

**Factors influencing citizens' participation in taking environmental enforcement actions in  
Kenya: a case of Mombasa Island, Mombasa County**

**By**

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**DECLARATION**

This research project report is my original work and has not been presented to any other examination body for award of a degree.

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This research project report has been submitted for examination with my approval as University of Nairobi Supervisor

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Date.....

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## **DEDICATION**

This project research report is dedicated to my Children, Jamila, Kibibi, Suleiman and Leila who are in standard five, three, one and Kindergarten (KG) 1 respectively and to my wife, Mchekesi.

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## **ABBREVIATIONS AND ACRONYMS**

ECLAC	Economic Commission for Latin America and the Caribbean
EMCA	Environmental Management and Coordination Act
GEO	Global Environment Outlook
IMF	International Monetary Funds
INECE	International Network on Environmental compliance and enforcement
KG	Kindergarten
MRA	Media Rights Agenda
NEMA	National Environment Managements Authority
NGOs	Non-governmental organizations
OECD	Organization for Economic Cooperation and Development
SAD	Structural Adjustments Programme
SoE	State of Environment
SPSS	Statistical packages for Social Sciences
UN	United Nations
URT	United Republic of Tanzania
WHO	World Health Organization

## **ABSTRACT**

Most governments have made efforts to legislate laws to curb environmental degradation. However, the level of enforcement has not brought any changes towards a clean and healthy environment for citizens. This situation is not different for Mombasa and citizens have to contend with air, water and land pollution. Thus, the purpose of this study is to establish factors influencing citizens' participation in environmental enforcement in Kenya, a case of Mombasa Island, Kenya. The study sought to determine: whether legislative factors influence citizen participation; the influence of political factors in citizen's participation; the influence of environmental awareness and citizens' participation; the influence of access to information and citizens' participation and influence of socio-economic factors and citizens' participation in Mombasa Island, Mombasa county. This study used descriptive survey design which employed questionnaire interview schedules as the data collection instruments. The data was then analysed using Statistical Programme for Social Scientists (SPSS) and excel spreadsheet and the findings presented in tables. The study has established that legislative factors, political factors, environmental awareness amongst the citizens, access to information and socio-economic factors are key determinants to the participation of the citizens in enforcement. The study has therefore recommended for further studies on effects of uncollected garbage and pollution.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of study

Public involvement in environmental enforcement is very important aspect due to every citizen has the right to live in a healthy environment and the obligation to protect the environment (Rahman, 2011). While at the international level, following the lead set by the Rio Earth Summit<sup>1</sup> in 1992, almost every environmental sustainability meeting closes with a unanimous commitment to improved citizen participation in environmental decision making at all levels - planning, information gathering whether general or covert and feedback.

Despite significant improvements in environmental protection over the past several decades, over 1.3 billion individuals worldwide live in unsafe and unhealthy physical environments. Hazardous waste generation and international movement of hazardous waste and toxic products pose some important health, environmental, legal, political, and ethical dilemmas. Locally, citizens have to contend with dirty air and drinking water and the location of noxious facilities such as, municipal dumps of biomedical wastes, e-wastes, municipal wastes, wastes incineration, hazardous waste treatment among other wastes ( Bullard, 2002).

The role of citizens in environmental compliance and enforcement is fairly a new phenomenon in most countries (INECE, 1998). For example, Jennifer in her work says Chinese legal system is relatively young and members of the public are unconscious about environmental laws. Due to the then current status of environmental deterioration, the government incorporated environmental concerns in all its goals to secure commitment at corporate, business, functional and individual levels of its public administration (Jennifer 2008). She continues to say China's

massive rate of industrialization has caused a pollution crisis more severe than anywhere else in the world, leading to serious health and environmental concerns such as air pollution and contaminated drinking water supplies. This situation led to the development of China's anti-pollution regulations. However, there has been poor enforcement of these laws at all levels of jurisdiction due to what has been said to be lack of funding for government agencies. As a result there is an effort to increase the role of public participation, to augment enforcement officers.

Historically, the public was not conscious about participating in environmental enforcement as it was seen as the work of government agencies. In fact in many instances, government agencies did not include clear mechanisms for citizen involvement in programs and actions to achieve compliance with and enforce environmental law. Perhaps the most well-known mechanism is citizens going to court to enforce the law. However, there are many other opportunities for citizens to supplement governmental efforts. For example, in some countries citizens contribute to monitoring or inspections. Where a public complaint process exists, like in Kenya, citizens are an important source of information concerning potential violations. Citizens have much to add to the negotiation and settlement process of environmental compliance assurance or enforcement actions.

Harris et al (1989), in his work involving multinational surveys in 16 countries ((Argentina, Brazil, China, Hungary, India, Jamaica, Japan, Kenya, Mexico, Nigeria, Norway, Saudi Arabia Senegal, West Germany, United States, Zimbabwe), observed that people, both general public and leaders, are feeling that environmental conditions have worsen compared to the past and are aware of harmful effect of environmental degradation on health. However the critical question they are asking is "who ought to take action and how". He said in his work most people believed something ought to be done and environmental protection should be the major governmental

priority. He further said substantial majority of public and leaders believed that advocacy by the United Nations and world leaders on the environment would help to improve the situation since protection of the environment require involvement of all and sundry.

Jeffery (2005) while discussing the issue of participation in environmental enforcement brought the concept of environmental governance. In his work he said people know that their actions do have a real impact on the environment. Ignorance is no excuse for inaction. With knowledge comes the moral responsibility to act carefully in regards to the environment, on a global, domestic, and local scale. In his paper the researcher brings in the issue of governance structures that encompasses government and non-state actor's structures, procedures and conventions to enable decision making on environmental protection. The researcher also stresses the point of the need to create awareness and the recognition of special contribution made by indigenous communities in maintaining and/or protecting their environment. He has also gone further to bring an important aspect of environmental governance as it concerns the principles of participation and environmental justice. He says many pieces of legislation have not handled the issue of who has the right to sue to enforce an environmental law (the issue of *locus standi*). He quickly notes that, however, over time and as countries undergo critical awareness, there has been revolution in the judiciary systems in recent times of upholding the *locus standi*, and going back to the creation of the Land and Environment Court for example in Australia and recently in Kenya when the constitution of Kenta 2010 was promulgated. These processes give avenue for public participation in environmental enforcement.

The Earth Charter Initiative (2012) says it will not be business as usual unless there is deliberate effort to take note of the sense of environmental responsibility by stating that the improvement of

democratic practices, transparency and accountability of government institutions, along with civil participation in decision making, are strongly related factors to the objectives of the protection of the environment and social and economic justice. The initiative is sure that if this is achieved then better environmental governance will have been achieved.

Another research by Holmes et al (2000) holds that participation in environmental enforcement is dominated by the elite groups at the expense on non-elite groups. However, he notes that there is a consensus between the industrialized countries of the 'north' and the developing countries of the 'south' that the latter need to play an increasing role in informing the decisions about violations of environmental legislations.

Another research looking into social - economic problems experienced in compliance and enforcement in Tanzania, Masilingi, said for any successful implementation of an environmental law, there must exist the necessary pre-conditions. He named such preconditions as favourable economic, political and legal environment which allows the rules to be enforced and obeyed. In his opinion he feels that there has to be motivation for all people to participate in environmental protection.

The Kenya environmental situation is not any different. Environmental deterioration is the byproduct of Kenya's economic growth and weak environmental enforcement. If environmental enforcement were rigorous enough, Kenya's environmental situation would not have deteriorated to the current extent. Most urban centres are strewn with municipal wastes, e-wastes, biomedical wastes and hydrocarbon wastes (SoE, 2010). The situation in Mombasa County and off course the island is not different. There is evidence of pollution by waste oil from garages, uncollected garbage, sewage in storm water drains, bio-medical wastes in municipal dumpsites among other waste( Mombasa district development plan, 2009).

This research explored the reasons why private citizens do not play their role in the enforcement of environmental laws as expected in the island of Mombasa. One of the fundamental goals of environmental enforcement is to achieve widespread compliance with environmental laws and regulations among the members of the regulated community. The government has only limited resources with which to achieve its compliance goals. Therefore, the government consistently must look for methods by which to leverage its existing resources, in order to foster compliance without expending large amounts of its limited resources. In general, it is expected that citizen participation in environmental enforcement plays a big role in supporting the government in reaching its goals with respect to compliance while at the same time allowing the government to conserve its resources.

## **1.2 Statement of the problem**

Over 200,000 people living in Mombasa Island (Ganjoni, Railway, Tononoka, Tudor, Majengo and old town) risk the exposure to polluted environment. According to Mombasa Development Plan (2008-2012), environmental pollution has remained to haunt the residents of Mombasa in general who are slightly below the 1 million mark. The town is strewn with municipal wastes, biomedical wastes, hydrocarbon pollution among other wastes. The public often interact with the environment directly and find themselves on the receiving end of any breach of environmental regulation. More often than not, they are the main source of primary information regarding breach of regulations and are therefore by right expected to participate in environmental enforcement (Ball & Bell, 1919). However, this is not the case. The state of environment report 2010 says there is ample proof of the interlinkages between socio-economic status and the environment. Consumption patterns generate a lot of hazardous wastes, e-wastes which are



dumped carelessly in open dumps thus jeopardizing lives of people living in the surrounding. Most a times, the affected citizens have not shown interests or may be lack the critical awareness to take action to avert the situation. It is from this understanding that the study will investigate the factors that influence citizen's participation in environmental enforcement in Mombasa Island.

### **1.3. Purpose of the study**

The purpose of this study was to examine the factors influencing citizen's participation in taking environmental enforcement actions, a case of Mombasa Island, Mombasa County.

### **1.4. Objectives of the study**

In order to effectively achieve the above purpose, this study strived to address the following objectives:

- I. To establish to what extent legislative factors influences public participation in environmental enforcement
- II. To establish how environmental awareness influences public participation in environmental enforcement
- III. To find out the extent to which socio-economic factors influences public participation in environmental enforcement
- IV. To establish how access to information influences public participation in environmental enforcement
- V. To establish how political factors influences public participation in environmental enforcement

## **1.5. Research questions**

This study will attempt to answer the following questions:

- I. How do legislative factors influence citizen's participation in environmental enforcement?
- II. How does environmental awareness influence citizen's participation in environmental enforcement?
- III. To what extent do socio-economic factors influence citizen's participation in environmental enforcement?
- IV. How does access to information affect citizen's participation in environmental enforcement?
- V. To what extent do political factors influence citizen's participation in environmental enforcement?

## **1.6. Significance of the study**

The issue of environmental compliance and enforcement has become a major topic in both developing and developed countries over the past recent years. It has become the centre of argument by development partners, environmental enforcement practitioners, academics and funding agencies through conferences, workshops, bilateral fellowships and exchange programmes. Many countries are signatories to various international conventions that have direct bearing on the protection of the environment. This has forced countries to legislate very nice pieces of environmental laws to curb environmental pollution. Unfortunately, the results of such efforts seem not to confer any benefits to the world's peasantry. Jennifer (2008) in her work said China has many environmental laws and is a signatory to many treaties but despite all this faces

many environmental challenges. What she meant is that good pieces of law alone is not a panacea to environmental pollution.

Susan et al (1996) in their work said enforcement by government agencies is not the only legal means of mitigating environmental harm. There is also a role for public participation by means of public interest litigation, willingness to provide information of violations to enforcement officers, among others. In Kenya for example, citizens have the right for individuals to file charges against polluters. But this is not happening for reasons perhaps the focus of this study. Each day there are plenty of environmental grievances occurring in Kenya, from unemployed labourers to disgruntled peasants and unhappy couples. But only a small proportion of these grievances actually turn into legal claims more so with the support of organised communities and strong civil society. Most environmental issues are tolerated by citizens, settled through unassisted negotiations, or mediated by a third party. From the foregoing, there is dire need to support members of the public to use the avenue of public action to file charges against polluters in order to 'help people protect themselves against the country's worsening environment'.

It is against this background knowledge that the researcher chose to look into the reasons why, in spite of the plethora of laws, many aggrieved citizens may not opt to take part in dispute resolution process but rather choose to simply endure environmental injuries. This work zeroed in the Mombasa Island, Mombasa County.

### **1.7. Assumptions of the study**

This study was based on several assumptions that the legislative system is intimidating, demotivating and discouraging therefore limiting citizens participation in environmental enforcement. Two The level of citizens consciousness on environmental matters influences

citizens participation on environmental enforcement and three citizens participation in environmental enforcement is influenced by socio-economic dynamics of the citizens and regulated community. Others is that citizens participation in environmental enforcement is influenced by lack of access to certain information and political patronage has influenced citizens participation in environmental enforcement.

### **1.8. Delimitation of the study**

Mombasa Island within Mombasa County was the focus of this study. The researcher chose the area of study because this type of study has never been undertaken in this area and that there was existence of environmental problems in the area. There was a need to understand why citizens are not taking actions to correct the situation. The study therefore looked into the following factors: the nature and extent of citizen's participation; socio-economic factors (size of households, income and education levels); and legislative factors.

### **1.9. Limitations of the study**

Environmental compliance and enforcement is the key thing in today's economy. The success of it will bring blessings to the area and the reverse will be true. Surprisingly, a study of this nature has not been done in this area (or County). Due to the urban setup, limited time and financial resources in the County, the researcher chose to cover the island only. The researcher with the assistance of the research assistants made sure to fit into interviewees schedule in order not to inconvenience them. The research assistants were sourced from within the island. This made sure to avoid extra cost for accommodations and transport.

## 1.10. Definition of significant terms

**Citizens** people living in the surrounding environment who are likely to be affected by actions of regulated community

**Compliance** refers to adherence to environmental laws, regulations and standards. Compliance occurs when requirements are met and desired changes are achieved.

**Enforcement** the set of actions that governments, citizens, formal groups or informal take to achieve compliance within the regulated community and to correct or halt situations that endanger the environment or public health

**Environment** it includes the physical factors of the surroundings of human beings including land, water, atmosphere, climate, sound, odour, taste, the biological factors of animals and plants and the social factor of aesthetics and includes both the natural and the built environment.

**Environmental crime** violations of criminal provisions of an environment statute.

**Participation** taking part directly or indirectly in environmental enforcement actions such as reporting a violation, instituting court proceedings, engaging in negotiations, sharing information and surveillance.

**Regulated Community** people, private institutions, government institutions whose activities have the potential to cause environmental degradation

## 1.11. Organization of the study

In the chapter of introduction, it has discussed the background for the study/research, stated and defined the problem that the proposal is attempting to address or solve, stated the purpose and objectives of the study and given some indication of how the work will progress. This section

further attempt to establish that a problem exists and there is need for a study to be carried out. It has justified the study.

This chapter has been organized in the following sections: background to the study, statement of the problem, purpose and objectives of the study, research assumptions, and research questions, significance of the study, scope of the study, limitations of the study and then definitions of significant term. Chapter two has looked into the literature review and captured what other researchers have said about factors influencing citizen's participation in environmental enforcement. This has taken the global perspective, regional and local. Research design is captured in chapter three where target population, sample size and research instruments have been defined. Data presentation, analysis and interpretation is found in chapter four. Demographic information and the other variables have been captured here. Chapter five has talked about summary of findings, discussions, conclusions and recommendations.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The protection and preservation of environment is a pressing issue. Every person, organisation and institution has an obligation and duty to protect it (EMCA, 1999). Environmental consciousness deserves to thought of creating a better world to live in, the thought to give a better deal to everyone, human or otherwise, to the present as well as to the future generation who all have to share the Almighty's great gifts of clean environment and abundant natural resources on this planet earth. Environmental protection encompasses not only pollution but also sustainable development and conservation of natural resources and the eco-system. Environmental degradation can be either localised such as the depletion of a nation's forest resources, or global, such as destruction of the ozone layer.

Several studies indicate that many developing countries already equipped with environmental policies, legal frameworks and economic instruments, regarded as instruments of environmental compliance and enforcement and yet face the worsening of environmental conditions (Fujisaki and Shigeaki, 1997).

It has also been observed that the nature of environmental crimes is changing, with offences becoming more complex and serious, at some point involving organized and geographically dispersed illegal activity especially at international level (Benson, Davis, Dickson, France, & Glennie, 2006).

The literature cited below therefore, gives an overview and critical analysis of environmental enforcement situations both at the international and national/regional levels, and then focusing on the local setting.

## **2.2 Legislative Factors and citizens participation in environmental enforcement**

Some reports indicate that the world's state of environment is worsening and this calls for an urgent action to avert the situation. Rapid economic development has been achieved at the cost of the environment, resulting in untold sufferings to mankind and unprecedented ecological problems. Environmental damage has also be attributed to the industrialization process especially after world war 2 in which there was water, air and noise pollution, pollution from hazardous and conventional wastes, radiation and lately effects of global warming and depletion of ozone layer. It is from this backdrop that there was consciousness for legal protection of the environment. This part will look into what researchers have said about legal factors influencing citizen's participation in environmental enforcement.

Paola (2002) while doing some work on compliance and enforcement in Latin America said citizen's participation in the process of drafting and enforcement of environmental policy and requirements cannot be overlooked. She emphasized the need of citizen's representation in designing enforcement programs in both the legislative and the administrative sphere as a factor of incidence to achieving efficiency and effectiveness of a rule. She also said citizens need to be encouraged to participate by means of complaints and judicial actions to force corrective actions by polluters.

INECE (1998) puts a lot of emphasis on the public complaint processes as an integral part to facilitating citizen participation in administrative enforcement efforts without which enforcement would fail. INECE says some countries have an independent complaint committee or designated



staff member (ombudsman) at the national or local levels established to handle citizen complaints. For example in Mexico, the Federal Ecology Law and parallel state laws enable any person to file a complaint with the appropriate government agency regarding activities that cause environmental harm or ecological imbalance. The agency is required to investigate the matter and provide a prompt response. The Mexican government has the obligation to receive, investigate, and respond to the administrative complaints and claims of citizens concerning failure to comply with environmental law. The government has specific time limits to inform the complainant of the procedures being undertaken, and to inform him or her of the results concerning verification of the alleged violations and the response measures being taken.

Jeffery (2005) brought the issue of *locus standi* saying this dimension has given the citizens standing to sue for redress in any environmental injury. This is an important aspect of environmental governance, as it concerns the principles of participation and environmental justice. Further, he says in his work that many countries have elevated environmental issues to become constitutional matters to the extent of creating land and environment court as is the case with Kenya and Australia.

Jin and Yan (2011) when researching on barriers and solution of better enforcement in China, said the problem with Chinese environmental legislation, is that they are full of abstracts or ambiguous provisions that cannot be enforced without an officers own interpretation. For example a blanket statement such as “a project out of character with the surrounding” He also notes that some environmental provisions are unreasonable or contrary to the legislative purpose. He cites an environmental impact assessment law that provides for approval after construction of a project has begun. This then means that original intention of having the environmental impact assessment process predict the impacts of the project has been misconstrued. On the other hand

he is concerned that with the “low cost of environmental violation” meaning those penalties are too lenient for environmental violations. Guilty enterprises would rather be fined than correct their violations. The researcher is surprised that some government or the executive argue that huge penalties would increase the burden of enterprises and harm the economic development. This is a sure way of guarantying failure of environmental enforcement.

On the other hand, Edo (2012), in his work says some environmental laws developing economy like Nigeria, not only are they obsolete but they need revisiting to re-align with the realities of enforcement. According to Benebo (2008) the rates of non-compliance with environmental regulations are very high. He attributes this to unenforceable laws that are too much academic than practicable.

Another situation that can compromise enforcement according to INECE (1998) is when agencies do not have the authority needed to enforce independently. INECE further says credibility of an enforcement programme will be eroded if violators can successfully challenge the authority of a programme to take enforcement actions. This situation has been witnessed in Kenya where criminal matters have been stopped by judicial review applications made in the high court challenging competence of enforcement agencies. As such, authorities or agencies tasked with environmental duties should be empowered to undertake its mandate without due influence or undermining.

Jin et al (2011) while researching on barrier and solution of effective enforcement said the right of access to justice when one’s right is infringed or threatened is as much important in empowering people as the rights of public access to information and public participation. The absence of this right contributes to ‘lawlessness’ in a society, and this in turn, causes or exacerbates poverty with adverse consequence for the protection or conservation of the

environment and its resources in Africa. Lack of access to justice may be due to either corruption or procedural injustices in the legal or court systems. With regard to the former, citizens especially the poorest may be denied access to justice when they are unable or unwilling to cough up the money needed to speed up the judicial proceedings or to influence its outcome. The ability of the judiciary to render impartial and fair decisions is usually compromised while justice is for sale to the highest bidders or bribers. In such a situation, the enjoyment of the democratic right to equal access to courts guaranteed in most African constitutions becomes a mirage.

The procedural injustice in the legal systems in sub-Saharan Africa that affects access to justice is evidenced by the procedural requirement of locus standi in public law litigation. This rule of locus standi has been employed by the governments or their agencies to frustrate the challenges of their citizens who have resorted to the courts to demand accountability. The effect of this denial of access to judicial remedy is rampant abuse of power and corruption, as public officials are not legally bound to be accountable to their citizens.

The issue of institutional capacity is also wanting. The weak institutional capacity of most environmental regulatory agencies may be caused by the lack of adequate funding by their various African governments. Lack of adequate funding is mostly due to the fact that

African nations like other developing nations with developmental needs and declining national revenues most often push environmental issues down to the bottom of their national policy agenda while attaching a higher priority to economic and social issues. In such a situation, the funding of environmental management, conservation, and enforcement institutions is usually insufficient. When under-funded, these regulatory agencies lack the ability to acquire and retain the requisite scientific and technical skills. Furthermore, it may lead to corruption by creating a situation where poorly paid and unmotivated officials have an incentive not only to exploit

loopholes in laws and regulations, but also, to take bribes during environmental inspections and the policing of illegal environmentally related activities. In addition, weak institutional capacity may be due to corruption by public officials. This usually occurs when public officials divert fund allocated for environmental programmes or projects to private pockets.

Kaaria and Muchiri (2009) in his work on enforcement challenges noted lack of institutional capacity for different agencies and sectors to link up and cooperate to enhance enforcement. He says this is compounded by lack of resources and weak environmental policies and laws. Jardine (2009) talked of strengthening regulatory institutions to help them create the necessary framework and mechanisms for monitoring and enforcement of environmental guidelines, laws, standards and regulations. This is key to promoting good environmental governance.

### **2.3 Socio-economic factors and citizens participation in environmental enforcement**

At the private level, it leads to the poor being forced to rely heavily on the ecosystem for their nutritional and energy needs, thereby leading in most cases, to the degradation of the environment. Rising demand for fuel wood and charcoal for energy needs has been identified as one of the major causes of deforestation in the region (African). This is based on the assumption that at low levels of income, people in poor countries are more likely to be preoccupied with sustenance and achieving their basic needs than to bother with environmental quality.

It has been fronted by many researchers that non-elite members of the citizens do not concern themselves with matters touching their environment. This is true especially when the non-elite members are also poor. Amechi (2009) in his work on factors of environmental degradation in sub-Saharan Africa looked into income levels of regulated community which he said cannot be wished away. At this level of poverty the citizens are restricted to overexploitation of the

environment at the expense of a better environmental quality. He says it is a fact that at low levels of income, people in poor countries are more likely to be preoccupied with sustenance and achieving their basic needs than to bother with environmental quality. However, the reverse is also true where elite high-income citizens demand for a better environmental quality.

He also talked of the issue of being able to afford cost associated with court cases in pursuit of a better environment. He has observed that non-elite citizens are not able to meet the litigation cost and will stand to withdraw from litigation processes and tend to endure the consequences of environmental injury. Thus, it can be argued that environmental degradation and poverty are inextricably intertwined.

Some scholars have argued that there are some certain conditions that surround successful implementation of environmental laws. Masilingi (1996), in his work on socio-economic problems experienced in enforcing environmental laws in Tanzania talked of the existence of pre-conditions to guarantee successful implementation of environmental laws. He termed such conditions as an economic, political and legal environment, social structure. In his opinion therefore he is convinced there is need for understanding the socio-economic formation of the society in question prior to developing the relevant law. He says also there is need to build the socio-economic capabilities of the citizen in order to effectively implement environmental laws. Thus, it is a question of “planning with” and not “planning for” successful environmental enforcement program.

## **2.4 Environmental Awareness and citizens participation in environmental enforcement**

Building citizens' awareness for environmental conservation is very important nowadays. This is because the current reality shows that public awareness of the various forms of behaviour reflects

a disregard for the environment. The low public awareness of the environment occurs in nearly all circles, both at the individual household, community, as well as at the organizational level such as a company.

Construction of citizen awareness of environmental conservation, according to Subagyo (1999), is not only to create a beautiful or clean, but also has become human obligation to respect the rights of man, nature and life. The right of man is to enjoy and feel the balance of nature purely, so there is a harmony with nature. People generally resist change, especially when they do not understand or agree with the goals and the methods. So, keeping the public in the dark is often a recipe for disaster. This means that if the citizens are not aware then they can't make a substantial contribution to a worthwhile course. It is from this understanding that this research wants to understand the role of awareness in influencing enforcement. Citizens are one of a nation's greatest resources for enforcing environmental laws and regulations. They know the country's land and natural attributes more intimately than a government ever will. Their numbers makes them more pervasive than the largest government agency. It is therefore very vital to rollout an education and awareness programme before environmental laws are enforced.

To support the above argument, Benson et al (2006), said awareness of legislation and regulatory obligations is a prerequisite for compliance, and therefore has a major impact on the need for enforcement. He says there is evidence small and micro enterprises are responsible for up to 80% of pollution incidences in England and Wales and that upto 75% of them are not actually aware of their environmental obligations nor are they aware of environmental legislation. It really becomes a burden on the part of the agencies to enforce the regulations because there is no support from the regulated community.

In Tanzania, then scenario is not different. Enforcement of environmental regulations is a new phenomena and the regulated community are not participating in its enforcement for the simple reason that they are not aware of what they are required to do. Pallangyo (2007) in his work he acknowledges that environmental issues are often complex and less addressed in Tanzania enforcement and administrative programs and the regulated community is not aware of the environmental laws. This being the case, the environmental issues are not adequately addressed by the laws. For example, the Bill of Rights chapter in the Constitution of the United Republic of Tanzania (URT) does not directly and adequately address environmental matters. It does not directly spell out the environmental rights, which could prompt the development of environmental laws and other laws, which are relevant to the subject. We should also note that the constitutional provision of the same is important to provide the framework for the administration of environmental laws.

Elena et al (2011), argues that civil society can play an important role in creating effective social control over industries and resource users. This, however, can only happen when the citizens are empowered to the extent of being aware of the requirements of the environmental laws. Nongovernmental groups (NGOs, neighbouring businesses, individuals, professional associations etc.) can undertake a range of various actions against violators and contribute to bringing them into compliance. They can detect and report offences, negotiate with violators, comment on government enforcement actions, and where the law allows, can take legal action against a violator for non-compliance or against the government for not enforcing the requirements. However, in the developing countries social control is weak due to the current low level of public awareness and concern for the damage to human health and local communities' well-being caused by environmental noncompliance (e.g. in China, Kenya and Tanzania).

OECD (2006) talked of empowering members of the public so that they actively participate in environmental decision-making. The organization emphasises this process should continue to be one of the key objectives of the state and local environmental authorities. By enhancing environmental awareness, encouraging environmental associations and providing training, the public can become an active implementing agent and extend overwhelming support to environmental enforcement endeavours.

Yuniato (2012) in his work says citizen awareness on environmental protection is very alarming. He further says citizen awareness in preserving the environment is low, thus causing the environmental crisis. In his opinion he is convinced because of this state of unconsciousness, citizens are not taking part in decision making touching of environmental protection. He ends his argument by saying there is a need to build environmental awareness through three approaches, namely a systematic approach to education, integrated and sustainable socio-cultural approach through the strengthening and development of local knowledge about environmental protection, and it takes the substance of law and consistent enforcement.

The Chief Justice of India Mr. Sabharwal in a conference on environment, awareness and enforcement (2006), Delhi, India said while many people recognise that environmental pollution is an extremely urgent problem but when placed in the context of seemingly more immediate problems such as poverty, crime, corruption and religious and social conflicts, the environment often loses. It is necessary therefore to stress on the relationship between destruction of environment on one hand and social as well as health problems on the other. It is especially the poor and illiterate who are most exposed to environmental pollution. It is necessary to enlighten them of the link between social and environmental problems. This realization can propel



environmentalism to the top of national agenda at the same time raise environmental consciousness among the citizenry and be able to participate in enforcement.

## **2.5 Access to environmental information and citizens participation in environmental enforcement**

There is a stereotype from members of the public that getting information from a government agency is not easy. Information is surrounded by secrecy and suspicion and fear the information might be used against you. Many Sub-Saharan countries have enacted laws of restricting issuance of information to members of the citizen. This has led to a situation where in the whole of sub-Saharan Africa, it is only South Africa, Uganda, Angola and Zimbabwe which remains the only African country that have passed and implemented an Access to Information law.

Susan et al (1996), said access to information is the cornerstone of effective public participation at all levels of decision-making. The public needs to have access to specific information concerning environmental violations, such as the conditions of licenses to ascertain breach of some of the conditions, discharge monitoring reports, monitoring data, government reports, industry records, and other relevant sources of information that document the status of administrative proceedings, government decisions, environmental quality, emissions, and releases. Yet, in many countries access to this type of information is controlled to the extent of having to endure along bureaucratic procedure before you can be given permission or denied. In Kenya for example, an aggrieved party has to pay a prescribed fee in order to peruse a register. According to the opinion of the researcher these are seen as obstacles towards guarantying environmental justice.

Another researcher Amechi (2009) the rights of public access to information and participation in environmental decision-making process cannot be overlooked if environmental regulators need

to succeed in their missions. He continues to say that the process of sharing information plays the role of empowering the regulated community to participate in environmental decision making process. Thus, in the absence of these procedures the prospects of achieving sustainable development objectives such as environmental protection and poverty reduction and sustainable development will be adversely affected. Lack of access to information contributes directly and indirectly to the degradation of the environment in sub-Saharan Africa.

From the foregoing cited literature, it is evident that environmental compliance and enforcement is a big issue and subject to many discussions. It has been said that many countries have very nice pieces of environmental legislation but still there is a lot of non-compliance with these regulations. So, what is the problem really? The experience from case studies has shown that more often than not, communities endure problems of strewn garbage, water pollution, poor sanitary conditions, effluent discharge, oil pollution, air pollution among others. These problems and others not mentioned but discussed above are influenced by several factors including inadequate financial resources to implement enforcement programs, lack of participation from regulated community in all stages of planning, lack of information, and inadequate staff among others of the target area. Thus, the above literature has given us an in-depth knowledge about the nature and the genesis of the above mentioned enforcement issues, first by giving a general (global) overview and secondly, by drawing from experiences of case studies mainly from the developing countries, focusing on the respective contexts, especially Africa and finally coming down into the Kenyan situation.

However, regardless of the approaches adopted by various international agencies and cooperation, scholars and/or researchers in examining environmental enforcement situation and the underlying factors influencing the same, the existing literature on this topic suffer various

weaknesses and gaps: so far, very little attempt has been made towards unearthing the significance of those factors in influencing effective enforcement programs. This is an area which calls for the collection of hard data from the field and analysing them so as to determine how the findings can be incorporated and integrated into effective environmental enforcement programs.

Coming to the local scene (Kenyan situation), it is important to note that no study has been done on examining the underlying factors influencing citizens participation in environmental enforcement especially, the influence of legal factors, socio-economic, environmental awareness and access to information variables. Thus, no factual contributions of other scholars and/ or researchers have been made in the target area.

The existence of these weaknesses/gaps in the literature cited above, obviously calls for further research on the inherent factors influencing the same. Such information is crucial and forms an integral part in the success of environmental compliance and enforcement.

## **2.6 Political factors and citizens participation in environmental enforcement**

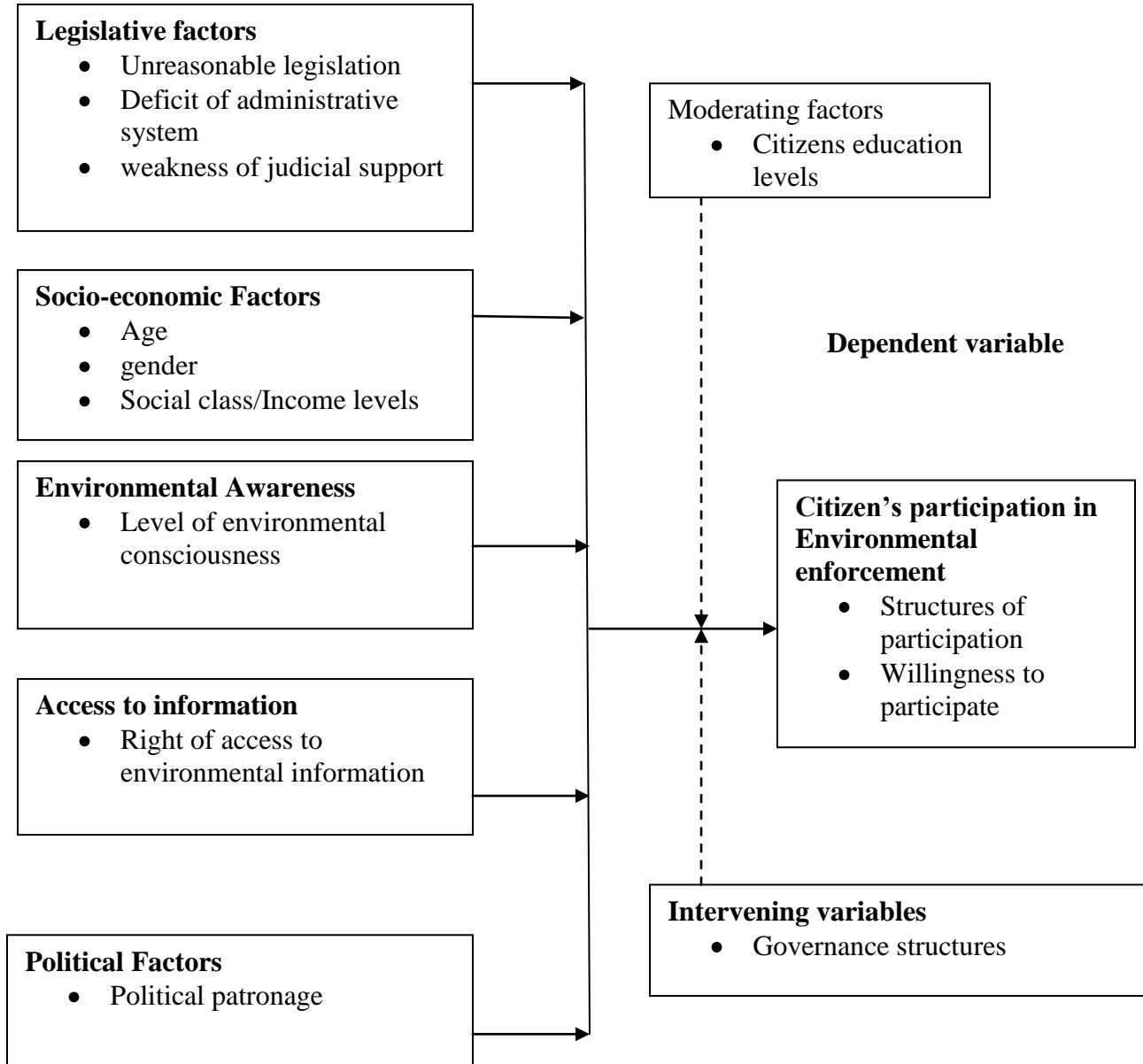
Despite the existence of various regulatory frameworks for the protection of the environment in sub-Saharan Africa, most of the citizens do not enjoy a right to environment as a result of environmental degradation. Another important factor responsible for causing the environmental degradation in sub-Saharan Africa is the issue of lack of political will on the part of African governments to enforce environmental regulations or to adopt new and proactive regulations that will safeguard the environment from degradation. This reluctance may be due to the economic benefits derived from the activities of the degrading industries in form of revenues and employment opportunities. With regard to the latter, it should be noted that many polluting

industries have threatened job cuts when forced to adhere to environmental regulations like changing to cleaner production methods, as it would involve heavy financial expenditure that will render their operations uneconomical. The government's reluctance to strictly enforce or adopt new and proactive environmental regulations may also be driven by the need to attract foreign investments. The quest to attract foreign investments in this manner may be motivated by the need to increase the revenue base of the government as well as to provide jobs for citizens. It may also be motivated by the need to comply with its mandatory economic liberalisation and deregulations requirements, the centre piece of the structural adjustment programmes (SAP) imposed on debtor countries of which most sub-Saharan African countries fall into the category, by the international financial institutions spearheaded by the International Monetary Fund (IMF) and the World Bank. Whatever the reason or reasons for attracting foreign investments into sub-Saharan Africa in this manner may be, the end result is that it has led to the transfer of environmentally polluting or 'dirty' industries and technologies into Africa with adverse consequences for its environment. When corruption or rent-seeking influences the stringency of environmental regulations or policies, it leads to a form of 'State capture'. State capture refers to the actions of individuals, groups, or firms in both the public and private sectors to influence the formations of environmental laws, regulations, decrees and other government policies to their own advantage as a result of the illicit and non-transparent provision of private benefits to public officials. This evidenced by the decision of the government in Ghana to open up its remaining pristine forest reserves for surface mining irrespective of the ecological consequences. According to Darimani (2006), the intense corporate lobbying of five multinational mining companies in Ghana principally influenced the government's decision.

Petty corruption on the other hand, affects the enforcement of environmental policies or regulations. Such corruption occurs mostly at the level of environmental inspections and policing of illegal acts such as poaching, illegal logging, resource trafficking, discharges and emissions.

## 2.7 Conceptual Framework

**Figure 1: Conceptual Framework**  
**Independent variables**



The study focused on a number of factors influencing citizens participation in environmental enforcement though it took into cognizance there are many factors.

Legislative factors – this has got to do with the practicability of the laws, administrative capacity of regulating institutions and judicial support

Socio-economic factors – this is the ability and willingness of citizens to pay for and participate in environment enforcement

Environmental awareness – this is the state of environmental consciousness of the citizens

Access to information – this is information from regulating agencies to help citizens participate in environmental enforcement

Political factors – this is perceived political patronage or interference

In this study therefore these are the **independent variables** and participation is the **dependent variable**. There are also moderating and intervening variables respectively:

Citizens education – this is the education levels that have seem to affect the environmental consciousness of the citizens

Governance structures – this is the local structures of environmental management at local level

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1. Introduction**

Research design refers to the strategy, the plan, and the structure of conducting a research project (Carriger 2000). It is not only the blueprint of the research to be undertaken, but it also shows the tools required, the resources needed, the cost involved, and the time schedule of anticipated progress. In this chapter, we shall also look at the sources of data, the sample design and the methods of data collection.

#### **3.2 Research Design**

This study employed descriptive survey design given its nature as it requires both quantitative and qualitative data to be collected. The design has also been chosen because of its simplicity in the methods of data collection which the study used. According to Mugenda and Mugenda (2003) quantitative research produces quantifiable and numerical data while qualitative research is limited to producing data in the form of statements or words rather than numbers.

The study also employed cross-sectional descriptive research involving household heads which was adopted because the research involved looking at the current state of environment. Kombo et al (2007) observed that descriptive approach is designed to obtain information concerning the current phenomenon and wherever possible to draw valid conclusions from facts discussed. The choice of Mombasa Island as the study area was through purposive sampling as it was one of the areas presumed to be having urban environmental problems and mixed type population (both elite and non-elite). The household heads were the unit of analysis.



### 3.3 Target population

By considering the geographic and socio-economic variations in the study area and the urban setup, it was thought appropriate to take all the estimated 206,716 people in 34,452 households resident in the district as the ‘true population’. However, very often the true population is not amenable to sampling in the time available and a surrogate has to be found. From this point of view, it was desirable to develop a sampling frame (i.e. a statistical sub-population from which to take the sample) which locates individuals within the population. The sampling frame was constituted from the six areas of Ganjoni, Railway, Tononoka, Tudor, Majengo and old town from which a sample of 100 households was taken.

### 3.4. Sample size and sample selection

Mombasa Island has a population of 206 716 people and 34 452 households (Kenya National Bureau of Statistics, 2010). The primary aim of undertaking sampling procedure is to obtain that sample which against all odds will be able to demonstrate the ‘true’ characteristics of the population (Kalton 1983). It is from this understanding that 100 households were sampled from the six areas of Ganjoni, Railway, Tononoka, Tudor, Majengo and old town. The study intends to be guided by Fisher *et al* formula cited in Mugenda and Mugenda (2003) for determining the sample size when target population is greater than 10,000 as is in this case at 95% confidence level is as shown below:

$$\text{Sample Size (n)} = \frac{z^2 pq}{d^2}$$

Where:  $z$  = the standard normal deviate at the required confidence level 95% (1.96)

$p$  = proportion of the sample population estimated to have the characteristics being measured, in the case of this study 93% (0.93)

$$q = 1 - p$$

d = maximum tolerable error of 5% (0.05)

$$n = \frac{(1.96)^2 \times (0.93)(0.07)}{0.05^2}$$

$$0.05^2$$

$$n = 384$$

During the survey, it emerged that the respondents who were aged 18 years and above were not easy to find in their households during the time and period of data collection. The researcher therefore managed to access 100 households. The most important thing to note was that the households sampled revealed a trend of certain information that was being sought. It is worth noting that there are sometimes underlying factors surrounding, which make a researcher to pick a small sample, which include off course, nature of the population and availability of resources (Daniel 2012). In the surrounding circumstance, the homogeneity of the population as well as limitation in time, inadequate funds and personnel greatly contributed to the choice of the 100 households. Eshun (2002) while studying solid waste management (SWM) in the informal settlements of Accra City used a sample size of 40 out of 54,000 from two combined informal settlements stating that they were spatially different; they represented an aspect in SWM in urban setting.

### **3.5. Research Instruments**

Since much of this study (research) was field oriented, it relied heavily on direct field observation concerning the state of environment and evidence of violations. This ensured accuracy and reliability of some primary data since it also included assessing whatever

information given. Useful information was therefore gathered by the researcher during the field survey by way of observation and note-taking and filling the questionnaire.

The collection of data and information from the households was done through the use of well designed structured interview schedules (questionnaires). Most of the questions asked in the questionnaires were open-ended (so as to get detailed information on the opinions, views and perception of the people) but some are either closed or probe questions.

### **3.5.3. Validity of the instruments**

Validity is the accuracy and meaningfulness of inferences, which are based on the study results. In other words, validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. After the preparation of the questionnaire schedule, the researcher presented them to the supervisors and colleagues for validation. The researcher also gave some copies to the County Environment Office to ensure that the questionnaires would give the right information required.

### **3.5.4. Reliability of the instruments**

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials Mugenda and Mugenda (2003). The technique that was used to measure to degree of reliability of the questionnaire schedule was the test-retest. The researcher administered the same questionnaire twice to the same number of households in the same area. It was then observed that there was consistence in the information provided.

### **3.5.4 Data collection procedure**

After the initial pilot study which was mainly concerned with the refinement of research instruments; field identification of sampling frame and sampling units; and the general reconnaissance of the study area, the researcher then proceeded to the final second phase of the study which deals with both primary and secondary data collection. Since much of this study was field oriented, it relied heavily on direct field observation and personal (oral) interviews.

An intensive study was undertaken on the sample population of households and level of participation in environmental enforcement.

Observation and interviews were conducted with heads of households or their representatives by visiting them at the subject's residence. However, although the family is considered as the basic unit of inquiry, it was expected that the head of the household or the spouse, would not always be the respondent. In such cases, only persons over 18 years of age (male or female) were interviewed, with one person per household qualifying as a respondent. Simple random and systematic sampling was used to reach them. Interviews were also done through the use of well-designed and structured questionnaire schedules. To avoid getting wrong or irrelevant information (due to misunderstanding/misinterpretation of the questions and the relatively low literacy level in the area) and loss of questionnaires (as a result of inaccessibility), it was decided that most of the questionnaires would be self-administered to the selected sample population.

### **3.6 Data Analysis**

In order to determine the variations in magnitude and/or association of the various parameters under examination, various techniques and methods were used in data analysis and presentation. They include descriptive and qualitative techniques.

In descriptive statistical analysis, frequency distribution; and measures of association or relationships were used to arrive at a general picture, from which conclusions can be drawn. Besides, graphs were used as a supplement to statistical analysis. The graphs enabled the reader to compare or see the trend of the distribution more vividly than simply looking at numbers in a frequency table. The main types are bars, and pie charts.

Furthermore, a basic computer application-SPSS was used in data analysis. SPSS stands for Statistical Package for Social Sciences. It is of the best statistical packages for data storage, manipulation, analysis and reporting.

### **3.7 Ethical Considerations**

The study treated data collected with confidentiality and for the purposes of the study only. Interested people would also have an opportunity to access the information once it is published.

### **3.8. Operational definition of variables**

The researcher has attempted to show the relationships among the variables identified. Their interrelationship or interplay of the key variables was further shown in the schematic diagram. However, reference was done to the operational definition of variables as shown in the Table 3.1 given in the next page.

**Table 3.1: Operational definition of Variables**

Variable	Indicator	Measure	Scale	Tools of Analysis
<b>Dependent Variable</b>	Reduced cases of environmental pollution;	No. of pollution incidences	Nominal & Ordinal	Frequencies Tabulations
Participation	reduced no. of incidences reported;	No. of incidences	Nominal & Ordinal	
	No. of citizens actively involved in enforcement	No. of enforcement actions taken	Nominal & Ordinal	
<b>Independent Variables</b>	Knowledge & willingness to use the available options of administrative & legal actions	No. of actions taken	Nominal & Ordinal	Frequencies Tabulations
Legislative factors				
Environmental awareness	Knowledge of risks of pollution & roles to play in enforcement	No. of actions taken & role played	Nominal & Ordinal	
Socio-economic factors.	Willingness to participate & pay for services rendered in enforcement	No. of people participating & amount of money to be paid	Nominal & Ordinal	
Access to information	Information readily available to citizens	No. of people seeking information	Nominal & Ordinal	
Political factors	Reduced cases of political interference	No. of cases reported of political interference	Nominal & Ordinal	
<b>Moderating Variables</b>	High level of consciousness & high expectations	No. of people readily available to take action; standards of expectation	Nominal & Ordinal	
Citizens education levels	Existence of locally designed structures of environmental management	Type & tools of management	Nominal & Ordinal	
<b>Intervening Variables</b>				
Local governance structures				

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION

#### 4.1 Introduction

This chapter covers the general information of the respondents which includes the study of the gender aspect, age, education level attained as well as covering all the research questions in the analysis of the obtained data and presented through tables. The chapter also gives the summary of the analysis and discussions made.

#### 4.2 Demographic Information

In the study, the researcher managed to collect data from 97% (n=97) of the sampled population where this is good as compared to the 75% recommended by Mugenda (2009) in her description of the required sampled, as shown in table 4.1.

The study findings indicates that majority of the respondents (41%, n=40) are aged between 20 and 30 years. The findings also indicate that 36% (n=35) of the respondents are aged between 31 and 40 years while the least number of the respondents (4%, n=4) are aged over 51 years. The findings also indicate that 19% (n=18) are aged between 41 and 50 years. The findings also indicate that 41% (n=40) of the respondents were female while 59% (n=57) of the respondents were male. It also indicates that majority (60%, n=54) of the respondents indicated that their status of informant were head while 40% indicated that they were members.

On the issue of education levels the findings indicate that majority of the respondents (50%, n=47) were undergraduate while only 2% (n=3) were PhD holders. The findings also indicate that 27% (n=25) of the respondents had secondary education and 10% (n=9) of the respondents were holders of masters degree. The results indicate that 6% (n=6) of the respondents had primary education.

**Table 4.1 Demographic information**

<b>Response rate</b>	<b>Frequency</b>	<b>Percent</b>
Response	97	97.0
Non response	3	3.0
<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>Ages of the respondents</b>	<b>Frequency</b>	<b>Percent</b>
20-30 years	40	41.0
31- 40 years	35	36.0
41-50 years	18	19.0
Over 50 years	4	4.0
<b>Total</b>	<b>97</b>	<b>100.0</b>
<b>Gender of the respondents</b>	<b>Frequency</b>	<b>Percent</b>
Male	57	59.0
Female	40	41.0
<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>Status of the informant</b>	<b>Frequency</b>	<b>Percent</b>
Head	54	60.0
Member	43	40.0
<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>Level of education</b>	<b>Frequency</b>	<b>Percent</b>
Primary	6	6.0
Secondary	27	25.0
Undergraduate	47	50.0
Masters	9	10.0
PHD	3	2.0
Others	5	5.0
<b>Total</b>	<b>97</b>	<b>100.0</b>



#### 4.2 Legislative factors that influence public participation in environmental enforcement

The findings in table 4.2 indicate that majority of the respondents (61% , n=59) are aware of the environmental management and coordination Act 1999 and its regulation while 39% (n=38) of the respondents were not aware of such act and its regulation.

**Table 4.2 Awareness of EMCA 1999 and its regulation**

<b>Awareness of EMCA 199 and its regulations</b>	<b>Frequency</b>	<b>Percent</b>
Yes	59	61.0
No	38	39.0
<b>Total</b>	<b>97</b>	<b>100.0</b>

When looking at the sources of information about knowledge of EMCA, the study revealed that those who were aware of the EMCA 1999 and its regulation heard about it from various sources. Majority of the respondents (54.2%) heard about it from reading the act or through the media while the least number of the respondents (16.9%) heard about the act through friends. The findings also indicate that 28.8% of the respondents visited NEMA offices and were made aware of the act. The finding is in table 4.3.

**Table 4.3 Source of information about the EMCA 1999 and its regulation**

<b>Source of information</b>	<b>Frequency</b>	<b>Percent</b>
Read/heard about it through media	32	54.2%
Explained to you by a friend	10	16.9%
Visited NEMA or government office	17	28.8%
<b>Total</b>	<b>59</b>	<b>100.0%</b>

The study findings in table 4.4 indicate that most of the respondents (81%, n=79) had the environment where they live polluted while 19% (n=18) indicated that the environment where they live is clean and healthy.

**Table 4.4 Status of the environment where you live**

Status of the environment	Frequency	Percent
Yes (polluted)	79	81.0
No (not polluted)	18	19.0
<b>Total</b>	<b>97</b>	<b>100.0</b>

The study findings in table 4.5 indicate that most common pollution is land garbage as reported by 65.8% (n=52) of the respondents while air pollution ranks the least as reported by 2.5% (n=2) of the respondents. The findings indicate that 31.6% (n=25) of the respondents indicated that they experience pollution of water by sewage.

**Table 4.5 Type of environmental pollution**

	Frequency	Percent
Pollution of water by sewage	25	31.6%
Pollution of land by garbage	52	65.8%
Pollution of air	2	2.5%
<b>Total</b>	<b>79</b>	<b>100.0%</b>

The findings in table 4.6 indicate that majority of the respondents indicated that action has never been taken with regard to the pollution experienced in the area accounting for 60% (n=58) while those who indicated that action has ever been taken accounted for 40% (n=39).

**Table 4.6 Action taken**

<b>Action</b>	<b>Frequency</b>	<b>Percent</b>
Yes	39	40.0
No	58	60.0
<b>Total</b>	<b>97</b>	<b>100.0</b>

The findings in table 4.7 indicate that 46.2% (n=18) of the respondents who have ever taken action with regard to environmental pollution mobilized local resources to clean up the environmental pollution caused while 5.1% (n=2) either recorded a statement and became a witness or arranged for informal negotiation with the violator for remedy.

**Table 4.7 Type of action taken**

	<b>Frequency</b>	<b>Percent</b>
Reported to the regulatory agency	3	7.7%
Mobilized local resources to clean up the mess	18	46.2%
Instituted proceedings in a court of law	14	35.9%
Recorded a statement and became a witness	2	5.1%
Arranged for informal negotiation with the violator for remedy	2	5.1%
<b>Total</b>	<b>39</b>	<b>100.0%</b>

The findings in table 4.8 indicate that majority of those who have never taken action said that they cannot take action because they do not believe in the judicial process accounting for 32.8% (n=19) while 10.3% indicated that there exist bad laws that are not deterrent.

**Table 4.8 Reasons for inaction**

	<b>Frequency</b>	<b>Percent</b>
Regulatory agency has no capacity to deal with the problem	5	8.6%
Don't believe in the judicial process	19	32.8%
It is expensive to institute court proceedings	16	27.6%
Bad laws that are not deterrent	6	10.3%
Waste of time	12	20.7%
<b>Total</b>	<b>58</b>	<b>100.0%</b>

The findings in table 4.9 indicate that majority of the respondents (74%, n=71) were not aware of any action taken by NEMA for the environmental pollution in their area while 26% (n=25) indicated that they were aware of such actions to have been taken by NEMA.

The study also indicate that 80% (n=20) of the respondents who reported that action has ever been taken by NEMA indicated that NEMA prosecuted the offenders in court while 20% (n=5) reported that the offenders were warned.

**Table 4.9 Aware of any enforcement action taken by NEMA for the environmental pollution**

<b>Aware of any enforcement action by NEMA</b>	<b>Frequency</b>	<b>Percent</b>
Yes	25	26.0
No	71	74.0
<b>Total</b>	<b>96</b>	<b>100.0</b>
<b>Action taken</b>	<b>Frequency</b>	<b>Percent</b>
Prosecuted in a court of law	20	80.0
Issued with a warning	5	20.0
<b>Total</b>	<b>25</b>	<b>100.0</b>

The findings in table 4.10 indicate that 46.2% (n=18) of the respondents who have ever taken action with regard to environmental pollution mobilized local resources to clean up the environmental pollution caused while 5.1% (n=2) either recorded a statement and became a witness or arranged for informal negotiation with the violator for remedy.

**Table 4.10 Type of action taken**

	<b>Frequency</b>	<b>Percent</b>
Reported to the regulatory agency	3	7.7%
Mobilized local resources to clean up the mess	18	46.2%
Instituted proceedings in a court of law	14	35.9%
Recorded a statement and became a witness	2	5.1%
Arranged for informal negotiation with the violator for remedy	2	5.1%
<b>Total</b>	<b>39</b>	<b>100.0%</b>

The findings in table 4.11 indicate that 42.3% (n=30) who indicated that NEMA has never taken action believed that they are corrupt while 14.1% (n=10) of the respondents believed that they are not aware of the environmental pollution in the area.

**Table 4.11 Reasons for NEMA not talking action**

	<b>Frequency</b>	<b>Percent</b>
Not aware of the environmental pollution	10	14.1%
Environmental inspectors don't have the capacity to take action	12	16.9%
Environmental inspectors are very few in the field	19	26.8%
They are corrupt	30	42.3%
<b>Total</b>	<b>71</b>	<b>100.0%</b>

### 4.3 Socio-economic factors and participation

The study findings in table 4.12 indicate that majority of the respondents own stone wall and iron roof houses accounting for 46.9% while only 1% of the respondents own mud wall and makuti roof type of houses.

**Table 4.12 Type of housing**

		Frequency	Percent
Valid	Stonewall/tile roof	42	43.8
	Stonewall/iron roof	45	46.9
	Stonewall/makuti roof	6	6.3
	Mud wall/iron roof	2	2.1
	Mud wall/makuti roof	1	1.0
<b>Total</b>		<b>96</b>	<b>100.0</b>

The study findings in table 4.13 indicate that 40.4% (n=36) of the respondents have a formal employment while 10.1% (n=9) have informal employment. The results also indicate that 34.8% (n=31) of the respondents are self employed and 14.6% (n=13) are casual laborers.

**Table 4.13 Source of income**

		Frequency	Percent
Valid	Formal employment	36	40.4
	Informal employment	9	10.1
	Self employment	31	34.8
	Casual laborer	13	14.6
<b>Total</b>		<b>89</b>	<b>100.0</b>

The findings in table 4.14 indicate that 44.8% (n=39) of the respondents earn more than Ksh 20000 per month while the least number of respondents (10.3%) earn between Ksh 0 and Ksh 5000.

**Table 4.14 Average monthly income in Kshs**

	Frequency	Percent
Valid		
0- 5,000	9	10.3
5001-10,000	23	26.4
10001-20,000	16	18.4
Over 20,000	39	44.8
Total	87	100.0

The study findings in table 4.15 indicate that majority (47%, n=45) of the respondents have stayed in the area for more than 20 years while 10% (n=10) have either stayed in the area for 1 to 5 years or 11 to 20 years. The findings also indicate that 11% (n=11) have stayed in the area for 12 months or less while 22% (n=21) have stayed in the area for between 6 years and 10 years.

**Table 4.15 Length of stay**

Length of stay	Frequency	Percent
0-12 months	11	11.0
1-5 years	10	10.0
6-10 years	21	22.0
11-20 years	10	10.0
Over 20 years	45	47.0
<b>Total</b>	<b>97</b>	<b>100.0</b>

The findings in table 4.16 indicates that majority of the respondents (94%, n=83) have received the services relating to garbage collection while 6% (n=% have received the sewerage services in their area of stay. The study findings also indicate that most of the respondents have paid for the

environmental services they receive in their area of residence accounting for 75% (n=70). Those who have not paid accounted for 25% (n=23) of the respondents. It also indicates that most of the respondents are not willing to pay for costs associated with environmental enforcement action such as litigation costs accounting for 92% (n=89) while only 8% (n=8) are willing to pay.

**Table 4.16 Environmental services and payment**

<b>Environmental service</b>	<b>Frequency</b>	<b>Percent</b>
Garbage collection	83	94.0
Sewerage	5	6.0
<b>Total</b>	<b>88</b>	<b>100.0</b>
<b>Payment</b>	<b>Frequency</b>	<b>Percent</b>
Yes	70	75.0
No	23	25.0
<b>Total</b>	<b>93</b>	<b>100.0</b>
<b>Willingness to pay</b>	<b>Frequency</b>	<b>Percent</b>
Yes	89	92.0
No	8	8.0
<b>Total</b>	<b>97</b>	<b>100.0</b>

#### **4.4 Environmental awareness and participation**

The findings in table 4.17 indicate that most of the respondents are aware of the consequences of living in a polluted environment and this accounted for 96% (n=93) while 4% (n=4) indicated they are not aware of the consequences of living in an environmentally polluted area. It also indicates that 59% (n=57) of the respondents are not aware of environmental laws in Kenya while 41% (n=40) indicated they were aware of the environmental laws in the country. It also finds out that majority of the respondents (92%, n=89) feel that they have a role to play to ensure a clean and healthy environment while only 8% (n=8) feel that they have no role to play to ensure a clean and healthy environment.



**Table 4.17 Environmental awareness and participation**

<b>Awareness of the consequences of living in a polluted environment</b>	<b>Frequency</b>	<b>Percent</b>
Yes	93	96.0
No	4	4.0
<b>Total</b>	<b>97</b>	<b>100.0</b>
<b>Awareness of environmental laws in Kenya</b>	<b>Frequency</b>	<b>Percent</b>
Yes	40	41.0
No	57	59.0
<b>Total</b>	<b>97</b>	<b>100.0</b>
<b>Role to play to ensure a clean and healthy environment</b>	<b>Frequency</b>	<b>Percent</b>
Yes	89	92.0
No	8	8.0
<b>Total</b>	<b>97</b>	<b>100.0</b>

The findings in table 4.18 show the various reasons as to why the respondents felt they have a role to play in ensuring a clean and healthy environment. From the responses, 41.6% of the respondents indicated that they have a role to play since they enjoy staying in a clean environment while 9.0% indicated that they do so to avoid spread of germs and sickness. The findings also indicate that 32.6% (n=29) participate because they feel it is their duty to participate in cleaning the environment.

**Table 4.18 Reasons for having a role to play**

	<b>Frequency</b>	<b>Percent</b>
It is my duty to participate in cleaning the environment	29	32.6%
It is a legal requirement for me to participate in cleaning the environment	15	16.9%
I enjoy staying in a clean environment	37	41.6%
To avoid spread of germs and sickness	8	9.0%
<b>Total</b>	<b>89</b>	<b>100.0%</b>

The finding in table 4.19 show those who felt they did not have a role to play in ensuring a clean and healthy environment, 50.0% (n=4) of them indicated that it is not a priority to clean the environment while 12.5% (n=1) indicated that it is costly to clean the environment and 37.5% (n=3) of the respondents indicated that it is the role of the government to clean the environment.

**Table 4.19 Reasons for Not having a role to play**

	<b>Frequency</b>	<b>Percent</b>
It is the role of the government to clean the environment	3	37.5%
It is costly to clean the environment	1	12.5%
It is not my priority to clean the environment	4	50.0%
<b>Total</b>	<b>8</b>	<b>100.0%</b>

#### **4.5 Access to information and participation**

From the findings in table 4.20, 91% (n=88) of the respondents indicated that they require information in order to participate in environmental enforcement while 9% (n=9) indicated that they do not require any information to participate in such enforcement. The findings also indicate that majority of the respondents (82%, n=76) have made an effort to get some information pertaining to violation of environmental laws from NEMA while 18% (n=17) have never made such effort to obtain any information to violation of environmental laws from NEMA.

**Table 4.20 Access to information and participation**

<b>Need information to participate in environmental enforcement</b>	<b>Frequency</b>	<b>Percent</b>
Yes	88	91.0
No	9	9.0
<b>Total</b>	<b>97</b>	<b>100.0</b>
<b>Effort to get some information pertaining violation of environmental laws from NEMA</b>	<b>Frequency</b>	<b>Percent</b>
Yes	17	18.0
No	76	82.0
<b>Total</b>	<b>93</b>	<b>100.0</b>

**4.6 Political factors and participation**

Table 4.21 shows the results on roles played by the politicians as reported by the respondents who indicated that they are aware of the roles played by the politicians. The findings indicate that majority of the respondents (36.0%, n=18) recognizes the politicians' roles as advising the citizens to maintain clean environment while 22.0% (n=11) remember their roles as arbitrating between NEMA and the violators of the environmental law.

**Table 4.21 Roles played by the politicians**

	<b>Frequency</b>	<b>Percent</b>
Mobilizing citizens to demonstrate against uncollected garbage and any other environmental crime	7	14.0%
Protecting prosecution of violators	6	12.0%
Arbitration between NEMA and violator	11	22.0%
Advising the citizens to maintain clean environment	18	36.0%
Making laws to protect the environment	8	16.0%
<b>Total</b>	<b>50</b>	<b>100.0%</b>

The findings in table 4.22 indicates that 67% (n=61) of the respondents do not appreciate the roles played by the politicians in environmental law enforcement while 33% (n=30) appreciated their roles.

**Table 4.22 Appreciate the role played by politicians in environmental enforcement**

	<b>Frequency</b>	<b>Percent</b>
Yes	30	33.0%
No	61	67.0%
<b>Total</b>	<b>91</b>	<b>100.0%</b>

The findings in table 4.23 indicate that 31.1% of the respondents do not appreciate the roles played by the politicians because they are corrupt while 13.1% indicated that they do not appreciate the roles of the politicians because they also pollute the environment and 19.7% indicated that they are partisan while dealing with environmental pollution violators.

**Table 4. 23 Reasons for not appreciating politicians' roles**

	<b>Frequency</b>	<b>Percent</b>
They are usually partisan when dealing with environmental pollution	12	19.7%
They pollute the environment as well	8	13.1%
They should stick to making effective laws	11	18.0%
They are usually corrupt	19	31.1%
They are involved in land malpractices	11	18.0%
<b>Total</b>	<b>61</b>	<b>100.0%</b>

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

The chapter gives summary of the research findings as carried out, discussions, conclusions based on the findings of the study and at end of the chapter, some useful recommendations are suggested by the researcher for the people under study and stakeholders in order to resolve the problem observed, based on the results.

#### **5.2 Summary of findings**

The study was done with the objective to determine factors influencing citizens' participation in environmental enforcement in Mombasa Island. The study sought to establish the level of environmental awareness that influence public participation in environmental enforcement, the effect of socio-economic factors in influencing public participation in environmental enforcement, to establish how access to information influences public participation in the maintenance of a clean environment and how political factors influence public participation in environmental enforcement. The study used descriptive method of data collection that involved the use of questionnaires from the residents of Mombasa Island.

The study has established that most of the residents of Mombasa Island are young people aged between 20 and 30 years. This indicates that if they have adequate information related to environment they can actively participate in environmental enforcement. The study has established that most of the residents of Mombasa Island have attained good education with majority having undergraduate studies. This means that when it comes to understanding environmental enforcement they should be on the upper hand to understand and clearly enforce it to the end to ensure that environment is clean and healthy.

The study has established that legislative factors influence public participation in environmental enforcement. The study has established that residents of Mombasa island are aware of the EMCA of 1999 since most of them read or heard about it from the media. However, the study

has established that there are pollutions in the Island such as the sewerage and garbage pollution. The study has established that the residents of Mombasa Island do not take action against the offenders of such pollution citing lack of confidence in the judiciary and the inability of the concerned authorities to take stern actions against the offenders. This is in line with the study of INECE (1998) in which it was indicated that when agencies do not have the authority needed to enforce independently, they compromise the environmental enforcement and hence loophole to environmental pollution.

The study has established that social-economic factors are factors that are crucial to the enforcement of the environmental laws by the public and their participation. The study has established that most of the respondents were employed formally or informally and therefore have sources of income. The study has established that those who have income are paying for the cleanup of the environment and therefore have the need to maintain a clean and healthy environment. However, there are those who see no need to pay for the enforcement services citing that it is not their obligation. This indicates that they either have low incomes or see environmental enforcement as work belong to other people. This confirms the study of Amechi (2009) in which in his work he indicated that factors of environmental degradation in sub-Saharan Africa looked into income levels of regulated community which he said cannot be wished away. She continued to add that those who think they are poor will find it hard to maintain a clean environment.

The study has established that awareness of the environmental laws influences the public participation in the environmental enforcement. This study has established that most of the respondents are aware of the environmental laws and the consequences of staying in a polluted environment and therefore participate in the environmental enforcement because they see it as both their duty and legal requirement to participate in the environmental enforcement. This confirms that most of the residents are ready to comply with the environmental enforcement and thereby confirming the study undertaken by Benson et al (2006), in which he said that awareness of legislation and regulatory obligations is a prerequisite for compliance, and therefore has a major impact on the need for enforcement.

The study has established that access to environmental information facilitates the public participation in the environmental enforcement. The study has established that majority of the respondents need information to participate in the environmental enforcement and therefore their effort for getting such information from the NEMA should be encouraged to enhance their public participation. This is in line with the study of Susan et al (1996), who said access to information is the cornerstone of effective public participation at all levels of decision-making.

Finally the study has established that the people of Mombasa Island do not require political influence to participate in the environmental enforcement. They indicated overwhelmingly that the politicians should not participate in the environmental enforcement for they are partisan or corrupt.

### **5.3 Discussions of findings**

It has been said that lack of proper, practicable legal instruments, some governance structures and institutionalized public complaint process in enforcement programmes have negatively impacted on citizen's participation (INECE, 1998). It is argued in the absence of such, then complains are not taken seriously by the enforcement agencies and citizens are left as 'orphans' so to say. It has also been said that some barriers to proper enforcement is when violators get away with too lenient penalties that are not deterrent at all, Jin and Yan (2011). When this happens, citizen's motivation to participate in environmental enforcement is eroded. Lack of institutional capacity has also been cited as a barrier to effective enforcement. This is compounded by lack of funding, unmotivated staff and ultimately corruption.

It has been noted in this research that the citizens do not believe in the judicial process to pass justice on environmental crimes. This is simply because the judgements past touching on environmental matters do not deter violation and therefore are not popular with the citizens. As such, citizens see it as a waste of time to report or institute court proceedings. The research finding does not see the issue of capacity as major contributor influencing citizen's participation. Rather, the research indicates that citizens are concerned that it is very expensive to institute court proceedings or even to report a violation. They see this as not being user friendly and that is assure way of telling them not to participate in environmental enforcement.

The research also reveals that environmental inspectors are very few in the field and in one way or another are corrupt. This is because environmental violations some of which are obvious are not acted upon leaving more questions than are the answers. Their coverage in the field is also wanting.

In establishing the influence of socio-economic factors on citizen's participation, the research revealed that elite members of the citizens are more willing and able to participate in environmental enforcement. Conversely, the non-elite members are not willing to pay for costs associated with environmental enforcement. This position tends to agree with Amechi (2009) who said poor citizens are preoccupied with sustenance rather than a quality environmental surrounding. The position also agrees with Masilingi (1996) there has to be a deliberate attempt to build the socio-economic capabilities of the citizens in order achieves optimal citizen's participation in environmental enforcement.

In addition, the research revealed that environmental awareness is key to citizen's participation in enforcement. This is a very important step before engaging in citizen's enforcement, the argument being you can't enforce what you don't know. Subagyo (1999) says keeping citizen in the dark is often a recipe for disaster. Another researcher, Benson (2006) says environmental awareness is a prerequisite for compliance and enforcement. The research further reveals that it is from the understanding of environmental awareness and advantages of clean environment that citizen feels have a duty to participate in environmental enforcement.

It has also been pointed out that there is lack of access to information and that many countries do not have pieces of legislation in support of access to information. Susan (1996) says access to information is the cornerstone of effective public participation in enforcement. This research reveals that members of the public require access to information for them to participate in enforcement. It also reveals that citizens have been coming out to look for this information from regulatory agencies.

Furthermore, there is lack of political will in environmental enforcement due to economic reasons among others. This research reveals that while some citizens appreciate the role of



politicians as advisory to a clean environment only, they can't entrust them on enforcement. In fact, they are believed to ask for kick-backs to support violators so that they are not punished.

#### **5.4 Conclusions**

Well conserved environment a lee way to efficient, clean and healthy environment in which all people are proud of staying in. Mombasa Island has been coupled with various types of environmental pollution ranging from garbage disposal to poor sewerage system. Environmental awareness amongst people, social and economic factors of the people, access to information, and political factors influence the citizens in various ways to maintain a clean and healthy environment.

The awareness of legislation such as the EMCA 1999 and its regulation is well known with Mombasa Island as indicated by the respondents in this study. It therefore indicates that the residents of Mombasa Island know laws that govern the environment. The main source of information of such laws to the people is the print media and through reading. Despite the residents awareness of the laws that govern environment, the resident still live in an environmentally polluted area. Few of the residents live in clean and healthy places. This confirms that the environment is highly polluted in the area. The study has also established that despite the existence of the law, most of the residents do not take action against the offenders of the environment and cite lack of confidence as the reason for taking no action. There have been no stiff actions taken by NEMA against the offenders of the environment as the main environment defender. This indicates that environmental issues have been given low profile in the area.

Socio-economic factors are key factors towards conserving and maintaining a clean and healthy environment. The factors such as income and the type of housing are crucial in making environment a healthy place for all. The study has established that enforcement of environment laws clearly depends on the residential places of the respondents. Low residential areas experience a lot of environmental pollution as they do not care about maintaining a clean environment. Income is a key influencer of environmental enforcement. Those who earn income

from employment are in a position to pay for environmental cleanup such as the collection of garbage and maintenance of sewerage systems.

Awareness of the environmental laws and enforcement is an influencer to the participation of the people on the environmental enforcement. The study has established that most residents of Mombasa Island are aware of the laws of environment and recognize the need to live in a clean environment. This means that those who understand the environment law will do everything to live in a clean and healthy environment. Conclusively, the residents know that maintaining a healthy environment is their priority and initiative and hence the need to maintain it in a clean and viable way.

The access to information and political factors are also key to ensuring that environment clean and healthy. This study concludes that the residents of Mombasa Island need information to participate in environmental enforcement and therefore the provision of such information will enhance a cleanup of the Island and make it an environmentally viable island. Political factors are other forces that influence participation of people in environmental enforcement. However, the study concludes that people of Mombasa Island see politicians as protectors of impunity amongst people and they do not need them in the environmental enforcement.

Therefore environmental enforcement and management requires a well coordinated of information, legislation and economic empowerment of the people to fully participate in the environmental enforcement. This will ensure that the environment is clean and healthy.

#### **5.4 Recommendations**

NEMA and the government and other stakeholders of the environment should make laws that are strict and create awareness of such laws to the public to enhance the public participation in the environmental enforcement in order to facilitate the maintenance of a clean and viable environment that is safe for all.

NEMA and the stakeholders of the environmental should organize public forums and education to create awareness amongst the public to participate in the environmental enforcement with an

aim of maintaining a clean environment and a healthy one in which everyone is part to create and keep safe.

The stakeholders in the environment and the government should economically empower people through employment creation and building of proper and cheap housing and make it a requirement for all to participate in environmental enforcement in order to create an environment that is clean and healthy for all.

The government and environmental agencies such as NEMA should make available all the environmental laws to the public through their respective branches to the people in order to facilitate public participation in the environmental enforcement.

The politicians should concentrate in making laws regarding environment and push the government and environmental agencies such as NEMA to implement such laws and further the participation of the public in environmental participation.

#### **5.4.2 Recommendation for further research**

1. There should be a study done on the effect of lack of garbage collection to the environment at the Mombasa Island in order to come up with recommendations through which the government and the public can participate in order to keep the environment clean.
2. There should be a study done to determine the effect pollution in Mombasa Island and build recommendation through which pollution can be reduced in the Island.

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## APPENDICES

### Appendix 1: Questionnaire outline for households NO\_\_\_\_\_

You're requested to provide information to the following questions by putting a  $\surd$  marking against a selected answer or filling in you answer(s) in the space provided. The information is for research purposes and will be treated in confidence.

#### I. GENERAL INFORMATION

Age of respondent: 20 – 30 years [ ], 31 – 40 years [ ], 41- 50 Years [ ] Over 51 years [ ]

Sex:  Male  Female

Status of informant: Head [ ] Member [ ]

Level of Education: Primary school [ ], Secondary school [ ] Undergraduate [ ], Masters [ ],

PhD [ ] Others [ ]

#### II. LEGISLATIVE FACTORS AND PARTICIPATION

1. Are you aware of the environmental legislation called Environmental Management and Coordination Act, 1999 and its regulations? Yes [ ] No [ ]
2. If yes, how did you come to know about the legislation?
  - (a) read/heard about it media [ ]
  - (b) Explained to you by a friend [ ]
  - (c) Visited NEMA or government office [ ]
3. What is the status of environment where you live?
  - (a) Polluted [ ]
  - (b) Clean and healthy [ ]
4. If polluted in 3 above, what is the type of environmental pollution?
  - (a) Pollution of water by sewage [ ]
  - (b) Pollution of land by garbage [ ]



© Pollution of air [ ]

(d) Others \_\_\_\_\_

5. Have you taken any action with regard to the pollution above?

(a) Yes [ ]

(b) No [ ]

6. If yes in 5 above, what type of action?

(a) Reported to the regulatory agency [ ]

(b) Mobilized local resources to clean up the mess [ ]

(c) Instituted proceedings in a court of law [ ]

(d) Recorded a statement and became a witness [ ]

(e) Arranged for informal negotiation with the violator for remedy [ ]

7. If no in 5 above, what was the reason for your inaction?

(a) regulatory agency has no capacity to deal with the problem [ ]

(b) don't believe in the judicial process [ ]

(c) it is expensive to institute court proceedings [ ]

(d) bad laws that are not deterrent

(e) waste of time [ ]

(f) Explain your answer in 7 above and any other reason

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.....

8. Are you aware of any enforcement action taken by NEMA for the environmental pollution in your area?

(a) Yes [ ]

(b) No [ ]

9. If yes in 8 above, what action was taken?

(a) Prosecuted in a court of law [ ]

(b) Issued with a warning [ ]

(c) Any other action, explain

.....  
.....

**10.** If no in 8 above, what is your reason for NEMA not taking action?

(a) Not aware of the environmental pollution [ ]

(b) Environmental inspectors don't have the capacity to take action [ ]

(c) Environmental inspectors are very few in the field [ ]

(d) Any other reason.....

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11. Make recommendations on how to improve on the issues said above?

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.....

**III. SOCIO-ECONOMIC FACTORS AND PARTICIPATION**

12. Type of housing

Stonewall/tile roof [ ] Stonewall/iron roof [ ] Stonewall/makuti roof [ ]

Mud wall/iron roof [ ] Mud wall/grass roof [ ] Mud wall/Makuti roof [ ]

Others (specify) \_\_\_\_\_

13. What is the source of your income?

(a) Formal employment [ ]

(b) Informal employment [ ]

(c) Self employment [ ]

(d) Causal laborer [ ]

(e) Others specify \_\_\_\_\_

14. What is your average monthly income?

(a) 0 – 5,000/= [ ]

(b) 5001 – 10,000/= [ ]

(c) 10,001 – 20,000/= [ ]

(d) Over 20,000/= [ ]

15. As a resident of this area, for how long have you stayed here?

(a) 0 – 12 months [ ]

(b) 1 – 5 years [ ]

(c) 6 – 10 years [ ]

(d) 11 – 20 years [ ]

(e) Over 20 years [ ]

16. What environmental services do you receive in your area?

(a) Garbage collection [ ]

(b) Sewerage [ ]

(c) Any other, name it-----

17. Do you pay for the service above?

(a) Yes [ ]

(b) No [ ]

18. How much do pay for the service above?.....

19. Would you be willing to pay for costs associated with environmental enforcement action such as litigation costs

(a) Yes [ ]

(b) No [ ]

20. If no in 18 above, what is your reason for not being willing to pay for environmental enforcement action?

(a) Don't believe the enforcement action will bring better results [ ]

(b) Not able to meet the cost [ ]

(c) None of his/her business [ ]

21. What recommendations can you give to improve on the issues said in this section?

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.....

**IV. ENVIRONMENTAL AWARENESS AND PARTICIPATION**

22. Are you aware of the consequences of living in a polluted environment?

(a) Yes [ ]

(b) No [ ]

23. Are you aware of any environmental laws in Kenya?

(a) Yes [ ]

(b) No [ ]

24. Name the environmental laws you know.....

.....

.....

.....

25. Do you have any role to play to ensure a clean and healthy environment?

(a) Yes [ ]

(b) No [ ]

26. If yes in 23 above, why do you think you have a role to play to ensure a clean and healthy environment?

(a) It is my duty to participate in cleaning the environment [ ]

(b) It is a legal requirement for me to participate in cleaning the environment [ ]

(c) Any other reason.....

.....

.....

27. If no in 23 above, why do you think you don't have a role to play in cleaning the environment?

(a) It is the role of the government to clean the environment [ ]

(b) It is costly to clean the environment [ ]

(c) It is not my priority to clean the environment [ ]

(d) Any other reason.....

28. What recommendations can you give to improve on the issues in this section?

.....

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**V. ACCESS TO INFORMATION AND PARTICIPATION**

29. Do you believe you need information to participate in environmental enforcement?

(a) Yes [ ]

(b) No [ ]

30. What is the source of this information?

(a) Field observation [ ]

(b) Records government agencies [ ]

(c) Records violators of environmental laws [ ]

31. Have you made an effort to get some information pertaining violation of environmental laws from NEMA?

(a) Yes [ ]

(b) No [ ]

32. If yes, did you get the information? and what was this information all about, explain

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33. If not in 28 above, what was the reason for not getting the information, explain

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34. Suggest recommendations to improve on how to access vital information that can lead to participation in environmental enforcement

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.....  
.....

VI. POLITICAL FACTORS AND PARTICIPATION

35. Are you aware of any role played by politicians in environmental enforcement?

(a) Yes [ ]

(b) No [ ]

36. If yes in 35 above, what do you know of the role played by politician in environmental enforcement?

(a) Mobilizing citizens to demonstrate against uncollected garbage and any other environmental crime [ ]

(b) Protecting prosecution of violators [ ]

(c) Arbitration between NEMA and violator [ ]

(d) Any other role, explain.....

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.....

37. Do you appreciate the role played by politicians in environmental enforcement?

(a) Yes [ ]



(b) No [ ]

38. If no, what are your reasons.....

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THANK YOU VERY MUCH FOR YOUR TIME

## **Appendix 2: A letter of introduction**

University of Nairobi,  
School of continuing and distance education,  
Department of extra mural studies,  
P.O. Box 83732  
Mombasa  
Friday 21<sup>st</sup> May, 2013.

Dear Sir/Madam,

### **RE: TO WHOM IT MAY CONCERN**

We are carrying out a research on citizen's participation in environmental enforcement in Mombasa Island, Mombasa County. To do this effectively, we are therefore obliged to gather relevant data from the citizens, Government officials and NGOs concerned with environmental management.

Please answer the questions in the attached questionnaire, giving your opinion/views about environmental enforcement situation. We assure you that the information provided here will be treated in the strictest confidence possible.

Thanking you in advance and looking forward to your cooperation

Sincerely,

**ALI MWANZEI**

**M.A. PROJECT PLANNING AND MANAGEMENT**

### Appendix 3: Budget

#### Budget

<b>Details</b>	<b>Unit cost</b>	<b>No. Units</b>	<b>Total (Ksh)</b>
Printing papers	450	2	900
Research Assistants	2000	18	36000
Printing	250	10	2500
Internet	100	20	2000
Local travel	1500	10	15000
<b>TOTAL</b>			<b>56400</b>

**Appendix 4: Work plan**

<b>Work plan</b>			
	<b>June</b>	<b>July</b>	<b>August</b>
Proposal Writing	X		
Defense		X	
Research Work		X	
Report writing & submission			X