

**MANAGEMENT AND PRESERVATION OF THE MARINE ENVIRONMENT:
AN ASSESSMENT OF KENYA'S LEGAL, POLICY AND INSTITUTIONAL
FRAMEWORKS FOR THE CONTROL, PREVENTION AND PROHIBITION OF LAND-
BASED MARINE POLLUTION.**

**By
WAFULA JUDITH
G34/35173/2010**

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It still blows my mind that I was capable of producing this piece of writing, I thank my supervisor Prof. Situma, for his constant and tireless guidance. I am truly grateful.

DEDICATION

For always saying it as it is and also always believing in me even when I couldn't believe in myself. This is to my dad and mom, I forever love you.

LIST OF ABBREVIATIONS

UNCLOS – United Nations Convention on the Law of the Sea

LBSA – Land Based Source Activity

GESAMP- Group of Experts on Scientific Analysis of Marine Pollution

EMCA – Environmental Management and Coordination Act

NEMA – National Environment Management Authority

NEP – New Ecological Paradigm

WIO – Western Indian Ocean

UNEP – United Nations Environment Programme

WIOMSA - Western Indian Ocean Marine Scientific Association

LIST OF CONVENTIONS

The United Nations Convention on the Law of the Sea, 1982.

Convention for the Protection of the Marine Environment of the North-East Atlantic, the 1992 OSPAR Convention.

United Nations Conference on Environment and Development, AGENDA 21, 1992.

Convention for the Protection, Management and Development of the Marine and Coastal Environment of the East African Region and related protocols, The Nairobi Convention, 1985.

LIST OF STATUTES

The Kenya Ports Authority Act, Chapter 391

Kenya Maritime Authority, Act No. 5 of 2006

The Maritime Zones Act, Chapter 371

Environment Management and Co-ordination Act, Act No. 8 of 1999

The Constitution of Kenya, 2010

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CHAPTER 1

MANAGEMENT, PROTECTION AND PRESERVATION OF THE MARINE ENVIRONMENT

1.1 Introduction

Marine pollution is defined by the Group of Experts on Scientific Analysis of Marine Pollution (GESAMP) as, “the introduction by man directly or indirectly of substances or energy into the marine environment (including estuaries) resulting in such deleterious effects as harm to living resources, hazard to human health, hindrance to marine activity including fishing, hazard to human health, hindrance to marine activities including fishing, impairment of quality of use seawater and reduction of marine amenities.”¹

Due to the oceans’ vastness it was previously assumed that no matter how large the amount of waste dumped into the ocean, the effects would be negligible and the oceans would recover in due time. Recent studies show that degradation, particularly of shoreline areas, has accelerated dramatically in the past three centuries as industrial discharge and runoffs from farms and coastal cities have increased.² Many ocean pollutants are released into the environment far upstream from coastlines and end up in the oceans through rivers and runoffs.

¹ See GESAMP No. 71,51-74, (published in 2001)

² National Geographic, <http://www.oceans.nationalgeographic.com>, (accessed on 4th January 2014),

Activities that are partaken of on land end up on the ocean. For instance, nitrogen-rich fertilizers applied by farmers' inland end up in local streams, rivers and ground water and are eventually deposited in estuaries, bays and deltas. These excess nutrients can spawn massive blooms of algae and rob the water of oxygen leaving areas where little or no marine life can exist. Scientists have counted 400 such dead zones around the world.³

Land-based marine pollution is the single most important cause of marine pollution since it is also the largest cause of marine pollution.⁴ According to a study done by the World Wildlife Fund, over 80% of marine pollution comes directly or indirectly from land-based activities. It is also suggested that sewage remains the largest source of marine contamination.⁵

In broad context, land-based marine pollution is as a result of the imbalance between human population and industrial activities and the limited capacity of the marine environment to absorb the waste produced.⁶ The land-based sources of marine pollution can broadly be categorized as municipal, industrial and agricultural sources which discharge either directly or indirectly, into the marine environment.

³<http://www.mcatoolkit.org/kenya> (accessed on 24th June 2014).

⁴ "Regulation of Land-Based Marine Pollution in International Law: A Comparative Analysis between Global and Regional Legal Frameworks. A journal by Yoshifumi Tanake, (Tanake 2006).

⁵<http://www.panada.org>(accessed on 12th December 2013)

⁶ Un General Assembly, Oceans and the Law of the Sea Report of the Secretary General of 18th August 2004, A/59/69/62/Add.1,29para.97

The international law on protection and of the marine environment is a branch of international law that has only been recently began to be developed. The international community has recently shown great concern for the marine environment and seen the need to act both through global treaties and regional agreements to protect and preserve the marine environment.⁷

The main international convention for the prevention of marine pollution is the United Nations Convention on the Law of the Sea,⁸ although not an environmental convention also provides various provisions on the protection of the marine environment from land-based sources of marine pollution.⁹ Boyle has argued that there is a strong need for the development of an international legal framework regulating land-based marine pollution. Nonetheless, to this day, there is no global agreement on this issue and marine pollution from land-based sources is still rampant but there are also a number of regional agreements that cater to the unique qualities of the different regions.¹⁰

The main regional convention that covers The Western Indian Region is the Nairobi Convention or the Convention for the Protection Management and

⁷ Alan Boyle, *Marine Pollution under the Law of the Sea Convention*, published by Cambridge University Vol. 79, 1985 pp. 347-372

⁸ *Ibid*,

⁹ Philippe Sands, *Principles of International Environmental Law*, The Third Edition Published by Cambridge 2009,

¹⁰ The Encyclopedia of New Zealand, <http://www.teara.govt.nz> (accessed on 25th November 2013),

Development of the Marine and Coastal Environment of the Eastern African Region. It covers a wide range of pollution sources which require control and also identifies the management issues that cause massive environmental damage.¹¹

The scope of this dissertation is to analyze the United Nations Convention on the Law of the Sea provisions with¹² regard to land-based sources of pollution and the Nairobi Convention provisions on prevention of land-based marine pollution with an emphasis on Kenya's legal policy and institutional framework for land-based marine pollution prevention and control.

1.2 Statement of the Problem

Kenya as a party to the United Nations Convention on the Law of the Sea and the Nairobi Convention, has an obligation to protect the marine environment from land-based sources of pollution through harmonization of its policies with those so provided in the two conventions and ensuring the right enforcement mechanisms are also in place to deal with land-based sources of pollution.

¹¹ United Nations Environment Programme, Convention for the Management and Development of the Marine and Coastal Environment of the Eastern Africa Region and related Protocols, The Nairobi convention

¹² UNCLOS 1982,

This dissertation examines whether Kenya has fulfilled its international obligations to protect the marine environment from land-based sources of pollution and in doing so understand why pollution is still rampant.

1.3 Kenya's Legal, Policy and Institutional Frameworks on Land-Based Marine Pollution

Before 1999 and before the enactment of the Environmental Management and Coordination Act (EMCA), the National Environmental Secretariat (NES) coordinated environmental activities under the auspices of the Ministry of Environment and Natural Resources. Established in 1974 by Presidential Directive (No. 5 of 1969) the NES was under the Office of the President until it was transferred to the Ministry of Environment in 1974.¹³

Kenya has an array of national environmental legislation that has created overlapping and conflicting mandates for managing marine and coastal issues. Much of the legislation is decades old and no longer sufficiently robust to cope with anthropological pressures, such as increasing coastal population and industrialization. As such, marine and coastal ecosystem have been degraded even within populated areas.¹⁴

¹³<http://www.unep.org/kenya/marinepollution/>(accessed on 25th November 2013)

¹⁴<http://www.mcatoolkit.org/Kenya>(accessed 12th January 2014)

One of the few pieces of modern legislation relevant to marine management and conservation is the Environmental Management and Coordination Act 1999, which established an overarching legal and institutional framework for the management of Kenya's environment. Of particular importance is section 55 which acknowledges the central role of the integrated coastal zones management in the protection of the marine and coastal ecosystem. The act imposes severe penalties regarding land-based marine pollution, though there are no documented cases of offenders being fined or imprisoned. Specific marine protected areas are established to monitor, regulate, and coordinate activities in the maritime industry.¹⁵

The focus of this dissertation is on the legislation in place to protect the marine environment from land-based source pollution.¹⁶

1.4 Hypothesis

It is hypothesized that Kenya has not harmonized its legislation on land-based marine source pollution in conformity with international treaties and obligations.

¹⁵ <http://www.unep.org/kenya/marinepollution/> (accessed on 25th November 2013)

¹⁶ <http://www.unep.org/marinepollution/kenya> (accessed on 19th November 2013,

1.5. Research Questions

This dissertation seeks to cover and answer the following questions, namely

- (i) What are the provisions of the United Nations Convention on the Law of the Sea on protection of the marine environment from land-based sources of pollution?
- (ii) What are the provisions of the Nairobi Convention on protection of the marine environment from land-based source pollution?
- (iii) Which institutions have been put in place by Kenya to ensure the implementation of the maritime protection and conservation laws?
- (iv) Are the institutions in place functional and effective?

1.6 Theoretical Framework

Legislation is central to management and preservation of the marine environment, but before legislation can come to be, there has to be overwhelming human concern for environmental wellbeing that then inspires legislative initiatives and political support.

This dissertation is based on the Sociological Approach Theory which examines the relation of law to society.¹⁷ This can be viewed as a scenario where the views and

¹⁷William R. Catton, JR Riley E. Dunlop, "Environmental Sociology, A new Paradigm" in The American Sociologist by JR. Riley E. Dunlop William r. Catton 41-49. Washington State University, 1978

opinions of the society on certain subject, in this particular case pollution, shape and determine the laws that the particular jurisdiction will enact.

Emphasis is on the functions of law on communal existence, what contribution does the law make on the improvement of the society? Before the development of the societal approach the historical had shed some light on an essential connection between the law and the social environment in which it develops, however during the 19th Century shortcomings of this purely theoretical analysis were being felt. Sociology broadly refers to the study of society of which law is not but a part.¹⁸ The founder of sociology, Comte unified the work done by earlier writers but also was the first to use the term sociology to connote an independent discipline. Comte defined sociology as the science of social order and progress comprised of social statics and social dynamics.¹⁹

Earlier, Montesque, in his *L'esprit des Lois* had endeavored to trace the effects of the social environment on law. He emphasized the influence of climatic conditions on law which, in his view, could operate only through the medium of society. Sociology, therefore, seeks to describe, explain, predict. Public opinion has a unifying and descriptive power, hence, it can be described as prescriptive, not descriptive.

¹⁸ Jurisprudence by R W M. Dias, published by Butterworths publishers 1989.

¹⁹ William R. Catton, JR Riley E. Dunlop, "Environmental Sociology, A new Paradigm" in *The American Sociologist* by JR. Riley E. Dunlop William r. Catton 41-49. Washington State University, 1978

When certain prescriptions are continuously and regularly followed they produce uniformities of behavior with such a degree of probability that they may be described in terms of patterns. Prescriptions, such as public opinion, produce regularities.²⁰ This school of thought is essential in understanding the evolution of the law on marine pollution prevention. Public opinion on pollution has been critical and the continuous degradation of the marine environment has led legislators to rethink the repercussions of pollution and also improve the laws in order to protect the marine environment.

1.7 Conceptual Framework

The main aim of environmental sociology is to study interactions between society and the environment, the rise of environmental problems and apprehension about “limits to growth” signaled sharp departures from the exuberant expectations sociologists previously had that the oceans will always recover regardless of the pollution they had been exposed to.

This project highlights the new assumptions that have been developed over time but first we will contrast it with the old assumption. The “Human Exceptionalism Paradigm” and the “New Environmental Paradigm”. The Human Exceptionalism Paradigm (HEP)

²⁰ New Ecological Paradigm, <http://www.berkshirepublishing.com> 2012 (accessed on 23rd December 2013)

Comprises several assumptions which over the years have been altered and contradicted, those which have been accepted implicitly or explicitly include:²¹

Human are unique among the earths creatures since they possess culture,

Culture can vary almost infinitely and can change more rapidly than biological traits,

Many human traits are normally induced rather than inborn and can be socially altered and inconvenient differences be eliminated,

Thus also cultural accumulations means that progress can continue without limit making all social problems solvable.

This optimistic worldwide view was no doubt fostered by the prevalence of the doctrine of progress where academic sociology was spawned and nurtured. It was prevalently believed that the present was better than the past and that the future will improve upon the present. Some sociologists shared that natural resources were so plentiful that limits to progress remained unseen. There were some unstated and unexplained aspects that shaped this study, such as the factor of abundance, which had first been discovered as an environmental condition which humans then converted by technological change into a culture as well as a physical force.²² Throughout the era of Human Exceptionalism the heritage of abundance made it difficult for sociologists to perceive the possibility of

²¹William R. Catton, JR Riley E. Dunlop, "Environmental Sociology, A new Paradigm" in *The American Sociologist* by JR. Riley E. Dunlop William r. Catton 41-49. Washington State University, 1978

²² New Ecological Paradigm, <http://www.berkshirepublishing.com> 2012 (accessed on 23rd December 2013)

uncontrived scarcity. Ecological concepts such as “carrying capacity” are alien to the vocabularies of most sociologists.²³ This led to the abuse of environment since it was assumed there will never be scarcity. Neglect of the ecosystem dependence of human society has been evident in both literatures on economic development which has simply not recognized biogeochemical limits to material progress. Little attention was being paid to the environment. When public apprehension began to be aroused concerning new viable environmental problems sociologists had to bring back the focus on the habitat and consider the physical circumstances.

Riley Dunlop and his colleagues came up with The New Ecological Paradigm scale which measures the environmental concerns of groups of people using a survey instrument constructed of fifteen statements. The NEP is considered a worldwide view or paradigm. It is used in cross sectional assessment of the relationship of environmental world views to attitudes on public policy, to reaction participation patterns and to pro-environmental behavior²⁴. The New Ecological paradigm would be a fundamental metric of progress towards sustainability. The New Ecological paradigm stresses that the balance of nature is very delicate and easily upset and humans are severely abusing the environment. This concept was developed due to environmentalists call for more far

²³William R. Catton, JR Riley E. Dunlop, “Environmental Sociology, A new Paradigm” in *The American Sociologist* by JR. Riley E. Dunlop William r. Catton 41-49. Washington State University, 1978

²⁴ New Ecological Paradigm, <http://www.berkshirepublishing.com> 2012 (accessed on 23rd December 2013)

reaching changes than the development environmental protection policies that were in place at the time.²⁵

1.8 Literature Review

Most of the literature on marine pollution and preservation has been written by international writers and international organizations, the United Nations Environment Programme and environmental literature published by the European Union.

Articles and journals written by regional and Kenyan Writers are few and far in between, however the Kenya National Environmental Management and Coordination Act has made a huge effort to publish the initiatives that have been taken by it and by other None Governmental Organizations to protect and improve the state of the marine environment. The United Nations Environment Programme is a huge contributor to the regional efforts made towards protecting the marine environment from land-based sources of pollution. UNEP advise on regional solutions and offer more acceptable compromises regarding the initiatives to be taken.

The mcatookit website feature environmental conservation efforts done worldwide the legislative measures in place in various jurisdictions with regard to marine protection.

²⁵ Journal of Social Issues, Vol 56, No.3, 200pp 425-445

This website highlights the most advanced progress in marine conservation and legislative mechanisms that ensure the penalties on destruction of the environment however most of the information provided is scientific and quite technical. The reader will however gather a deeper understanding of the oceanic environment and the needs of various regions.

Philippe Sands in his book, "Principles of International Environmental Law" delves into the history of the current environmental laws and why it became necessary to enforce regional and international regulation for the protection of the marine environment. Sands analyses the United Nations Convention on the Law of the Sea, the regional conventions and other agreements that address land-based source pollution. He further highlights the weaknesses that are evident in all these conventions but still shows their importance and the impact they have made for the regions or the global arena. Sands makes an effort to be exhaustive by doing a case study of a few state initiatives taken in order to reduce land-based marine pollution to a minimum or completely do away with it.²⁶

Alan Boyle's article "Marine Pollution under the Law of the Sea Convention" does a close step by step analysis of the Law of the Sea Convention provisions their strengths and weaknesses. He does a short preview of the Geneva conventions on the law of the

²⁶ Philippe sands and Jacqueline Peel "Principles of International Environmental Law" The Third Edition Published by Cambridge cc. 2009, Cambridge Books Online

sea and customary laws that applied before UNCLOS came in to remedy marine pollution. The journal gives better insight into the period before the enactment of the Law of the sea Convention and how the international community used various customary laws to prevent marine pollution. Despite Boyle admitting that UNCLOS is a great convention he also shows the various flaws the convention has without being prejudicial. The article is a great outlook of the land-based marine pollution laws from an international perspective.²⁷

“The Making of a Framework; Environmental Law in Kenya” published by UNEP analyses the legal policy and institutional framework in place in Kenya for the protection of the marine environment since independence, the book also reviews the history of environmental legislation and how it has evolved through the years. It however provides a more general outlook on the environment and there is no focus as such on the marine environment.

The journal “The Liability and Compensation Mechanism under International Marine Environmental Law” written by Chen-Ju Chen²⁸ delves into the liability and compensation mechanism, and looks into the concept of the polluter pays principle and the liability and compensation mechanism. Based on this concepts this article analyses

²⁷ Alan Boyle, “Marine Pollution under the law of the Sea Convention” 79 AJIL 347 (1985)

²⁸ “The Liability and Compensation Mechanism under International Marine Environmental”, Adopting the Polluter Pays Principle to Control Marine Pollution under International Law from the Aspect of International Cooperation, Chen Ju Chen, May 21-24, 2012 in Seoul, KOREA.

the international regime dealing with vessel source pollution problems. It finally suggests the international regime should deal with land-based pollution subject to national jurisdiction, drawing to a certain extent upon previous experience of the international regime as it has dealt with the vessel source pollution.

Writers such as William R. Catton, JR and Riley E. Dunlop who together wrote, *The American Sociologists* provided truly insight in the field of environmental sociology while shedding light on criticisms on the different theories and paradigms.

Jurisprudence published under Butterworths and written by R. W. m. Dias gives an informative insight into various legal theories and philosophers point of view on those theories. The main theory in this dissertation is the Sociological Approach that links the views of society and the changes they inspire in the legal field. Dias only gives a broad but understandable view of the theory. Its actual application in the environmental field is adduced from the writing.

“International Environmental Law, Fairness, Effectiveness and World Order” by Elli Louka analyzes the law and policy for the management of the Global Common Resources. As competing demands on the global commons are increasing, the protection of the environment and the pursuit of growth give rise to all sorts of conflict. The author examine whether current policy making and future trends point to a fair allocation of global common resources that will be effective in protecting the

environment and in pursuit of sustainable development. He also looks at the cost effectiveness of international environmental law and applies theories of environmental law to international environmental problems. Elli Louka dedicated a whole chapter to analyze marine pollution and the current state of the marine environment.²⁹

1.9 Research Methodology

It should be noted that this dissertation has limited its focus to land-based sources of marine pollution. It recognizes that the definition of land-based sources of pollution could expand to include atmospheric sources that are difficult to be moderate and impossible to prevent.

The dissertation uses secondary data obtained from articles and books, policy documents, relevant legislation specifically those that touch on the land-based sources of marine pollution.

There is presently no legislation that exclusively regulates land-based sources of marine pollution but it is catered for in the Environmental Management and Coordination Act and other environmental legislations.

²⁹ "International Environmental Law, Fairness, Effectiveness and World Order" Elli Louka published by Cambridge University Press, 2006

This dissertation is as a result of primary data that is interviews with NEMA representatives, secondary data from published books, academic articles, policy papers and expert commentary. Some of these were obtained from the internet as well as other published sources. Additional data was obtained from UNEP websites and other regional sites.

1.11 Preliminary Chapter Breakdown

The dissertation consists of five chapters,

Chapter One: Introduction

An Assessment of Kenya's Legal, Policy and Institutional Framework for the control, prevention and prohibition of Marine pollution,

This chapter

- describes Land-based Sources of pollution and later
- Briefly highlights what will be the focus of the whole dissertation by stating the research questions hypothesis and the statement of the problem.

- It also enables the reader to have a view of some the literature used for research in this publication.

Chapter Two: The International Legal Framework on Land-Based Marine Pollution

The International Legal Framework on Land Based Marine Pollution

- Analyses the international legal framework in place against land-based sources of pollution shedding light on their provisions.

Chapter Three: Kenya's Legal and Policy Framework for the Protection of the Marine Environment from Land-Based Marine Pollution

Kenya's Legal and Policy framework for the Protection of the Environment from Land Based Marine Pollution

- Takes a closer look at the legislative provisions in place in Kenya to protect the marine environment from land based sources of provisions.
- The effectiveness of these legal provisions is closely analyzed before the conclusion of this chapter.

Chapter Four: Kenya's Institutional Frameworks governing Land-Based Marine Pollution

- Kenya's institutional Framework Governing Land Based Sources of Pollution
- Outlines the various institutions in place to prevent land-based marine pollution

- Looks at the strengths and weaknesses of the Institutions in place in Kenya to regulate land-based sources of marine pollution.

Chapter Five: Conclusion and Recommendations

Recommendations and Conclusion

- Entails the viable conclusions and the recommendations that are suitable for addressing land-based sources of marine pollution.

CHAPTER 2

THE INTERNATIONAL LEGAL FRAMEWORK ON LAND-BASED MARINE POLLUTION

2.1 Introduction

The historical functions performed by the sea for trade, navigation and communication, and its content of living and non-living resources, have induced the international development of legal rules for its delimitation, usage and exploitation in the course of which the marine environment has been exposed to pollution and damage.¹

It was previously assumed that oceans are so vast and deep and no matter how much trash and chemicals humans dumped or spilled into them, the effects would be negligible. The protection of the oceans was largely neglected with lack of any international legal framework, the conclusion of the International Convention for the Prevention of Pollution by Oil 30 years ago marked the International community's first serious attempt to cope with the increasing scale of marine pollution.² The control reduction and elimination and elimination of marine pollution has become one of the major issues in contemporary law of the sea and it has proved to be a complex task requiring the creation of a new and growing body of international law.³

¹<http://www.mikeigbokwe.com/new1/UNCLOS/MARINE/POLLUTON/REGULATION>(12th may 2014),

²Soni, Ramanlal; "Control of Marine Pollution in International Law"; published by Juta & Co, Ltd, South Africa, 1985

³Boyle, Alan; "Protection of the Marine Environment under the Law of the Sea Convention", accessed from JSTOR, published by Cambridge University Press, 79 AJIL 347 (1985)

Traditional international law did not, in general, impose duties on states to regulate pollution at sea; it merely empowered them to do so. The net result was to leave states largely free to adopt their own regulations on marine pollution, subject only to a few limitations imposed by international law and the application of internationally accepted standards was in effect permissive rather than obligatory. The deficiencies arose from having limited zones of territory to curb an international trans-boundary hazard.⁴

Statistical sources state that over 90% of all trade between countries is carried by ships. Some 50,000 merchant ships sail the world's oceans, transporting everything from food and fuel to construction materials, chemicals, and household items. In 2003, around 6.1 billion tonnes of cargo was shipped by sea, covering a collective distance of over 6 million kilometres.⁵

The oceans provide food for a billion people and are also a source of income and livelihood for millions. Oceans are experiencing serious environmental challenges many of which have unknown consequences. The Joint Group of Experts on Scientific Aspects

⁴ Boyle, Alan; Marine Pollution Under the Law of the Sea convention, JSTOR published by Cambridge University Press 79 AJIL 347 (1985)

⁵<http://www.panda.org/aboutourplanet/problems/>(accessed on 2nd April 2014)

of Marine Environmental Protection highlighted coastal pollution as the principal threat to the marine environment.⁶

In 2001, the same group of experts, while recognizing that land-based activities continued to be the principal source of pollution, acknowledged that pollution is not only or even the most severe threat to the oceans and that direct physical damage to the ecosystem and habitat and over exploitation of the resources have even greater worldwide effect.⁷ This dissertation considers one facet of marine pollution, that being land-based coastal marine pollution predominantly from land use sources and point sources, such as sewage and storm outfalls, rather than from the atmosphere as this is almost impossible to regulate and/or manage effectively.

2.2 Land-based Source of Marine Pollution

The sources of human induced marine pollution are numerous, ranging from discharges from land-based activities to ship operations and activities on the open sea.⁸ Pollution of the marine environment from land-based sources is the principal source of ocean pollution, which arises from two general sources. First, it arises from substances and

⁶ GESAMP Report and Studies No. 39 (1990), jointly sponsored by IMO, FAO, UNESCO, WMO, WHO IAEA, UNEP and the UN. Subsequent studies have found a similar pattern of pollution: see GESAMP, "A Sea of Troubles", GESAMP Report No. 70 (2001)

⁷ GESAMP Report and Studies No. 39 (1990), jointly sponsored by IMO, FAO, UNESCO, WMO, WHO IAEA, UNEP and the UN. Subsequent studies have found a similar pattern of pollution: see GESAMP, "A Sea of Troubles", GESAMP Report No. 70 (2001)

⁸ United Nations Convention on the Law of the Sea 1982 (UNCLOS) Article 213 and Article 192, Article 194

energy entering the marine environment by run-off from land, rivers, pipelines and other outfall structures, which account for some 44 per cent of all marine pollution. Second, it arises from or through the atmosphere, generated principally from land-based activities which account for some 33 per cent of marine pollution.⁹

This source of pollution can be defined as pollution of maritime zones caused by discharges from coastal establishments or other sources situated on land or artificial structures. According to Article 207 of UNCLOS, “land-based sources” include rivers, estuaries, pipelines and outfall structures. UNCLOS provides articles that are universally applied in regulating this source of marine pollution.¹⁰

2.3 International Legal Framework for Land-based Marine Pollution

Land-based pollution is by far the greatest contributor to marine pollution. The threat of this source of pollution to the marine environment is a serious one since it mainly affects coastal waters, which are sites of high biological productivity.¹¹ The 1958 Geneva Convention on the Law of the Sea had little to say on the marine environment. Article 24 and 25¹² required states to regulate oil pollution from ships, pipelines and seabed

⁹Philippe Sands, “Principles of International Environmental Law, 2nd ed., Cambridge University Press, Cambridge Books Online 2012, pp 453

¹⁰Article 207, UNCLOS (1982)

¹¹S. Kuwahara, *The Legal Regime of Protection of the Mediterranean Against Pollution from Land-based Sources*, Dublin 1984.

¹²The Geneva Conventions on the Law of the Sea 1958, Article 24 and 25

operations to prevent nuclear pollution and to cooperate with international organizations in preventing pollution; but this obligations fell short of constituting a general duty to control and regulate all sources of marine pollution or to protect the marine environment, and their contents were uncertainly defined, leaving states much discretion in application with no minimal standard requirements.¹³

In practice, the states did enjoy a substantial amount of freedom to pollute the environment and the existing laws did not provide for the full range of forms and sources of pollution. Land-based pollution was neglected, with no internationally agreed rules for its regulation.¹⁴

Traditional international law did not, in general, impose duties on states to regulate pollution at sea; it merely empowered them to do so.¹⁵ But, more importantly was the realization that it could not be conducive to the protection and preservation of the marine environment to continue with a legal regime based on the assumption that

¹³ Boyle, Alan; "Protection of the Marine Environment under the Law of the Sea Convention", accessed from JSTOR, published by Cambridge University Press 76 AJIL 347,(1985) also the Geneva Conventions on the Law of the Sea 1958

¹⁴ Boyle, Alan "Marine Pollution under the Law of the Sea Convention" accessed from JSTOR , published by Cambridge University Press 76 AJIL 347 (1985)

¹⁵ Principles of the Rio Declaration, <http://www.sedac.ciesin.org/entri/texts/rio.declaration> (accessed on 1st July 2014)

regulation of all sources of pollution was largely permissive; it left too much discretion to individual states to decide whether or not to control marine pollution.¹⁶

2.3.1 The United Nations Convention on the Law of the Sea (1982)

Before the ratification of an international legal framework for the protection, preservation and prevention of marine pollution, and in the absence of widespread recognition of such claims, state responsibility could be employed to offer some general protection and rights of redress for states affected by pollution emanating from sources outside their jurisdiction. But there was too much uncertainty and doubt over the applicable principles.¹⁷

The United Nations Conference on the Human Environment held at Stockholm in 1972 recognized the inadequacies of the existing law and of the need for a more comprehensive approach to the protection of the marine environment from all forms and sources of pollution. The Conference called on states to accept and implement existing instruments on the control of marine pollution and to ensure their effectiveness

¹⁶ Boyle, Alan; *Marine Pollution Under the Law of the Sea convention*, JSTOR, published by Cambridge University Press 79 AJIL 347 (1985)

¹⁷ Sands, Philippe, *“Principles of International Environmental Law”* 2nd Edition, The Cambridge University Press, Cambridge Books Online 2012

and put in new efforts to bring all sources of pollution, including land-based sources, under appropriate control.¹⁸

The United Nations Convention on the Law of the Sea created a duty to regulate all sources of pollution; this is illustrated by its general provision in Article 194 requiring states to protect and preserve the marine environment. The Law of the Sea Convention represents perhaps the most concrete and extensive manifestation of the desire of states to realize and to bring about more effective control of marine pollution.¹⁹ As the principal instrument of international law in the field, UNCLOS has provided a framework that clarifies the nature of sovereign rights over different portions of the oceans and introduces some of the fundamental principles and duties of ocean conservation.²⁰

The UNCLOS is by far the most far-reaching and influential of global environmental agreements and it also now widely supported with 161 state parties. UNCLOS paved the supported customary widespread state practice pursuant to treaty and national rules which addressed this particular sources of marine pollution.²¹

¹⁸ Ibid,

¹⁹ Article 192 of The United Nations Convention on the Law of the Sea, 1982 pp.100

²⁰ Boyle, Alan; *Marine Pollution Under the Law of the Sea convention*, JSTOR, published by Cambridge University Press 79 AJIL 347 (1985)

²¹ Philippe Sands, *"Principles of International Environmental Law"*, 2nd edition, Cambridge University Press, Cambridge Books Online 2012, pp 453

Article 213 of UNCLOS urges states to enforce their laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conferences to prevent, reduce and control pollution of the marine environment from land-based sources.²² State parties have an obligation to ensure they take all appropriate measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source using for this purpose the best practicable means at their disposal and in accordance with their capabilities and they shall endeavour to harmonize their policies. The Convention requests the state parties to take these steps either jointly or individually.

Article 194(1) & (2) of the Convention provides that state parties shall ensure that activities under their jurisdiction are conducted in such a way as not to cause harm or damage by pollution to other states and their environment and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with the convention. For the purpose of preservation, reduction and control of the marine environment, UNCLOS establishes rules on information, scientific research and monitoring environmental assessment.²³

²²United Nations Convention on the Law of the Sea 1982, (UNCLOS)Article 213, pp 108

²³United Nations Convention on the Law of the Sea (UNCLOS) Article 194,(1)&(2),

The Convention controls the contents and standards of those regulations through a preference for internationally agreed rules and standard, thus giving content and effectiveness to the states' duty to regulate. The state is free to set higher standards, should it chose to do so, but international or global rules provide the starting point for the least it must do. The Law of the Sea Convention represents perhaps the most concrete and extensive manifestation of the desires of the signatory states with regard to the seas and oceans.²⁴

Article 194 (3) further elaborates the obligation to prevent pollution damage by addressing particular sources of pollution. State parties must not transfer damage or hazards, or transform one type of pollution into another and must limit the use of technologies which may cause significant and harmful changes to the marine environment.²⁵

The general obligations serve as the basis for more detailed standards. They are supplemented by procedural obligation to give effect the requirements of global and regional cooperation set forth in Article 197 and in respect of semi-enclosed seas (Article 123). Techniques for implementing the substantive rules and standards include,

²⁴ Boyle, Alan; Marine Pollution Under the Law of the Sea convention, accessed from JSTOR, published by Cambridge University Press 79 AJIL 347 (1985)

²⁵United Nations Convention on the Law of the Sea (UNCLOS) Article 194 (3)

notifying imminent or actual damage, developing pollution contingency plans and scientific research, providing technical assistance particularly to developing countries, and the monitoring and carrying out of environmental assessment of certain activities.

2.3.1.1 Land-based sources of marine pollution under the Convention

Land-based pollution is clearly subject to negligible levels of international control and few conventions are solely dedicated to addressing this source of marine pollution. Hence, such regulations as are adopted need not conform to any particular pattern whether of minimum standard or otherwise. Regional solutions to this problem seemed to offer a more acceptable compromise; flexibility of standards is sought with regards to land-based sources of pollution due to the uniqueness of the various states.²⁶

Section 5 specifically addresses international rules and national legislation to prevent, reduce and control pollution of the marine environment.²⁷ According to article 207(1) States are advised and required to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources including rivers,

²⁶ Boyle, Alan; *Marine Pollution Under the Law of the Sea convention*, accessed from JSTOR, published by Cambridge University Press 79 AJIL 347 (1985)

²⁷ United Nations Convention on the Law Of the Sea, Article 207

estuaries, pipelines, and outfall structures taking into account internationally agreed rules, standards and recommended practices.²⁸

Other measures should be taken to ensure the protection of the marine environment; states must endeavour to harmonize their policies in this connection at appropriate regional levels.²⁹

The element of differentiated responsibility based upon economic and other resources available is introduced in Article 207(5), state parties shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources taking into account the economic capabilities of developing States and their need for economic development. States are then required to enforce laws and regulations adopted in accordance with Article 207 and also adopt other measures necessary to implement applicable international rules and standards through competent international organisations to prevent, reduce and control pollution of the marine environment from land-based sources.³⁰

Though, in appearance, the regulation of land pollution may be obligatory, there may remain a significant level of discretion and a continued role for the creative functions of the state practice in defining the acceptable content of pollution obligation and their

²⁸ United Nations Convention on the Law Of the Sea, Article 207,

²⁹ This is illustrated by the United Nations Law of the Sea Convention Article 207,(2)(3)

³⁰ The United Nations Convention on the Law of the Sea, Article 213

limits. Like all treaties the enforcement of the Convention obligations is dependent on the state.³¹

In conclusion, it may be said that the territorial sovereignty of a State is dominant in the regulation of land-based pollution under the 1982 United Nations Law of the Sea Convention, the state as a sovereign enforces and makes its own laws, and the balance between national and international laws is clearly mainly in favour of national laws.³²

2.4 Regional Legal Frameworks for the control and management of Land-Based Marine Pollution

Regional initiatives to control and minimize land-based marine pollution were already in existence before the adoption of UNCLOS in 1982, with UNEP's Regional Seas Programme, and continued with the adoption of the United Nations Convention on the Law of the Sea, Conventions such as the regimes for the Northeast Atlantic and the Baltic Sea have played a major role in the control and management of marine pollution in those regions. Regional solutions to this problem seemed to offer a more acceptable compromise. They were more in tune with the specific requirements that were unique to

³¹See Boyle, Alan E., "Marine Pollution under the Law of the Sea Convention" accessed from JSTOR, published by Cambridge University Press 79 AJIL 347 (1985)

³² A. Yankov, The Law of the Sea and Agenda 21: Marine Environmental Impacts in: A.Boyle/D. Freestone (eds.), International Law and Sustainable Development

the particular region and, while having that in mind being better equipped to legally address those issues. Flexibility of standards is sought with regard to land-based sources of pollution as they cater to the unique aspects of each region.³³ Recognizing the significance of the risks posed by human development activities on the coastal and marine environment, 108 governments and the European Commission adopted the Global Programme of Action for the Protection of the Marine Environment from Land-based activities (GPA) in 1995.³⁴ They made a commitment to deal with nine land-based threats to the marine environment, namely, sewage, persistent organic pollutants (POPs), radioactive substances, heavy metals, oils (hydrocarbons), nutrients, sediment mobilization, marine litter, and the physical alteration and destruction of habitats.³⁵

Each convention defines its geographical scope of application and provides for its relationship with other international conventions and rules of international law. This does not mean, however, that the *global legal framework* has no role to play in this area. In fact, regional treaties reflect and amplify rules developed at the global level. Hence, attention should be directed to the interaction between regional and global frameworks.³⁶

³³ Ibid,

³⁴ The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities 1995, UNEP <http://www.gpa.unep.org/>

³⁵ "The State of the Marine Environment, Trends and processes", UNEP GPA

³⁶ With respect to regional treaties concerning the marine environmental protection, see programme regional seas programme of the UNEP <<http://www.unep.org/regionalseas/Programmes/default.asp>>

Several Regional Seas Programmes address land-based pollution; the 1980 Athens Land-Based Source Pollution amended in 1996, the 1983 Quito Land-Based Source Pollution Protocol, the 1990 Kuwait LBS Protocol and the 1992 Black Sea Land-Based Source Protocol. These protocols follow a combination of the general approach and structure of the 1974 Paris Convention and of the 1992 OSPAR Convention obliging parties to take measures to prevent, control and eliminate pollution through the development of programmes and measures including common emission standards and standards for use.³⁷

Each protocol provides for cooperation on guidelines and standards, the systematic assessment of pollution and evaluation of effectiveness of measures, the exchange of scientific and other information with developing countries and in some instances co-operation where water courses flow through the territories of two or more countries and consultations where land-based pollution originating in the territory of one party is prejudicing the interests of another.

With respect to legal documents, it is important to note that international waters are covered in conventional applications.³⁸ Without regulating pollution in internal waters, measures to regulate land-based source pollution could not be fully effective. Consider

³⁷Sands, Philippe, "Principles of International Environmental Law" 2nd Edition, The Cambridge University Press, Cambridge Books Online pp 454

³⁸Not yet in force <<http://www.cep.unep.org/pubs/legislatin/lbsmp/final/20protocol/bsmp-protocol-eng.html>> accessed on 26th may 2014

that earlier marine environment related conventions did not cover internal waters,³⁹ the regulation of pollution in those waters is arguably an important development ensuring the effectiveness of regulatory measures in land-based source marine pollution matters. Pollution from land-based sources is covered by all regional agreements. A number have developed specific protocols or annexes on the matter.

2.4.1 The 1992 OSPAR Convention

A meeting of the Oslo and Paris Commissions at ministerial levels was held in Paris on 21-22 September (MMC 1992). This meeting was attended by Ministers responsible for the marine environment of the 14 signatory statute to the Oslo and Paris Conventions, by Switzerland and by a representatives of the Commission of the European Communities. The most important outcome of this ministerial meeting was the adoption of the new Convention for the Protection of the Marine Environment of the North-East Atlantic (the “OSPAR Convention”), together with a Final Declaration and an Action Plan to guide the future of the Commissions.⁴⁰

³⁹ For instance, Convention on the Protection of the Marine Environment of the Baltic Sea Area excluded international waters from its convention Area.

⁴⁰ Convention for the Protection of the Marine Environment of The North Atlantic Text as amended on 24th July 1998, updated 9th May 2002, 7th February 2005 and 18th May 2006. Amended to Annex II and III adopted at OSPAR 2007

Although the OSPAR Convention did not finally enter into force until early 1998, for all practical purposes, the Oslo and Paris Commissions have worked as one entity since 1992.

The 1992 OSPAR Convention has as one of its central objectives the prevention and elimination of pollution from land-based sources, including accidents. It replaces the 1974 Convention for the Prevention of Marine Pollution from Land-based Sources (1974 Paris Convention). The parties to this convention were committed to “eliminate” or to “limit strictly” from land-based sources by substances listed respectively, in Part (I) or Part (II) of Annex A.⁴¹

The convention was administered by PARCOM a commission composed of representatives of each party which met annually to supervise implementation and draw up new programmes and measures. They also addressed the principle of precautionary action and the use of the best available technology.⁴²

⁴¹Sands, Philippe, “Principles of International Environmental Law” 2nd Edition published by The Cambridge University Press pp 448,

⁴²Sands, Philippe, “Principles of International Environmental Law” 2nd Edition published by The Cambridge University Press pp 449

2.4.2 The Nairobi Convention Protocol of the Marine and Coastal Environment of the Western Indian Ocean from Land-based Sources and Activities

The Nairobi Convention provides a mechanism for regional cooperation, coordination and collaborative actions in the Eastern and Southern African region that enables the Contracting Parties to harness resources and expertise from a wide range of stakeholders and interest groups towards solving interlinked problems of the coastal and marine environment including critical national and transboundary issues.

The Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region was signed in 1985 and came into force in 1996, making it one of 17 regional seas conventions and action plans. The Convention was amended and adopted in April, 2010.⁴³

Recognizing the environmental uniqueness of the coastal marine environment of the region, the threat and the necessity for action, the countries of the western Indian Ocean region requested UNEP to create a regional seas programme for the region. UNEP's Governing Council created the Eastern African Regional Seas Programme and further requested UNEP to assist, the Nairobi Convention was established in 1985 to

⁴³ www.unep.org/nairobi/convention (accessed on 24th June 2014).

plan and develop programmes that strengthen the government's capacity those regions had at the time.⁴⁴

The Nairobi Convention encourages state parties to take all appropriate measures to ensure they prevent, reduce and combat pollution of the Convention area, that is, the East African region, caused by discharges emanating from rivers, estuaries, coastal establishments, outfall structures or any other pollution source within their territory. Signatory states must also ensure they reduce and combat pollution using the best practicable means at their disposal, and in accordance with their capabilities.⁴⁵

Article 7 provides that contracting parties shall endeavour to take all appropriate measures to prevent, reduce and combat pollution of the Convention area caused by coastal disposal or by discharges emanating from rivers, estuaries, coastal establishments, outfall structures, or any other sources within their territories.⁴⁶

As part of their environmental management policies, the contracting parties in co-operation with the competent regional and international organisations if necessary

⁴⁴ "Marine Pollution in the East African Region" UNEP Regional Seas Reports and Studies No. 8 Prepared in co-operation with Food and Agriculture Organization of the United Nations, United Nations Environment Programme and Regional Seas Programme

⁴⁵ Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region and related protocols. (The Nairobi Convention), the general obligations provided for in Article 4 illustrate this,

⁴⁶ Article 7, Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region and related protocols. (The Nairobi Convention)

develop technical and other guidelines to assist in the planning of their major development projects to prevent or minimize harmful impact on the Convention area.⁴⁷

Article 13 (2) states each Contracting Party shall assess, within its capabilities, the potential environmental effects of major projects which it has reasonable ground to expect may cause substantial pollution. State parties are also expected to co-operate, directly or indirectly when it comes to scientific research, monitoring and the exchange of data and other scientific information relating to the purpose of this convention and its protocols.

The Nairobi Convention only gives general provisions on land-based sources of pollution, it is much rather a framework convention in this regard. However since 1999 subsequent Nairobi Conferences of Parties have called for the review of the Convention and its protocols to modernize them and enable them to deal with the current complexities that have arisen in Land-based sources of marine in the Western Indian Ocean Region. They called for a new protocol on Land-based sources and Activities (LBSA Protocol). This Protocol is intended to combat the current gap in combating land-based sources of marine pollution, although it hasn't yet been ratified.⁴⁸

⁴⁷Article 14, The Nairobi Convention

⁴⁸Regional Synthesis Report on Ratification and implementation of International Environmental Conventions Relevant to Land Based Activities/Sources of Pollution of the Coastal and Marine Environment of the WIO Region, 2009, published by UNEP Nairobi Kenya, 48p

2.5 International Policy Framework

2.5.1 The Global Plan of Action

The 1995 Global Programme of Action was adopted by 108 states⁴⁹ and the EU at a conference held in Washington from 23rd October to 3rd November 1995. The GPA drew upon relevant provisions of Chapter 17, 33 and 34 of Agenda 21 and the Rio Declaration.

The sources of marine pollution the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities targets include sewage, persistent organic pollutants, radioactivity, metal, oils, nutrients, sediment mobilisation, and litter and habitat destruction. It proposes action at primarily the national levels with some coordination tasks at the global level. The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities is evidence of an international agreement on rules, standards, practices and procedures in relation to land-based pollution.⁵⁰ This Programme of Action identifies practical steps to implement the legal obligations set forth in UNCLOS to prevent, reduce and control land-based marine pollution and serves as a practical source of guidance for action at the national and regional levels. The Global Programme of Action for the Protection of the Marine environment also initiates a long term effort to identify and make available knowledge and experience about “what works” in dealing with land-based marine pollution, as such

⁴⁹Washington 1st November 1995

⁵⁰The Global Programme of Action for the Protection of the marine Environment from Land-Based Activities

provides a solid framework with which to reverse the trend of continuing marine degradation from land-based activities.⁵¹

2.5.2 Agenda 21 United Nations Conference on the Environment and Development

Chapter 17 of Agenda 21 set an ambitious work program for the international community to pursue an objective of sustainable development with respect to the oceans. It promoted new approaches to managing human uses of ocean resources, including the application, assessment procedures, and natural resource accounting techniques; economic incentives to encourage industrial and agricultural practices that avoid degradation of the marine environment; and protection of the ecosystems and habitats of marine species. Emphasis was given to coastal areas, the land/sea interface that are critical to the life cycles of marine species and in which human population is increasingly concentrated.

Priority action identified in Agenda 21 for control of land-based source include elimination of the discharge of organ halide compounds that threaten to accumulate to dangerous levels in the marine environment, reduction of the discharge of other

⁵¹Claussen, E., 1995, Special Assistant to the President of the United States and Senior Director for Global Environmental Affairs of the United States National Security Council – Global Programme of Action for the Protection of the Marine Environment from Land-based Activities 1996 available at <http://www.Un.org/News/Press/docs/1995/19951108.he915.html> (accessed on 5th May 2014)

synthetic compounds, and the promotion of control over human inputs of nitrogen and phosphorous which may cause eutrophication.⁵²

It should be noted that the wording in Chapter 17 is very similar to that of the UNCLOS.

Under 17.24, States should take action at the national level and should take account and consider strengthening the Montreal Guidelines for the Protection of the Marine Environment from Land-based sources. Kenya has not yet established a framework pursuant to Chapter 17 to specifically control land-based pollution.⁵³

Conclusion

In summary, a lot has been achieved over the past four decades and the landscape of land-based source pollution is scarcely recognizable as compared with that which pertained in the Second World War. It is equally plain however those threats to the environment are greater today than before. Industrialization, urbanization and other

⁵²Agenda 21 (Chapter 17)- Protection of the Oceans, all kinds of Seas, Including Enclosed and Semi Enclosed Seas and Coastal Areas and the Protection Rational Use and Development of their Living Resources – United Nations Department of Economic and Social Affairs (Division of Sustainable Development), (1992) Agenda 21 Rio Declaration on Environment and Development, Proceedings of United Nations Conference on Environment and Development (Ed United Nations), Rio De Janeiro Brazil, 3rd – 14th June 1992

⁵³ Ibid, note 51 pp 17

socio-economic factors have had a huge impact on the environment, and pose an even greater threat now than ever before. As such, conventions and treaties need to evolve at a faster pace than before to cater for the current threats.

CHAPTER 3

KENYA LEGAL AND POLICY FRAMEWORK FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED MARINE POLLUTION

3.1 Introduction

Over the past decades there has been an increase in industrial activity in the coastal city of Mombasa Kenya, this was largely as a result of an expansion in food processing, metal and textile industries. Although industries generally discharge their waste into Kilindini harbour, the most hazardous wastes are disposed of at the Kibarani dumpsite, domestic sewage and storm water run-off in Mombasa was reported to account for 18% and 37% of the total BOD and suspended solid loads respectively.¹ Currently, no sewage treatment facilities are operational in Mombasa resulting in the release of untreated domestic sewage and microbial contamination of waters in Kilindini, Port Reitz and Tudor Creek. There is a growing concern that many forms of development activities have not particularly adhered to environmental protection regulations for instance,² in the case of lack of proper sewage treatment, cause damage to the environment. In addition there is limited local communities' involvement in participatory planning and

¹"Land Based Activities and Sources of Pollution to the Marine, Coastal and Associated Fresh Water Ecosystem in the Western Indian Ocean Region" by A.J. Mmochi and J. Francis, published by the Institute of Marine Sciences, Tanzania.

²Ibid,

management of the environment and natural resources, hence a majority of the polluters are not aware of the harm they cause on the marine environment.³

Industrial policies without a component for environmental quality and protection for living resources disregard disposal of industrial wastes according to acceptable principles is certainly risky and harmful to the marine environment. The main preoccupation of the government is for the industry to help alleviate unemployment problems and produce essential consumer goods. Since industrial developments are mainly financed by foreign investors, deliberate lack of insistence on the incorporation of treatment facilities into industrial processes and lack of national legislation for abating or controlling pollution may be offered as incentives to industrialists.

Environmental friendly machines and manufacturing products are far cheaper as compared to the environmentally conscious ones which works to the benefit of the industrial developers. Hence, dangerous chemicals some of which are acutely toxic to man and marine biota are being introduced into the marine environment due to the discharge of industrial water into rivers, estuaries and lagoons.⁴

³ "Policy, legal and institutional framework governing environmental management in Kenya," Mumias-Tana-Environmental Impact Assessment -part5 pp. 305-344

⁴ "Marine Pollution in the East African Region" UNEP Regional Seas Reports and Studies No. 8 Prepared in co-operation with Food and Agriculture Organization of the United Nations, United Nations Environment Programme and Regional Seas Programme

Rivers constitute an important pathway by which pollutants from land sources enter the marine environment. River discharges often affect characteristics of coastal waters more than the open ocean. The environmental impact, however, depends on the discharge volume of the river, the characteristics and levels of pollutant loads carried and climatic factors.⁵

Due to systemic deforestation, the Galana-Sabaki River is heavily silted at its estuary in Malindi, arising from the incursion of storm water from upland into the river. The beach at Malindi is highly silted and already causing concern to the Kenya Government because of the possible adverse impact on tourism. A similar problem exists on the Tana River, where severe damage to marine fisheries was reported, although it was mentioned that remedial action had been taken here.⁶

The Kenya economic development blueprint, Vision 2030, envisions a 10% or higher economic growth rate in order for Kenya to attain middle income status. However, the high rates of urbanization are associated with environmental issues which include domestic and industrial waste management and pollution of the terrestrial and marine environment. There is need to address the effectiveness of strategies to manage and

⁵ Ibid,

⁶ "Marine Pollution in the East African Region" a report by UNEP Regional Seas Reports and Studies No. 8 Prepared in co-operation with Food and Agriculture Organization of the United Nations, United Nations Environment Programme and Regional Seas Programme, 2013

control marine pollution and resultant degradation due to intensified industrial activities especially industrial activities, in the coastal region.⁷

Kenya has an array of national environmental legislation that has created overlapping and conflicting mandates for managing marine and coastal issues. Much of the legislation is decades old and no longer sufficiently robust to cope with current pressures such as increasing coastal populations. Marine and coastal ecosystems have been degrading even within scarcely populated areas. One of the very few modern relevant piece of legislation in marine protection is the Environmental Coordination and Management Act 1999 which established the Marine Conservation Agreement and the Marine Protected Areas, their implementation is the overarching legal and institutional framework for the management of Kenya's environment.⁸

Of particular pertinence is section 55⁹ which acknowledges the central role of the Integrated Coastal Management in the protection of marine and coastal systems.

⁷ "Pollution Prevention and Control Guidelines for the Coastal and Marine environment of Kenya" – May 2013, Regional Programme for the Sustainable Management of the Coastal Zone of the countries of the Indian Ocean, published by NEMA and the Danish International Development Agency.

⁸ "Pollution Prevention and Control Guidelines for the Coastal and Marine Environment of Kenya" – May 2013" Regional Programme for the Sustainable Management of the Coastal Zone of the countries of the Indian Ocean, published by NEMA and the Danish International Development Agency.

⁹ Environmental Management and Co-ordination Act (No. 8 Of 1999), Section 55

The Act imposes severe penalties regarding land-based marine pollution, though there are no documented cases of offenders being fined or imprisoned.¹⁰

Kenya's environmental policy and legislation are scattered in a multiplicity of resource and sector laws and policy papers. The institutions and departments that deal with land-based sources of marine pollution issues are equally numerous. The lack of a centralized policy has resulted in absence of a comprehensive legislation specifically addressing land-based marine pollution. Sector specific laws are deficient in that they are characterized by fragmented and uncoordinated sectoral legal regimes that are developed to facilitate resource exploitation. The sectoral institutions under these laws normally find themselves in regulatory competition.¹¹

Kenya has several pieces of sectoral legislation, policies and institutions affecting the major land-based source area sectors and activities such as tourism, forestry, ports and harbours, mining and 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 yet taken root.¹²

¹⁰"The Making of a Framework, Environmental Law in Kenya" a report published by the United Nations Environment Programme and The African Centre for Technological Studies (ACT) Nairobi, Kenya.

¹¹ "Pollution Prevention and Control Guidelines for the Coastal and Marine Environment of Kenya –May 2013", Regional Programme for the Sustainable Management of the Coastal Zone of the countries of the Indian Ocean, published by NEMA and the Danish International Development Agency.

¹²<http://www.unep.org/nairobiconvention/LBSA-NCtext--sap-workshop/index.asp>(accessed on 14th October 2013)

Kenya hasn't really dedicated proper LBSA legislation, policy or institutions as such.

Neither is it evident that there are such plans.¹³ Although the action by the government in 1983 reflected a willingness to combat marine pollution, The Marine Pollution Bill was tabled then, there has been no progress towards the enactment of that piece of legislation.

3.2 The Constitution of Kenya

The constitution of Kenya at independence in 1963, before its amendment in 2010 lacked specific provisions on environmental governance of natural resources. The current constitution however reinforces the importance of natural resources and the environment generally, through the preamble and some sections. The Constitution's preamble contains a declaration of commitment of Kenyan people to respect the environment our heritage and the determination to sustain it for future generations, intergenerational and intragenerational equity this focuses on both future and present generations as rightful beneficiaries. The Kenyan constitution, the supreme law of the land, does provide specific provisions on protection of the environment.¹⁴

¹³www.unep.org/nairobiconvention/LBSA-NCtext--sap-workshop/index.asp (accessed on 14th October 2013)

¹⁴The Constitution of Kenya Rev. 2010, <http://www.kenyalaw.org>. (accessed on 27th May 2014)

The principle of sustainable development is entrenched in the constitution under Article 10 (d) – National values and principles of good governance. For there to be sustainable development there needs to be good governance.¹⁵ It is very important to ensure that good governance forms the basis of and accompanies, development. Otherwise, there will be no sustainable development or “sustainable human development.”¹⁶

Article 42 guarantees the right to a clean and healthy environment, and the right to have the environment protected for the benefit of present and future generations through legislative and other measures. The polluter Pays Principle is evident in Article 70 which provides an avenue for redress where a person alleges that the right to a clean and healthy environment has been or is likely to be denied, violated, infringed or threatened. Here the polluter has to bear the full environmental and social costs.¹⁷

The polluter pays principle is an economic policy and principle of internalizing economic costs of pollution prevention and control measures to encourage rational use of scarce environmental resources and to avoid distortion in international trade and investment by subsidizing the environmental costs.¹⁸

¹⁵African Association for public Administration and Management (AAPAM) Zambia 2005, by IjukaKakumba

¹⁶African Association for public Administration and Management (AAPAM) Zambia 2005, by IjukaKakumba

¹⁷The Constitution of Kenya, Rev. 2010 Article 42 and 70.

¹⁸“International Environmental Law, Fairness, Effectiveness and World Order” by Elli Louka, published by Cambridge University Press, 2006

The principle means that the polluter, those who directly or indirectly damage the environment or those who create conditions leading to such damage should bear the expenses of carrying out the measures decided by public authorities to ensure that the environment is in an acceptable state.¹⁹

3.3 Environmental Management and Coordination Act of 1999 (EMCA)

This is Kenya's framework environmental law legislation. It was adopted in 1999 and came into force in 2000. Before then all that existed were sectoral laws governing different aspects of the environment, but not one was a comprehensive legislation dealing with the environment as a whole. The legislation provides a new approach to environmental management and recognizes modern environmental principles and concepts like international cooperation, the precautionary principle and cultural and social principles traditionally applied by any community in Kenya for the management of natural resources.²⁰

The Environmental Management and Coordination Act of 1999 (EMCA) was enacted to provide an appropriate legal and institutional framework for the management of the

¹⁹ "The Liability and Compensation Mechanism under International Marine Environmental Law, Adopting the Polluter Pays Principle to Control Marine Pollution under International Law from the Aspect of International Cooperation" by Chen Ju Chen. Chengchi University

²⁰ EMCA 1999, the preamble of the Act

environment and for matters connected therewith and incidental thereto. EMCA does not repeal the sectoral legislation, but seeks to coordinate the activities of the various institutions asked to regulate the various sectors.²¹

The minister, in consultation with relevant agencies is empowered to issue relevant regulations to prevent reduce and control pollution in the coastal zone. The Act also provides punitive measures against polluters who dispose hazardous substances into the marine environment and they will be liable upon conviction.

Sections 42 and 55 of EMCA deal specifically with management and conservation of rivers, lakes and wetlands, and coastal and marine ecosystem, with the intention of promoting conservation and sustainable utilization of coastal, marine and fresh water resources.²²

Notwithstanding the generality of the provisions above, the Act also zeros in on land-based pollution prevention measures by outlining that the regulations shall provide for the control and prevention of pollution of the marine environment from land-based sources including rivers, estuaries, pipelines and outfalls. The Act makes it an offence to discharge any poisonous toxic, noxious or obstructing matter, radioactive waste or other

²¹<http://www.mcatoolkit@tnc.org>, (accessed on 12th May 2014)

²²Environmental Management and Coordination Act, 1999 Sections 42 and 55

pollutants or discharges into the aquatic environment. Industrial undertakings are only allowed to discharge their effluent or other pollutants emanating from their trade into existing sewage systems.²³

The Act imposes stringent penalties in relation to offences related to pollution and dumping of hazardous substances into the coastal zone. 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 land-based sources and activities such as sewage and waste water.

3.4 Kenya Maritime Authority Act 2006

The Kenya Maritime Authority (KMA) was set up in June 2004 as the semi-autonomous agency in charge of regulatory oversight over the Kenyan maritime industry. The Kenya Maritime Authority strives to strengthen national maritime administration and in the case of land-based marine pollution, ensuring the prevention of marine pollution and promotion of the preservation of the marine environment.²⁴ This Authority has been assigned the responsibility to co-ordinate in the implementation of policies relating to marine affairs this includes ensuring the marine environment has

²³ Section 72 (1) of EMCA 1999 and Section 57(2)(b) of EMCA 1999

²⁴ Kenya Maritime Authority Act, Section 5(j)

policies that prevent and significantly reduce land-based sources of pollution. The Authority, as a specialized agency of the government, renders advice to the government on measures necessary for the implementation of the relevant adopted treaties and conventions.²⁵

On land-based source pollution, the Authority ensures in collaboration with such other public agencies and institutions, the prevention of marine source pollution, protection of the marine environment and responds to marine pollution incidences. Land-based marine pollution is not singled out for protection by the Act, however, it is placed with other marine sources of pollution in general.²⁶

3.5 The Maritime Zones Act 1989 (Chapter 371)

While exercising its sovereign rights over its maritime areas, Kenya must also ensure the conservation of the natural resources of the zone. Though the provision is pretty general in nature it also highlights that these sovereign rights shall also be in respect of the conservation of the marine environment.²⁷ While exercising its sovereignty Kenya have the obligation to protect the marine environment from pollution, despite the generality it is obvious the Act wishes to place an obligation on the institutions to protect the environment from marine source pollution.

²⁵Kenya Maritime Authority Act, 2006 <http://www.kenyalaw.com>

²⁶The Kenya Maritime Authority Act, Section 5 (o)

²⁷The Maritime Zones Act 1989 (Chapter 371), Section 5, <http://www.Kenyalaw.com>

Furthermore, the Minister has been empowered to make regulations to regulate the conservation and management of the Kenyan Maritime Zones by prescribing measures for the protection and preservation of the marine environment.²⁸

3.6 Policies

3.6.1 Sessional paper No. 10 On Kenya Vision 2030

As a planning document, Vision 2030 is divided into three fundamental pillars:

Economic, Social and Political pillar. The social pillar aims at realizing a just and cohesive society enjoying equitable social development in a clean and secure environment. Under the social strategy, paragraph 5.4 of the strategy envisions Kenya becoming a nation that has a clean, secure and sustainable environment by 2030.²⁹ So as to realize this strategy, the document explains that one of the specific strategies will be to improve pollution and waste management through the design and application of economic incentives, and the commission of public-private partnerships (PPPS) for improvement efficiency in water and sanitation delivery.³⁰ Sewage treatment and a sewer system in the coastal region means that the marine environment and ecosystem will be less likely to be severely affected by the waste disposed in the ocean.

²⁸The Kenya Maritime Zones Act 1989 (Chapter 371), Section 9(1)

²⁹ Sessional paper No. 10 of 2012 on Kenya Vision 2030 pp.136

³⁰Sessional Paper No. 10 of 2012 on Kenya Vision 2030 and also Extracted from the report “integrated Solid Waste Management Project – Assessment of Existing Policies and Legislative Framework for the Management of Solid Waste: The case of Nairobi City”

3.6.2 Sessional paper No. 6 of 1999 On Environment and Development

Marine pollution is often as a result of agricultural and domestic activities, and industrial effluents. Environmental management tools and laws relating to the management of internationally shared resources, transboundary issues, environmental economics, accounting and environmental impact assessments have not been adequately developed for effective management.³¹

Kenya's coastal and marine resources have tremendous potential for the tourism industry and they shelter great biodiversity. Kenya is party to a number of international treaties and conventions and protocols related to management and conservation of marine resources especially in the exclusive economic zone. This policy enables the realization of those provisions and the transformation of the legal, policy and institutional framework on marine pollution through those conventions³².

Through this policy the government endeavours to develop an Integrated Coastal and Marine Management plan to address water resources and pollution and strengthen the capacity to respond to oil spills in coastal marine areas.

³¹Sessional paper No. 6 of 1999 on Environment and Development, pp. 9

³²Sessional paper No. 6 of 1999 on Environment and Development, pp. 58

3.7 Effectiveness of the Legal and Policy Framework for Land-based marine pollution

Major threats to the health, productivity and biodiversity of the coastal and marine environment result from land-based activities. Most pollution load entering the sea from sources as municipal, industrial and agricultural waste discharge and surface run-off, as well as atmospheric deposition, affects some of the most productive areas of the marine environment, including estuaries and near-shore waters.³³

In coastal and inshore waters of Kenya, the contaminants which have caused the greatest concern are organic wastes from domestic and industrial sewage, microbial pollutants and agrochemicals, such as biocides and excessive nutrient loads and toxic chemicals that include heavy metals, oil and petroleum chemicals and other industrial chemicals.³⁴

Considerable efforts have been made to manage the pollution problem in Kenya, though such regulations as the Environmental Management and Coordination Act (EMCA)

³³ "Pollution Prevention and Control Guidelines for the Coastal and Marine Environment of Kenya –May 2013", Regional Programme for the Sustainable Management of the Coastal Zone of the countries of the Indian Ocean, NEMA and the Danish International Development Agency.

³⁴ "Pollution Prevention and Control Guidelines for the Coastal and Marine Environment of Kenya –May 2013", Regional Programme for the Sustainable Management of the Coastal Zone of the countries of the Indian Ocean, NEMA and the Danish International Development Agency.

Water Quality Regulation 2006, and Waste management Regulations 2006.³⁵ However, there is an overall lack guideline to manage pollution in the Coastal zone. It is against this background that there arises the need for a clear defined marine pollution prevention policy and legal framework.

According to the United Nations Environment Programme, Kenya has specifically dealt with marine pollution from land-based sources and deals with it as part of the municipal solid waste stream. Although policies and laws dealing with land-based waste management and marine pollution are in place and institutional mechanisms exist, there is a lack of enforcement capacity which is essentially crucial to the prevention of land-based source marine pollution.³⁶

Waste management, which is the root of marine pollution, is delegated under local/municipal levels of government which lack the capacity or the technical means and services to enforce the laws in place. An inadequate level of the basic institutional arrangements, technical means and services greatly contributes to the uncontrolled disposal of pollutants into the oceans.³⁷

³⁵ EMCA (Waste Management) Regulations and EMCA (Water Quality) Regulation 2006 and Waste, Regulations 2006.

³⁶ "Marine Litter in the Eastern Africa Region;: An overview Assessment" United Nations Environmental Programme, Regional Seas, Nairobi Convention and UNEP

³⁷ Policy, Legal and Institutional Framework governing Environmental Management in Kenya, MUMIAS_Tana-Environmental Impact Assesment_part5.pdf pp.305-344

Governance is a critical aspect to consider when seeking approaches to the management of activities on land causing marine pollution at the Kenyan coast. Governance is defined here as the traditional institutions by which authority in a country is exercised for the common good.³⁸ This includes the process by which those in authority are selected, monitored and replaced, the capacity of the government to effectively manage its resources and implement sound policies, and the respect of citizens and the state for the institutions that govern economic and social interactions among them. In order for land-based sources of pollution to be minimized or even completely eliminated all these functions must come together and work efficiently alongside each other.

Kenya has no long term monitoring, but sporadic surveys are done. The population at the coast is growing fast as is the level of pollution. There is reported to be an increasing awareness amongst the public that marine pollution is undesirable. Lack of funding has been cited as one of the major constraints to solid waste management. Funds come from government, international aid and from private companies. The shortage of government funding makes reliance on donors important.³⁹

³⁸ "Pollution Prevention and Control Guidelines for the Coastal and Marine Environment of Kenya –May 2013", Regional Programme for the Sustainable Management of the Coastal Zone of the countries of the Indian Ocean, NEMA and the Danish International Development Agency,

³⁹ Ibid,

There is a lack of wastewater treatment plants, incinerators and analytical equipment. Garbage collection services cover only 50% of the population. Dumpsites are located and managed poorly. Municipalities do not have adequate budgets hence available staff are poorly paid and not motivated to work, and garbage collection vehicles are not adequate. The private sector operates on a localized scale, while small-scale solid waste management lacks means of transport.⁴⁰

Public and political awareness is reported to be increasing, but better implementation is needed. There is an appalling public culture of littering. Waste management and marine pollution are low priority. Also pointing out that the technical and financial resources to deal with waste are inadequate at the national and municipal government levels and law is poorly enforced. Technical training and information are required at all levels to make the units functional.⁴¹

It is safe to say that Kenya has laws and waste management plans in place for land, port and marine waste. The laws are, however, not explicit about land-based marine

⁴⁰ Policy, Legal and Institutional Framework governing Environmental Management in Kenya, MUMIAS_Tana-EIA_part5.pdf 305-344

⁴¹ "Marine Litter in the Eastern African Region: An Overview Assessment by the Western Indian Ocean Marine Science Association and United Nations Environment Programme"

pollution issues and even those in place are not being implemented. Environmental impact Assessment (EIA) legislation is in place but its application remains problematic.

Conclusion

The gaps in policy and regulation 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.

There is lack of specific and adequate policies and legislation in the area of land-based source marine pollution. The Environmental Impact Assessment 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.

CHAPTER 4

KENYA'S INSTITUTIONAL FRAMEWORK GOVERNING LANDBASED SOURCES OF POLLUTION

4.1 Introduction

In recognition of the pollution problem the country had been having mainly due to rapid, unprecedented growth and lack of a sewer system, the Government of Kenya implemented a number of actions since 1983, this includes the Marine pollution Bill and the current Kenya Maritime Authority. The Kenya government took certain measures to ensure the protection of the marine environment from land-based sources mainly by having in place an institutional framework that oversees and can insightfully advise parliament on the appropriate legislative measures that have to be taken to minimize marine pollution.¹

4.2 Ministry of Environment, Water and Natural Resources

This ministry was previously referred to as the Ministry of Environment and Mineral Resources, and dealt with both mining and the environment. This was before the Ministry of Environment and Mineral Resources, was merged with the Ministry of Water and Irrigation to form what is currently, the Ministry of Environment, Water and Natural Resources. The Government of Kenya, through the Ministry of Water and Irrigation had implemented fundamental reforms in the water sector to enhance accountability and

¹<http://www.un.org/esa/agenda21/natlinfo/countr/kenya/natur.htm> (accessed on 16th July 2014)

transparency in the management of this vital natural resource. The establishment of Water Services Board to provide water and sanitation and monitor the use and disposal of water was a huge step towards marine pollution prevention.

The Ministry of Environment, Water and Natural Resources is aware of the formidable challenges presented by conflicting demands on economic growth and environmental sustainability initiated several bills intended to better cater for the Kenyan environment needs and deficiencies.²

The ministry may make regulations for prescribing anything under the Kenya Maritime Act and generally for the better carrying into effect the provisions of the (KMA) Act. Through the Minister, the Ministry of Environment may also make regulations for the Act(KMA) under the Maritime Authority³, despite the generality of this provision the Act further elaborates that the Minister may give effect to the provisions of international agreements and treaties which Kenya is party to, in the case of land-based sources of pollution, these International Conventions include,⁴ The United Nations Convention on the Law of the Sea (UNCLOS) 1982, the Nairobi Convention and any convention or agreement not mentioned which relates to the prevention, reduction and control of

²<http://www.ministryofenvironment.gov.ke>(accessed on 24 june2014)

³The Kenya Maritime Authority Act, 2006

⁴The Kenya Maritime Authority 2006,Section 5 (c) <http://www.kenyalaw.org>

pollution as well as liability and compensation for pollution damage of the Sea or other waters.

The EMCA mandates the Minister in consultation with relevant lead agencies, by Gazette notice to declare any area of sea to be a protected coastal zone. Further The Act specifically 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.⁵

4.3 National Environmental Management Authority, NEMA

With the enactment of the Environmental Management and Coordination Act in 1999, the National Environment Management Authority was formed in 2000 as the organ to supervise and coordinate all matters relating to the environment and act as an agency in implementing all policies relating to the environment.⁶

The most pertinent function of NEMA is the coordination of various environmental agencies to prevent overlapping. NEMA is mainly in place to co-ordinate the lead

⁵Environmental Management and Coordination Act 1999

⁶Environmental Management and Coordination Act 1999, Section 7

agencies on the various environmental activities and in this particular case protects the marine environment from land-based sources of pollution.⁷

Most of manufacturing industries (over 90%) in Kenya are located in the coastal region, in the industrial area of Mombasa Country, with an extension towards Mazeras and Mariakani Urban Centres and Kikambala in Kilifi County, they generally do not pre-treat their effluent before discharge which include the petroleum refinery.⁸This is a great cause for concern since all the waste that will be generated by these industries, whether treated or untreated, will end up in the ocean.

The (PCC) Public Complaints Committee is established under Part III Section 32 (a) of the Act to investigate and make periodic reports on allegations and complaints of suspected cases of environmental degradation.⁹ The Committee also prepares and submits to NEC periodic reports of its activities. PCC reports contribute to the annual State of Environment Report.¹⁰

⁷Environmental Management and Coordination Act, Section 9(1)

⁸"Pollution Prevention and Control Guidelines for the Coastal and Marine Environment of Kenya"- May 2013

Published by NEMA

⁹Environmental Management and Coordination Act, Section 32 (a)

¹⁰National Environmental Management Authority, NEMA Section 32 (a)

Part XII Section 125 (1) of the Act establishes NET, The National Environment Tribunal, to review administrative decisions made by NEMA relating to issuance, revocation or denial of licence and conditions of licence. It also provides legal opinion to NEMA on complex matters where the Authority seeks such advice. In addition, the Tribunal has powers to change or give an order and direction regarding environmental issues in dispute.¹¹

NEMA is also to promote the integration of environmental considerations into development policies, plans, programmes and projects, with a view to ensuring the proper management and rational utilization of environmental resources, on sustainable yield basis, for the improvement of the quality of human life in Kenya.

NEMA yet to issues guidelines and regulations on the various wastes as is required under section 91 (2) of the Act this has allowed the use of pesticide fertilizers used in coastal agriculture even though they are highly contaminant and harm the marine ecosystem.¹²

NEMA steps in to promote the integration of environmental considerations into development policies plans and programmes and projects with a view to ensuring the paper management and rational utilization of environmental resources, on sustainable

¹¹ Environmental Management and Coordination Act, Section 125 (1)

¹² Environmental Management and Coordination Act, Section 91 (2)

yield basis for the improvement of the quality of human life.¹³ This institution takes stock of the natural resources in Kenya and their utilization and conservation. To properly enable the government to enact the required legislation, NEMA carries out surveys which will assist in proper management and conservation of the environment.¹⁴

NEMA advises the government on legislative and other measures for the management of the environment or the implementation of relevant international conventions, treaties and agreements.

The National Environment Management Authority also mobilizes and monitors the use of financial and human resources for environmental management, identifies projects and programmes for which environmental audit or environmental monitoring must be conducted under this Act. This authority also initiates and evolves procedures and safeguards for the prevention of accidents which may cause environmental degradation and evolve remedial measures where accidents occurs e.g. oil spills.¹⁵

¹³Environmental Management and Coordination Act 1999, Section 9 (2)(a)

¹⁴Environmental Management and Coordination Act 1999, Section 9 (2)(e)

¹⁵Environmental Management and Coordination Act 1999, Section 9 (2)
(j)<http://environment.go.ke/?cat=29>, (accessed 16th July 2014)

4.4 Kenya Maritime Authority KMA

The Kenya Maritime Authority regulates, co-ordinates, and oversees maritime affairs and promotes the integration of such policies into the national development plan. The Authority co-ordinates the implementation of policies relating to maritime affairs and promotes the integration of such policies into the national plan.¹⁶

The Authority is empowered to implement international conventions, protocols and agreements as concerns land-based marine pollution to be enacted into law. Through the advice this Authority renders to the government treaties and conventions that Kenya is party to can be properly implemented.

Also the Authority ensures that if an authority is to be issued in relation to waste entering/affecting any water, waste prevention options must be evaluated and implemented, and if that is not possible, waste recycling, treatment or disposal to surface water/groundwater options must also be evaluated. Should an authority be issued for wastewater recycling, the water quality objectives for water affected must be considered along with the possible health risks. If an authority involves releasing of waste water to surface water,¹⁷ the integrity and quality of the surface water and the

¹⁶The Kenya Maritime Authority Act Section 5(b), and Section 4 <http://www.kenyallwaw.org> (accessed on 5th April 2014)

¹⁷Nguli M.M. 1994 Water Channels and channel friction related to tidal flow in Tudor Creek , Kenya Coast Western Indian Ocean

possible cumulative effect of the release must be considered in the determining of an application. Similar considerations must be had if assessing an application for the release of contaminated storm water.

The Maritime Authority is the body that discharges flag state and port state responsibilities in an efficient and effective manner, having regard to international maritime conventions treaties agreements and other instruments to which Kenya is a party ensuring the obligations are upheld.¹⁸

The Authority is the Institutional mechanism which ensures and prevents marine pollution from all sources including the land-based sources of pollution; it ensures in collaboration with such other public agencies and institutions, the prevention of maritime pollution and responds to marine pollution incidences.¹⁹

The Maritime Authority through the Director General ensures the provisions of this Act and any rules and regulations made there under are complied with to the interest of the maritime sector and encourages and fosters the safe development of maritime matters in Kenyan waters.²⁰ Also, the Authority advises the government on legislative and other

¹⁸Kenya Maritime Authority Act 5 of 2006 section 5 (e)

¹⁹Kenya Maritime Authority Act, Act No. 5 of 2006, Section 5 (o)

²⁰Kenya Maritime Authority Act 5 of 2006 Section 11(b)<http://www.kenyalaw.org> (6th April 2014)

measures necessary for the implementation of relevant international conventions, protocols and Agreements to which Kenya is a party.

The principal mechanism by which the Kenya Maritime Authority regulates land-based marine pollution is by licensing environmentally relevant activities, developing codes of practice (both of which are proactive rather than reactive measures, and by establishing an offence system for unlawfully causing material or serious harm.²¹

The enactment of the Kenya Maritime Authority Act into law and the establishment of the Kenya Maritime Authority was also very timely and highly commendable given the important mandates that have been accorded to the Authority under law.

In the absence of a comprehensive legislation made entirely to address land based marine pollution, The Kenya Maritime Authority Act simply glazes through the basics and tries to incorporate this source of pollution into its legislation. Although the Authority has touched on this source of pollution there is nothing further on how it is meant to be prevented.

The Kenya Maritime Authority has to protect the marine environment from all source of pollution, these areas require special technological requirements, man power and

²¹UNEP 1998:m Eastern Africa Atlas of Coastal Resources 1: Kenya.pp119

funding all of which are scarce and far in between when combating to land-based source pollution.

NEMA and the Kenya Maritime Authority have not prepared the Standards provided under NEMA which include matters such as preparing guidelines or regulations for the preservation of the fishing areas, aquatic areas and coastal zones where special protection is needed.

4.5 Kenya Ports Authority

The port of Mombasa is the only international port in Kenya, and the largest in East Africa but also the port most accessible for landlocked countries (Uganda, Burundi and Rwanda), serving not only as the hub of imports and exports, for Kenya, container handling has doubled in the space of six years, but as the current annual container handling capacity at the port is limited, the port clearly needs to improve facilities for better operational efficiency. The increase in operation also makes the ocean susceptible to higher levels of pollution due to the increased activity.

Kenya has been on the verge of greatly improving the port by increasing its capacity, accessibility and its efficiency. The Loan Agreement for the Mombasa Port Development

project is also to ensure they follow Anti-Pollution Measures in place in Kenya's effluent standards and ensuring no significant impact comes to the ocean space.²²

The Director General of the Kenya Ports of this particular Authority may give directions to take measure in accordance with generally recognized principle of international law to protect the marine environment from pollution following a maritime casualty or acts relating to such casualty which may reasonably be expected to result in harmful consequences.²³

The Kenya Ports Authority, KPA, under the Kenyan Ports Authority Act has the responsibility for controlling pollution in the territorial waters of Kenya

4.6 The Coastal Development Authority

The Coastal Development Authority Act was enacted in 1990²⁴ 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 coastal province and in the EEZ by strengthening the capacity of existing relevant government agencies and by enhancing the capacity of rural micro, small and medium sized enterprises in selected coastal communities to enhance the role these communities play in protecting the

²²Ex-ante Evaluation, (Loan Agreement: 11/20/2007, Loan Amount 26,711 million yen, Borrower Kenya Ports Authority KPA)

²³The Kenya Ports Authority, <http://www.kenyalaw.org>

²⁴Coastal Development Authority Act, Chapter 449 published by the Council for Law reporting with the Authority of the Attorney-General, Revised Edition 2012 (1992)

marine environment. The Coastal Development Authority mainly plays a supportive role in marine pollution prevention.

The Authority covers most of the upstream areas connected with land-based marine pollution in Kenya. This authority is given the mandate to regulate land sourced coastal marine pollution in Kenya. The aim of The Coastal Development Act is environmental protection within the context of ecologically sustainable development, it also provides a framework for protecting the marine environment by creating a lessening system for dealing with “environmentally relevant activities”.

The Authority ensures land owners in the coastal area undertake all the measures specified by the Authority to protect the waters and soils, this is also with regards to how the land owners dispose their refuse.²⁵ The Authority is to maintain liaison with the government, the private sector and other interested agencies in the matter of development of the of the coastal area with a view to limiting the duplication of effort due to the multiplicity of legislation in various scattered legal instruments and therefore ensuring the best use of the available technical resources.²⁶

²⁵Coastal Development Authority Act ,Section 8(h)

²⁶The Coastal Development Authority Act, Section 8 (j)

The Authority is also to cause and effect the construction of any work deemed necessary for the protection and utilization, of the water and soils of the area including hydro-power development for multi-purpose utilization of water resources, the measures taken by the authority are mostly preventative and precautionary aiming to protect the marine environment from possible pollutants.²⁷

An up-to-date range development plan of the area is supposed to be prepared by the Authority to monitor to plan and thereafter liaise with relevant agencies concerned with land-based marine pollution and develop extensive marine protection measures. In protecting the marine environment against land-based sources of pollution the Authority identifies, collects, collates and correlates data related to the use of water and its disposal and provides necessary information towards a stronger marine pollution prevention framework.²⁸

The Coastal Development Authority has exercised its mandate to coordinate and lead the process of international Coastal Zone Management through a multi sectoral secretariat working arrangement. The coastal development Authority has, to some extent, worked in close liaison with other research institutions that are based at the

²⁷ Coastal Development Authority Section Act 8 (g)

²⁸ Ibid,

coast for incorporation of their latest technical information in development planning processes.²⁹

The authority is meant to work with other bodies as a liaison, this gives it very little power since its main objective is to assist the other bodies of government that are already in place this robs the Coastal Development Authority entirely of its independence.

The Act has a number of provisions stating that the marine environment should be protected, the level of generality and the lack of specific provisions on land-based pollution makes for very little legislative and enforcement requirements, which are a priority in case of a need for a penalty against a polluter.

Conclusion

The key institutional strength for Kenya with regard to land-based source pollution include that there are many institution, including the framework environmental bodies, and various sector institutions, most of which are invested with legal mandates.

²⁹UNEP Regional Synthesis Report Policy Legal Regulatory and Institutional Frameworks, published by UNEP/Nairobi Convention Secretariat and WIOMSA, 2009 pp104.

However, the coordinating mechanisms especially among the different sectors are weak if not absent. While NEMA may serve the coordinating role as the premiere environmental agency, it is still relatively new and not well developed and capacitated. The various sector institutions have to protect their jurisdictional mandates, and in the process weaken coordination further.

CHAPTER 5

CONCLUSION ANDRECOMMENDATIONS

Conclusion

This research has come up with the findings that in Kenya the coastal and marine environment is very important especially from a socio-economic perspective. However these socio-economic activities are the cause of land-based pollution and degradation of the coastal and marine environment.

The Kenya Government has responded with a set of laws, institutions and regulatory instruments, some institutional and others framework and sectoral. EMCA is the framework environmental legislation working alongside other primary institutions. EMCA is fairly new having come into force in 1999. It deals directly with coastal and marine environmental protection and particularly with land-based marine pollution issues.

EMCA does not have a detailed and focused land-based marine pollution regulatory framework but sketchy and rather thin detailed laws. Although Kenya has constitutional provisions on the environment generally, it makes no mention of land-based marine

pollution issues of the coastal and marine environment as such. And even though has framework environmental laws and institutions, it doesn't have a statute or an institution dedicated to land-based source pollution.

The framework institutions in Kenya exist as overseers of the entire spectrum of the national environment. The effect of this arrangement is to obscure the coastal and marine environment in national resource allocation

Recommendations

One of the obvious problems is the difficulty of obtaining accurate information on marine pollution problems in Kenya. Hence, there is a need for a National Data Bank in Kenya to collect all scientific data on environmental pollution problems and marine pollution in particular. Sewage pollution of coastal waters is a serious public health hazard that is already apparent. It is important for the Kenyan government to improve sewage disposal methods. Sewage outfalls, where they exist, were often improperly sited. Hydrographic characteristics of coastal waters should be investigated for efficient dispersal of sewage before sitting and installing sewage outfalls.

There should be enactment of enforceable national laws to specifically control land-based sources of pollution in order to protect the marine environment and its living resources, based on scientifically relevant and appropriate national criteria. It is easier to prevent marine pollution than remedy its deleterious effects on the marine ecosystem.

Environment Impact Assessments' should be fully and efficiently carried out for all new establishments and provision of waste treatment plants made compulsory where necessary. In this respect, studies are needed and a guide book on types of wastes generated by each industry, their relative polluting potential, and suggestions on mode

of disposal and site for disposal are required. Not all industrial effluents require elaborate treatment plants. Studies will be needed to characterize the industrial effluents and categorize those requiring minimal treatment and are dischargeable into big rivers or estuaries with suitable assimilative capacity, and those requiring in-plant sophisticated treatment and disposal through municipal sewers and plants to ensure removal of substances harmful to marine life. Old polluting plants should be encouraged to modify their processes. As a general principle, waste recycling should be encouraged.

Toxic chemicals such as pesticides are entering the coastal and marine environment through land run-off and aerial spraying. There should be national regulations and effective controls on the importation and use of toxic chemicals including pesticides and there is a need for scientific monitoring of the impact on marine ecosystems.

Kenya lacks the manpower resources to implement any marine pollution laws enacted. Enforcement of legislation requires monitoring of pollution. In view of the acute lack of resources for marine pollution monitoring, the government should draw up an inventory of present capabilities and equipment available and encourage the sharing of facilities among institutions within the country. Governments should cooperate more with the universities. As a means of harnessing limited resources, the establishment of a National Laboratory with a marine pollution component should be encouraged. A pool of

pollution monitoring experts should be trained, and thereon after initiate baselines studies on marine pollution.

Waste disposal is carried out negligently and without environmental concern. In view of the economic importance of artisanal fisheries and other uses of the coastal marine environment, guidebooks on waste characteristics of polluting industries, providing information on each type of industry, the type of waste generated, suitable sites and methods of disposal, and waste recycling and utilization where appropriate, should be produced and made available to governments to minimize environmental disturbances.

Since pollution assessment is a very important component of any action plan, as a prerequisite, training of marine pollution monitoring scientists should be strengthened. Analysis of marine pollutants such as petroleum, heavy metals, pesticides and PCBs requires special analytical skill and training. The establishment of national environment pollution monitoring laboratories may usefully be encouraged. Marine science in universities and basic research in this field should also be promoted. Regional training workshops for pollution assessment should be geared towards generating national background data which are lacking. Such training would require assistance from outside the region.

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