared to the island states. On the other hand, Seychelles had the highest GDP Per Capita (PPP) in 2004, followed by Mauritius, South Africa, Comoros, Kenya, Mozambique, Tanzania and Madagascar respectively *(UNDP, 2007).* This implies that Seychelles, Mauritius and South Africa that have GDP Per Capita (PPP) of over US dollars 10,000 per annum are enjoying relatively higher living standards than the other countries, other factors being equal.

The human development index (HDI) *(see Table 3)* also shows that Seychelles, Mauritius and South Africa have higher levels of socio-economic development

(UNDP, 2007). Seychelles is leading with HDI of 0.842 followed by Mauritius with HDI of 0.80 and South Africa with HDI of 0.65. They are followed by Comoros, Madagascar, Kenya, Tanzania and Mozambique with HDI decreasing in that order. This further implies that the WIO Island States have higher human development index compared to the mainland states.

The coastal areas of the mainland countries are experiencing an influx of people and rapid expansion of economic activities. Population growth in coastal areas places heavy demands on marine resources such as sea grass, coral reef and mangrove ecosystems leading to their damage and depletion of some species. Furthermore, all WIO countries have some coastal infrastructure. A lot of coastal infrastructure is related to particular economic activities such as tourism, ports and harbours, industry, mining, and road and railway transport.

Commercial, artisanal and recreational fishing activities found in all the countries of the Region, generate incomes and employment opportunities to thousands of people directly and indirectly. For example, South African commercial fisheries is worth about R1.7 billion annually, and employs nearly 90,000 people directly and indirectly. Recreational fisheries generate over R 1.3 billion in revenue annually, and employ over 131,000 people. In Seychelles, where up to 95% of all socio-economic activities and other forms of development are concentrated in the coastal plains, fisheries contribute 46% of the Gross National Product, followed closely by tourism at 46%.The export of canned tuna, fresh and frozen fish constitutes about 83% of the value of Seychelles exports of goods and about 10% of her total foreign exchange earnings. Even Seychelles' manufacturing industry is dominated by tuna processing.

Tourism sector accounts significant foreign exchange earnings in the national economies in the region. For instance in Kenya, the tourism sector accounts for over 15% of the foreign exchange earnings,. Coastal tourism accounts for the 40% of coastal economy and provides the highest numbers in terms of direct and indirect employment in Kenya's coastal economy. In Seychelles and Mauritius, which are world famous tourist destinations, coastal tourism is well developed . Growth in Seychelles economy is principally driven by the tourism sector, which employs about 30% of the labour force and provides more than 70% of the foreign exchange earnings. Mauritius, with tourism as one of its central pillars of the economy, experienced phenomenal growth in this sector between 1993 and 2003, with arrivals rising from 374,600 in 1993 to 702,000 in 2003, a percentage increase of 87%. Similarly, employment in this sector rose from 16,240 in 1999 to 22,260 in 2003, an increase of 37%. South Africa, Madagascar, and Mozambique have also very lucrative and growing coastal tourism activities.

The port, harbours and maritime transportation sector are important economic sectors all the countries in the Region. .The port towns of Mombasa in Kenya, Dar es Salaam in Tanzania, Maputo and Beira in Mozambique, and Durban and Richards Bay in South Africa are important economic centres.

Other important sectors and activities include manufacturing and processing industries, mainly in the coastal cities of the mainland countries. There are also smelting plants as well as some oil refining in most of the major coastal cities in the

WIO Region. Agriculture is predominantly in the rural areas of the coastal zones, and this is both commercial and subsistence in many cases.

1.2.5 Scope of Study

This assignment covers the review of gaps in national policy, legal, regulatory and institutional frameworks in each of the project countries, namely Comoros, Kenya, Madagascar, Mauritius, Mozambique,, Seychelles, Republic of South Africa and United Republic of Tanzania. The Consultant was expected to undertake this review and prepare a detailed regional synthesis report in accordance with approved outlines, formats and timelines. As a basis for the regional report, national reports prepared simultaneously in each of the participating countries by national consultants were submitted to the regional Consultant. The national reports themselves were reviewed, evaluated and validated by the respective National Legal and Technical Taskforces prior to submission to the regional Consultant and the WIO- LaB Project Management Unit (PMU). This report is therefore, substantially a structured and consolidated review and synthesis of those national reports, in addition to a regional overview of literature and other important features.

The regional report comprises of detailed and regionally synthesized discussions of national policy, legal, regulatory mechanisms, agencies and institutions, instruments and mechanisms such as national constitutions, framework and sectoral legislation, regulations, decrees, policies, strategies, implementation and enforcement agencies in areas or sectors relevant to land-based sources and activities causing, or contributing to pollution and other degradation of the marine and coastal environment.

1.2.6 Methodology

This assignment was primarily based upon secondary sources, which relied to a large extent on documented sources such as relevant previous regional and national reports, and relevant international and regional conventions and other instruments. The national reports prepared by national consultants in each of the participating countries provided the main source of information and basis for this regional report. Libraries, relevant offices and the Internet were other sources of information and documentation.

However, other methods such as telephone meetings and conferences, correspondence, and attendance at organized or scheduled meetings were important as well. The assignment did not envisage field assignments such as travel outside the country. In this regard, communication between and within the countries, including with the WIO-LaB Project Management Unit and other necessary long distance communication was primarily through e-mail, telephone, fax or other appropriate means.

The Consultant worked closely with the WIO LaB PMU in the performance of the various tasks pertaining to this assignment. In particular, the Consultant jointly with the WIO LaB PMU, oversaw the preparation of various national reports including servicing of legal task force meetings.. The Consultant also reviewed country reports prepared by national consultants. The draft versions of the regional report were reviewed by the Regional Legal and Technical Review Taskforce.

1.3 Literature Review

The Consultant was expected to undertake a detailed review of literature, including previous regional and national reports and studies, and provide a summary thereof in the Report.

Some of the available literature emanates from the UNEP/UNDP ``PADELIA'' project(1996-1999), which includes an eight volume compendium of environmental laws of African countries**,** and an eight-volume report series on the East African sub-regional project of the PADELIA. Several environmental laws were included in these volumes as full texts and became important in the review of the existing legal instruments for the countries of the region which had been covered in PADELIA Project. In addition, the PADELIA project also published, in June 2000, a report on review of institutional capacity-building for environmental law and institutions in Africa. The report concluded that most of the national government institutions were in a poor and incapacitated position to implement any of the laws prepared .It also found that development of national environmental laws had not followed any systematic approach. These are important statements for the present project as a review is undertaken of the national legal and institutional structures relevant to land based sources and activities. The report was not specific on LBSAA, neither on coastal and marine environment as such., but covered both. Its geographical scope also extended beyond the WIO Region, to several selected countries across the continent. However, some of the WIO countries were covered.

The PADELIA project also published three volumes of a compendium of judicial decisions on matters related to environment Vol. 1 has two parts, international and national decisions respectively, while the other volumes cover various interesting national decisions. Some of these decisions, particularly for Kenya and South Africa, are relevant for this assignment.

The latest PADELIA publication (2004) covered framework laws and EIA Regulations It includes new framework legislation for Kenya (1999); Mauritius (2002); and South Africa (1998). It also includes Kenya's Environmental (Impact Assessment) Regulations (2002).

Elsewhere, a UNEP Report (1984) which was in part a contribution to the development of an action plan for the protection and development of the marine and coastal environment of the East African Region. The report dealt with legal aspects of protecting and managing the marine and coastal environment of the East African Region, and generated national reports as its key outputs. Although it is a relatively old study, the report is an important source of information and national perspectives, some of which have not changed over time.

Iqbal (1992) whose report was prepared for UNEP to assess the Eastern Africa Action Plan and the effectiveness of its legal instruments, focused on linkages between regional legal and institutional issues and those corresponding national laws and institutions that would make or fail regional initiatives. It is also deemed to be important and relevant to the present study.

A 1998 report supported by the Government of Finland, as a contribution to the implementation of the GPA in the Eastern African region, was mainly a scientific overview of land-based sources and activities affecting the marine, coastal and associated fresh water environments in the Eastern African Region. It has important and relevant national and regional information and perspectives for the present project. It is also comparatively recent.

SEACAM (2001), a 2-volume report details the successes and failures of integrated coastal zone management in Eastern Africa, including the island states, covering the period 1996-2001. The report has scientific, socio-economic, and legal and institutional perspectives, both from specific countries of the region, and from a regional dimension. This report is very recent and very relevant to the present study. Interestingly, the report comprises national reports from the same eight countries that are covered in the present WIO LaB project. It is also a regional synthesized report which captures the regional perspectives of the issues. However, its limited to ICZM issues and therefore falls short of a full scale review of all land based legal, policy, regulatory and institutional issues, which the current report seeks to do.

More recently, a UNEP/GPA and Western Indian Ocean Marine Science Assosiation (WIOMSA) (2004) PADH report focused on national legislations and institutions concerning certain sectors and activities which cause PADH in the region. Its scope was therefore limited to the few sectors and activities relevant to PADH and did not address all the LBSA/A issues of concern in the WIO Region. Nevertheless, it is important to this study because all those sectors and activities are also covered herein. There were also other PADH reports. which supply important scientific and technical details relevant to PADH, which is a prominent aspect of LBSA/A. Finally, a UNEP/GPA Report (2002), covers in some detail aspects of the implementation of GPA commitments in the WIO Region.

2 SUBSTANTIVE REVIEW OF LEGAL, REGULATORY/POLICY AND INSTITUTIONAL FRAME WORKS

2.2 Consideration of Constitutional and Legal Framework

2.1.1 Comoros

Comoros has framework legislation, institutions and several other laws that deal with with LBSA. The framework environmental law is Loi No. 94-018 du 23 Juin 1994. This Act aims at preserving the diversity and environmental integrity of the Islamic Republic of the Comoros; creating a quantitative and qualitative utilisation of natural resources for the present and future generations; and guaranteeing to all citizens a safe and balanced living environment.

The Act (Part 3) provides for a mandatory impact assessment study as a prerequisite for major coastal and other developments, which have or are likely to have environmental impact (Art.11). Articles 31, 32, 33, 34, 35 and 36 generally outline marine environment problems and the legal response to them. The texts concerning the application of these articles have not yet been elaborated. Some texts have been prepared and have to be submitted to Parliament for approval. However, the provisions apply to the Comoros archipelagic waters, territorial sea, exclusive

economic zone, corresponding seabed and the coastal and marine environment. Elsewhere, the Act has provisions on forests (including mangroves) (Arts 50, 51, 52,53). Government determines the national policy on forests whether in the public or private domain. The Act seeks to strictly protect the forests heritage of the Comoros. The Council of ministers is empowered to make guidelines on the general protection and exploitation of forests.

The Act also has detailed provisions regarding penalties for breach of its provisions (Part VII, Arts 73-88). In this regard power is vested in the Director General of Environment to ensure compliance of the provisions. There is a range of environmental offences as well as penalties for breach. Penalties include payment of specified fines and/or jail terms ranging from months to years (5 years maximum).

This Act is not well known in the Comoros and despite its existence many breaches happen. This Act is too general and it is noteworthy that the coastal zone relevant provisions are not sufficiently detailed. The problem of the application of this Act and of other regulations is common in the Comoros and particular attention should be put in enforcement. The Act is either generally ignored in application or not applied. The problem of impunity remains a major obstacle in the application of the Act. It would be good to envisage an amendment to this Act by introducing a specific chapter on the integrated management of the coastal zone; wide dissemination and awareness of the Act and its provisions; elaboration of formulation on application texts materials, particularly those in the domain of the council of ministries; and identify necessary strategies for the application and better implementation of this Act.

Some of the other laws relating to other relevant sectors include Loi no.82-005 relative a delimitation des zones maritimes, which defines Comoros' maritime zones and vests jurisdiction in the State. Of relevance also is Decret no. 71-360 of 06.05.1971 on territorial waters. A Decree of 22. 02. 1935 defines "Port" and establishes the national office for ports (Loi no. 81-37, as amended by Loi no. 82-25 of 19.11.1982).

Table 4: Summary of LBSAA Relevant Comoros Legislation

Decree/Law no.	Year	Title of Decree/law
71-360	1971	Decree on Territorial Waters
82-005	1982	Law Concerning Delimitation of Maritime Zones
82-25	1982	Decree on Ports
93-115	1993	Decree on Establishment of the Directorate-General for Environment
93-148 & 93-148 (PR)	1993	Law on Establishment of other Environmental Institutions.
94-018	1994	Framework Environmental Law

2.1.2 Kenya

The current Kenyan Constitution lacks specific provisions on environmental governance of natural resources. However, an attempt had been made in the proposed

2005 constitutional draft which was rejected, to reinforce the importance of natural resources and the environment generally, through its preamble and some sections. Subsequently, the Harmonized Draft Constitution (2009) has made similar provisions. Under its chapter 8 entitled "Environment and Natural Resources", there are proposed provisions on principles and obligations on the environment; protection and conservation of the environment; enforcement of environmental rights; utilization and development of natural resources; agreements relating to natural resources; and environmental legislation. The consequence of non- inclusion of environmental issues in the current constitution is evident when one critically analyzes the state of environmental affairs in the country, particularly before the enactment of the Environmental Management and Coordination Act (EMCA) 1999. Evidence exists of wanton destruction of natural resources such as water resources and catchment areas, including forests, marine and coastal ecosystems even within particularly sensitive areas such as the marine parks and reserves.(Mbulu: Kenya National Legal Report,2007)

Kenya's environmental law is contained in various sectoral laws. The enactment of EMCA 1999 was, however, an attempt to provide a broad framework legislation dealing with institutional and legal issues relating generally to a myriad of environmental issues.
The EMCA 1999 mandates the Minister in charge of Environment, in consultation with relevant lead agencies, by notice in the Gazette to declare any area of sea to be a protected coastal zone. Further, the Act, under section 55, specifically also mandates NEMA in consultation with relevant lead agencies, to prepare a survey of the coastal zone, and to prepare an integrated National coastal zone management plan, based on the report of the survey. The purpose of such an integrated coastal zone management plan would be encouraging affective methods of managing and protecting the marine and coastal environment and associated fresh water catchments, especially at the estuaries.

The Act imposes stringent penalties in relation to offences related to pollution and dumping of hazardous substance into the coastal zone. The penalty imposed under the EMCA 1999 for offences related to pollution or dumping of hazardous waste under the Act is the payment of a fine of not less than one million shillings or imprisonment for a period not exceeding 2 years or both fine and imprisonment. However, there is no documented case in which offenders of Section 55(5), which includes corporate entities such as municipal authorities, hotels, and others have been fined or imprisoned for polluting or dumping waste along the Kenyan coastal zone. Yet the coastal zone is continually polluted by LBSAA such as sewage and waste water (Mbulu, 2007)

The Minister for Environment and Natural Resources has also not issued the appropriate Regulations envisaged under section 55(6) of EMCA 1999 for the prevention, reduction and control of pollution or other forms of environmental damage of the coastal zone.

The provisions of Section 55(7) of EMCA 1999 are even more pertinent and relate directly to Kenya's obligations under the GPA. Section 55 (7) of the EMCA 1999 mandates the Minister in consultation with relevant lead agencies to issue regulations for the control and prevention of marine environment from land-based sources,

including rivers, estuaries, pipeline and outfall structure from vessels, aircrafts and other engines used in the coastal zones, among others.

The other most important provisions of the Act relating to control and prevention of the Kenyan marine coastal and ecosystem from pollution of land based source is section 58 (1) (4) of the Act, which requires certain projects to undergo EIA studies before implementation. The Environmental Impact Assessment and Audit Regulation 2003 were promulgated pursuant to Section 147 of the EMCA 1999. The EIA and Audit Regulations have been in force since 2003, but appear not to have been enforced vigorously as concerns matters relating to physical developments solid waste disposal, sewage disposal, atmospheric emissions and hazardous waste disposal especially along the Kenyan coast. The provisions of section 58 of EMCA 1999 and the EIA and Audit Regulations 2003 promulgated have not been seriously applied and more often than not developers are required to submit EIA reports for approval rather than environmental management plans(EMPs) detailing all project activities, impacts and mitigation measures. However, EIA Reports usually must have EMPs. This includes also projects which are bound to have deleterious impacts upon the coastal zone. The capacity of NEMA to conduct environmental audits in order to evaluate the activities, processes of hitherto approved projects to determine how far these activities and programmes conform to approved environmental management plans and sound environmental practices needs to be enhanced.

Important sectoral legislation include the Physical planning Act 1996, for all land use and planning, especially in the urban centres. Unfortunately the provisions are not always adhered to with respect activities that cause PADH and pollution, such as hotel and other tourist establishments, and the development of urban infrastructures.
Strict implementation of the provisions of the Physical Planning Act 1996 could contribute, both to the protection of the physical environment of the coast and to sustainable tourism and other socio economic activities.

Other legislations include the Local Government Act chapter 265, for the control and regulation of local authorities, including environmental aspects such as waste water and sewerage treatment and disposal; the Public Health Act for public health related subjects; the Wildlife (Conservation and Management) Act Chapter 376 for the protection of vulnerable ecosystems along the coastal zone, especially in the establishment of MPAs The enactment of specific legislation for the protection of marine and coastal living resources would, perhaps, be desirable as the Wildlife Conservation and Management Act Cap 376 of the laws of Kenya is a rather broad legislation, whose main focus appears to be more on conservation of terrestrial wildlife resources than to marine and coastal living resources. Also a specific Marine and Living Resource Act would, as is desirable, also outlaw the carrying out of activities that adversely impact on the ecosystem of the marine protected areas and more specifically those related to dumping of waste or oil pollution. The enactment of a Sea Shore Act and a Protection against Dumping Act, which would perhaps define concisely marine violation offences and impose specific penalties for offences relating specifically to dumping and pollution of the coastal zone.

The Forest Act Cap 385 of the laws of Kenya, now repealed, did not accord mangrove forests special protection. Mangrove forests are an important characteristic of the Kenyan coastal zone. It is desirable that the mangrove swamps where these forests are

to be found be accorded special protection from activities such as dumping of waste, PADH and pollution. The said statute did not outlaw dumping of waste in mangrove swamps and this poses a danger to some of the fragile ecosystems along the Kenyan coastal zone. However, a new Forest Act 2005 has been recently enacted, and which substantially improves the management systems of forests in Kenya, including by the establishment of a Forest Service. The Forest Act 2005 mandates that natural forests which include also mangrove forests be used sustainably, though limited extractive use by the community is allowed. The new law prohibits dumping of wastes in the mangroves. Previous studies have revealed almost complete loss of the mangrove vegetation, reduced fish populations and edible crustaceans. This is attributable to the use of mangrove areas as dumpsites for sewage sludge, urban and infrastructure developments, agriculture and aquaculture, oil spills from the harbors and ports, and harvesting of mangroves (Mbulu, 2007).

The Kenya Maritime Authority Act No 5 of 2006 also presents an opportunity for Kenya's ratification of relevant international Conventions, Protocols and Agreements as concerns LBSAA. Among its key objectives is to administer and enforce provisions of the Merchant Shipping Act No 4 of 2009 and any other legislation relating to the maritime sector for the time being in force in Kenya. Its enactment into law and the establishment of the Kenya Maritime Authority is timely and highly commendable given the important mandates that have been accorded to the Authority under the law. Among these include advising the government on legislative and other measures necessary for the implementation of relevant international Conventions, Protocols and Agreements to which Kenya is a party. The Kenya Maritime Authority Act mandates the Authority ensure, in collaboration with such other public agencies and institutions, the preservation of the marine environment from pollution, protection of the marine environment and responses to marine environment incidents.

Elsewhere, the Coast Development Authority Act was enacted in 1990 with the sole aim of providing for the establishment of an Authority to plan and coordinate the implementation of development projects in the whole of the Coast province and in the EEZ. It covers most of the upstream areas connected with LBSA problems in Kenya.

The Water Act 2002 places special emphasis on the protection of catchment areas and gives the Minister powers to gazette such catchments areas as protected areas. Its relevance to the GPA is the outlawing of actions that deplete and degrade the quality of water, particularly in rivers, which ultimately ends up in the sea. Estuaries have been identified as some of the primary sources of pollution of coastal zone. The objectives of the GPA can be said to be articulated in sections 49 and 50 of the Water Act 2002 which define water supply and sewerage strategies. The implementation of the Water Act 2002 is wanting. Untreated sewerage and waste water still continues to be one of the principle sources of pollution of the Kenyan coastal zone. However, NEMA has recently prepared and gazetted waste water regulations..

The Agriculture Act Cap 318 was enacted in 1963 but appears to have gone through progressive piece meal amendments over the years. There are current efforts to comprehensively review this law and the entire agricultural sector laws under the Agricultural Sector Coordinating Unit. The Act is relevant as POPs and agricultural runoffs have been identified as key LBSAA provided for under the Agriculture Act. The Act deals mainly with soil conservation and agricultural land use in general. The

issue of degradation of the coastal zone by nutrients emanating from agricultural inputs like fertilizers has not been included in the Act, a matter which obviously constitutes a gap in the law. The power by the Minister to promulgate land preservation orders is expressly contained in the Act but this power must be enhanced to include the power to promulgate preservation orders and directives specifically outlawing use of POPs for the sake of the preservation of the Kenyan coastal zone.

The Fertilizer and Animal Food Stuffs Act Cap 345 of the laws of Kenya was enacted in 1967 and last revised in 1977. This statute must now be amended to accommodate relevant matters concerning to pollution by land based sources. This includes matters of regulation of chemicals, poisons, fertilizers, agricultural pesticides, and resultant runoffs that ultimately degrades the Kenyan coastal zone. Persistent organic pollutants have also been identified as emanating also from irrigation schemes, aquaculture and mariculture, all of which are practiced along the Kenyan coast. Similarly the Public Health Act, Cap 242, the Pharmacy and Poisons Act Cap 244 and the Dangerous Drugs Act Cap 245 must be amended to provide for the reduction and elimination of POPs containing dioxins, furans, hexaclorobenzene, polycyclic aromatic hydrocarbons.

The Mining Act was also enacted in 1940 and was last substantively revised in 1987. As far as matters relating to Kenya's obligations under the GPA, the provisions in the Act outlawing discharge of poisonous substances into waterways are relevant. Mining ultimately results in physical alteration and destruction of habitats. The Mining Act has recently undergone significant amendments, which recognize the importance and impacts of mining, particularly in the seabed and the exclusive economiczone. There is a pending Mining Bill which if enacted will replace and repeal the current Mining Act. The Act requires the licensing of any mining operations and the provisions of EMCA 1999 and the EIA and Audit Regulations 2003 are relevant in regulating mining activities along the Kenyan coast. Currently the mining of salt and limestone must be regulated seriously as they can cause permanent damage to the coastal physical environment.

The Lakes and Rivers Act Cap 409 must also be amended so as to include the tenets of integrated coastal zone and river basin management. The Lakes and Rivers Act was last revised in 1983 and must be amended so as to be in line with the provisions of S.42 of EMCA 1999 which expressly outlaw the excavation, damming, pollution, interference of rivers, lakes, and dams, unless pursuant to the authority of the Director General of NEMA after an EIA study. The Lakes and Rivers Act, Cap 409 is rather shallow and does not contain any provision specifically prohibiting pollution of rivers and lakes from LBSA/A or activities.

Other LBSAA relevant laws include several land laws which regulate the land resource, including tenure, user rights and alienation.

Table 5: Summary of LBSAA relevant Kenya Legislation

Decree / Law No.	Year Enacted/ Revised	Title of law /Decree
6 of 1996	1996	Physical Planning Act
312	1977	Continental Shelf Act
391	1979	Kenya Ports Authority Act
295	1983	Land Acquisition Act
409	1983	Lakes and Rivers Act
389	1983	Merchant Shipping Act
376	1985	Wildlife Conservation and Management Act
318	1986	Agriculture Act
347	1986	Irrigation Act
308	1986	Petroleum (Exploration and Production Act
306	1987	Mining Act
382	1988	Kenya Tourist development Corporation Act
302	1989	Land Control Act
381	1990	Tourist Industry Licencing Act
378	1991	Fisheries Act
	2005	Kenya Maritime Authority Act
443	1991	Tana and Athi Rivers Development Authority Act
449	1992	Coast Development Authority Act
	2005	Forests Act
265	1998	Local Government Act
8 of 1999	1999	Environmental Management and Coordination Act
8 of 2002	2002	Water Act
242		Public Health Act
245		Dangerous Drugs Act
345	1967	Fertilizers and Animal Foodstuffs Act

2.1.3 Madagascar

Madagascar has a framework environmental legislation (LOI No. 90-033) Relative a la Charte de Le Environment Malagasy of December 21 1990) which outlines the fundamental principles including that environment is an important pre occupation of the State and its protection is a matter and responsibility for all (Part II), as modified and completed more recently by the law n°2004-015 of August 19 2004 .Also very important is the Decree n°99-954 of December 15 1999, modified and complimented by the Decree n°2004-167 of February 3 2004 (Andrianasolonjanahary, 2006).

On the general environmental policy, the main instruments are the Charter of the Environment and the Decree MECIE, and both texts constitute the basis of the legislation regarding protection and conservation of the environment of Madagascar. Nevertheless, environmental action does not only confine itself to the protection and conservation of the natural resources, rare species or sites. Also important are issues of sustainable development and the reduction of poverty.

Some of the gaps apparent in Decree MECIE (Decree n° 99-954 of December 15 1999 as modified and complimented by the Decree n°2004-167 of February 3 2004, include that it concerns itself primarily with the provisions concerning environmental

compliance. by project proponents. This decree has just been updated in 2004 before the beginning of the Environmental Program Phase 3 (PE3). It is to be reviewed periodically. Usually, only technical measures such as EIA and other environmental issues, as well as empowered organs and authorities, are provided for. However, it lacks a statement on what happens in case of violation or non compliance; and a mechanism for periodic review.

The gaps in forest related legislation also abound. Several laws and statutory texts exist for the prevention, reduction and the fight against environmental degradation and pollution of this kind. They include the following: law n°97-017 of August 8 1997 with the different orders it superseded: Order n°60-126 of October 3 1960, Order n°60-127 of October 3 1960 and Order n°60-128 of October 3 1960.

There are also gaps of the Law n°97-017 of August 8 1997 .The forest legislation is for the conservation and the restoration of the grounds, the conservation of the biodiversity and the regulation of the hydrological systems, and non wooded areas in proximity to the forests. Article 12 of the forest law stipulates expressly that wood, forests and lands for afforestation, the property of constituted groups with the intention of to take in the coastal regions a political important one of safeguard of the coastal space, of respect of the natural sites and ecological balance, are equally subjected to the forest system. All these provisions stretch to protect the coastal zone of all erosion being able to induce the pollution of the sea. Nevertheless, downgrading possibility foreseen by the Article 17 is an open door to the degradation of the forest of the coastal zone and surrounding rivers and water courses.

There are also gaps of the Decree n° 98-781 of September 16 1998 setting up the general conditions of application of the law of August 8 1997, as well as in the Decree n°98-782 of September 16 1998 relating to the system of the exploitation of natural resources.

Concerning the Decree n°63-192 of March 27 1963 on the Code of Urban Planning and Housing, Article 2 does not contain a national plan for the coastal areas.. Such plans must be spread to all the towns of the coastal and surrounding zones of the rivers and water courses.

Gaps on the legislation relating to the national heritage (Order n°82-029 of November 6 1982 relating to the protection, to the safeguard and to the conservation of the national heritage, Decree n°83-116 of March 3 1983 setting up the application methods of the order n°82-029 aforementioned).This legislation devotes itself to the safeguard of the national heritage without being concerned with harmful effects induced by the searches and researches endeavours on the coastal zones or on board rivers when they necessitate a search in depth.

There are also gaps of the legislation relating to the Public Domain (order n°60-099 of September 21 1960, Decree n°64-291 of July 22 1964 and the order n°62-064 of September 27 1962).Concerning the order n°60-099 of September 21 1960 regulating the public properties, the order foresees only the classifications of the elements of the public domain, their management and their allocation as well as the relevance in case of private allocations while private allocation of parts or portions of the zones of the coast, the rivers, lakes, ponds and lagoons could carry attained to the coastal

environment and sailor according to the activities. In most of the cases, allocation is destined to tourism activities.

Decree n°64-291 of July 22 1964 concerns setting up the rules relating to demarcation, to the usage, to the conservation and to the policing of public land. The temporary occupation on the key coastal and related zones such as the shores of the sea, the harbours, protected areas, roads, rivers and canals can be authorized in conformity to the provisions of article 33. However, it is silent on the measures to take in case of environmental damage.

Concerning the development of harbors, no special text governs such developments and they are therefore regulated by the common laws relating to matters of public works. This constitutes an important gap from an LBSA perspective

Table 6: Summary of LBSAA Relevant Madagascar Legislation

Decree / Law No	Year	Title of Law /Decree
60-099	1960	Regulation of Public Property
62-064	1962	Regulation of Public Land
63-192	1963	Code of Urban Planning and Housing
64-291	1964	Law on Conservation, Usage and Conservation of Public Land
82-029	1982	Law on National Heritage
89-216	1989	Decree on Compatibility of Investments with Environment
90-033	1990	Loi Relative a la Charte de' L Environment Malagasy.
92-926	1992	Decree of E.I.A Regulations
97-017	1997	Forests Law
98-781	1998	Law on Exploitation of Natural Resources
98-782	1998	Law on Exploitation of Natural Resources
99-954	1999	Decree MECIE

2.1.4 Mauritius.

The constitution of Mauritius lacks specific provisions on environmental governance of natural resources. The right to a clean environment can only perhaps be inferred from the human rights provisions of the constitution, and particularly the right to life (Jugessur-Manna, 2007)

The Mauritius Environmental Law is scattered in various sectoral laws. The first environment law was the Environment Protection Act (EPA) 1991, which was later repealed and replaced by EPA 2002 and recently amended by GN57/05, in order to incorporate the principles of several international Conventions related to the environment. Before the EPA 1991, Mauritius was relying on the following enactments to punish any breach in relation with the Environment: the Public Health Act, Local Government Act, Central Water Act, Food Act, Forests and Reserves Act, Canal and Rivers Act, and Noise Prevention Act. Section 2 of EPA 2002 states as follows;

"…..*every person in Mauritius shall use his best endeavours to preserve and enhance the quality of life by caring responsibly for the natural environment of Mauritius*".

The following principles are reinforced in the EPA 2002: the concept of environmental stewardship; the ''polluter pays principle;'' the requirement of environmental impact assessments for major scheduled activities; public participation; and the right to environmental information.

The Environmental law embodies all Acts and regulations as well as any order, notice, requirements imposed under EPA 2002. It also extends to any other enactment or part of any other enactments which the Minister of Environment may by regulations declare with approval of the National Environment Commission as established under Section 5 of EPA 2002 to be an environmental law.

Section 9 of the EPA confers powers on the "Police de l'Environment' to act as a watchdog for the protection and preservation of the environment. The Act reinforces and gives more power to the enforcing agencies and in so doing decentralizes the enforcement of environmental laws in Mauritius and Rodrigues. The EPA puts in place different institutional frameworks such as The National Network for Sustainable Development (s.11), the Technical Advisory Committee (s.12), Environment Coordination Committee (s.14), and Integrated Coastal Zone Management Committee (ICZM Committee- s.50), to reinforce coordination between different government agencies.

Section 89 of EPA 2002 gives power to the Minister to set out the standard of water, effluent, air, noise, hazardous waste, non hazardous waste, pesticides residues, odours and eyesores respectively. It also set up the Environmental Appeal Tribunal and its jurisdiction. The Director of the Environment is given power to issue programme notice, enforcement notice, prohibition notice and stop order to enforce environmental laws. Fines under the EPA have increased and the term of imprisonment is provided. The fine varies from Rs 50,000 up to Rs 100,000 and the imprisonment from 2 years to 8 years. While these are commendable provisions, with reasonable deterrent penalties, the greatest
concern is with the level of enforcement and compliance.

Elsewhere, The National Coast Guard Act 1988 establishes the National Coast Guard as a specialized unit of the Police force which enforces the law relating to the protection of the maritime zones, detects, prevents and suppresses any illegal activity within the maritime zones. It has the power to prevent any activity which is likely to constitute a threat or to cause pollution to the maritime zones, including the sea bed, the flora, the reefs, the beach and the coastline.. this is an important enforcement tool, and has performed commendably in guarding the coastline.

The Beach Authority Act 2002 establishes the Beach Authority as a body corporate whose object is to ensure the proper control and management of public beaches in Mauritius and Rodriguez. It shall also implement projects relating to –

(a) the conservation and protection of the environment of public beaches; and

(b) the enhancement of the quality of sea water.

The Rivers and Canals Act 1863 prohibits any person

a) to place or cause to be placed in a river, stream or canal or on the bank of a river, stream or canal, any dead animal, rubbish, manure cane trash, bagasse, poisonous, narcotic or noxious substance or any other substance which tends to pollute the water of the river, stream and canal.

b) to throw into a canal any soapy or dirty water.

c) to permit any impure water from a building or manufacturing industries to enter a canal.

On its part, the Tourism Act 2004, a Tourism Authority is established and its object is to optimize the social, economic and environmental benefits to Mauritius from tourism.

Table 7: Summary of LBSAA Relevant Mauritius Legislation

Year	Title of law / decree
1863	Rivers and Canals Act
1874	State Lands Act
1895	Geometriques Act
1954	Town and Country Planning Act
1970	Continental Shelf Act
1970	Territorial Sea Act
1975	Removal of Sand Act
1977	Maritime Zones Act
1986	Merchant Shipping Act
1988	Forest and Reserves Act
1988	National Coast Guard Act
1991	Environment Protection Act
1993	Pleasure Crafts Act
1993	Wildlife and National Parks Act
1998	Fisheries and Resources Act
1998	Marine Resources Act
1998	Ports Act
2002	Beach Authority Act
2002	Environment Protection Act
2004	Tourism Act

2.1.5 Mozambique

The Constitution addresses matters relating to environment and quality of life in its articles 90 and 117. The article 90, which is part of the Chapter V (economic, social and cultural rights and duties) of Title III (fundamental rights, duties and liberties) provides for the right to live in a balanced environment, and the duty of defending it (paragraph 1), the same article establishes in its paragraph 2 that, "*the State and the local authorities, with the collaboration of associations of environment protection, shall adopt policies for the defence of the environment and care for the rational utilization of all natural resources*". So, on one hand, the right to (good) environment is part of the fundamental rights and on the other hand legislative matters regarding the protection of the environment involves not only the State bodies, but also the local

authorities and associations concerned with environment. In Article 117, Chapter III which deals with social organization, is part of the Title IV of the Constitution. This article provides for the responsibility of the State in promoting initiatives for ensuring the ecological balance and the conservation and the preservation of environment aiming at improving the quality of life of the citizens (paragraph 1). According to paragraph 2 of this article,

"*as to ensure the right to environment within the frame of a sustainable development, the State shall adopt policies aiming at:*

a) preventing and controlling pollution and erosion;
b) integrate the environment objectives in the sectoral policies;
c) promoting the integration of environment values in educational policies and programs;
d) ensuring the rational utilization of natural resources with safeguard of its renovation capacity, ecological stability and of rights of future generations;
e) Promoting the placing in order of the territory with view to a correct localization of activities and a balanced socio-economic development."

The existing legislation in the Republic of Mozambique comprises, thus, a great deal of the former colonial legislation and that one enacted after the independence (Mazivila, 2007). Some of the latter legislation has gradually been replacing the former legal instruments, but a lot has yet to be done. A small sector of the legislation prior to the independence deserves a particular remark. Such legislation is that one passed by the Transitional Government, which mainly aimed at ensuring the harmony of social and economic life and the country during the transitional period. No legal instrument regarding matters relating to environment was enacted by the Transitional Government.

The legal framework regarding protection of the environment in Mozambique comprises a number of instruments not specifically designed to respond to the need of preventing the degradation of the marine and coastal environment from land based sources and activities. Such laws may be listed as follows:

- Decree-Law n.495/73, of 6 of October – A law determining protection measures against pollution of waters, beaches and margins;
- Law nº 20/97, of 1 October – Environment Law (*Lei do Ambiente*); and
- Law n° 4/95 of 6 January 1996 – Sea Law or Law of the Sea (*Lei n.º 4/95 - Lei do Mar*).

Decree-Law n.495/73, of 6 of October 1973 was enacted by Portugal, for the protection of coastal and marine environment in the so-called overseas provinces, including Mozambique. The article 1 provides in its paragraph 1 for the prohibition of save special license, of throwing or disposal of any noxious waters and residual substances such as petroleum products or mixtures which by any way may cause pollution in the contiguous zone and in the territorial sea of the oversee provinces, as well as in ports, docks, bottom of lakes, bed and branches of rivers beaches, margins and other areas under the jurisdiction of the maritime authority. Paragraph 2 of the same article provides for the prohibition of the pollution of any part of the area under the jurisdiction of maritime authorities by any agent from outside that area. According

to paragraph 3 of the same article, maritime authorities are given power to take adequate measures as to impede and repress the violation of the above mentioned prohibitions.

Law nº 20/97, of 1 October 1997- Environment Law (*Lei do Ambiente*), which is the foundation to the whole set of legal instruments regarding the preservation of the environment. This Law establishes provisions of general and specific application, but it does not include any specific provision for coastal and marine environment protection from land based sources and activities. Nonetheless, as an umbrella law for environmental matters it is an important instrument for the enactment of specific regulations on the concerned subject matter.

The Environment Law (Article 2) defines the legal basis for correct utilization and management of the environment and its components, with a view to operationalization of a sustainable development system in the country. The ambit of the Environment Law comprises all activities public or private, which directly or indirectly may influence the environment components (Article 3). Taking into account the constitutional provision on a balanced environment for all citizens, in its article 4 the Law establishes a number of basic principles for the environment management, specified below:

a) Rational utilization and management of the of environment components, with view to promotion of the betterment of the life quality of citizens and for the maintenance of biodiversity and ecosystems;

b) Recognition and valuation of traditions and knowledge of local communities, which may contribute to the conservation and preservation of natural resources and of the environment;

c) Precaution on ground of which the environment management authority must prioritize the establishment of a prevention system against any acts prejudicial to the environment, as to avoid the occurrence of negative, serious or irreversible environment impacts, regardless of the existence of scientific certainty on the occurrence of such impacts,

d) Global and integrated vision of the environment, as a set of inter-dependent ecosystems, natural and built up, which must be managed in a manner as to maintain its functional equilibrium without exceeding its intrinsic limits,

e) Wide participation of citizens, as a crucial aspect of implementation of the National Program of Environment Management;

f) Equality which ensures the same opportunities of access and use of natural resources to men and women;

g) Liability, on the basis of which, whoever pollutes, or in any other way causes degradation to the environment, has always the obligation to repair or to compensate the damages deriving therefrom;

h) International cooperation, for the achievement of harmonious solutions of environmental problems, as recognized in their trans-boundary and global dimensions.

Comparing those provisions from Environment Law and from the Sea Law, which attribute regulatory powers to the Government, it can easily be concluded that those of the Environment Law (articles 9 and 10) are general, while the one from the Sea Law

(article 34 – f) is specific, concerning the regulatory competence with a view to prevent and to preserve the maritime and coastal environment.

Finally, The Sea Law (National Law of the Sea**),** Law n° 4/95 of 6 January 1996 (*Lei n.º 4/95 - Lei do Mar*), defines maritime belts on which the Mozambican State exercises its sovereignty, and establishes their legal regime. In general terms, this Law is in consonance with the 1982 International Convention on the Law of the Sea, which was ratified by Mozambique through its National Assembly …

The Mozambican Law of the Sea provides, *inter alia*, in its article 34 – f) for the Government competence of enacting regulations on protection and preservation of the marine environment and general management of the territorial sea, contiguous zone, exclusive economic zone and continental shelf.

Thus Mozambique too has a number of important legal instruments targeting LBSAA issues. Although it does not have a specific law on LBSAA, the existing laws are helpful. The main outstanding challenge, apart from dedicated legislation, is the question of enforcement and compliance.

Table 8: Summary of LBSAA Relevant Mozambique Legislation

Decree or Law No.	**Year 1927**	**Law and regulation**
40040	1955	Protection of the soil, fauna and flora in the marine provinces
2496	1964	Protection of the wild fauna
2642	1965	Protection of the forest
265	1972	Security, safety and surveillance of the navigation, fishing game, protection of human lives, the safety of the mining of beds of the waters, water pollution.
495	1973	Protection of water pollution
3	1990	Licensing and control of fishing industry
16	1991	Control and monitoring of water use
4/95	1996	National Sea Law, Regulations of the maritime activities
	1997	Regulation of the functioning/organization of local governments concerning the environment
19	1997	Regulation of the access and use of the soil
20/97	1997	Law of Environment(Lei do Ambiente), Protection of the right of the people to the right of living in a clean and good human environment

2.1.6 Seychelles

Article 38 of the Constitution of Seychelles states that it is the right of every person to live in and enjoy a clean, healthy and ecologically balanced environment (Carolus, 2007). The state undertakes to put in place measures to promote the protection, preservation and improvement of the environment; to ensure sustainable socio-economic development by judicious use and management of resources; and to promote public awareness of the need to protect, preserve and improve the

environment. Similarly under Article 40, the constitution makes it a duty of every citizen to protect, preserve and improve the environment.

The Environment Protection Act (EPA) 1994, which is the framework environmental legislation for the country, provides for the protection, preservation and improvement of the environment and for the control of hazards to human beings, other living creatures, plants and property. The Act also provides for the coordination, implementation and enforcement of policies pursuant to the national objectives on environment protection. This Act is administered by the Department of Environment in the Ministry of Environment and Natural Resources, which has been designated as the Authority under the Act. The Act makes provisions for the Authority to co-ordinate the activities of other agencies concerned with the protection of the environment.

Although this is a framework law, and there are several other Acts which are specific to the LBSAA issues of concern, it nevertheless makes useful references to such pollution and degradation nodes as municipal waste water and sewerage, radioactive wastes, litter, nutrients, oil, POPs and PADH activities. The Act provides for the prevention, control and abatement of environmental pollution and degradation. Under the Act no person is allowed to discharge or place in to the ground or dispose in the subsoil or dig into the ground any polluting or hazardous substance or waste or throw, deposit or place any polluting, or hazardous substance or waste in any watercourse or in the territorial waters without authorisation.

The Act provides for the declaration of one or more coastal zones as protected. No person is allowed to release or cause to be released into the coastal zone, polluting or hazardous substances by dumping or through the atmosphere. However, to date no coastal zones have been declared under these provisions (Carolus, 2007).

Part IV of the EPA and the Environment Protection (Impact Assessment) Regulations (EP) (EIA) Regulations) deals with Environment Impact Assessment (EIA). The legislation requires that an EIA study be carried out and that an environmental authorisation is obtained if any person commences, proceeds with, carries out, executes or conducts or causes to commence, proceed with, carry out, execute or conduct any prescribed project or activity in a protected or ecologically sensitive area. The criteria, which establishes the necessity of an EIA, is found in the EP (EIA) Regulations which lists categories of projects or activities requiring environmental authorisation.

Schedule 1 of the EIA Regulations lists the prescribed projects and activities which necessitate an authorisation and these include activities falling within the following: mining, agricultural production, forestry, fish and associated farming products, chemical industries, industry (construction), food and agro-industries, energy production and distribution, water reservoirs and distribution, sewage and wastewater treatment systems, solid waste management systems, the hotel industry (hotels, restaurants and tourism activities), transport (harbours, air transport infrastructure, roads and coastal defences); land reclamation, and housing development.

The EPA is being widely used as an enforcement and compliance tool. However, guidelines and procedures have not been developed under the EPA, only the framework exists.

Under the Town and Country Planning Act, 1972, planning permission is required or all forms of terrestrial development. The Town and Country Planning Authority regulates land utilisation. To that effect, no person shall carry out any building operations without a planning permission issued by the Town and Country Planning Authority under the provisions of section 3. One of the conditions for development set under the Act is that no building should be erected within 25 metres from the high water mark. This condition is mainly put to protect the sand dunes on the coasts from severe erosion. Under the Act, the Minister may also make 'Tree Preservation Orders' and Building Preservation Orders, aimed at prohibiting the cutting down of trees within the area to be developed, and the preservation of any building with architectural or historical interest, respectively.

Section 4 makes provisions for the preparation and adoption of a development plan for the whole of Seychelles. Such a development plan, which may include maps, shall specify areas for roads, public buildings, and nature reserves, including open spaces. The plan is to be reviewed every five years. To date only two district development plans have been prepared. However, it is noted that government organisations are exempt from seeking planning permission. The revision of the Town and Country Planning Act has been long overdue and should include effective provisions on environmental protection and biodiversity conservation. It is recognised that legislative changes and capacity building are necessary to further these initiatives and improved coordination in order to achieve environmental objectives (Carolus, 2007).

The Removal of Sand and Gravel Act, 1982, controls the removal of sand and gravel. Following the impact of the activity on the beaches, a ban on removal of sand from the beach and the plateau on the Seychelles have been imposed. However, removal of gravel from rivers is still permitted subject to authorisation though the Act does not specify any criteria which should be taken into consideration when granting such licenses.

The Minerals Act 1991 governs and defines minerals and their extraction within the Seychelles. In Section 6 it provides for mining rights in the form of a special mining lease granted by the Minister. However, the definition of minerals does not include coral, sand or sediments.

The Public Utilities Corporation Act, 1985, provides for the establishment of the Public Utilities Corporation, a parastatal with a mandate to manage the supply of electricity and water, and the treatment and disposal of sewage. The corporation has the authority to determine rights of access to any water supply extract from any source or to pollute any water. Only the corporation is permitted to divert or alter the course of any stream or river. In this case, any developer will need to seek approval from the corporation for any proposed diversion of watercourses.

The supply, control and management of sewage is provided by the Public Utilities (Sewage) Regulations 1997 Owners of land outside sewered areas are required to use, install and maintain a private sewage disposal system. No one may use, install and

maintain a private sewage disposal system in a designated sewerage area without permission from the corporation. The disposal method for sewage, solid wastes or non-domestic effluent must be under the direction of the corporation The Regulations also provide for the protection of surface water where pollution or misuse may occur.

The Pesticides Control Act, 1996, promotes the safe usage of pesticides. The Act makes provisions for the establishment of the Pesticides Board. The Act regulates the manufacture, distribution, use, storage and disposal of pesticides for the protection of public health and the environment. The Act makes further restrictions to manufacture, import, export, sell, offer for sale, supply, use, store, transport, possess, dispose or otherwise deal with any pesticides. The Act also makes provisions on the labelling of such chemicals.

The Maritime Zones Act, 1999 provides for the determination of the Maritime Zones of Seychelles in accordance with the 1982 United Nations Law of the Sea Convention,. In addition, the Maritime Zones (Marine Pollution) Regulations, 1981,which were enacted under the previous Act, provide for the protection and the preservation of the marine environment and the prevention and control of marine pollution. The Regulations prohibit the discharge of any oil or oily mixture into the territorial waters of the Seychelles from any vessel, from any place on land and from any apparatus used for transferring oil from or to a vessel. The Regulations impose a duty to report discharges to the Harbour Master. Pollution control officers may be appointed by the Minister and are given extensive powers to carry out their duties in pursuance of the Regulations.

The Land Reclamation Act 1967 lays down the procedure to follow for a private or public reclamation of land by filling any foreshore. (Section 3 (1)). A person may object to any land reclamation under section 5 (C) of the Act by stating that the proposed reclamation may adversely affect either:(a) any property owned; (b) may affect public rights; and (c) may affect the natural beauty of the coastal area. Unfortunately, this criterion does not cover all the environmental impacts or factors associated with land reclamation.

Under the EPA1994, land reclamation is an activity which is specified in Schedule 1 of the Environment Protection (Impact Assessment) regulations, implying that such activities will be subject to environmental authorisation following an environmental impact assessment (Carolus, 2007).

Table 9: Summary of LBSAA Relevant Seychelles Legislation

Decree / Law no.	Year	Title of law
141	1969	Parks and National Conservancy Act.
14	1971	Beach Control Act, with subsidiary legislation, 1991).
237	1972	Town and Country Planning Act
15	1973	Building Licences Ordinance
3	1986	Licences Act
129	1991	Minerals Act
122	1991	Maritime Zones Act
	1993	National Conservation
	1994	Environment Protection Act with various subsidiary legislation (1995), (1996).
	1996	Pesticide Control Act
203		Removal of Sand and Gravel Act
25	1895	Public Utilities Corporation Act
228		State Land and River Reserves Act
106	1967	Land Reclamation Act
210		Harbours Ordinance and Harbours Regulations (No.16/1933).

2.1.7 South Africa

A number of aspects of the South Africa Constitution are relevant to the regulation of land-based pollution (Glazewski, 2006). The Bill of Rights chapter of the Constitution includes an environmental right which includes a reference to pollution generally. It states:

24. 'Everyone has the right –
(a) to an environment that is not harmful to their health or well-being; and
(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –
(i) prevent pollution and ecological degradation;
(ii) promote conservation; and
(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development'.

A number of environmental acts have been enacted in conformity with section 24 above which have relevance to land based pollution. Of particular importance to the regulatory and institutional framework for LBSA&A causing marine pollution is Chapter 3 of the Constitution, titled Co-operative Government. It provides the starting point for examining the administration of land based marine pollution laws. First, however it sets out a set of eight "Principles of co-operative government and intergovernmental relations" (Sect 41(1)). Of relevance to coastal area management generally and regulation of land based pollution particularly is that the three spheres of government (national, provincial and local) must:

Exercise their powers and perform their functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere… (s. 41(1)(g)).

Laudable as this sounds, it brings into play a complex feature of the Constitution, namely the demarcation of the respective legislative and executive functions of national, provincial land local spheres of government in the context of coastal area management and land based marine pollution particularly (Glazeweski, 2006). The resultant legal framework relevant to LBSA&A, which must accordingly be considered, exists at three levels of government: national, provincial and local.

South Africa currently has two environmental framework laws, namely: the Environment Conservation Act 73 of 1989 (ECA) which was enacted prior to the transition to democracy, and the National Environmental Management Act 107 of 1998 (NEMA) passed by the new government. Many of the provisions of the ECA have been subsumed by the NEMA and in time all of the ECA will be subsumed by the NEMA. Each of these is now dealt with in turn.

The NEMA (107 of 1998***)*** is a framework environmental law concerned primarily with co-operative environmental governance. It lays down a set of national environmental management principles in section 2(4) which all government agencies have to take cognizance of. Of particular relevance to coastal area management is the principle that:

sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure. (Own emphasis) Section 2(4)(r). Another national environmental management principle set out in the NEMA, which is particularly relevant to the coast, is the public trust doctrine to the effect that:

The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage (Section 2(4)(o).

The Environment Conservation Act 73 of 1989, (ECA) Part 4 of which has not been repealed by NEMA, is dedicated to the control of environmental pollution generally. Of particular relevance to freshwater pollution is the section on waste management, which focuses on the potential contamination of underground water resources by waste landfill sites (S 20). This section has been discussed in the section on the ECA. It provides that no person may establish, provide or operate a waste disposal site without a permit (S 20(1)). Significantly, this section is administered by the DWAF, while the ECA as a whole is administered by the DEAT. The section provides that no person may discard or dispose of waste except at a disposal site for which a permit has been issued and in a manner which may be prescribed by the Minister (S 20(6)). The Minister is also able to issue directives concerning specific aspects of waste disposal site management and controls.

Section 31A has also not been repealed by the NEMA. It empowers the Minister of Environmental Affairs and Tourism to order any person to cease any activity which in his or her opinion may seriously damage, endanger or detrimentally affect the environment. The broad definition of "environment" clearly includes water resources.

Apart from the constitution and framework legislations, there are several other enactments which are of relevance, in varying degrees, to the LBSA/A in South Africa. Some are highlighted below.

The Development Facilitation Act (DFA) 67 of 1995 is particularly relevant as it is primarily concerned with facilitating and fast tracking reconstruction and development projects and is thus aimed at alleviating poverty and the plight of previously disadvantaged communities. The preamble to the Act sheds light on the intention of this legislation, in that it is to, *inter alia*, 'to provide for nationally uniform procedures for the subdivision and development of land in urban and rural areas so as to promote the speedy provision and development of land for residential, small-scale farming or other needs and uses.

Whilst providing for these objectives, the Act is being increasingly used for the provision of large scale and upmarket development (e.g. shopping malls, golfing and residential estates, etc) along South Africa's coastline particularly along the Southern Cape and KwaZulu-Natal coasts. Section 33 of the Act makes provision for the need for environmental evaluations prior to the approval of an application. It is however, common practice for application for development to use the environmental impact assessment (EIA) process required in terms of either the ECA or NEMA.(Glazewski, 2006).

Other laws include the Sea-shore Act 21 of 1935; Disaster Management Act 57 of 2002; Maritime Zones Act 15 of 1994; National Water Act 36 of 1998; The Water Services Act 108 of 1997; Dumping at Sea Control Act 73 of 1980; National Building Regulations and Building Standards Act 103 of 1977; Minerals and Petroleum Resources Development Act 28 of 2002 (MPRDA); Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 1947; Agricultural Pests Act 36 of 1983; National Environmental Management: Protected Areas Act 57 of 2003; and Conservation of Agricultural Resources Act 43 of 1983 among others.

The Sea-shore Act is indirectly relevant to land based marine pollution as it lays down the legal status of the sea and sea-shore as well as providing for administration of the area. The Act is likely to be replaced by the Coastal Zone Management Bill (see below)

Most of the provisions of the Act have been assigned to the coastal provinces. Some of these include provisions relating to marine pollution. Thus the Act provides that the powers conferred by the Health Act 63 of 1977, on the Minister of Health or other competent authority, may be exercised by a local authority which adjoins the sea-shore (Sect 7).

Similarly, the Sea-shore Act provides that the authority to make regulations which vests in the Minister can be vested in the respective local authorities adjoining the sea-shore. Included in the authority to make these regulations is the authority to make

regulations ". . . for the prevention or the regulation of the depositing or the discharging upon the sea-shore or on the sea of offal, rubbish or anything liable to be a nuisance or danger to health" (Sect 10(11)(d)).

A number of local authorities have made regulations in this regard.

The Disaster Management Act 57 of 200*2* provides for an integrated and coordinated disaster management policy that focuses on preventing or reducing the risk of disasters, mitigating their severity, emergency preparedness, rapid and effective response to disasters and post-disaster recovery. To this end the Act establishes a National Disaster Management Centre (sect 8) as well as an intergovernmental committee on disaster management (sect 4) and a National Disaster Management Advisory Forum (sects 5) as well as a provincial equivalent (sect 37). The thrust of the Act is to oblige national departments, provinces and local authorities to prepare national (sects 22-27), provincial (sects 28-41) and municipal (sects 42-55) disaster management frameworks and plans and to report to the National Disaster Centre in this regard.

A number of provisions of the Maritime Zones Act 15 of 1994 are specifically relevant to marine pollution albeit not directly from land based sources. As regards maritime casualties, the Act stipulates that the Republic may take whatever measures are necessary in the sea or airspace above it to protect the coastline "from pollution or threat from pollution" (Sect 10.). As regards offshore installations the Act stipulates that all the laws of the Republic, including the common law, apply to such installations (Sect 9).

The National Water Act 36 of 1998 regulates not only water quality but access to freshwater, a scarce resource on the sub-continent. It is administered by the Department of Water Affairs and Forestry (DWA&F), but a number of other government agencies such as the DEAT Departments of Transport and Minerals and Energy are involved in administering legislation which is directly or indirectly relevant to land based sources as elaborated below.

While the primary concern of the Water Act is regulating just and equitable access to water, a scarce resource in southern Africa, water quality provisions permeate the entire National Water Act. (Glazeweski, 2006). This includes the definition section which defines "pollution" as seen below; the various strategies and classification system which provide the basis for controlling access to scarce water and the licensing system which is based on "use of water". Crucially "water use" includes pollution-related activities as elaborated on under (v) and (vi) below (S 20). More specifically Chapter 3 of the Act entitled "Protection of Water Resources", provides for Pollution Prevention in Part 4, and for Emergency Incidents in Part 5.

The pollution provisions of the National Water Act must be seen in the context of the Water Services Act 108 of 1997, (the "Services Act") which has as its primary focus the provision of water services including sanitation services by local authorities. The specific objectives of the Services Act include:

(a) the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health and well- being; . . .

(b) . . .

(c) the preparation and adoption of water services development plans by water services authorities; . . . (S 2(a)–(c))

The Services Act defines "water services" as "water supply services and sanitation services" (Sect 1(xix)), and "sanitation services" as:

. . . the collection, removal, disposal, or purification of human excreta, domestic waste-water, sewage, and effluent resulting from the use of water for commercial purposes (S 1(xvi)).

The draft water services development plan which each water service authority is obliged to draw up must include details ". . . of existing industrial effluent disposed of within the area of jurisdiction of the relevant water services authority" (Sect 13(f)).

The Services Act prohibits any person from obtaining water for industrial use from any source other than the distribution system of a water services provider nominated by the relevant water services authority (Sect 7(1)). It also provides that no person may dispose of industrial effluent except in a manner approved by the nominated water services provider (Sect 7(2)). The Services Act also provides that when a water services authority provides water for industrial use, or controls a system through which industrial effluent is disposed of, it must make by-laws relating to service standards, technical conditions, the determination of tariff structure payment and collection of money, and circumstances when such provision or disposal can be limited or prohibited (Sect 21(3)). Local authorities thus have important obligations under this Act regarding water quality control and the treatment of industrial and domestic effluent (*The Water Services Act: A Guideline for Local Government* Department of Water Affairs and Forestry undated.).

The Dumping at Sea Control Act 73 of 1980, which is administered by the Minister of Environment Affairs and Tourism, is more or less modelled in its totality on the London Convention. The pivotal section imposes criminal sanctions for dumping substances listed in Schedule 1 to the Act, or dumping Schedule 2 or other substances into the sea without a special or general permit respectively (Sect 2(1)). The permit requirements are set out in regulations made under the Act (General regulations GN R1135 in *Government Gazette* No. 11348 dated 17 June 1988).

It should be noted that the term "sea" as used in the definition under the Act is specifically defined to include the internal waters, territorial sea and exclusive economic zone (Sect 1(1) Definition of "sea"). The Schedules by and large follow the scheme of the London Convention. It is a criminal offence to dump any other substance or load such other substance on or in any vessel, aircraft, platform or other man-made structure, except under the authority of a general permit (Sect 6). Contravention of this section amounts to a criminal offence and a substantial fine of up to R250 000 is provided for (Sect 6).

The criteria to be used for granting special and general permits are set out in Schedule 3 of the Act and the Director-General must take these into account in granting permits. These criteria are similar to the ones mentioned in the London Dumping Convention. The Director-General is also required to report annually to the Minister on the nature and quantities of substances authorised by permit to be dumped at sea (Sect 4). Powers of inspection and matters relating to enforcement are also provided for (Sect 5).

Another relevant law is the National Building Regulations and Building Standards Act 103 of 1977.The purpose of this Act is to provide uniformity in the law relating to the erection of buildings in areas of jurisdiction of local authorities and to prescribe building standards. The Act provides for the making of regulations, known as the National Building Regulations (Sect 17). These have been published in the *Government Gazette* and refer to SABS standards (R2378 in *Government Gazette* No. 12780 dated 12 October 1990 amended by R432 in *Government Gazette* No. 13054 dated 8 March 1991). They provide for a wide variety of matters concerning the construction, structure and demolition of buildings, including rules relating to structural design, public safety, demolition work, lighting and ventilation, water and related matters. Standards of construction regarding sewerage drains and related matters would accordingly fall under the purview of this Act.

The Marine Living Resources Act, 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 in terms of the regulations under the MLRA; the geographic details of such areas are 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)).

The Health Act 63 of 1977, provides that a function of the Department of Health is “. . . to take steps for the promotion of a safe and healthy environment”. It obliges local authorities to take measures to prevent pollution of water intended for human use (Sect 20(1)(c)). The Minister may pass regulations in this regard. This includes storm water run-off (Sect 34(b), (h), (i) and (j)).

The purpose of the Foodstuffs, Cosmetics and Disinfectants Act 54 of 1972, (the Act) is to control the sale, manufacture and importation of foodstuffs, cosmetics and disinfectants. The Act is administered by the Department of Health, it is also relevant to agriculture, in that foodstuffs fall under its ambit.

The Minerals and Petroleum Resources Development Act 28 of 2002 (MPRDA) which is administered by the Department of Minerals is relevant to marine pollution because many mining activities occur at the coast as well as offshore, including the exploration and exploitation of South Africa's lucrative offshore diamond and oil and gas resources.

Regulations made under the MPRDA include a regulation on water management and pollution control (Reg 68. The MPRDA regulations cross-refer to the National Water Act 36 of 1998, other applicable laws, as well as the approved environmental management programme or environmental management plan) promulgated under the Mines and Works Act 27 of 1956, which remains in force by virtue of the Minerals Act 50 of 1991 (S 68(2)). One of these provides that: ". . . in no case may water containing any injurious matter in suspension or solution be permitted to escape without having been previously rendered innocuous" (Reg 5.9.2).

The rather out dated Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 1947 is administered by the Department of Agriculture and still extensively applied in South Africa today. It is potentially important in giving effect to the POPs Convention discussed in Annex 2. The Act defines (sect 1) the various products referred to in its title namely "agricultural remedy", "fertilizer". "farm feed" and "stock remedy".

The Act is underpinned by the requirement that no person sell any fertilizer, farm feed, agricultural or stock remedy unless they are registered under the Act. To this end it provides for the designation of an official in the Department as registrar of patents by the Minister. The Act then sets out the procedure for registration. Apart from requiring the registration of any dealer in the above-mentioned four products, the Act also requires the registration of pest control operators (sects 2,3 and 7(1)).

The Act includes a number of provisions relating to implementation. These include sections granting the Registrar power of entry, inspection and seizure, prohibitions on imports; provisions for secrecy; jurisdiction of magistrates' courts; procedure and evidence; and related matters (Sects 15 to 20).

The Act also includes an extensive provision enabling the Minister to make regulations concerning a wide range of matters concerning fertilizers, farm feeds, agricultural remedies and stock remedies (sect 23). Acting in accordance with this provision, the Minister has made regulations in respect of a wide variety of matters including the declaration of certain substances and remedies to be agricultural remedies; prohibitions on the acquisition, disposal, sale or use of certain agricultural remedies and stack remedies; prohibitions on the sale or use of super phosphate and copper in certain areas and related matters.

The Agricultural Pests Act 36 of 1983, provides for measures for control over plants and for the prevention of plants diseases (agricultural pests). It includes control measures for the importation of controlled goods covering any plant, pathogen, insect, growth medium, exotic animal, infectious thing, and others. The Minister is empowered to impose various control measures including measures, relating to the

destruction of plants, the combating of pathogens, red-billed quelea, insects or exotic animals, and a number of similar matters.

There are also several laws especially relevant to PADH.They include the National Environmental Management Biodiversity Act 10 of 2004. The Biodiversity Act was promulgated in June 2004 and most of its provisions came into force on 1 September of that year. The overall purpose of the Act as set out in its Preamble and in the objectives section is:

- the management and conservation of South Africa's biodiversity and its components;
- the protection of species and ecosystems that warrant national protection;
- the sustainable use of indigenous biological resources;
- the fair and equitable sharing of benefits arising from bioprospecting including indigenous biological resources; and
- the establishment of a South African National Biodiversity Institute (sect 2(a) to (d)).

As regards PADH it is relevant to note that the Act establishes the South African National Biodiversity Institute (SANBI) and one of the listed functions of SANBI in the Act is that it may "coordinate and implement programmes for… the rehabilitation of ecosystems…" (sect 11(1)(m)). This is of relevance to the Protocol on Protected Areas and Wild Fauna and Flora (SPAW Protocol)

The National Environment Management: Protected Areas Act 57 of 2003 provides for various kinds of "protected areas", a term which is defined as: "any of the protected areas referred to in section 9," (Sect 1 Definitions). Section 9 in turn lists a number of kinds of protected areas, the following of which are potentially relevant to SPAW: special nature reserves, national parks, nature reserves, (including wilderness areas) and protected environments. Section 9(d) also refers to marine protected areas.

Each of these types of protected areas is defined in some detail but in the case of marine protected areas cross-reference is simply made to section 43 of the MLRA which provides for the establishment and regulation of marine protected areas as elaborated on below.

The Conservation of Agricultural Resources Act 43 of 1983, administered by the Department of Agriculture, was passed well before the transition to democracy, but is nevertheless still the main law dealing holistically with agricultural resources. The object of the Act is:

To provide for the conservation of the natural agricultural resources of the Republic by the maintenance of the production potential of land, by the combating and prevention of erosion and weakening or destruction of the water sources, and by the protection of the vegetation and the combating of weeds and invader plants. (Sect 4)

The resources which the Act is concerned with are: land, as evidenced from the outline of the soil erosion problem above; water which has been dealt with above; and the veld or vegetation.(The Republic of South Africa: Policy on Agriculture in Sustainable Development – A Discussion Document (Draft 8))

The Department of Agriculture, as part of its contribution towards sustainable development, embarked on a process of developing a Policy on Agriculture in Sustainable Development[1] as part of its response to the commitments made by world leaders at the WSSD held in Johannesburg in 2002. The Policy forms part of the process of incorporating principles and objectives of sustainable development into the ethos of the agricultural sector of this country. It recognises the shared goals of government, farmers and conservationists and the need for all stakeholders to work together to achieve a sustainable agricultural sector in South Africa.

The Discussion Document states that the Conservation of Agricultural Resources Act will be amended or replaced to ensure accordance with new policies of sustainable resource use. It also provides that the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 1947, and related legislation, dealt with below, will be reviewed to protect the health of humans and prevent pollution of the natural environment. As regards land-use planning, it states that short-term commercial interests should not compromise the future of efficient and sustainable agriculture. In addition, it provides that the provisions of the Development Facilitation Act 67 of 1995 and provincial ordinances dealing with agricultural land use will be reviewed and, if necessary, strengthened to ensure appropriate levels of protection of agricultural land. To this end, a draft Sustainable Utilisation of Agricultural Resources Bill, 2004, has been proposed, but has not yet been published for comment by the Department.

The Conservation of Agricultural Resources Act 43 of 1983 is the successor to the Soil Conservation Act 76 of 1969, which in turn repealed and replaced the landmark Soil Conservation Act 45 of 1946.

As concerns the Draft National Environment Management: Coastal Zone Management Act, although it is concerned with control and management of the coastal zone and not with the marine environment *per se*, it should be noted that chapter 6 is devoted to Institutions and Chapter 9 to Marine Pollution.

A number of provincial ordinances are relevant to freshwater pollution and thus to LBSAA causing marine pollution.

The Cape Nature and Environmental Conservation Ordinance 19 of 1974 providesas follows:

No person shall deposit or cause to allow to be deposited –

(a) in any inland waters, or
(b) in any place from where it is likely to percolate or in any other manner enter any inland waters, anything, whether solid, liquid or gaseous which is likely to be injurious to any fish or fish food of which, if it were so deposited, in large quantities or numbers, would be so injurious (S 48).

The Nature Conservation Ordinance 12 of 1983 Transvaal, which is now applicable in Gauteng, North West and Limpopo provinces, includes similar provisions (Sect 84 of the Nature Conservation Ordinance 12 of 1983 (Gauteng)).

The Municipal Ordinance 20 of 1974 (Cape), includes a provision for local authorities in the Western Cape ". . . to drain stormwater. . . into any natural watercourse". The provision does not require that they ensure that it is of an acceptable quality (Sect 139(1)(d)). Another prohibits any person from discharging, permitting to enter or putting into any natural watercourse into which stormwater is drained, any substance likely to contaminate or impair the quality of the water therein, except with the consent of the local authority (Sect 141(1) (h)). Similar provisions exist in the municipal ordinances of the other provinces (See e.g. the Local Government Ordinance 17 of 1939 (Transvaal); Local Government Ordinance 8 of 1962 (Orange Free State)).

Local authority by-laws

Some local authorities enact their own by-laws to deal with the discharge of industrial effluent and stormwater run-off. Industrial effluent disposal requires a permit, which will only be authorised if its contents are disclosed. This is often coupled with the requirement that the effluent be monitored. The administrative requirements are more stringent at local level than under provincial legislation, because the municipality concerned usually owns or operates the treatment works into which the effluent is discharged, and therefore it must ensure that any waste water it accepts can be treated by the plant and will not detrimentally affect its functioning.

The Cape Metropolitan Council (CMC) in the Western Cape has passed an Industrial Effluent By-law containing provisions prohibiting the discharge of any substance besides stormwater into any public drain, river, stream or other watercourse, without the permission of the CMC (PN 776/1993, Sect 8). Permission will only be granted if the discharge complies with the regional effluent standards. Some municipalities within the CMC also have specific by-laws in this regard, such as the Drainage and Sewerage By-law passed by the Cape Town Municipality (PN 397/1987).

Table 10: Summary of LBSAA Relevant South Africa Legislation

Decree / Law no.	Year	Title of law/decree
	1935	Sea Shore Act
36	1947	Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act
	1950	Cape Town Fore shore Act
88	1967	Physical Planning Act
54	1972	Foodstuffs, Cosmetics, and Disinfectants Act
46	1973	Seabirds and Seals Protection Act
57	1976	National Parks Act
63	1977	Health Act
103	1977	National Building Regulations and Building Standards Act
73	1980	Dumping at Sea Control Act

Decree / Law no.	Year	Title of law/decree
6	1981	Marine Pollution(Control and Civil Liability) Act
36	1983	Agricultural Pests Act.
43	1983	Conservation of Agricultural Resources Act
122	1984	Forests Act
73	1989	Environment Conservation Act
50	1991	Mines and Minerals Act
15	1994	Maritime Zones Act
67	1995	Development Facilitation Act
108	1997	Water Services Act
84	1998	National Forests Act
107	1998	National Environment Protection Act
36	1998	National Water Act
5	1998	Kwa Zulu Natal Planning and Development Act
18	1998	Marine Living Resources Act
7	1999	Planning and Development Act (Western Cape Province)
28	2002	Minerals and Petroleum Resources Development Act
57	2002	Disaster Management Act
57	2003	National Environmental Management: Protected Areas Act

2.1.8 Tanzania

The constitution of the United Republic of Tanzania does not have explicit provisions on environmental protection and management. However, the legal system has a considerable legislative and institutional coverage of environmental issues, including coastal and marine environment. Despite the legislative and institutional coverage, environmental law in Tanzania is scattered, sector based, overlapping and at times conflicting. Environmental law in Tanzania is not a homogeneous system of law as it comprises of diverse rules of administrative law, constitutional law, law of torts and criminal law. This affects the efficacy of law to function as a medium to implement the Nairobi Convention and other LBSAA relevant conventions, and indeed the coastal and marine environment.*(NEMC,, 2007).*

The framework environmental law of Tanzania is the Environmental Management Act 2004 (EMA). Section 232 of EMA provides that any other law or provision of law that is inconsistent with the EMA on matters concerning the environment shall cease to be applicable. Section 31 (2) of the EMA imposes the duty on the Sector

Ministries not to carry out functions stipulated under their respective laws that are inconsistent with the EMA.

The EMA 2004 and Regulations made there under provide for the legal and institutional framework for sustainable management of the environment; to outline principles of management, impact and risk assessments, prevention and control of pollution, waste management, environmental quality standards, public participation and compliance and enforcement. It is also to provide the basis for implementation of international instruments on environment. It repeals the National Environment Management Act (1983), but continues the existence of the National Environment Management Council (NEMC). It provides for establishment of the National Environmental Trust Fund, It applies to mainland Tanzania. It establishes general environmental principles, including the right to a clean, safe and healthy environment for every person living in Tanzania; and the right to bring an action for environmental harm or damage. Every person living in Tanzania has a duty to safeguard and protect the environment.

The Act also defines principles of environmental management and obliges all persons exercising powers under the Act or any other written law to promote or have regard to the National Environmental Policy.

Most of the other laws relating to environmental management and particularly with the coastal and marine environment are fragmented and scattered across a variety of sectors. However, coastal tourism – related legislation includes the Hotels Ordinance 1963 and the Tourist Agents Licensing Act, 1969. The existing law encourages the development of tourism and its infrastructure. Inevitably, many of these structures, together with increased numbers of tourist arrivals place burdens on the maritime and coastal habitats.
Others include the Forest Ordinance chapter 389 (1957) as amended variously in 1964, 1979 and 1991; and Tanzania Forestry Research Institute Act 1980.

Other sectoral laws are in mining and extraction. They include the Petroleum (Exploration and Production) Act 27 of 1980, the Mining Act No. 5 of 1998; the Mining (Environmental management and protection) Regulations 1999. Mining includes sand mining and extraction, which is a common activity in the coastal and marine environment in Tanzania. Legislation in agriculture includes the Plant Protection Act 1997; Range Development and Management Act cap 569.

In the fisheries sector there are some legislations 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. In the lands and urban development sectors there is a range of legislations including the Land Ordinance, 1923; Town and Country Planning Ordinance Cap 378 (1996); National Land- use Planning Commission Act No. 4 1999; and the Village Lands Act No. 5 of 1999. In the wildlife sector, there are the National Parks Ordinance 1959 and the Wildlife Conservation Act No. 12 (1974).
Finally, in industry there is the National Industries (Licensing and Regulation) Act and the Merchant Shipping Act (1967).

Lack of uniformity in customary laws administered today in Tanzania is a major weakness of the legal system. Multiplicity of customary law renders more problematic the application of appropriate law in urban and rural areas of mixed tribal populations. The lack of uniformity makes it difficult to ascertain and use customary law to prevent, reduce and control land based pollution more difficult by uncertainty of the African customary laws. Customary laws continually diminish in importance as the body of written laws expands to cover areas hitherto under customary laws and practice *(NEMC,, 2007).*

Table 11: Summary of LBSAA Relevant Tanzania Legislation

Decree / Law no.	Year	Title of decree/law
389	1957	Forests Ordinance
	1959	National Parks Ordinance
	1963	Hotels Ordinance
	1967	Merchant Shipping Act
	1969	Tourist Agents Licensing Act
	1974	Land-use Planning Commission Act
	1974	Wildlife Conservation Act
	1994	Marine Parks and Reserves Act
	1996	Town and Country Planning Act
	1997	Plant Protection Act
	1997	Tanzania Forestry Research Institute Act
569	-	Range Development and Management Act
	1998	Mining (Environmental Management and Protection) Regulations
	-	National Industries Licensing and Regulations) Act
	1999	National land-use Planning Commission Act
5	1999	Village Lands Act
	2003	Fisheries Act
	2004	Environmental Management Act

2.2 Consideration of Policy and/or Regulatory Frameworks

2.2.1 Comoros

The national policy, the environmental action plan and the environmental strategy were elaborated in 1993: The basic principle and objectives of the National Policy on the Environment may be summarized as follows:

(a) To ensure a rational and sustainable management of resources;
(b) To define or reinforce sect oral policies;
(c) To safeguard and protect the biological diversity and zones with ecological or cultural interests;
(d) To develop or promote environmental knowledge and awareness;
(e) To put in place appropriate mechanisms for the management of marine and coastal areas by elaborating a development policy aimed at ensuring the maintenance of the coastal area, taking into account its tourist potential; rational management and exploitation of marine resources, the control and regulation of pollution in marine and coastal areas.

The Environment Action Plan of Comoros (1993) includes the study of marine and coastal ecosystems; improvement of legislative and regulatory mechanisms; protection and development of biodiversity; alleviation of pressure on natural resources; and collection and treatment of household garbage/ domestic waste (Decree N°93-214/PR of December 31 1993).

The national policy and action plan on environment exist but unfortunately the institutional structures charged with the responsibility of execution/ implementation has some limitations, such as on human resources, technical and financial capabilities. The main limitations are essentially as follows:

(a) Inadequate personnel at the Directorate General of the Environment since it was instituted in 1993;
(b) Extent and complexity of problems in resolving beforehand the implementation of certain measures;
(c) Weak legal and regulatory systems;
(d) Weak and inefficient institutions;
(e) Low level of education and knowledge of actors in various environmental disciplines;
(f) Insufficiency in communication, information and sensitisation between government and public entities on one hand and the population on the other; and
(g) Constant and regular mobility or turn over of managers/ directors in the administration of the environment

2.2.2 Kenya

Kenya has developed a number of policy instruments and action plans including National Environmental Action Plan (NEAP) 1994. Pursuant to the EMCA 1999, EIA and Audit Regulations were promulgated in 2003 and the general policy in the country now is that all projects must undergo EIA and/ audit, if the impacts of these projects will result in major environmental changes on land. Kenya is also reviewing policies, legislative frameworks and strategies for the sustainable development of the forestry, water, wildlife, and mineral resources. There are on going policy, strategy, legal and institutional reviews in these sectors. In the forestry and water sectors, most of the instruments are complete and in operation (Mbulu,2007).

There is as yet no clear or centralized policy in Kenya specifically dealing with strategies for waste management, municipal waste water and activities that would result in PADH along the coastal zone. Fortunately, there are on going efforts to develop a National Environmental Policy and the same is in draft stage. Kenya has also recently enacted The Environmental Management and Coordination (Water Quality Regulations) 2006 and (The Environmental Management and Coordination) (Waste Management) Regulations 2006 as envisaged under the provisions of Sections 55(7), 92 and 147 of EMCA 1999 to set water quality standards and control and prevent pollution of the marine environment from land -based sources such as sewage, municipal waste water. However, regulations on POP's and hydrocarbons have not been promulgated though plans for their promulgation are at an advanced stage (Mbulu, 2007).

The lack of a centralized policy has resulted in the absence of a comprehensive legislation specifically addressing LBSAA. The Standards and Enforcement Review Committee of NEMA has also not prepared the standards defined under the provisions of Section 71(c) (d) (e) (f) (g) (h) (i) (j) (k) (l) which include matters such as preparing guidelines or regulations for the preservation of fishing areas, aquatic areas, water sources and coastal zones, where special protection is needed. Other matters stipulated under those sections include recommending measures necessary for the treatment of effluents before discharge and pollution abatement measures. The Standards and Enforcement Review committee of NEMA has not done much in this regard, partly owing to capacity limitations, and it is expected that action on this matter will be taken sooner rather than later.

There is also a lack of an explicit policy generally on matters to do with source reduction of waste, storage, collection, transportation, and disposal. Kenya also lacks a specific policy document on issues such as wastewater treatment and disposal, and the operation of garbage dumps and landfills. Local government authorities lack skilled personnel and general institutional capacity required to compile the necessary databases on quantity and quality of waste, sewage, municipal waste water. They also lack the institutional capacity to be able to identify, isolate, treat and dispose hazardous substances. This includes waste such as pesticides, oil, heavy metals and hospital waste. Consequently even large solid wastes/litter find their way to the coastal and marine environment.

The general lack of structured policy on disposal of liquid waste and municipal waste water results in disposal of such waste water into the ocean. The lack of specific policy on liquid and wastewater disposal means that there is no legislation or regulation specific to wastewater collection, handling, and disposal in Kenya. Reliance on the generalized provisions of the Local Government Act, EMCA 1999 and the Public Health Act Cap 242 has proved largely futile. Specific Policy direction in these areas is urgently required. The guidelines and standards of waste management envisaged under Section 86 of EMCA 1999 ought to be enacted urgently.

On hazardous wastes substances containing POPs there is also a lack of specific policy in Kenya. For instance, medical waste especially from the small clinics and health care facilities are often disposed concurrently with the municipal waste or indiscriminately dumped or buried in the ground.

NEMA is also yet to issue the guidelines and regulations for various categories waste as is required under section 91(2) of the Act. This has resulted in the use of environmentally harmful pesticides, fertilizers and chemicals used in coastal agriculture, aquaculture and mariculture.

The gaps in policy and regulatory frameworks identified above call for review of the capacity of the Standards and Enforcement Committee of NEMA to ascertain its competence to undertake the functions that have been accorded to it by EMCA 1999.

However, in 2009 the National Land Policy was passed and is under implementation. Apart from this, specific policies and adequate legislation in the area of LBSAA lacks. The EIA and Audit Regulations(2003) could perhaps be utilized to determine the environmental and social impacts relating to existing landfills, sewage and waste

water treatment plants. The EIA and Audit Regulations 2003 could assist determine matters such as the physical and geographical suitability of existing facilities to determine pollution abatement options and management control measures for the time being (Mbulu,2007).

2.2.3 Madagascar

There is a policy on the protection, management and measures against pollution in Madagascar (Andrianasoonjanahary, 2006). The declaration of the President of the Republic in Durban in September 2003 on the increase of acreage from 1.7 million to 6 million hectares of the protected areas in Madagascar in five years signifies the political will of the Government with respect to the objective of the Convention and other relevant instruments.

The Government under the coordination of the Ministry of Environment, Waters and Forests created the Steering Committee of the Vision Durban in collaboration with financial partners, other concerned Ministries and departments, and the executing agencies of the Environment Plan.

The regulatory structures are less known, indeed absent, in the policies on the protection of the environment in Madagascar. The existing structures that could respond meaningfully are the environmental mediators provided for by the Decree n°2000-028 of February 14 2000 relating to the Environmental Mediators. Nevertheless, to be more effective regarding protection of the environment, the role of the environmental mediators must be expanded to the management activities, to fight against the pollution of the environment, and in particular the marine and coastal environment. The mediators must possess special status with a secured tenure and terms of engagement of sufficient and adequate means to allow them to assume effectively their responsibilities (Andrianasoonjanahary, 2006)..

2.2.4 Mauritius

The first National Environmental Strategy and Action Plan (NEAP) was prepared in 1988 and the second NEAP was prepared in 1999 which covered the period between 1999 and 2010. The NEAP 2 report represents an environmental diagnosis of the Republic of Mauritius, assessing the pressures on the environment and the impacts of these pressures on the environment in Mauritius. The NEAP 2 can be summarized as follows:-

Sets the principles of sustainable development by providing environmental services, encouraging responsible environmental practices and enforcing appropriate environmental standards in order to safeguard the health and welfare, conserve the heritage, and enhance the quality of life of all the people of Mauritius.

The NEAP identified inadequate disposal of urban waste water as a growing threat to the quality of ground water, the principal source of domestic water supply of the country, as well as to marine and coastal zone ecosystems. As a follow up of the NEAP recommendations the Government launched the Sewerage Master Plan (SMP) Study covering a period of 20 years. The plan was completed in 1994 and it identified the technical, institutional, legislative and financial constraints. The National Sewerage Program (NSP) composing priority projects to be implemented over a decade was prepared. The policy instruments incorporate key environmental principles, including polluter pays and precautionary principles.

The Government is presently in the process of reviewing its objectives, policy instruments and strategies by way of a white paper called the National Environment Policy (NEP) 2006 *(Manna: Mauritius National Legal Report, 2007).* The vision and objectives of the draft NEP 2006 in achieving Environmental Sustainability in the long term is as follows:

"Mauritius has an environmentally-conscious population. It will have adopted sustainable production and consumption patterns; is resource and energy efficient in all sectors of the economy; is making optimum use of renewable energy sources and is a recycling-based society; has a built environment characterized by good architectural guidelines, beautiful townscapes with green areas and outdoor recreational facilities, such that the country is recognized as the "Garden Island". An effective partnership exists between all stakeholders and there is a strong environmental ethic in the citizen. All the key resources on the island are protected and managed effectively. We have a clean and healthy environment that Mauritians feel proud of."

Transparency, accountability and good governance practices are expected to be cornerstones of environmental policies. Government is expected to strengthen joint public, private and community sectors ownership of environmental concerns (Jugessur-Manna, 2007).

Finally, under the Fisheries (Reserved Areas) (Rodriguez) Regulations 1984**,** five areas have been proclaimed reserved areas in Rodriguez. Another major evolution in the field of environmental law is that under GN 25 of 2005, all existing laws related to building, land development, forestry, rivers, fisheries, fauna and flora of Mauritius have been declared environmental laws.

2.2.5 Mozambique

Following the World Summit for Sustainable Development Mozambique started the preparation of a national strategy for sustainable development in 2002, with the objective of integrating the recommendations from the Johannesburg Plan of Implementation into the national agenda. Environmental management and sustainable development cannot be implemented successfully by any one sector or institution: they can only be adequately addressed by a collaborative effort by different sectors and different components (government, private, civil society) all working together. The National Strategy assumes that for different groups of society to work together they need to have a common and clear vision on sustainable development and environmental management. It assumes also that the idea of "sustainable development" is a relatively new but it is fundamental to the development process and requires some understanding by the relevant partners. The Strategy is an important national initiative that is firmly based on local knowledge, local ideas, local expertise and local solutions. When necessary external support can be provided, drawing on appropriate experiences and ideas from elsewhere. It is extremely important that in the implementation of this strategy a common vision be built reflecting consensus, commitment, collaboration and partnership.

The priority areas identified in the National Strategy are: biodiversity conservation, land degradation, health, education, agriculture, water, energy and technology transfer. This is consistent with WEHAB (water, education, health, agriculture and biodiversity), as agreed in Johannesburg in 2002. The implementation of the strategy will be supervised by the National Council for Sustainable Development and the Council of Ministers. The Strategy will soon be approved by the Government of Mozambique and will be used by all sectors in the preparation of their plans (Mazivila, 2007).

*T*he National Environmental Policy was approved by Resolution nº 5/95, of 3 August, which is a principal instrument in terms of specific plans for environmental sector, and its main objective is to recommend the sustainable use of natural resources.

This policy, recommends sustainable and optimized use of natural resources with the State being responsible for creating incentives through concrete actions. This policy introduced principals and objectives of the Government in the management framework and establishment of an healthy environment, harmonizing with the foreseen principals of the Republic Constitution and in the several International Agreements, Treaties and Conventions to which Mozambique is signatory.

It was this policy that for the first time introduced the need of integration of the environmental issues in the economic planning; the role of the communities in the environmental management, the environmental monitoring, and acknowledge the role of the private sector on the environmental management, and defined the strategy that amongst others recommended the framework of the Ministry for Coordination of the Environmental Affairs, and the need of a multi-sector coordination.

The overall objectives of the environmental policy are to ensure the sustainable development of the country, taking into consideration the specific conditions, through a realistic and acceptable compromise between the socio-economic progress and the protection of the environment. The policy aims at:

i) Ensuring an adequate quality for life to the Mozambican citizens;
ii) Ensuring the management of natural resources and of the environment in general, so as to maintain its functional and productive capacities for the present and future generations;
iii) Developing environmental consciousness among the populations to enable public participation in environmental management;
iv) Ensuring the integration of environmental considerations into the socio-economic planning process;
v) Promoting the participation of local communities in the planning and decision making process on the use of natural resources;
vi) Protecting essential ecosystems and ecological processes;
vii) Integrating the regional and international efforts in seeking solutions to environmental problems.

There is also the Strategic Plan for Environmental Sector, 2005-2015, inegrating the Action Plan for Fight Again Draught and Desertification, the Strategy for Urban Environment Management, the Costal Zone Management Strategy, the Strategy and

Action Plan Controlling and Fight against Soil Erosion, the Strategy to Combat Deforestation and Burning, The Urban Solid Wastes Integrated Management Strategy, The Hazardous Wastes Management Strategy and Biodiversity Strategy and Action Plan for Biodiversity Conservation(Mazivila, 2007).

The priority areas identified in the strategy are: biodiversity conservation, land degradation, health, education, agriculture, water, energy and technology transfer. This is consistent with WEHAB, as agreed in Johannesburg in 2002.

The current national environment policy is elaborated further in the Quinquennial Program of the Government for the period of 2005-2009 approved by the Assembly of the Republic through the Resolution nº 16/2005. The central objective of the said Program is to reduce the absolute poverty through the promotion of the sustainable social and economical development. In such a context, the basic role of the Government is to stimulate the human capital, economic and social infrastructures, institutional development and the provision of basic services which can create a favourable and inductive environment for the expansion of initiative, action and private investments of citizens and their institutions. Matters relating to environment are dealt with in item 3.2, as part of cross cutting issues, where in connection with the main objective of the Program of the Government, the rational use of the natural resources, through a correct planning and control of human activities, in a long term sustainable perspective. Among the various priority objectives of the Program in the scope of the environment issues, is the strengthening of the institutional and legal framework for the sustainable use of natural resources.

Regulating measures aiming at preventing pollution and degradation of coastal and marine areas in Mozambique were started log ago. This is evidenced by the *Portaria* (ministerial legal instrument) nº 1097 of 20 of march, 1919 which approved the General Regulation of Port Captainship of the (then Portuguese) Province of Mozambique *Regulamento Geral das Capinais dos Portos da Província de Moçambique – RGCPM*. According to article 336 of this Regulation, it was not permitted the throwing of ballast, refuse material, waste, ashes or other discharges, which by their quality and quantity may be prejudicial to the local conditions or to the public hygiene into bed of navigable rivers, maritime ports, land constituting public domain and marine coast. This regulation has been revoked and other legal instruments on the matter have been enacted, as it can be seen below.

There are also other important LBSAA sectors related policy and regulatory instruments, including the National Forests and Wildlife Policy and Strategy; National Tourism Policy and Strategy; National Fisheries Policy; National Land Policy; Agrarian Policy; National Water Policy; and the Strategy and Action Plan for Biodiversity Conservation in Mozambique(Mazivila, 2007).

Before the independence of the Country the *Portaria* n.º 23651 of 12 December 1970 was enacted. This legal instrument forbids the grasp of marine foliage of euchema gender, within the period of August 1st of each year to 31st of January of the following year. The article 1 of this instrument was changed by Portaria nº 12/72of 4 of January

Following the Environment Law above analyzed, a number of regulations have been enacted by the Government, as listed below:

- Regulation relating to the Process of Environmental auditing , approved by the Decree nº 32/2003, of 20 August 2003;
- Regulation on Management of Bio-medical Waste, approved by the Decree nº 8/2004, of 18 February 2004);
- Regulation on Standards of Environment Quality approved by the Decree nº 18/2004 of 2 June 2004
- Environmental Regulation on Mining Activity, approved by the Decree n.º 26/2004, of 20 August 2004;
- Regulation on the Process of Environmental Impact Evaluation, approved by Decree nº 45/2004, of 29 of September 2004), revoking the previous one approved through the Decree nº 7998, of 29 December 2004;
- Norms of application of fines and other sanctions provided for in environmental legislation, approved by Ministerial Regulation (*Diploma Ministerial*) nº 1/2006

The Regulation Relating to Environmental Auditing Process was approved by the Council of the Ministers through the Decree nº 32/2003 of 12 August 2003, as to respond to the need of establishing the parameters for carrying out environmental auditing, under the articles 18 and 33 of the Environment Law (law nº 20/97 of 1st of October.

This Regulation on Management of Bio- Medical Wastes defines the legal outline for carrying out the management of polluting substances from the activities of sanitary units. Competences for the management of bio-medical waste fall on the MICOA and the Ministry of Health.

This Regulation on Standards of Environment Quality was enacted by the Council of Ministers under article 10 of the Environment Law (Law nº 20/97, of 1 October), as a result of the need of establishing environmental quality standards as to ensure effective control and surveillance on the environment quality and natural resources of the country.
The matter relating to water quality is dealt with in Chapter III (articles 11 to 17), providing for categories of water quality, water quality parameters, quality control, sanitary vigilance, promotion of water quality for human consumption, discharge of pollutants or industrial liquid effluents, and water for recreational purposes.

The Environmental Regulation on Mining Activity (ERMA), approved by the Decree n. º 26/2004, of 20 August aims at establishing norms for preventing, controlling, mitigating, rehabilitating and compensating adverse effects that the mining activity may cause to the environment, with view to the sustainable development of such an activity (article 2). The competence to evaluate the environmental impact of the mining activity is given to the Ministry which superintends the area of mineral resources (article 3). Such is the Ministry of Mineral Resources, the competency of which will be partially analyzed under the subject on Institutional Framework.

The Regulation on the Process of Environmental Impact Evaluation approved by the Decree nº 45/2004, of 29 of September and was enacted to update and replace the previous one, which was adopted by the Decree 76/ 79 of 29 December.

Annex I of the Regulation on Relating to the Process of Environmental Auditing is of particular interest to the present assignment, as it concerns activities located in areas and ecosystems recognized as deserving special protection under the national and international legislation, such as barriers of coral reefs, mangroves, small islands, zones of imminent erosion including dunes at the maritime fringe, etc. Infrastructures such as marinas, shipyards, pipelines, submarine cables, ports and dredging, as well as treatment and disposal of solid and liquid residues are include in said annex.

The rules of application of fines and other sanctions provided for in environmental legislation, approved by Ministerial Regulation (*Diploma Ministerial*) nº 1/2006 aim at regulating ways of application of fines and other sanctions when environmental activities of controlling and surveillance are carried out (article). Article 2 provides for competencies of environmental inspectors.

2.2.6 Seychelles

The main policy document relating to the protection of the environment in the Seychelles is the Environmental Management Plan of Seychelles (EMPS) 2000-2010. Its aim is that the protection of the environment is undertaken in a planned and coherent manner involving all stakeholders. One of the guiding principles of the EMPS is fulfilling international and regional environmental responsibilities pertaining to environmental management. The guiding principles of the EMPS include the following:

- Honouring and pursuing the Constitution of Seychelles particularly Article 38 which states that it is the right of every person to live in and enjoy a clean, healthy and ecologically balanced environment.
- Integrating, developing and pursuing the provisions of Agenda 21 into its national environmental management plans and programmes in order to strengthen Seychelles' commitment to Agenda 21 and compliance with its principles.
- Maintaining and managing conservatively the diversity, health and productivity of Seychelles' ecosystems in order to safeguard its basic ecological integrity. Controlling and minimising pollution, particularly of coastal and marine waters to reduce negative impacts to receiving ecosystems.

Ten thematic areas were chosen to cover all major social and economic sectors as well as certain key subjects of relevance to environmental management such as environmental economics. The thematic areas of relevance to this study include Land Use, Coastal Zones and Urbanisation; Biodiversity, Forestry and Agriculture; Energy and Transport; Water, Sanitisation and Waste; Tourism and Aesthetics; Environmental Economics, Mainstreaming and Sustainable Financing; Regulatory, Policy and Institutional Mechanisms; Commerce, Industry and Production. The Plan also covers cross cutting themes such as Education, awareness and advocacy; Partnerships, public consultation and civil society participation; Training and capacity building; Management; Science, research and technology; Monitoring and Assessment; and Vulnerability and global climate change. Programmes were proposed for the thematic areas.

The EMPS 2000-2010 seeks to integrate environmental issues into all development sectors though it lacks the profile and the institutional backing which supported the

previous EMPS. The EMPS was originally prepared with the expectation of major programme funding which never occurred. Implementation currently depends on the available programme budgets of government and the initiatives of non-governmental organizations in finding funding for biodiversity projects.

The National Biodiversity Strategy and Action Plan (NBSAP) was prepared in 1997 pursuant to the Article 6 of the Convention which requires all contracting Parties to "develop national strategies, plans or programs for the conservation and sustainable use of biological diversity." The NBSAP summarises the descriptive data and information in the Biodiversity Assessment and also identifies the country's vision for biodiversity and its objectives, needs and gaps and the actions required to bridge the gaps. It provides a timetable for action over a plan period of 5 years (1997-2003). Issues common to both the NBSAP and the EMPS include sustainable management of marine resources including coral reefs as well as capacity building for assessing, monitoring and forecasting.

The implementation of the NBSAP has however been criticised to be somewhat limited except through the EMPS programmes. Due to a lack of national and external funding for specific initiatives and monitoring, no major activities were undertaken. The NBSAP, however, needs to be updated, possibly as part of a review of the EMPS. A NBSAP add-on is currently in the process of being developed with support from UNEP.

The Seychelles Plan d'Aménagement du Territoire or National Land Use Plan, finalised in 1993, is the primary guide to land use decision making by the Town and Country Planning Authority. It covers the three main islands of Mahé, Praslin and La Digue only. The plan provides a guide for land uses in sensitive and protected areas based although it is an advisory document without legal status. Several reviews have noted that the scarcity of level land has created competition for land and pressure for land reclamation along the shoreline. The EMPS states that "the lack of planning, zoning and integrated management of government land leads to *ad hoc* land and water development, resulting in pollution, erosion and conflicting uses."; and recommends, "better integration of land use planning and environment through updating the National Land Use Plan and cross-linking it with EMPS; and updating and/or better implementation of the Town and Country Planning Act 1972 and the Environment Protection Act 1994, with cross-referencing to MENR legislation and EMPS."

In spite of the Town and Country Planning Act 1972, the land use plans only seem to be used as planning instruments on an *ad-hoc* basis and plans are not followed through with detailed land use/ development plans. Inappropriate land use has occurred throughout the island, leading to deforestation, erosion, pollution and aesthetic problems especially in the coastal zones.

The land use planning system in Seychelles is in urgent need of reform to provide a professional basis for transparent land use decision making that separates technical planning from political decision making, and that places an emphasis on ensuring effective long-range plans are established and used to guide approvals for individual developments. Inefficient land use may be a more important constraint than the noted shortage of developable land in Seychelles. The concept of land use planning is poorly understood by public and changes to the current institutional framework for

planning will require a major shift in policy and practices. Many of these issues are recognised by government staff. In the public arena, the often poor level of consultation has also apparently garnered some support for reform of the land use planning system. There is a need to legalise the National Land Use Plan.

The National Agricultural Policy 2003-2013 is in the process of being submitted for approval. The overall objective of the policy is the achievement of higher food security through sustainable agricultural production. Furthermore, the policy envisages exploiting proven technology packages for intensive production with due regard for human health and the environment. The other major policy document is the Solid Waste Master Plan which includes incineration, storage, and disposal of hazardous and medical waste. This minimises the movement of waste and disposal at source. The Master plan is regarded as an immediate priority.

2.2.7 South Africa

The advent of a new Constitution in South Africa set the stage for a more inclusive and comprehensive environmental policy for the country (Glazewski, 2006). Thus an extensive public participation process known as the Consultative National Environmental Policy Process (CONNEPP) was carried out relatively soon after the advent of democracy and culminated in the *White Paper on an Environmental Management Policy for South Africa* (N/749 in *Government Gazette* No. 18894 dated 15 May 1998) ("White Paper on Environmental Management"). This in turn led to development and enactment of the National Environmental Management Act No 107 of 1998 (NEMA).

Two important general features underpin the White Paper on Environmental Management and thus the NEMA: the White Paper emphasizes the notion of "sustainable development" and specifically endorses the definition and analysis offered by the 1987 Brundtland Report *(The World Commission on Environment and Development "Our common future (the Brundtland Report) 1987 at 14–16,).* Secondly, the Environmental Management White Paper reflects the sentiments behind the transition to democracy and its socio-economic implications.

An altogether separate policy process was initiated soon after with respect to the coastal area. This started in 1997 and was firstly underpinned by a discussion document titled *Our Coast Our Future: Coastal Policy Green Paper: Towards Sustainable Coastal Development in South Africa Department of Environmental Affairs and Tourism September 1998 (the "Green Paper").* This Coastal Policy Green Paper formed the basis of an extensive public consultation process in which all interested and affected parties were invited to comment. These were collated and condensed to produce the *White Paper for Sustainable Coastal Development in South Africa* which was promulgated in 2000.

The Coastal Policy White Paper led in turn the preparation of draft Coastal Zone Management Bill. If enacted into law it will potentially play a pivotal role in improving the management of the coastal zone of South Africa.

The legal regulatory framework is summarised under the following six headings each of which (except the first) outlines the relevant statutes:

1. Common law

2. Statutes of general application including framework environmental statutes

3. Statutes dealing specifically with pollution from land-based activities

4. Statutes dealing with wreck pollution

5. Statutes dealing with pollution from ships and shipping (only dealt with peripherally as not directly related to LBSAA).

6. Draft Coastal Zone Management Bill. Although this has not been enacted yet, it is law dealt with separately as it is a potential umbrella act dealing with coastal area generally and LBSAA specifically.

2.2.8 Tanzania

Unlike the Environmental Policy of 1997, the majority of the policies do not take reference from one another. Logically the new policy must take cognisance of the existing policy, but every new policy is always adopted on its own resulting to the making of legislation that also does not take substantial cognisance of the existing legislation in respect of the of particular environmental component which, for the purpose of this study, is land based sources and activities (NEMC, 2007).

Other Policy and related instruments include National Forest Policy, 1998; the Forest Action Plan 1990/91 – 2007/08; Management Plan for the Mangrove Ecosystem in Tanzania 1991; the Agricultural and Livestock Policy, 1997; National Tourism Policy 1991 (reviewed 1996) and the Integrated Tourism Master plan for Tanzania (1996-2005). Others are the National Fisheries Sector Policy, 1997, and the Draft Investment and EIA Guidelines for Marine Parks and Reserves in Tanzania and the Draft Mari culture development Guidelines; the National Land Policy 1995, and Town/ City master Plans; District and Village Land use plans; the Wild life policy of Tanzania (1998); and the Sustainable Industrial Development Policy, 1996.

2.3 Consideration of Institutional Frameworks

2.3.1 Comoros

There are also important national and regional (provincial) institutions mainly established during 1993/94 with the support of the UNDP under a national programme on the environment. The UNDP support led to the formulation of a national policy on the environment ("La Politique National de L'Environment, PNE") and a national plan of action for the environment ("Plan d'Action Environmental, PAE"). The primary national environmental institution is the Directorate General of the Environment ("La Direction General del'Environment, DGE") established under Decree No. 93-115 and further elaborated by subsidiary regulation No. 93-20/MDRPE-CAB. The DGE is responsible for the management and implementation of the PNE? and the PAE? and operate within their framework. The coordination of multi sectoral environmental actions is undertaken by an inter ministerial consultative committee on the environment ("Comite Interministeriale Consultatif pour l'Environment, CICE").

The primary role of the DGE is the protection and nurture of the environment, including regulation and control,, education and public awareness, preservation and care of the natural resources, and the management and oversight of environmental territories such as coastal and marine and other protected areas. The DGE is under the Ministry of Production and Environment ("Ministere de la Production et de l'Environment, MPE"), under particularly its natural resources department. Under the said Ministry, there are other relevant institutions such as "Le Service de la Reglementation et du Controle (SRC)", which helps elaborate environmental legislation and the mechanisms for their application; a national institution for research in agriculture, fisheries and environment ("INRAPE"); "Le Centre National de Documentation et de Recherché Scientifique (CNDRS)", whose mandate is research and development of programmes on Comorian fauna and flora and socio- cultural aspects of the environment, public education and sensitisation on diverse themes on the environment (Ahamada, 2008).

Other laws relevant to the environmental institutions of the Comoros include Decree No. 93-148 and No 93-148/PR of 15 September 1993. The latter established the CICE, which is comprised of ministries and institutions dealing with aspects of the environment, as well as non- governmental organizations.

2.3.2 Kenya

The enactment of the EMCA 1999 led to the establishment of NEMA in 2000 as the institutional body whose main purpose is general supervision and coordination over all matters relating to the environment and as the principal instrument of the government in the implementation of all policies relating to the environment. Among the most pertinent functions of NEMA is the coordination of various environmental activities being undertaken by lead agencies to ensure promotion and integration of environmental considerations into development policies, plans, programmes and projects with a view to ensuring the proper management and rational utilization of the environment in Kenya. All the functions of NEMA defined under Section 9 of the EMCA are relevant to issues of coastal zone management. Under section 55 of the Act NEMA is supposed coordinate with other lead agencies to ensure the preparation of ICZM plan for the purpose of ensuring the protection, conservation and environmental sustainability of the coastal zone. NEMA is also supposed to ensure a survey of the coastal zone and to come up with an inventory of all structures, roads, excavations, harbors, outfalls, dumping sites and other works located in the coastal zone. Thereafter, NEMA, in liaison with lead agencies, is supposed to promulgate regulations for the protection measures of the marine environment from LBSA for Gazettement by the Minister.

There is, however, need for institutional capacity building for the strengthening of all the institutions created under the EMCA 1999 that are supposed to carry out the tasks outlined above. These include the Standards Enforcement and Review Committee that is supposed to promulgate standards on waste matters as well as the District and provincial committees that are supposed to be responsible for the proper management and governance of the environment within the districts and provinces. There is also need for the strengthening of the capacities of National Environmental Action plan committees to enable them respond specifically to matters of LBSA and PADH of the Kenyan marine and coastal resources.

Among the other key institutions created under EMCA is the National Environment Council ("the Council", or NEC) (Part III, S. 4). The NEC is a policy organ chaired by the minister in charge of environment with a wide variety of different stakeholder representatives and the Director– General as Secretary. The NEC is responsible for policy formulation; the setting of national goals, objectives and priorities for the protection of the environment; the promotion of co-operation among public developments, local authorities and other stakeholders (S. 5). There is a procedure established for the NEC (S. 6). The Act also (Part XII) establishes the National Environment Tribunal (NET) to resolve environmental disputes arising under the Act.

Elsewhere, the Act provides for environmental planning (including the establishment of National Environment Action Plan (NEAP) Committee) (part IV); the Standards and Enforcement Review Committee, for the establishment of environmental standards and review mechanisms; provincial and district environmental committees for decentralized environmental governance; and public complaints committees, to hear and determine public environmental complaints in an orderly and timely manner. Overall, the composition of the key institutions is quite impressively competitive, balanced and participatory with very high professional and academic qualifications for some of the office holders or members of committees or councils (UNEP/GPA and WIOMSA 2004).

Under Section 168 of the Local Government Act Cap 265 of the Laws of Kenya, councils have been empowered to establish sewerage and drainage works. This particular function relates to the management of sewage and wastewater, which for the Kenyan coastal zone have been identified as the main pollutants.

The Government of Kenya through the Ministry of Water and Irrigation (MWI) has implemented fundamental reforms in the water sector. These reforms aim to decentralize responsibility for water resources management; enhance accountability and transparency in the management of water resources; and promote private sector participation in the management of this vital natural resources. The previous Water Act cap 372 was repealed and replaced by the Water Act 2002. Among the institutions established under the Water Act 2002 to implement and manage water sector reforms are: Water Resource Management Authority whose role is to effectively manage and control the prudent use of the water resources; Water Services Regulatory Board with responsibility for regulating the use of water resources for domestic and commercial purposes; Water Service Boards which provide water and sanitation services in their areas of mandate and spearhead investments in the sector; and Water Service Providers who are contracted by Water Service Boards to provide water and sanitation services. Catchments Area Advisory Committees facilitate community involvement in the conservation of catchments areas; while Water Resource Users Associations represent the interests of consumers in the water sector. (MWI: Draft National Irrigation Policy, 2007)

The MWI also developed the Draft National Water Services Strategy (NWSS) 2005 – 2007 (May 2005), now revised and covering the period 2007-2015, and the same is in implementation.

Other institutions include the Government Chemists Department (formerly in the Office of the President) now in the Ministry of Health; National Pollution Control

Laboratory Kenya Marine Fisheries Research Institute (KMFRI); Kenya Maritime Authority (KMA), Kenya Ports Authority (KPA); Oil Spill Committee, ICZM Secretariat at the Coast Development Authority (CDA) in Mombasa.

The CDA has exercised its mandate to coordinate and lead the process of ICZM through a multi sectoral secretariat and the CMSC working arrangement. The CDA has, to some extent, worked in close liaison with other research institutions that are based at the coast for incorporation of their latest technical information in development planning process.

The Forestry Department is relevant to matters of LBSAA as mangrove forests occupy the large area of the Kenyan coastal zone. Most of the mangrove forests are to be found around the estuaries. The Forest Act 2005 establishes the Kenya Forest Service and includes pertinent measures for the development, utilization and protection of all forest resources.

The Fisheries Department is also a key institution that must guard against unsustainable exploitation of fish resources and the threats posed by LBSAA. Another key institution is the Kenya Wildlife Service (KWS), which has been very pivotal in the management of the marine parks and reserves (MPAs). Elsewhere, key agricultural sector institutions are set for reforms under the ongoing comprehensive review of all agricultural sector laws, expected to yield a consolidated framework law and corresponding institutions.

The key institutional strengths for Kenya with regard to LBSAA include that there are many institutions, including the framework environmental bodies, and various sector institutions, most of which are invested with legal mandates. Virtually all key LBSAA sectors are covered by at least one institution, and fall under specific sector ministries. However, the coordinating mechanisms especially among the different sectors are weak if not absent. While NEMA may serve the coordinating role as the premier environmental agency, it is still relatively new and not well developed and capacitated. The various sector institutions have meanwhile to protect their jurisdictional mandates, and in the process weaken coordination further. As LBSAA issues are largely cross sectoral,, and in the absence of a firmly established ICZM framework, problems may continue to be experienced. The reality is that today the institutional framework for LBSAA in Kenya is largely fragmented and uncoordinated. A practical recommendation is to further empower and capacitate a responsible institution such as NEMA to play the coordinating role, and also make efforts to firmly establish the ICZM framework. *(IUCN/NORAD/WIOMSA, 2005)*

2.3.3 Madagascar

This section will be examined from two angles: the institutional structure of the general national administration and the institutional structure and the framework for the protection and management against the pollution of the marine and coastal environment The current status of the autonomous Provinces puts this structure in a rather ambiguous position as all the legislative and statutory texts give more strength to the public institutions for the management of environmental matters in their respective areas. Nevertheless, with respect to the regions, their actions are not so effective; they need reinforcement of capacities regarding management of the natural

resources of their respective districts and also in the regional framework of the Nairobi Convention.

Concerning the institutional structures, the Decree MECIE (Decree n° 99-954 of December 15 1999, as modified and completed by the Decree n°2004-167 of February 3 2004); and particularly considering the noted gaps on the institutional structures of the Decree MECIE, there need to be interventions so as to improve the institutional system.

From the viewpoint of application the gaps exist on issues of, lack of clarity as to mandates and responsibilities; lack of sustainable resources for implementation and the accomplishment of defined or required tasks. To this effect, legislators ought to provide every organ with the means and determine their respective mandates and responsibilities.

The key relevant institutions are those concerning environment, water and forests, fisheries, mining, tourism, ports and rural affairs. They include 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.

Moreover, the Ministry 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 territory.

2.3.4 Mauritius

The Ministry of Environment and National Development Unit (MOE) has the overall responsibility for the protection of the environment. EPA 2002 enables the MOE to control release of any pollutant, waste or noxious substance to the atmosphere or by dumping in the maritime zones of the Republic of Mauritius. The Environmental Impact Assessment (EIA) mechanism allows the Ministry to impose conditions on scheduled activities such as coastal hotels, construction of breakwaters, groins, jetties and sea walls, marinas, lagoon dredging and reprofiling of sea beds. The Ministry regulates via standards and guidelines limits in different media such as air, noise, water, pesticide residues, odour, industrial waste audit and effluent limitations.

The Ministry may by way of regulations provide for the management, protection and enhancement of the environment in the zone. It is also empowered to prepare and update an integrated coastal zone management plan which shall be used for the coastal zone planning management and development. The Director of Environment may issue a programme notice, enforcement notice, prohibition notice or stop order to control the rise of pollution in whatever form in the environment.

The Ministry of Agro-Industry and Fisheries ensures the sustainable development and management of fisheries resources, conservation and protection of living aquatic resources and the marine environment in the waters of and of interest to Mauritius and continued socio-economic benefits to stakeholders.

The Mauritius Ports Authority (MPA), formerly known as the Mauritius Marine Authority (MMA) was originally established in 1976 and following a reform programme, the MMA was renamed under Ports Act 1998 as Mauritius Ports Authority. Among other objectives, the MPA has also a duty to safeguard the protection of the environment and prevent any type of the pollution within the Port. Part XII of the Ports Act 1998 lists out the provisions to prevent pollution and protect the environment as well as other sections such as S.144 and S.150 of Ports Acts.

The Waste Water Management Authority (WMA) is a parastatal body established by the Waste Water Management Authority Act 2000 and is an Organisation operating under the aegis of the Ministry of Public Utilities. The Duties of the WMA are:-

(a) to be responsible for the wastewater sector in Mauritius and to carry out, monitor, supervise, maintain, manage and control waste water works;
(b) to conduct and undertake research and studies for the implementation and development of projects relating to waste water sector;
(c) to control and, monitor pollution, private servers and the use of equipment in relation to waste water systems;
(d) to collect, treat and dispose of waste water throughout Mauritius;
(e) to undertake waste water treatment to such predetermined quality as may be prescribed for safe disposal of the effluent and sludge to the environment or re-use;
(f) to ensure that any storm drainage is not connected and does not get mixed up with the waste water system; and
(g) to establish and maintain laboratories for the purpose of testing waste water and sanitary equipments.

All industrial effluents into the waste water system is controlled by way of a licence. The licensee records the daily volume of water consumed, the daily flow of industrial effluent discharged into the waste water system and analyses the composite sample of industrial effluent for the purpose of determining the level of pollutant. The permissible limit of pollutant to be discharged as industrial effluent should be in compliance with the permissible limit of pollutant.

2.3.5 Mozambique

Through an Order (*Despacho*) of the Prime Minister of 5 January 1995 a committee was created at the level of the Council of the Ministers, so as to carry out the study aiming at ensuring the marine control, by the acquisition of patrolling equipment in territorial waters. The members of the Committee were the Ministers of Transport and Communications (Chair) person), National Defence (Vice-Chair Person), Agriculture and Fisheries, Coordination of Environmental Action, Planning and Finance, Home Affairs, and Industry, Commerce and Tourism. This Committee was to identify and harmonize with relevant sectors, the existing means for guaranteeing the maritime controlling system; propose regulatory system suitable to the county, in harmony with pertinent legislation on the matter; and propose, if necessary, the alteration or the revision of the relevant legislation.

The above Committee was temporary, but it marked the start of a process aiming at the building of a new institutional framework for the preservation of the marine and

coastal environment. The main public bodies constituting the institutional framework are:

- The Ministry for the Coordination of Environmental Action (*Ministério para a Coordenação da Acção Ambiental –MICOA*);
- National Directorate of Environmental Impact Evaluation - NDEIE (*Direcção Nacional de Avaliação do Impacto Ambiental – DNAIA*);
- The Centre of Sustainable Development for Coastal Zones (*Centro de Desenvolvimento Sustentável para a Zona Costeira – CDS – Zonas Costeiras);*
- The Centre of Sustainable Development for Urban Zones (*Centro de Desenvolvimento Sustentável para a Zonas Urbana – CDS – Zonas Urbanas);*
- The Centre of Sustainable Development for Natural Resources (*Centro de Desenvolvimento Sustentável para a Zonas Urbana – CDS – Recursos naturais);*
- National Institute of Hydrography and Navigation.

MICOA is defined in the Presidential Decree nº 6/95 as the central organ of the State apparatus, which, according to principles, objectives and tasks defined by the Council of Ministers, directs and executes the environmental policy, coordinates, assists, controls and stimulates the correct planning and utilization of natural resources of the country (article 1) Objectives and functions of MICOA are defined in article 2, and its competences for the realization of such objectives are listed, they being distributed into four domains, which are of coordination, assistance or advice, control and evaluation. So as to direct the implementation of the policy defined by the Government, for the environment sector, other competences of MICOA are described in article 4. Such competences cover, *inter alia*, decisions on environmental impact studies and on technical quality of the environmental impact evaluation, as well as matters relating to environmental auditing, proposals of sustainable development policies, and creation of incentives.

As part of the organizational structure of MICOA, there is National Directorate of Environmental Impact Evaluation - NDEIE (*Direcção Nacional de Avaliação do Impacto Ambiental – DNAIA*), which is the competent authority for the evaluation of environmental impact. (EIA), as defined in Article 5 of the Presidential Decree no 6/95.In such a context, NDEIE(DNAIA) is competent for, *inter alia*, (a) carrying out of the management and coordination of the process of EIA; b) issuing and divulging directives on EIA; and (c) performing of pre-evaluation of each activity submitted to its appreciation.

In the fulfilment of its competences and functions, MICOA interacts with various institutions, such as maritime administration, fisheries, mining, agriculture and forest, etc., which have environmental controlling responsibility in their scope of activities and tasks.

The reason behind the creation of the CDS was the need for the introduction of sustainable practices for the profitability of natural resources located at coastal zones of the country, the use of which mast be correctly planned. The CDS – Coastal Zone created by Decree nº 5/2003 of 18 February, of the Council of the Ministers, is defined in article 1 of its Statute as a public institution with administrative autonomy and subordinated to MICOA.

According to article 3 of the Environmental Regulation on Mining Activity (ERMA), approved by the Decree n.º 26/2004, of 20 of August, the Ministry of Mineral Resources (as the ministry with superintendence functions on the area of mineral resources) is the governmental organ competent to evaluate the environmental impact of the mining activity. The competences of this ministry cover, *inter alia*, the following functions: monitoring of the compliance norms established in the Regulation (the ERMA); issuing of opinions on programs, terms of reference of the environmental impact study, as well as on aspects of environment management of certain projects; exercising the environmental control in coordination with MICOA, etc. The MMR is also competent for superintending the evaluating of the environmental impact, approving, among other measures, environmental directives in the ambit of the ERMA, approving aspects of environmental management and issuing environmental licenses.

2.3.6 Seychelles

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

Other relevant institutions include STAR? Seychelles, a private company contracted out by government and SWAC to manage the disposal of solid wastes within the country;

The Seychelles Bureau of Standards is responsible for the setting of standards within the country, as well as the management of research. It also undertakes the testing of certain chemicals, oil, etc. Others are the Ministry of Health (Environmental Health Section); and the Pesticides Board, established under the Pesticides Act.

2.3.7 South Africa

The Department of Environmental Affairs and Tourism (the DEA&T) administers the Sea-shore Act 21 of 1935, the Environment Conservation Act 73 of 1989, as well as the National Environmental Management Act 108 of 1998. Its Marine Pollution Division is responsible for various aspects of marine pollution, including clean-up of spills once they hit the sea or sea-shore. This office also issues permits to dump at sea under the Dumping at Sea Control Act. The Department of Environmental Affairs has at its disposal a number of vessels and aircraft to enforce the various laws which it administers.

The Department of Transport (the DoT) has been historically responsible for transportation generally including navigation is not directly involved with LBSA/A of marine pollution but has traditionally administered the Marine Traffic Act, the Merchant Shipping Act, the Marine Pollution (Control and Liability) Act and the Marine Pollution (Prevention of Pollution from Ships) Act described above.

The privatization process resulted also in the creation of a statutory authority, the South African Maritime Safety Authority (SAMSA), to which in 1998 many of the marine pollution functions were transferred to. SAMSA now deals with maritime

navigation, including the maintenance of standards by vessels. Land based sources do not fall under its jurisdiction. Rather this agency is involved in other aspects of marine pollution such as being responsible for the implementation of standards which vessels, including oil tankers, have to comply with, and for the enforcement of these standards as well as various other aspects of navigation.

The National Ports Authority (NPA) and South African Port Operations (SAPO) (formerly Portnet)-The NPA manages and controls South Africa's eight commercial seaports (Richards Bay, Durban, East London, Ngqura, Port Elizabeth, Mossel Bay, Cape Town and Saldanha and is responsible for all aspects of management and control, including the maintenance and development of port infrastructure.

The DWAF administers the National Water Act 36 of 1998 and Water Services Act Central to the LBSA/A of marine pollution is the work of its Chief Directorate: Water Use and Conservation under which falls the Directorate: Water Quality Management. The latter in turn has four relevant sub-directorates: Urban Development and Agriculture, Mines; Waste Management; and Industries. The Directorate Water Quality is responsible for water quality generally and thus for pollution of the marine environment by pollution from land-based sources, both point sources (for example, effluent pipelines out to sea) and non-point sources (for example, seepage).

The Department of Minerals and Energy -The Department of Minerals and Energy administers the Mineral and Petroleum Development Act 28 of 2004. It grants prospecting and mining authorizations to mine whether terrestrially or off-shore. These authorizations could include conditions relating to pollution of marine and coastal waters.

The four coastal provinces administer certain legislation assigned to them. For example the administration of most of the Sea-shore Act 21 of 1935 has been assigned to the coastal provinces. The administration of land based pollution at provincial level is not straightforward for two reasons. First because as far as the two key national departments, DEAT and DWAF are concerned, the DEAT has provincial offices in the (coastal) provinces while the DWAF does not, only regional national offices. Secondly, the ‘place’ of the provincial departments of environmental affairs is not consistent in the various provinces. Thus the location of the provincial departments of environmental affairs in the four coastal provinces is as follows:

- KwaZulu-Natal – Department of Traditional and Environmental Affairs;
- Eastern Cape – Department of Economic Affairs, Environment and Tourism;
- Western Cape – Department of Environment and Development Planning;
- Northern Cape – Department of Agriculture, Nature Conservation and Land Reform; and Department of Health and Welfare and Environmental Affairs

Coastal local authorities play an important role in the administration and monitoring of marine pollution rules and regulations of their respective coastlines. Many of the provisions of the Sea Shore Act described above have been delegated to coastal local authorities.

2.3.8 Tanzania

The Tanzanian legal system creates several institutions and clothes them with a variety of responsibilities and tasks of environmental management through a scattered set of pieces of legislation. All these enforcement avenues create a problem of effective management arising from overlapping jurisdiction *(NEMC, 2007).*

Among the key administrative and institutional arrangements established (PartT III) are the National Environmental Advisory Committee which provides advice to the Minister responsible for Environment, with overall responsibility for matters related to the arid environment, the Director of Environment. The latter's main functions include coordination of various environment management activities being undertaken by other agencies and to promote the integration of environment considerations into development policies, plans, programmes, strategies, and projects. Also there is the National Environment Management Council (NEMC) which has specified technical tasks in the environment sector in collaboration with relevant sector ministries.

All Government Ministries are required to have a sector environmental section which shall have responsibility for ensuring compliance by the sector ministries of the requirements of the Act This ensures a coordinated and integrated approach to environmental management in Tanzania.

NEMC falls under the expansive office of the Vice- President under the Division of Environment. The office of the Vice-president is charged with the complex task of co-ordination and integration of institutions involved in environmental management. The Division of Environment was established in 1991, and since then there have been efforts for NEMC to remain with operational and technical mandates and also to retain the advisory role in all aspects of environmental management while the policy co-ordination and decision- making remains a function of the Division of Environment. Apparently, these divisions of mandates have never been clearly stated nor has the NEMA Act been amended to reflect those presumed divisions. This has led to concern about overlapping mandates between the NEMC and the Division of Environmental *(SEACAM, 2001).* Both of these entities are central environmental management institutions that have advisory links with central (line) ministries and both have no decentralized management structures. None of them has any direct link with regional administration, local authorities or other players in environmental management *(SEACAM, 2001).*

The Minister for Environment, Sector Ministries and Local Government Authorities are not the creatures of the EMA but of different laws and instruments. Sector Ministries work through the Sector environmental sections established in each Ministry. Local Government Authorities are created under the Local Government laws. The District and Urban Authorities have been given the power to control pollution in rivers, streams, water courses, wells or other water supply in their areas. Yet there are other regulatory institutions that have similar functions under the different laws. Fortunately the law provides for the opportunity for every institution to perform its functions in cooperation or in conjunction with others, but the law does not put it as a condition

Elsewhere, every environmental component has its own dispute settlement mechanism and institution. Land has its own dispute settlement. Sectors like water,

mining, petroleum, have their own dispute settlement mechanisms. Further more there are some dispute settlement institutions that have general powers while others have more limited mandates. This often creates overlapping institutional mandates.

Table 12 below lists the various national environmental, water and coastal management institutions in the WIO countries.

Table 12: Key National Environmental, Water and Coastal Institutions in the WIO Countries

Country	Env. Agency	Water Agency	Coast/marine inst
Comoros	DGE		DGE
Kenya	NEMA	WSRB/WSBs	CDA
Madagascar	• Comité interministériel de l'environnement • Conseil National de l'Environnement	• L'Organe de Lutte contre l'Evènement de Pollution marine par les Hydrocarbures • Comité interministériel de l'environnement • Conseil National de l'Environnement	• L'Organe de Lutte contre l'Evènement de Pollution marine par les Hydrocarbures • Comité interministériel de l'environnement • Conseil National de l'Environnement
Mauritius	MOE	• National Environment Commission • Director of Environment • National Environmental Laboratory	MOE/ICZM Department
Mocambique	MICOA	National Council of Waters/Regional Water authorities	MICOA
Seychelles	MOE	• MOE • Public Utilities Corporation	MOE
South Africa	DEAT	DWAF	MCM (in DWAF)
Tanzania	NEMC	n/a	NEMC

3 SYNTHESIS OF EXISTING GAPS IN LEGAL, REGULATORY/POLICY AND INSTITUTIONAL FRAMEWORKS

3.1 Consolidated regional perspectives on existing gaps; challenges and opportunities for the future.

3.1.1 Relevant Constitutional Provisions

A few of the countries have specific constitutional environmental provisions while others do not. Among the countries with constitutional provisions are Seychelles and South Africa. Kenya's recent effort to have a new constitution could have yielded very detailed constitutional provisions on the protection of the environment. However, the constitutional provisions, even where they exist, are not explicit on the coastal and marine environment as such, and this specificity is left to either the framework legislations or sectoral laws. Thus it may be noted that in most cases there are no direct constitutional rules to address LBSA/A issues as such. The implication is that they are and are treated as part of the general environment. The challenge for most of these countries is to at least incorporate environmental issues in their state constitutions and thereby create better scope for protection even of the coastal and marine environment and resources. Constitutional recognition will arguably raise the profile and effect of environmental legislations, policies and institutions and lead to better protection of environmental resources.

Table 13: Inclusion of an environmental right or related provisions in the Constitutions of the WIO countries.

Country	Environmental Right	Brief description
Comoros	No	n/a
Kenya	No	n/a
Madagascar	No	n/a
Mauritius	No	n/a
Mozambique	Yes	Everyone has a right to live in a balanced environment; duty to protect environment imposed on the people and Government.
Seychelles	Yes	Citizens have right to clean and safe environment; State to ensure a safe and clean environment.
South Africa	Yes	Everyone has an environmental right; state to enact laws in this regard
Tanzania	No	n/a

3.1.2 Framework Environmental Laws, Institutions and Other Instruments

Most countries of the region do have framework legislations and other instruments on environment, including coastal and marine environment. Many of these laws are quite recent enactments, such as in Kenya (EMCA 1999); Madagascar (Loi No 90-033);, Mauritius(EPA 2002); Seychelles (EPA 1994); and South Africa(NEMA 1998). Therefore, in many respects, these laws incorporate recent international environmental law principles and requirements, such as the polluter pays and precautionary principles, sustainable development, the establishment of

environmental crimes, dispute resolution and avoidance, key institutions and EIA rules and processes.

Table 14: Framework Environmental Laws of the WIO Countries

Country	Law	Year Enacted
Comoros	Loi No. 94-018	1994
Kenya	Environmental Management and Coordination Act	1999
Madagascar	LOI No. 90-033 a la Charte de l'Environnment Malagasy	1990
Mauritius	Environment Protection Ac (EPA)t	2002
Mozambique	Lei de Ambiete (Law No 20/97)	1997
Seychelles	Environment Protection Act	1994
South Africa	Environment Conservation Act No 73 of 1989 (ECA) National Environmental Management Act No 107 of 1998	1989 1998
Tanzania	Environmental Management Act	2004

However, there are not quite sufficiently detailed rules as to the protection of the coastal and marine environment, clear with relevant and specific institutions and regulatory and policy frameworks. For example, Kenya's 1999 EMCA has only one section, S.55, dealing with this vast environmental issue. Neither is there a dedicated policy instrument or institution to deal with coastal and marine issues aside from NEMA. Fortunately, there is an evolving integrated coastal zone and river basin management policy framework for Kenya,_ICZM policy and institutional regimes exist in Mozambique, Mauritius, Tanzania, and South Africa, and there are developments in that direction in the other countries.

The framework 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. The effect of such arrangements is sometimes to obscure the coastal and marine environment in national resource allocation and priority setting. Consequently, there are discernible cases of lack of technical personnel and financial capacities to deal with the myriad problems in the coastal and marine environment of these countries. It is thus difficult to always adequately deal with LBSA/A issues, which are frequently multi-sectoral and multi-disciplinary in nature.

An important challenge facing the countries of the region is to align their framework legislations, institutions and policy instruments to give more deliberate attention to coastal and marine environment generally, and LBSA issues particularly. Alternatively, the countries should consider specific consolidated laws, institutions

and policies to address these issues in a more concerted, focused and sustainable manner. The new laws and other instruments should be as closely aligned to the proposed LBSA Protocol to the Nairobi Convention as possible. It is interesting that none of the countries covered in this study has a specific and consolidated legislation, institution or policy instrument on LBSA issues as such, or even the coastal and marine environment generally, perhaps with the exception of those countries which have established ICZM policies.

Table 15: Adoption of Integrated Coastal Area Management Policies, Laws and/or Institutions in the WIO countries

	Coastal policy	Coastal area legislation	Coastal management institution
Comoros	Yes	Yes	DGE-
Kenya	Policy prepared	Yes	NEMA/CDA
Madagascar	Yes	Yes	Comite National des Zones Marins et Cotieres-
Mauritius	Yes	Yes	MOE/ICZM Department
Mozambique	Yes	Yes	MICOA
Seychelles	Yes	Yes	MOE
South Africa	Yes	Yes; Bill in process	DEAT (MCM)
Tanzania	Yes	Yes	NEMC

3.1.3 Relevant Sectoral Laws, Institutions and Other Instruments.

Table 15 below summarizes the key sectors, stakeholder groups and governing institutions connected with LBSA. This is followed by brief discussions on the relevant sectoral laws.

Table 16: Key sectors, stakeholder groups and governing institutions involved in LBS Management

Sectors	Stakeholder groups	Governing department
Fisheries and aquaculture	Artisanal fishers Industrial fishers Seaweed farmers Industrial prawn farmers Fish & shellfish farmers	Fisheries. Environment Conservation
Agriculture and forestry	Charcoal makers Small-scale loggers Industrial loggers Small-scale farmers Large-scale farmers Pastoralists Ranchers Poultry farmers Dairy farmers Beekeepers	Environment Agriculture Forestry Conservation Livestock
Tourism	Tourists Hotel owners & operators Small-scale traders Tourist boat & SCUBA operators	Tourism Infrastructure
Mining	Coral/lime miners Sand miners Small-scale salt producers Industrial salt works Small-scale miners Industrial mining companies Fuel suppliers & stations Oil & gas production	Minerals. Energy Infrastructure
Industry	Heavy manufacturing industry Light manufacturing industry Agro-processing industries Oil refining	Infrastructure
Transportation	Ports Dredging companies Clearing and forwarding Railway Roads Airports Airlines Shipping	Harbour Infrastructure Transport Water management

Sectors	Stakeholder groups	Governing department
Energy production	Hydro-dam operators Power station operators Renewable energy producers	Infrastructure. Energy.
Coastal development and urbanisation	Solid waste operators Sewage managers Property developers Town planners Coastal community	Local authorities Infrastructure

All the countries in this study have numerous sector-based legislations, policies, institutions and regulatory frameworks. Some of the sectors of LBSA relevance include coastal tourism, forestry including mangroves, manufacturing industry, coastal urban developments, agriculture, mining, ports and harbours, and the like.

3.1.3.1 Tourism Related Instruments

However, it is noteworthy that legislation and institutions relating to tourism as an LBSA issue of concern in most of the project countries is fairly sparse. Most of the countries' commitments to tourism as a sector are apparently located in policy rather than legislative instruments. The most relevant laws and institutions on tourism, from an LBSA perspective are those concerned with land tenure, land use and planning. For example, in Kenya the laws include the Land Planning Act (Chapter 303) and the Land Control Act (Chapter 302); in Seychelles they include the Town and Country Planning Act and the Licences Act, although they do not mention directly tourism as such.

In Seychelles, the only piece of legislation that makes specific mention of tourism is the EIA regulations. Unfortunately, the rules have been shown to be weak and defective when it comes to regulating coastal tourism. However, the framework environmental legislation, the EPA, maintains high standards, particularly effluent standards when physical developments have already occurred. Thus in a certain sense, sewage disposal problems, closely associated with coastal tourism establishments, and one of the more notorious LBSA problems in the region, is addressed.

In South Africa, Mozambique, Seychelles, Mauritius, Comoros and Madagascar. Land use and planning legislation does not also directly deal with tourism, except to the extent that tourism infrastructure and developments including those at the coastal and marine environments are subjected to land use and planning legislation. However, in terms of the requirement for EIA the framework legislations in virtually all the project countries oblige tourist establishments' developers to seek and obtain EIA authorization to keep the integrity of the environment. However, South Africa's system, incorporating both national and provincial mechanisms, is clearly quite promising by comparison to the other countries.

The general disposition in each of the WIO countries is that tourism is an important socio-economic activity, and therefore developments in this sector are generally very welcome. Policy, institutions and some legislation tends towards encouraging

development and expansion of tourist activities and infrastructure. This may mean, at least from a legal point of view that legislation or the responsible institutions would not become very eager to discourage developments though harsh penalties or controls. This explains relatively relaxed penalties and sanctions, as well as enforcement regimes for the tourism sector, which has important implications for LBSA issues in the region.

None of the project countries prohibits tourist developments along its coastal and marine environment. As long as government authorization procedures are adhered to, including the requirement for EIA where these are prescribed, and commercial licensing, tourist establishments operate in virtually all the coastal zones of all the project countries.

Most of the national legislations relevant to tourism are administered by central government or departments directly controlled by Government. Land use and planning legislation as well as tenure systems especially in the land ward side of the maritime zones are predominantly public. However, there are many private land holdings (mainly on long lease) on the beachfronts. The government institutional structure governing land use and planning may be too rigid or even too lax as to be ineffective.

Effective enforcement of land-use and planning standards necessarily requires a large outlay of policing machinery or else a system of voluntary compliance based on incentives. Currently local authorities deal with the regulation and policing of environmental standards in most tourist developments which fall under their respective jurisdictions. This system is not always effective. Tourist establishments could be persuaded to regard the environmental integrity of the coastal and marine areas as their primary responsibility. The challenge and opportunity for the countries of the region is to guide their commercial tourism activities at their respective coasts towards a sustainable regime entailing, *inter-alia,* dedicated and focused legislation, institutions and policy instruments that are sufficiently sensitive to LBSA concerns (*UNEP/GPA and WIOMSA 2004).*

3.1.3.2 Biodiversity/ Forests Related Instruments

Bio diversity related laws, including forestry related instruments as they affect the coastal and marine environment are also notable as studies in the individual countries indicate. This is important because of mangrove forest extraction, destruction or depletion, which is an important PADH issue of concern, and which in turn affects other biodiversity such as fisheries.. Again, like in tourism, relevant legislations, institutions and policy instruments seem to be rather fragmented, sparse and indirect. There is no country that has a “Mangroves Act or Decree” or any legislation that deals with mangroves *per se*. In fact few of the countries’ legislations even mention “mangroves” directly. For example, Section 6 of Mauritius Fisheries and Marine Resources Act (1998) also directly mentions mangroves and prohibit their destruction. This is in reference to their importance as breeding and/or nursery grounds for fish.

In most of the countries mangroves protection is found in the respective framework legislation where it is treated as part of the natural environment (forests/flora). It is also sometimes described as “mangrove forests”. Since in most countries mangroves are a source of timber and other forest products the legislation available focuses on

mangrove harvesting and either regulates or prohibits the same in some cases. However, there are also problems of competing land uses, such as salt works, aquaculture, mari culture and agriculture *(UNEP/GPA and WIOMSA 2004).*

A legal dilemma in such cases is how to, for example, prohibit mangroves or other coastal forests destruction on private, smallholder properties where landowners or tenants prefer to change the use of their land to more productive ventures at the expense of mangroves or other forests. At the present, unless there are designated protected mangrove forests or wetlands areas or some status which come under direct state control, there seems to be a lacuna in national legislations which otherwise entitle landowners to do with their properties the best socio- economic enterprise.

The primary enforcement mechanism under the various legislations relevant to mangroves is national or provincial/ regional government authorities, or state controlled public entities. This would require large Government outlays along the coastal and marine environments to be entirely effective. Otherwise voluntary public maintenance, of the environment through deliberate protection and preservation of the mangroves and their ecosystems would be pragmatic and perhaps a cheaper option. Even apparently large state bureaucracies like South Africa's DEAT; and Kenya's NEMA may not have the human and financial capacity to superintend the entire coastline in order to protect mangrove ecosystems and other resources. Government enforcement may even be harder in the island states which are archipelagos with numerous coastal /beach fronts, and sometimes very large islands like the case of Madagascar. The challenge and opportunity for the countries of the region is to focus on these problems by establishing dedicated and focused laws, institutions, policy and regulatory frameworks to avoid a deterioration of an already critically injured resource base.

3.1.3.3 Ports and Harbours Related Instruments.

It is also apparent that in most of the project countries there are various types of legislation which deal with ports, land reclamation, mining and damming of rivers and they relate to LBSAA, and particularly physical alteration and destruction of coastal and marine habitats. The include Loi no 81-37 as amended by LOI no 82-25 (Comoros); Ports Act (Mauritius); KPA Act (Kenya); and the Harbours Ordinance and Regulations no 16/1933 (Seychelles). In particular, legislation on ports (and harbours) tends to be fairly explicit in most of the countries, probably because of the supreme socio-economic importance of ports in each of the countries. Ports are also important in political and military/strategic terms because of the maritime zones claimed by the coastal states.

Ports legislation is usually pre-occupied with development and expansion of physical infrastructure and port capacities and the administrative structures which are most traceable directly to central government. The ports authorities are traditionally state enterprises in most of the project countries. They therefore would usually be presumed or claim to be acting in the national or public interest. However, the national legislative studies have shown that where there are environmental impact requirements, they affect even public entities like the respective ports authorities. Enforcement mechanisms would naturally be weaker or compromised where public enterprises e.g. environmental authorities are expected to oversee or supervise other public entities to ensure environmental compliance. Thus gaps exist here especially

with regard to enforcement of environmental standards and requirements. This makes ports and harbours' works, especially dredging and expansion, an LBSA/A problem.

3.1.3.4 Mining Related Instruments.

Elsewhere, there are direct mining legislations and less direct legislation on land reclamation, irrigation and damming of rivers, which are important LBSA/PADH issues. However, since there are usually compelling socio-economic imperatives for land reclamation (for example agriculture, mariculture, development of ports facilities, damming of rivers (for example for irrigation, fisheries development etc), legislation if any on these activities tends to have either weak and inoperative provisions or ineffective enforcement mechanisms. Perhaps the most important legislation in most of the countries in this regards 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.

A good example of apparently rare legislation is the Land Reclamation Act 1991 (Cap 106) of the Seychelles. It basically provides a framework for the authorization of land reclamation, rather than prohibition of reclamation. Elsewhere, with respect to sand mining, in 1997 the Government of Mauritius declared a ban on sand mining from the lagoon. It extended a moratorium until October 2001 when the ban was enforced. In South Africa, prospectors and miners are obliged to undertake environmental restoration programmes (Mineral and Mines Act, 1991, Part VI). The Seychelles also has, apart from the Minerals Act, Removal of Sand and Gravel Act of 1982.

3.1.3.5 Agriculture and Manufacturing Industry related Instruments.

Other sectors of concern, such as agriculture and manufacturing industry, pose serious problems such as the pollution of coastal and marine areas from chemical by-products and other wastes. Fortunately most of coastal agriculture is rural and subsistence with fairly low chemical concentrations, while manufacturing establishments is concentrated in the urban centres. The countries of the region seem to regard these as important socio-economic activities and the laws and other instruments applicable are therefore stronger on facilitating the said developments and weaker on imposing environmental standards and requirements. Most of the countries have laws, institutions and policy frameworks for Agriculture and related activities such as fisheries and forestry. As noted previously, the laws include Conservation of Agricultural Resources Act 43 of 1983 and Agricultural Pests Act 36 of 1983 (South Africa) the Agriculture Act (Kenya), The challenge and opportunity for these countries is to systematically include best environmental standards and principles in their sectoral laws, policies and institutions so as to make agriculture, manufacturing and other industry more sustainable and environment friendly. The concept of integrated coastal zone and river basin management(ICARM), already picking up well in many of these countries, is probably the way of the future in dealing with the LBSA issues of concern. IUCN/NORAD/WIOMSA 2005; UNEP/GPA and WIOMSA 2004)

3.1.3.6 Water Quality and Pollution Related Instruments

It is clear that for all the countries of the Region, issues of preservation and protection of water resources is important. Apart from laws, institutions and policies directly concerned with the water resource, there are also anti pollution instruments which are also concerned with the quality of water for various purposes. Examples

include the Seychelles' Public Utilities (Sewage) Regulations 1997; the Maritime Zones (Marine Pollution) Regulations; EPA 1994 (Impact Assessment)Regulations 1981.In South Africa there are the: Environment Conservation Act 73 0f 1989, which deals with pollution control generally; Services Act and the Dumping at Sea Act. In Kenya, the Water Act 2002 has also introduced important rules for the protection and preservation of the water resource, including new subsidiary regulations on water quality and waste water.

3.2 Regional dimensions of the Legal, Policy and Institutional Gaps and Issues,

The countries participating in the WIO-LaB Project are fairly closely connected geographically, ecologically and even culturally and politically SEACAM 2001; UNEP2002 Preliminary TDA). They are all Western Indian Ocean Coastal states, some mainland and some island states. All countries are associated under the framework of the Nairobi Convention and its Protocols (1985). All of these countries have committed themselves to establish an LBSA Protocol to the Nairobi Convention and are currently engaged in the process. In spite of their diversity in political, cultural and legal systems, there are important areas of convergence with regard to LBSA issues in the region. This section briefly overviews apparent regional dimensions of the legal, policy and institutional aspects of LBSA.

It is apparent that each of the project countries experiences serious LBSA related problems in their coastal and marine areas, with very similar causes, effects and manifestations.

The legal, policy and institutional response has been characteristically similar; on the one hand an acknowledgement that a lot of the land based activities and sources causing coastal and marine pollution are legitimate socio-economic activities which should be protected, encouraged and enhanced; and on the other, that these activities have environmental consequences, and therefore ought to be controlled or regulated. In all national cases there is obvious legal, institutional and policy dilemma as to the appropriate middle ground. In efforts to create the middle ground, sometimes national legislation merely is facilitative of the rational exploitation of these activities and sources, while giving environmental considerations a lukewarm treatment. In some cases there is only peripheral legislation for the sectors (for example tourism) while any substantive legislation is absent or is otherwise 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. The evolving ICZM policies are probably the most significant changes for the future (UNEP/GPA and WIOMSA 2004)

However, many of the legislations reviewed appear to play a regulatory role in the respective sectors to facilitate an orderly and rational access to and utilisation of the coastal and marine resources without hurting the integrity of the environment. Apparently, the inclusion of EIAs in the development process (particularly at commencement) is to mitigate or forestall harsh environmental consequences while letting the socio-economic activities to proceed. Each of the project countries has at

least some form of EIA regulation, whether in the national framework legislation or in subsidiary legislation or decrees.

A common characteristic of national legislation in this region is that they are scattered and fragmented across sect oral disciplines. This is in line with a sector-based approach to governance of public affairs, which has subsisted over the decades. This accounts for apparent overlaps, duplications and contradictions in some national legislation.

Up to fairly recently, the concept of ICZM did not exist and/ or find expression in the countries of the region. The major issues in the Region which necessitate ICZM include destructive fishing methods and associated ecosystem/habitat destruction; marine oil pollution from tanker traffic and ballast discharge; eutrophication and siltation of coastal waters; and spiralling population growth in coastal zones, especially in urban centres, fed by high birth rates and massive in-migration (The World Bank *et al*, 1996). Existing institutional constraints include short-term planning horizons and lack of participation; weak policy and regulatory environment for encouraging rational resource use and checking the impacts of growth; administrative weakness and lack of coordination across sectoral agencies; and limited opportunities for developing the human potential in the growing populations of the region (The World Bank, *et al* 1996).A Workshop and Policy conference on ICZM in Eastern Africa, took place in Arusha, Tanzania, in 1993. A key outcome of the Arusha meeting was to encourage the establishment and development of ICZM as the best vehicle to deal with the multiple and complex issues of the coastal zones in the region (O. Linden [1993]).

Most laws and their corresponding institutions are thus still old colonial enactments, fragmented and incapable, without appropriate review and integration, of supporting successful LBSA efforts in the individual countries and the region as a whole. Central government and other public institutions having mandates in the coastal and marine areas often pursue contradictory or parallel mandates as the above national studies have shown.

Fortunately, emerging challenges, especially widespread environmental degradation and damage and the need for better conservation and protection of habitats and ecosystems, have led to the progressive development of modern legal frameworks. Some countries in the Region, including Kenya, Madagascar, Mauritius and Mozambique, have established multi-sectoral environmental policies backed by a strong legal regime for resource management.

The other interesting feature for most national legislation is that they create huge pools of authority or power in central government line ministries (sometimes with sweeping ministerial powers) and/or in public entities (usually parastatal organizations) which are almost exclusively controlled by the executive. This means that decision making, implementation and enforcement remains a government prerogative and function. However, in Kenya's EMCA (1999) attempts are made to "democratise" its key institutions particularly the Council and NEMA. This is apparently in line with a new ethic of establishing participatory processes in law making, decision-making, implementation and enforcement. It is probable that many

institutions have been ineffective or inefficient because of so much government in their operations.

Although most of the existing legislation and institutions are sector specific (such as tourism, fisheries, mining, water or forestry) there is an increasing trend towards multi-sectoral legislation, policy and institutional arrangements to facilitate a more cohesive vertical and horizontal co-ordination and integration. Each of the countries has established key national institutions responsible for policy formulation and co-ordination of environmental activities including the coastal zones. They include ministries responsible for environment (with responsible state ministers); environmental protection agencies with statutory powers; and inter- ministerial committees. Examples include South Africa's DEAT; Mozambique's MICOA; Seychelles' MOET; Kenya's Ministry of Environment and Natural Resources and NEMA; and Tanzania's Division of Environment (DOE) under the Office of the Vice-President, and the NEMC. Many of these institutions work on the basis of established framework policies and action plans, with a deliberate reference to coastal and marine environment. Good examples of such policy instruments with significant emphases on the coastal and marine environments are in the island states of Comoros, Madagascar, Mauritius and Seychelles. However, only Mauritius and Mozambique seem to have created distinct coastal zone management units, in 1999 and 1995 respectively, in apparent efforts to institutionalise coastal zone management.

In addition to the national institutions some of the larger countries in the region, such as South Africa, Madagascar, Mozambique and Kenya do have regional or provincial and local environment and coastal management institutions. In Madagascar there is a deliberate move towards decentralised government and this also affects environmental governance.

There are no material differences in legal, policy and institutional arrangements between the mainland states (South Africa, Mozambique, Tanzania and Kenya), on the one hand and the island states (Comoros, Mauritius, Madagascar and Seychelles) on the other. However, it is obvious that island states are more vulnerable and exposed to the vagaries of environmental degradation, and particularly LBSA issues. These island states are generally small (except Madagascar) and archipelagic. Strong legal, policy and institutional arrangements are needed to protect all these countries from environmental degradation and especially along the coastal and marine areas.

Apart from national laws and institutions there are regional and international laws which should be of interest to the region. They include the Nairobi Convention and its protocols (1985 (under which the region is organized as a UNEP RSP); United Nations Convention on the Law of the Sea (1982); the Ramsar Convention on the Protection of Wetlands especially as water fowl Habitat (1971) (reviewed 2000); the Convention on Biological Diversity (1992) and the Convention on International Trade in Endangered Species (CITES, 1972). Many of these Conventions and treaties have been signed or ratified by the countries of the region and are at various levels of national and regional implementation. However, it is argued that they should constitute a firm basis for concerted regional LBSA efforts, and synergize with national arrangements to establish firmer ground for stemming the tide of degrading land based sources and activities in the region's coastal and marine environment. In this regard the Nairobi Convention and its Protocols are currently under review, and

the development of an LBSA Protocol to the Convention is already underway. It is expected that the development of the LBSA Protocol will significantly augment national legal, policy, regulatory and institutional efforts in tackling LBSA related problems, and this should also lead to review or even new enactment of instruments at the national level.

3.3 The Possibility for Unified/Harmonized National Legislations on Land-Based Sources and Activities.

The national studies in the various countries of the region indicate two possibilities: the enactment of new laws and institutions on LBSA; and the harmonization or re alignment, through review, of existing laws, institutions and other instruments. The third possibility is a blend of the first two.

In Kenya, the enactment of a unified national legislation on land-based sources and activities is recommended in addition to the enactment of the standards, regulations and guidelines envisaged under the framework EMCA 1999. The enactment of a unified land based national legislation will be necessary to articulate and implement the objectives of the proposed LBSA Protocol. The gaps in the sectoral policy and legal instruments identified in the foregoing sections must be addressed as well. In addition it is envisaged that the enactment of currently non-existent legislation such as the Living Resources Act, Marine Protected Areas Act, ICZM Act, and Atmospheric Pollution Prevention Act which deal in one way or other with land based sources and activities should compliment the said unified national legislation.

Most of the sectoral laws for Kenya discussed above were enacted before 1995 and have subsequently not been amended or reviewed to reflect Kenya's obligations under international law. Amendment of the said laws to reflect Kenya's international legal obligations is pertinent given that most of these laws are currently outdated and do not adequately deal with coastal zone protection from land based sources and activities. Any national legislation subsequently enacted to deal specifically with the issue of land based sources should be consistent with the said laws and also emphasize institutional coordination.

The amendment or review of the said sectoral laws must be closely followed by institutional capacity building of the already established government agencies, municipal councils and state corporations, whose already existing administrative structures can combat marine pollution from land-based sources and activities. Most of these institutions are already able to integrate protection of the marine environment into their core functions in accordance with their statutory obligations. What is perhaps now required is for the staff in these agencies and state corporations to be educated on the specific causes and effects of marine and coastal degradation from land based sources and activities and how to attain effective implementation of their statutory mandates. The first step in attaining this objective is in strengthening the capabilities for officers to be able to identify and assess already existing activities that have significant adverse impacts upon the marine environment. Increased budgetary support and especially for the said government agencies, departments, local government authorities and the state corporations may also be required.

It is envisaged that a new unified LBSA legislation for Kenya would provide also for the establishment of a body corporate in the form of a parastatal for the enforcement of the key objects of the Act. The establishment of such a body would be desirable for it to spearhead the implementation of a coastal zone survey, the evolving policy on integrated coastal zone and river basin management, and also for it to coordinate with NEMA on the issue of regulations and standards for the control of marine pollution and other degradation from LBSA. This institution will also be primarily responsible for national level implementation and compliance with the proposed LBSA Protocol to the Nairobi convention. To avoid duplication and overlapping of functions or mandates with other already existing institutions such as NEMA and the municipal councils, the objects of the proposed national LBSA authority must be concisely drafted.

However, enactment of the specific national legislation, institutions, standards, guidelines and regulations on LBSA will not, single handed, reverse the prevalent marine and coastal pollution from LBSA along the Kenyan coast. Poverty reduction and the improvement of living standards of the coastal population must be urgently addressed in order for there to be a reduction in practices that degrade the coastal and marine environment. There must be concerted efforts to reduce poverty which is rampant along the coastal zone.

In Madagascar, two possibilities are envisioned: short term and long term. The first possibility, the short term, will entail a review of existing legislation that can result in a unified legislation, including the identification of all the legislative and statutory texts covered by the objectives of the Nairobi Convention. But this may not be effective and practical since these texts contain provisions that do not concern the sea environment and the coastal zones and particularly their protection and management. It would be necessary to identify these provisions and do an analysis to form a basis for unified codification.

The long term possibility entails the enactment of a new legislation on LBSA, beginning with a new draft and going through the usual law making process. The new law will take into account developments in international and regional laws and conventions. These may include such principles as polluter pays, precautionary principle, the sustainable use of coastal zone resources and integrated management.

However, there would be difficulties associated with these possibilities and these include: policy, material and financial and human capacities. The constraints also manifest in the organizational and institutional arrangements existing. The management of various activities in the coastal zones is typically in several sectors and matters, for example urban developments and settlements, public works, agriculture and rural development, tourism, and ports. This constitutes a serious problem whether in the short or long term.

Lack of or inadequacy of materials and equipment and budget allocations is also a serious limitation, as well as the availability of competent and qualified technical and professional human resources. Particularly important are lawyers appropriately skilled in LBSA laws, as well as marine and coastal zone scientists and practitioners.

In Seychelles, the preference seems to be the review, re alignment or amendment of existing legal, policy, regulatory and institutional frameworks. Possible actions envisaged include:

- Reviving the Environment Legislative Committee to include relevant stakeholders from outside the Ministry;
- Providing legal training for staff of the MENR;
- Looking into other regulatory approaches instead of the usual "command and control" approach;
- Capacity building for effective implementation of EIA legislation; effective enforcement of the EIA recommendations; improved auditing and monitoring framework to be put in place to ensure compliance with the EIA recommendations; adequate and reliable baseline environmental data that is area specific as well as analytical skills; EIA procedures to include cross-referencing; and reporting to be based on indicators.
- Making provisions under the Environment Protection (Standard) Regulations 1995 in relation to effluent standards for a more stage-wise approach to compliance and also include pollution abatement costs in any redevelopment/extension project.
- Amending the Town and Country Planning Act, 1972 with capacity building necessary to further these initiatives and improved coordination in order to achieve environmental objectives;
- Covering extraction of sand from the bottom of the sea under the Removal of Sand And Gravel Act, 1982.
- Amending the Minerals Act, 1991 and particularly the definition of minerals to include coral, sand and sediments;
- Amending the criteria under the Land Reclamation Act, 1967 when objecting to reclamation to include all the environmental impacts or factors associated with land reclamation.
- Creating better mechanisms to implement EMPS (as recommended by the NCSA, including the design of plans and projects and securing funding; Others to include clearer mandate, accountability, and reporting relationships for Steering Committee; possible revised structure to increase efficiency and effectiveness; Improved reporting on EMPS implementation, and linking of member organizations' programmes to the Plan; strengthening of EMPS Coordinating Unit. To facilitate coordinated implementation process and external interest in funding, the Steering Committee needs to determine the priorities that are to be addressed on an annual basis within a defined budgetary allocation and the partnership arrangements for action. The immediate priorities could focus on developing the enabling framework by the public, private sector and NGO communities;
- Taking steps to legalise the National Land Use Plan (Plan d'Amenagement du teritoire, PAT) **:**
- Reviewing the Environmental Protection Act in order to assess its implementation and its shortcomings; and
- Attracting and retaining of (legal/EIA/etc.) specialists through various means including incentives and packages which would make working with government or other public authorities more appealing than in the private sector.

In South Africa a unified national legislation on land-based sources and activities would in theory be recommended. However it has been argued that this would present practical problems in especially in being passed and enacted. This is mainly because in South Africa the nature of the LBSA problems is diffused among a large number of government departments ranging from those charged with mining, planning, environment, water to provincial and local authorities. Most importantly LBSA falls between two key national authorities, the Department of Water Affairs and the Department of Environment. Finally there is no (semi) government agency to champion the LBSA cause along the lines of SAMSA which is responsible for ensuring "safe clean seas" from shipping and other sea based activities.

However, some progress has been made in South Africa in integrating the laws, implementation and administration of LBSA of marine pollution and degradation by including specific provisions and a chapter on marine and coastal pollution control in the draft Coastal Zone Management Bill. Rather than start from scratch and develop new legislation on LBSA it is suggested that this initiative be built on. Although the Bill has not been tabled in Parliament yet (Glazeweski, 2006*)*, it is noted that chapter 6 is devoted to institutions and chapter 9 to marine pollution. It is suggested that these provisions in particular be analysed and developed further to see to what extent the LBSA gaps and deficiencies identified in this report could be addressed and what practical steps may be taken in this regard.

In Mozambique, where laws are essentially sector based like in the other countries of the Region, the relevant legal and regulatory instruments could be unified in one, as an environment code. But it must be acknowledged that there is yet some way to go, and there are many interests to be safeguarded with regard to the environment. Legislation on land based sources not yet extensive and remains largely un developed. Thus unification of environmental legislation is not yet a necessity. As the competent legislative organs are undertaking efforts with a view to update the existing legislation and to create new ones, a substantial increase is expected (Mazivila, 2007). Moreover, the key problem at the moment is not only the gaps that exist in those instruments or even lack of legislation, but the process of implementation, enforcement and participation of different stakeholders. It may be difficult, but not impossible, to draft one code for all environmental issues relating to LBSA (.ibid).

And finally, in Tanzania, the LBSA relevant laws remain generally fragmented and sector based. However, the country's framework legislation is quite recent (2004) and generally encompasses the key environmental issues, including those relating to the LBSA. The most outstanding issue, just like several of the other project countries, is the extent of implementation and enforcement. An LBSA specific legislation may not be forthcoming sooner.

3.4 Towards National Implementation of LBSA Protocol and Revised Nairobi Convention .

There are various scenarios presented from the countries in the Region with regard to the national level development, negotiation and implementation of the anticipated LBSA Protocol and the revised Nairobi Convention and these are briefly sampled below.

3.4.1 Comoros

In Comoros, the general rule is that the determination of competent authority to negotiate the treaties is a matter of the state in accordance with the national Constitution. This constitutional responsibility generally vests in the Executive and, to a certain extent the Legislature. The President is thus empowered by the Constitution, Article 20 thereof to negotiate on behalf of the country. The President is usually represented by the Ministry of Foreign Affairs in negotiations, although other duly authorised departments or authorities are usually also involved. Unfortunately, due to technical and financial limitations, Comoros does not always effectively participate in the negotiation processes, particularly by participation of the most relevant officials and departments.

Under the laws of Comoros, international treaties and agreements affecting the country have effect domestically subject to a domestication procedure. This includes an affirmative vote by the Parliament of the Union of the Comoros. This is followed by a Decree of ratification by the president of the Republic and the transmission of the Instrument of ratification to the relevant depositary. However, it is noted that the parliamentary procedure, which is difficult to reprimand, is too slow and sometimes makes it difficult for the country to respect her international obligations.

Another limiting challenge is the lack or inadequacy of appropriately qualified and skilled personnel. This undermines the country in terms of effective participation and even implementation and compliance. However, the Ministry of Environment is seeking to support these capacities, especially the development of legislation, institutions and other mechanisms relating to the better protection of the environment. It is anticipated that the Nairobi convention will assist in this regard, particularly with the development of the LBSA Protocol and the revised Convention.

3.4.2 Kenya

In Kenya, the process of the development and ratification of the LBSA Protocol, and the revised Nairobi Convention, is currently the responsibility of at least two government ministries, the Office of the Attorney General and NEMA. The Ministry of Environment and Natural Resources, NEMA and the Attorney Generals office are currently charged with advising the national task force on the substantive issues that must be included in the LBSA Protocol. The national task force comprises of a team of experts from NEMA, the Ministry of Environment and Natural Resources, and the Ministry of Foreign Affairs among others. The process of signature, accession and ratification of the LBSA Protocol by Kenya must be preceded by approval of the said Protocol by Cabinet. Cabinet approval is through a Memorandum or Cabinet Paper forwarding the draft Protocol to Cabinet for approval. The responsibility to do so is vested with the Minister for the time being of Environment and Natural Resources. The said Memorandum or Cabinet Paper would constitute an executive summary of the draft Protocol and would most importantly outline the anticipated gains to the country as a result of signing the said Protocol.

Once Cabinet has approved the draft Protocol the responsibility of signature, accession, ratification and depository of the Protocol belongs to the Ministry of Foreign Affairs. The process will initially involve close liaison between the said ministry, the Ministry of Environment, NEMA and State Law officers based at the Treaties and Agreements Department of the Attorney Generals Office. The Protocol

by itself, even after ratification acceptance and approval, is not self executing. The enactment of a specific LBSA statute law must follow to enable Kenya to comply with its obligations under the Protocol. Similar procedure will generally attend the national process concerning the revised Nairobi Convention.

3.4.3 Madagascar

In Madagascar, in the terms of the Article 82.3, VIII of the Constitution of the Republic of Madagascar, the ratification of treaties or international Agreements must be authorized by the law. Article 56 of the same Constitution, paragraph 3 stipulates that it is the President of the Republic who negotiates and ratifies the treaties.

Besides, the ratification itself is done by Decree of the President of the Republic taken through the Council of Ministers. Article 82.3, VIII of the Constitution also stipulates that the treaties or approved Agreements have, as early as their publication, a superior authority to the one of the relevant national laws.

The ratification of a Convention does not suffice to bring the law into effect. The entry in force always is determined by the Convention itself, which determines when the instrument will enter into force after the requisite number of ratifications

After the signature by the President of the Republic or by The Minister of Foreign Affairs, the latter alerts the Minister concerned for the Nairobi Convention to prepare the relevant text of law/decree to ratify and domesticate the Convention or Protocol. The concerned Minister prepares the legal text authorizing the ratification

The next procedure is adoption by the Government Counsel and thereafter by the Council of Ministers. The adoption is noted by Decree, which is then transmitted, together with necessary documentation, to the National Assembly and Senate. The National Assembly, which is the Lower House debates and adopts the law and submits the same to the Senate, or Upper House. After Senate approval, the law is taken back to the National Assembly, which transmits the same to the President of the Republic. In terms of Article 57 of the Constitution of the Republic of Madagascar, the President of the Republic promulgates the laws in the three weeks that follow the transmission by the National assembly of the law duly adopted by the two Houses of Parliament.

However, before their promulgation, the laws are submitted by the President of the Republic to the Constitutional Court that rules on their constitutionality (Article 121 of the Constitution). In terms of Articles 3 and 6 of the Order n°62-041 of September 19 1962, the publication of the laws and decrees happens by gazettement in the Official Newspaper of the Republic. The President and the Council of Ministers then issue the Decree of ratification in terms of Article 56, paragraph 3 of the Constitution.

What follows is material preparation and adoption, undertaken by the Minister responsible. There is a requirement for the documents to be presented in two languages, namely French and Malagasy, and for submission of the same to the Council of Ministers for adoption. In Council, it is always the Minister responsible who prepared the laws and documents who presents the same. As a rule, the decree is countersigned by the Prime Minister and the concerned Minister.

As for publication formality, the Decree is not subjected to the promulgation formality; it is submitted only to the publication obligation and to the terms of Article 6 of the Order n°62-041 of September 19 1962. Publication may take a variety of forms.
After all these constitutional formalities, the Minister of Foreign Affairs prepares the instruments of ratification and deposits them with the relevant depositary of the Convention or Protocol.

3.4.4 Mauritius

The Ministry of Foreign Affairs is mainly responsible for the negotiation, ratification and the adoption of international conventions in the Republic of Mauritius. The Ministry of Environment in practice also attends negotiations and ratifies conventions relevant to the environment. The Ministry of Agro Industry and Fisheries is directly responsible to activities which impact on LBSA also negotiates and ratifies international conventions. The other departments whose jurisdiction and activities impact on LBSA include the Ministry of Local Government, Local Authorities, and Wastewater Management Authority *(Manna, 2006).*

The Ministry of Foreign Affairs is responsible for keeping records of all international and regional conventions which have been signed, ratified or acceded by the Government.

Before ratifying a convention, the ministry usually has to ascertain that the principles enshrined in the convention exist in existing national legislation. If this is not so the existing legislations have to be amended to incorporate the principles laid down in the convention prior to ratification. However, in practice very often conventions are signed and ratified in haste and only after many years thereafter are legislations amended to be in line with the conventions. It would be desirable that the Ministry of Environment National Development Unit be mandated to see to it that all signed conventions related to the coastal and marine environment are promptly incorporated in to our domestic legislations *(Manna, 2006).*

The other formal steps for ratifying or acceding to conventions include the preparation of a cabinet memorandum by the Attorney General or responsible Minister, a cabinet decision to approve ratification or accession, parliamentary approval and presidential execution, as well as communication to the concerned depositary.

3.4.5 Mozambique

The law of Mozambique provides that international agreements, which have been validated, approved and ratified, enter into force once they are published in the official gazette. International law once ratified has the same force of law as national legal instruments (Mazivila, 2007).

The organs which have competence to approve and ratify the international agreements are the Assembly of the Republic, and the Government through the Council of Ministers.
The internal process starts after the Ministry of Foreign Affairs signs the treaty or protocol and there is a process of consultation where civil society, NGOs and other stakeholders are involved in the consultation process. The consultation process in the country is not mandatory. Part of the reason for consultation is to determine the

implications of ratifying the treaty or protocol; in this process of consultation various ministries are involved.

The duration of this process of consultation may vary depending on specific situations. Normally the delay is caused by the fact that the Parliament in Mozambique sits in only two sessions of 45 days per year and in certain cases, the delay can be due the lack of lobbying to include the document in the agenda of the Parliament.

For the LBSAA Protocol to the Nairobi Convention, as this concerns environmental issues, the process starts with the ministries, and the responsible Ministry is MICOA, which prepares the proposal for submission to the Cabinet. However, before that the National Legal Task Force Review as an inter-ministerial committee, has the responsibility to discuss various issues related to the treaty with different stakeholders. After that the Ministry of Environment sends the proposal to the Cabinet for approval. Following the approval by the Cabinet, the proposal is sent to Parliament, which analyses its social and financial implications for the State before enactment.(Ibid).

3.4.6 Seychelles

In Seychelles the national ratification procedure itself is simple. The relevant institution, in this case the MENR, will prepare and present a Memorandum to the National Inter Ministerial Council (NIC), the Cabinet of Ministers and the National Assembly, submitted in this order) for their approval. The Memorandum must detail why Seychelles should ratify the Convention or Protocol and the obligations associated with the ratification as well as the possible ways and means of implementing it.

With regards to the ratification of Conventions or Protocols, Seychelles will ratify only when it is ready to implement the same into national laws and policies. Capacity building is required in order to make this process work effectively, for example, by the preparation of action plans or plans of implementation, drafting of relevant policies and legislation, and the like.

3.4.7 South Africa

In South Africa, Section 231 of the South African Constitution headed “International Agreements” sets out the procedures to be followed before a convention or protocol becomes binding under South African law. To this end it provides that the national executive is responsible for the negotiation and signing of all international agreements (sect 231(1)) and goes on to provide:

An international agreement binds the Republic only after it has been approved by resolution in both the National Assembly and the National Council of Provinces unless it is an agreement referred to in subsection (3) (Sect 231(2)).

Subsection (3) in turn refers to agreements of a technical, administrative or executive nature or one which does not require ratification which would not be the case as regards a protocol to the Nairobi Convention. The next subsection (4) goes on to provide that an international agreement becomes law in the Republic when it is

enacted in to law by national legislation unless it is a self-executing treaty which is not the case here.
Thus to get the anticipated protocol ratified a resolution will have to be tabled and presented before both Houses of Parliament. In practice this would be done by the department responsible for the implementation of the international agreement in question in collaboration with the Department of Foreign Affairs. Thus in this case the DEAT (Directorate: Marine & Coastal Management) must take the initiative to (a) draft the necessary resolution and table it before both Houses of Parliament, and, (b) draft the necessary legislation to give effect to the Protocol in question.

While this is the theory it must immediately be pointed out that in the case of the Nairobi Convention the resolution referred to in (a) above was tabled but no dedicated legislation to give effect to the Convention has been enacted.

3.4.8 Tanzania

The process of ratification and subsequent implementation of the proposed LBSAA Protocol to the Nairobi Convention will generally be modelled on the usual process for national ratification of MEAs. The Government of the United Republic of Tanzania has set a clear administrative and decision-making process that is normally used to make commitments to environmental conventions. First and foremost, the National Focal Point of a specific MEA prepares the cabinet paper, which then undergoes scrutiny by the Cabinet Secretariat. Thereafter, the draft cabinet paper is forwarded to the Inter-Ministerial Technical Committee (IMTC), which advises the cabinet on the way forward. The cabinet considers the draft and if acceptable, a parliamentary resolution is prepared by the Attorney General's Office in collaboration with the Vice President's Office and submitted to the Parliamentary Committee on Environment and Natural Resources which if satisfied forwards the resolution to the Parliament for ratification. Finally the Ministry of Foreign Affairs and International Co-operation prepares the instrument of ratification, which the President of the United Republic of Tanzania signs before submitting to the Secretary General of the United Nations *(NEMC, 2009).* It is expected that the foregoing procedure will be used to undertake the ratification of the LBSAA Protocol.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

This study has benefited from national studies in each of the countries, and they have all raised interesting perspectives, some unique to the individual countries and some generic to the region. The conclusions below highlight both regional and national perspectives.

The study has found that in each of the countries under review, the coastal and marine environment is very important, especially from a socio-economic perspective. It is even more so in the island and archi pelagic states, some of which depend heavily on LBSA related sectors such as coastal tourism, forestry (mangroves) and ports development, mining, and agriculture. All of these are direct sources and activities causing land based pollution and degradation of the coastal and marine environment. Each of the mainland countries has a long and socio-economically strategic coastal

zone with major tourist establishments, large ports facilities and a rising coastal population, especially in the urban centres.

Each of the countries in the region has responded with a set of laws, institutions, policy and regulatory instruments, some constitutional, while others are framework and sectoral. Each of the eight countries has a framework environmental legislation and corresponding primary institutions. Most of the countries have fairly new framework legislation, in many cases established after the mid 1990s. In that respect, perhaps most of them may not immediately require review or amendment. Each of the countries has numerous sectoral legislation, some dealing directly and others indirectly with coastal and marine environmental protection and particularly with the LBSA issues. However, in terms of variety and detail of legislations and institutions the various countries differ remarkably. In some cases the legislations are detailed and focused; some are sketchy and rather thin on detail. Also equally noteworthy is the fact that in the countries with a blend of national and provincial or regional legislations, policies, regulatory and institutional frameworks, such as South Africa, the level of detail and variety is greater.

In terms of major gaps, most of the countries do not have constitutional provisions on environment generally and therefore on the LBSAA issues of the coastal and marine environment as such. Even the few countries which have constitutional provisions on environment do not have anything explicit on the coastal and marine environment or indeed LBSA issues. Moreover, while virtually all countries have framework environmental laws and institutions, there is no country which has a statute or an institution dedicated to LBSAA issues or indeed to the entire coastal and marine area as such. On the other hand, many of the existing national sectoral laws and institutions are old, often colonial enactments whose continued relevance and viability is in doubt

Other gaps identified in this study include lack of or inadequate financial and material, as well as technical and professional human resources to carry forward the intent of the various legal, policy, regulatory and institutional frameworks. The shortage or absence of these capacities is apparent in all the countries, but much more so in the small island states.

It is also apparent that most of the countries have distinct environmental policies action plans and other regulatory instruments. Some of these instruments are provided for in the framework environmental legislations and even in some sectoral legislation. However, in some cases important institutions or provisions are made or located in policy documents (which may not be legally binding or judicially enforceable). Sometimes, also, legal and institutional provisions are enacted without corresponding policies and action plans to carry out their mandates. In both cases there has been noticeably weak implementation and enforcement, undermining the effectiveness of existing instruments.

As to the possibility for enactment of new unified legislation on LBSAA in the countries, or at least the review or amendment of existing laws, different scenarios emerge. Some countries argue for a new unified legislation complete with institutions, while others favour review or amendment of existing instruments. Still others prefer a blend of new and reviewed or amended instruments. This means that the way to ultimately domesticate the proposed LBSA protocol in the various countries may

differ considerably depending on each country. Nevertheless, each of the countries will definitely need assistance from the Project in order to create an enabling environment for the effective domestication and implementation of the LBSAA Protocol.

It is also noted that the ratification process for the LBSA Protocol and the revised Nairobi Convention may take a variety of forms and procedures, depending also on the individual countries. This may entail longer and in some cases slower processes than others. Overall a considerable time may be required to allow for all the countries to ratify and begin implementing the LBSAA Protocol and the revised Nairobi Convention.

4.2 Recommendations

On the basis of the foregoing study and conclusions above, the following recommendations are proposed:

4.2.1 Towards the Domestication and Implementation of the proposed LBSA Protocol to the Nairobi Convention.

In order to facilitate the effective domestication and implementation of the proposed LBSA Protocol and the revised Nairobi Convention, each of the countries should either undertake the enactment of new legislation and institutions, or the review, amendment or re alignment of existing laws, institutions and other governance instruments as a matter of priority. In this regard the Project should establish a framework of assistance to the countries in accordance to their respective needs. Many of the existing national laws and their corresponding institutions ought to be reviewed to bring them up to date with current and emerging trends and issues such as integrated coastal area and river basin management, and importantly, the key provisions of the LBSA Protocol. Those which have no further use or relevance, including old colonial legislation could be repealed altogether while those which retain validity ought to be amended and strengthened. Laws should also be progressively integrated to avoid the current sector–based divisions and fragmentation. Finally, existing instruments such as laws, regulations, policies and others should be enforced and implemented as intended. Overall, at the national level there should be, at any rate, clearly discernible LBSA legislation, institutions and other instruments. The national legal reviews should also seek synergy with the on going development of the LBSA Protocol for the Nairobi Convention.

4.2.2 Specific Prohibitions of Certain Harmful Activities and Practices

It is recommended that some of the specific amendments and/or inclusions into national legislation and institutional arrangements could include the progressive total ban/abolition of such practices as disposal of raw sewage into the marine environment, sand mining as an economic activity in all (or at the most sensitive) beach areas as has been done in Mauritius and Seychelles. The affected countries could declare a moratorium and then ban the activity subject to compensation for those directly affected. Others could include a mandatory process of public and private sector consultation before important environmental decisions are made. This is to encourage public participation in environmental decision-making and governance to avoid concentrating too much power on government authorities and officials and to improve implementation and enforcement mechanisms.

4.2.3 Towards the Establishment or Strengthening of EIA Regulations

It is recommended that the EIA regulations be established in those countries which do not have them, and strengthened in those countries where they already exist. All projects and developments of environmental or socio-economic importance, including coastal agriculture, tourism, forestry/mangrove harvesting or clearing or change of land use, ports developments, manufacturing industry and mining must be subjected to vigorous and mandatory environmental impact assessment. However, the technical rules could be reviewed and simplified to enable the rules to be consumer/user friendly and to get public acceptance. Within EIA regulations or in parent environmental legislation, there should be complete avoidance of developments in critical or vulnerable areas such as wetlands, mangroves, marine protected areas, sea grass meadows, productive estuaries, shellfish beds, and coral reefs. Those who undertake such activities as mining, tourist and ports developments should be compelled by law to undertake mandatory restorative or rehabilitative activities such as filing up pits and burrows, replanting of vegetation, etc. The EIA process should also ensure strict adherence to all procedures, including scoping, mitigation and restoration.

It is also recommended that the Region consider elaborating a detailed EIA framework to be adopted under the Nairobi Convention to strengthen and consolidate the efforts and gains made by the National Governments in environmental assessment for projects and activities. Such a framework may take the form of detailed regional guidelines or a protocol additional to the Convention (Tarr, 2007).

4.2.4 Towards Better and more Effective Enforcement of Instruments.

It is recommended that all instruments intended for the protection and preservation of the coastal and marine environment be implemented and/or enforced as stipulated. This could be through a combination of measures such as a dedicated Policing Unit as is the case in Mauritius; or the use of economic incentives and disincentives such as taxes, penalties and the like, as in Mozambique. There could also be special courts to deal with cases and disputes affecting LBSAA issues and coastal and marine issues generally. Such courts are provided for in Mozambique, although they are not yet operational.

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Annex 1: List of National Legal Experts

COUNTRY	**NAME OF NATIONAL LEGAL EXPERT**	**YEAR OF REPORT**
Comoros	Mr Ahamada Hassani	2007
Kenya	Ms Koki Mbulu	2007
Madagascar	Mr Jean Emile Andrianasolonjanahary	2006
Mauritius	Ms Gaitree Jugessur-Manna	2007
Mozambique	Mr Renato Mazivila	2007
South Africa	Prof Jan Glazeweski	2006
Seychelles	Ms Iris Carolus	2007
Tanzania	NEMC	2008

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Mr. Ahamada HASSANI
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