FACTORS INFLUENCING THE IMPLEMENTATION OF ENVIRONMENTAL IMPACT ASSESSMENT RECOMMENDATIONS ON COMMERCIAL PROJECTS.A CASE OF NAKURU TOWN, NAKURU COUNTY, KENYA

BY

KELVIN KARANJA KIROMO

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DECLARATION

This research project is my original work and has not been submitted for a degree in any other University.

Sign: _____ Date: 15/08/2016.

Kelvin Karanja Kiromo

L50/77950/2015

This research project has been submitted for defense with my approval as the University of Nairobi supervisor

Sign: _____ Date: 15/8/2016

Mumo Mueke

Lecturer

Department of Extra Mural Studies

University of Nairobi

DEDICATION

This work is dedicated to my grandfather Francis Karanja who has continually encouraged all of us to pursue education to our level best love you granny and God bless you.

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ACRONYMS AND ABBREVIATIONS

C D E	County Director of Environment
CEC	County Environmental Committee
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ELU	Environmental Liaison Units
EMCA	Environmental Management and Coordination Act
EMP	Environment Management Plan
IAIA	International Association for Impact Assessment
IMC	Inter Ministerial Committee
JPOI	Johannesburg Plan of Implementation
NEMA	National Environment Management Authority
NEPA	National Environmental Policy Act
NGOs	Non Governmental Organizations
SEA	Strategic Environmental Assessment
SPSS	Statistical Package of Social Sciences Software
WCED	World Commission on Environment and Development

ABSTRACT

The study aimed to analyse the factors that influence the implementation of environmental impact assessment recommendations in commercial projects in Nakuru town. The core purpose of EIA is to integrate environmental considerations early in the decision-making process in order to identify and mitigate potential negative impacts of proposed actions. This is necessary to ensure that appropriate mitigation measures are incorporated during the planning phases of projects, activities and operations. In spite it's well known advantages; the EIA processes have documented weaknesses that hamper its effective use. This has compromised its effective integration of social, economic and ecological considerations into sustainable development. based on this existing fact the study will concentrate on three major parameters :the extent to which monitoring and evaluation by lead agencies affect the implementation of environmental impact assessment recommendations, the extent to which public participation influences implementation of environmental impact assessment recommendations and lastly the extent to which budgetary allocation influences the implementation of environmental impact assessment recommendations in Nakuru town .The theory of environmental impact assessment decision will be adopted which argues that if you provide better and more information to the decision maker then they will make a more rational decision because they will be better informed. Although it is well known that in reality, decisions about development are not made solely or in some cases even at all on a rational basis. Decisions are based on many considerations, and are often highly political. Case studies of Netherlands and Canada will be studies for the international case while Cameroon will be studies for chosen for regional case. Since the relationship between the main variables (independent and dependent variables) already exists, *ex-post facto* study design was considered appropriate for the research. Since it involves comparing groups in order to explain the existing differences between the variables of interest judgment sampling design, a non probabilistic sampling design, will be used since it is suitable when data sought can only be obtained from certain groups. A target population of 63 was used as 10% of the sample frame from ex-post facto research design. A questionnaire with both closed ended and open ended questions and an interview schedule was used as tools for the collection of primary data. The questionnaire will be hand delivered to respondents and a time for collection agreed upon. The use of an interview schedule required administration by an enumerator, who will help the respondent fill the schedule. A computer software programme SPSS was used to analyze quantitative data where both descriptive and person correlation was performed. The study established that a positive correlation existed between monitoring and evaluation and implementation of EIA recommendations=0.479, $p=0.00<\alpha$ (0.05public participation also recorded a positive correlation of R=0.523, $p=0.00<\alpha$ (0.05).and on the last objective the study established a positive correlation between budgetary allocation and implementation of EIA recommendations R=0.471$p=0.000<\alpha$ (0.05).the study concluded that monitoring and evaluation, public participation and budgetary allocation all had significant influence on the implementation of EIA recommendations.

CHAPTER ONE:

INTRODUCTION

1.1 Background to the Study

Environmental degradation and the depletion of natural resources induced by human activities have attracted steadily growing concerns in the last decades. Such concerns made evident the necessity for the planning authorities to count on sound information about the possible environmental consequences of development actions. One of the tools available to satisfy this need is represented by the procedure of Environmental Impact Assessment (EIA). This procedure involves the systematic identification and evaluation of the impacts on the environment caused by a proposed project.

The 1972 Stockholm Conference on Human Environment singled out under development, industrialization and technological development as the causes of environmental problems in the world. The conference called for the safeguard and improvement of the environment during development undertakings and for the reduction of the gap between the rich and the poor. The World Commission on Environment and Development (WCED) reported in 1987 that many development trends at that time impoverished people and degraded the environment.

Kenya domesticated EIA in section 36 of The Physical Planning Act 1996 and later in a comprehensive manner through the Environmental Management and Coordination Act (EMCA) of 1999. According to Morrison-Saunders and Arts (2004), EIA is a process for taking account of the potential environmental consequences of a proposed action during the planning, design, decision-making and implementation stages of the action.

The procedure of EIA generates a report, the Environmental Impact Statement (EIS) that summarizes the findings of the evaluation and discusses the acceptability of the predicted

environmental impacts. Such a report is submitted to the authorities to support the decision-making related to the approval of the development under consideration. The EIS is made up of a number of disciplinary studies, each one addressing specifically one category of effects (noise, radiation, etc.), or one environmental component (air, water, etc.).

For a proposed project or activity, the EIA process consists of the pre- decision stage and the post decision stage. The pre-decision stage consists of: screening to determine whether the project requires full EIA or not; scoping to prepare the terms of reference of the EIA; impact prediction and analysis to establish the potential negative and positive environmental impacts of the proposed project and to propose mitigation measures and; review for decision making. The post decision stage known as follow-up is broadly defined as the collection of activities undertaken after approval of a project has been given following EIA review. The purpose for undertaking these activities is to monitor, evaluate, manage and communicate the environmental outcomes that occur in order to ensure that projects are meeting intended goals and objectives and, more importantly, to provide for feedback and learning for improving environmental management practices (Arts et al. 2001). Follow-up involves monitoring and evaluation of project activities' outputs during the implementation, operation and decommissioning of the project against a priori selected environmental performance indicators to establish the accuracy of impact prediction made during the impact analysis stage. The monitoring and evaluation results are used to check compliance with regulations in force, the effectiveness of the mitigation measures and inform environmental management actions.

According to Harmer (2005), effective EIA should reduce the environmental impacts of developments if its recommendations are implemented is completely and adequately. Implementation of these recommendations can ensure that the expected benefits of EIA forecast

during the pre-decision stages of the process are achieved during project implementation and management. Furthermore, it enables the lessons, learned from experience to improve future practice of EIA. Without the implementations of the recommendations, EIA may be little more than a paper based exercise to obtain project approval. (Morrison- Saunders et al, 2001).

1.2 Statement of the Problem

The core purpose of EIA is to integrate environmental considerations early in the decision-making process in order to identify and mitigate potential negative impacts of proposed actions. This is necessary to ensure that appropriate mitigation measures are incorporated during the planning phases of projects, activities and operations.

In spite its use in both developed and developing countries, the EIA processes have documented weaknesses that hamper its effective use. This has compromised its effective integration of social, economic and ecological considerations into sustainable development. Some of the generally documented EIA weaknesses include: lack of meaningful partnership with the concerned public, poor quality and incomplete Environmental Impact Statement (EIS) often overpopulated with information and inadequate implementation of the proposed mitigation measures among others (Rafique, 2005).

Kenya is a good example of a developing country with a highly ambitious EIA legislation in place taking into account environmental, social, cultural as well as economic impacts of planned projects. Yet, the country faces many environmental and social problems resulting from such economic activities. Having the fastest growing economy in Sub Saharan Africa in 2011 (World Bank 2012), Kenya has recently been upgraded to a middle income status. Its economic growth is mostly concentrated in natural-resource dependent sectors, such as real estate or infrastructural projects .

The rate of environmental degradation of the country however is alarming due to such economic activities. The degradation pressures the livelihoods of a major part of Kenyans population, which depends on environmental natural recourses for survival. Furthermore, it is a major threat to Kenya's future growth potential and thus the country's potential for poverty reduction. Therefore, despite the presence of an ambitious EIA system, negative environmental and social impacts of projects activities remain major challenges to achieve sustainable development in this country.

Views of researchers who have conducted studies on EIA practice in Kenya suggest that the area of project EIA implementation and follow up needs improvement. According to Muhhamad (2003), there is need for the Kenyan public, lead agencies and NEMA to ensure full implementation of EIA and ISO 14000 as one of the measures of managing the negative environmental impacts of urbanization. Otherwise EIA will remain merely an instrument of approval of projects. Whether EIA mechanisms have worked or is working for Kenya is a question that deserves an answer.

Nakuru town is no exemption of the environmental status in the rest of the country, Nakuru has been named the fastest growing in eastern Africa, this implies that the level of commercial developments also increases which leads to higher environmental degradation in the town and its environs.

The problem of the study was therefore to investigate the factors influencing the implementation of environmental impact assessment recommendations on commercial projects in Nakuru town, Kenya.

1.3 Purpose of the Study

The purpose of the study was to analyze the factors influencing the implementation of environmental impact assessment recommendations on commercial projects in Nakuru town, Nakuru County

1.4 Objectives of the Study

This study was guided by the following objectives.

1. To examine the extent to which monitoring and evaluation by lead agencies influences the implementation of environmental impact assessment recommendations on commercial projects.
2. To establish the extent to which public participation influences the implementation of environmental impact assessment recommendations on commercial projects.
3. To examine the extent to which budgetary allocation influences the implementation of environmental impact assessment recommendations implementation on commercial projects.

1.5 Research Questions

The study was guided by the following research questions.

1. To what extent does monitoring and evaluation by lead agencies influence the implementation of environmental impact assessment recommendation by commercial projects?
2. How does public participation influence the implementation of environmental impact assessment recommendations on commercial projects?
3. To what extent does budgetary allocation have on implementation of environmental impact assessment recommendations on commercial projects?

1.6 Significance of the Study

It is anticipated that the findings of this study will incite project proponents, planners, designers, managers, the regulating authority, members of the public and lead agencies to re-look at commercial projects implementation of EIA recommendations with a view to improving EMP design and mechanisms of its implementation for better environmental performance. A proper EIA implementation ensures adherence to proponent commitments, license conditions, implementation of planned mitigation measures and appropriate management action on unpredicted negative impacts coming to light in the course of project implementation. The general public will as a consequence of positive action taken by the foregoing groups benefit from the resultant improved public health and safety situation.

1.7 Delimitation of the Study

This study consisted of the collection of information on implementation EIA recommendations in Nakuru town it covered an area of 297.2 km^2 which is the coverage of Nakuru town. The study also covered a random sample from licensed projects within the said geographical area only projects that fall under commercial categorization were selected for the study.

1.8 Limitation of the Study

The major limiting factor encountered for the study was number of EIA specialists in Nakuru town who were involved in commercial development projects who are relatively limited. The data collection method for the study required that questionnaires be served upon the identified crucial members it was expected that, the researcher and his assistants would encounter difficulties in reaching these people.

1.9 Assumptions of the Study

It was assumed that the truthfulness of the respondents and the reliability and validity of the instruments of survey would be such as to facilitate the collection of information whose analysis would culminate in the realization of useful results.

1.10 Definition of Significant Terms used in the Study

This section presents the definition of the key terms used in the study. The terms are defined within the context of the research study.

Environmental impact assessment (EIA**):** is an environmental management tool comprising of the components of; projects screening, scoping, impacts prediction and analysis, formulation of mitigation measures through public participation, environmental management plan formulation, decision taking, implementation and follow-up.

EIA implementation and follow up: consists of project activities undertaken after approval of EIA to ensure implementation of approval conditions, check the accuracy of impact prediction, measure the effectiveness of mitigation measures, monitor environmental performance of the project and disseminate management decisions to stakeholders.

Environmental management structure: is the mechanism put in place by a country's regulatory authority such as Kenya's NEMA to enable it coordinate effectively the activities of international and local partners to realize a synergy towards environmental performance.

Lead agency: means any Government ministry, department, parastatal, state corporation or local authority, in which any law vests functions of control or management of any element of the environment or natural resource;

Monitoring and evaluation: refers to the collection of data through a series of repetitive measurements of environmental parameters (or more generally to a process of systematic) and assessment of their impact.

Environment Monitoring: Is the continuous assessment and determination of the actual potential effects of any activity on the environment

Project: defines an action or activity that leads to projects with an impact on the environment.

Environment: The complex of physical, chemical, and biotic factors (such as climate, soil, and living things) that act upon individual organisms and communities, including humans, and ultimately determine their form and survival. It is also the aggregate of social and cultural conditions that influence the life of an individual or community. The environment includes natural resources and ecosystem services that comprise essential life supporting functions for humans, including clean water, food, materials for shelter, and livelihood generation.

Impact: Any effect caused by a proposed activity on the environment, including effects on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments, or other physical structures, or the interaction among those factors. It also includes effects on cultural heritage or socioeconomic conditions resulting from alterations to those factors.

1.11 Organization of the study

Chapter one gives a general introduction (significance, problem and purpose statement, scope as well as framework) of the study. Additionally, this chapter shows that this research will provide vital information for the improvement of the practice of Environmental Impact assessment and both in Kenya and by extension other developing countries. Chapter two provides a general review of the available literature information on EIA systems. Focus is made on the general EIA system in Kenya where legal documents, research papers, journal articles, conference proceedings and thesis are analyzed to determine weaknesses. The practice of EIA and its current role in Environmental Assessment in Kenya is also looked into. In addition, this chapter also constructs a conceptual frame work of the study. And finally Chapter three focuses on the methods used for this study; it documents the necessary steps taken to obtain results, analyze them and present them in a scientific manner. Chapter four explains the data analysis made and how the analysed date is to be presented. It reduces raw data to intelligible and interpretable form using statics. It discusses the relationships differences and meaning of research results

Chapter five gives a summary of the findings of the study. A discussion of the findings is done in the chapter. This is done by comparing and contrasting of the findings with other empirical findings show how the findings agree or disagree with the existing body of knowledge.

CHAPTER TWO:

LITERATURE REVIEW

2.1 Introduction

This chapter has the main objective to review literature appertaining to the research problem that has been defined in the introductory chapter. Empirical, secondary and general literature on the, legal and regulatory frameworks, finance, monitoring and evaluation relevant to project implementation of EIA recommendations and follow-up practice in the international and local arena.

2.2 EIA monitoring and evaluation

Generally EIA implementation of recommendations takes place after permission is in place. It relates to the construction of the project, how it is operated and the decommission phase. EIA recommendations should be implemented until the very end of the project's life cycle. It plays an important role in tracking the environmental performance of the project. Art et al, 2001 stated that EIA implementation of recommendation comprises four elements which are as follows:

Monitoring compares data that has been collected in the assessment with the standards, predictions and expectations outlined prior to the project's commencement. Post project monitoring takes into consideration compliance to the guidelines set out and the effectiveness of the project. In some cases, multiple projects may be included in the monitoring process in order to compare effects and outcomesfrom various studies. Evaluation takes into account the findings of the project in relation to standards, pre-project predictions and expectations. It often includes scientific and technical policies.(Abaza,2004)

Management is the act of responding to the issues which may arise from the monitoring and evaluation processes. The role of management is undertaken by the parties including the

proponent and the regulator. (Morrison,2004).Communication is the act of informing project stakeholders and the general public about the results from the EIA implementaion report. Again the proponent and the regulator may be involved in the communication process.

2.2.1The need for EIA monitoring and evaluation of recommendations

The main function EIA implementation of recommendation is to understand the outcomes of any EIA project. Without this the outcomes of the project's activities will be unknown. It is a way of gathering information about the impact of the proposed activities and the effectiveness of the project in achieving the goals outlined. One of its most important functions is to create a method of feedback on the EIA activities. It also helps to evaluate the effectiveness of the EIA process and this evaluation may be used to improve EIA projects in the future. (Morrison-Saunders and Arts, 2004) The key parts of EIA implemntation of recommendation deal with future activities and any uncertain outcomes of the proposed goals. It also helps to realize pre-project predictions, proving them either wrong or right or giving more accuratereadings related to these predictions. The fact that environments are dynamic and subject to change also makes the implementation of recommendations process one of great value in keeping data up to date and accurate. (Morrison Saunders and Arts, 2004) EIA recommendations provide a link between pre-project goals and targets and post-project achievements. It helps to bridge the gap between the uncertain pre-project predictions and the real analysis and data from project research.

The process of environmental impact assessment defines the relevant likely effects of development activity but an important strand, post-development, is the requirement for post-authorization monitoring. Monitoring, however, refers to the conduct of procedures to assess the state of the system. Generally this often means it is limited as an assessment of the environment. (Saunders,2003)

It is used to evaluate changes to the system and in this context monitoring can be used to evaluate the changes against a measured pre-development state. This might manifest itself as an assessment of the sediment characteristic before a commercial project is located and again after it has been in operation for some pre-determined time,(Sondo,2007).More often, however, monitoring of the commercial project is used to assess state against some pre-determined quality standards that are regarded as needing to be maintained.

Environmental monitoring is key to the implementation of EIA recommendation, as other components of the EIA process are dependent on the scope and type of monitoring information that is provided. The primary aim of monitoring is to provide information that will aid impact management; to help achieve a better understanding of cause-effect relationships and to improve EIA impact prediction and mitigation methods. Environmental monitoring is used to (Telfer and Beveridge, 2001),establish baseline conditions (a critical reference point),measure the impacts that occur during project construction and operation, check compliance with agreed conditions and standards and verify the accuracy of impact predictions and determine the effectiveness of mitigation measures.

2.3 Participation of Stakeholders and public in Environmental Impact Assessment Process.

There is a growing consensus that timely and broad-based stakeholder involvement in the EIA process is a vital ingredient for effective environmental assessment (EA). In fact, it is said that, experience shows that EIA that successfully involved broad range of stakeholders tended to lead to more influential EIA and, consequently to development and delivered more environmental and social benefits whereas, conversely, EIA that fail to be inclusive tended to have less influence over planning and implementation, and consequently resulted in higher social and environmental costs,(Ashuwaikhat,2005).Thus, the vitality of stakeholders'

participation in the EIA process seems unquestionable. However, who are stakeholders? They may be defined as all the people and institutions that have an interest in the successful design, implementation and sustainability of the project including those we may be affected by a project either positively and/or negatively. (Beveridge, 2001)Thus, stakeholders' participation in the process of EIA may be defined as a process whereby all those with a stake in the outcome of a project can actively participate in decisions on planning and management to share information and knowledge and to contribute to the project and its success to ultimately enhance their own interests. In this sense, the notion stakeholders includes, inter alia, government agencies, citizens groups, NGOs, recreational interest groups, expert groups, business affiliations and academic organizations. Some countries have adopted EIA guidelines in which they list stakeholder groups that should be considered contributors to the EIA.

2.3.1Relevance of Public Participation in the EIA process

Generally, as we have seen in the preceding section, broad-based stakeholders' involvement in the EIA process is of paramount importance. Particularly, it is believed that different types of stakeholders can contribute to the EIA process in different ways,(Bakar,2007).For instance, stakeholders' participation enables the EIA process to address relevant issues including those perceived as being important by other sectoral agencies, public bodies, local communities, affected groups, and others; harness traditional knowledge which conventional approaches often overlook; improve information flow between proponents and different stakeholder groups, improving the understanding and 'ownership' of a project; and ensure that the magnitude and significance of impacts has been properly assessed. Moreover, it enables project proponents to better respond to different stakeholders' needs, helps them identify important environmental characteristics or mitigation opportunities that might be overlooked; and also improves the acceptability and quality of

mitigation and monitoring processes,(Dobers,2000).Further, placing sufficient emphasis on stakeholders' participation in the EIA process can improve the predictive quality of environmental assessments since the prediction of impacts using EIA often requires multi-year information and good quality baseline which can be obtained form stakeholders groups, including those in local communities, who have greater potential to access a wider information resource-base and in some cases generations of cumulative knowledge of their local environment,(Bina,2007).

Therefore, in light of the above advantages, the participation of stakeholders in the EIA process is something which any system of environmental law cannot afford to omit. Such participation is not only environmentally beneficial but also political wise as it makes decision-making participatory; a good manifestation of democratic process particularly environmental democracy,(Bruen,2008).

2.3.2Constraints to public Participation in EIA

Wood (2003) notes that Despite its paramount importance, the participation of stakeholders in the EIA process is constrained by myriad of factors which include time and money, literacy and language, low level education, cultural differences, gender, physical remoteness, political and institutional culture of decision-making, pressure imposed by the project cycle, mistrust and elitism, ambiguity in legislation and guidelines, and project size. For example, many stakeholders lack the time or financial resources to engage in EIA processes,(Eklund,2002).No literate groups are marginalized from EIA by the use of written media to communicate information. Materials necessary for stakeholders' participation lack in local languages. In many countries and regions, there is little or no culture of 'public' participation in decision-making whereas in some cases, public participation is perceived as a threat to authority and is viewed defensively by many government agencies and project proponents.

Elitism or patriarchal approach is another constraint as many agencies and proponents adopt 'we know better approaches', and do not accept that stakeholders' involvement can improve the quality of development initiatives. Ambiguity of legislation and guidelines is also another important constraint to managing and encouraging more participatory environmental assessment processes. (Rafiques, 2005) Further, achieving effective stakeholder involvement can be much more difficult for large scale projects. Finally, low level of education affects the meaningful participation of stakeholders in the EIA process. In this regard, mentioning what one villager in Bangladesh said is imperative. When he was asked whether he had 'participated' in the EIA process of a major flood control and irrigation projects that would radically alter his livelihood prospects, he responded: "if I were to be consulted, what would I say? You see, I'm just an ordinary man. I don't know anything. All I know is that one has to have meals everyday." Therefore, we can say that the innumerable benefits stakeholders' participation in the EIA process is capable of producing are countered by countless constraints. (Sadler, 1996)

2.4 Influence of budgetary allocation in Implementation of EIA recommendation.

According to Morrison Saunders and Arts, (2004), EIA follow-up requires considerable resources in terms of time and money as well as staffing in both proponent and regulatory agencies. Until the benefits of EIA implementation are more widely recognized in terms of long-term cost savings and improved environmental management, the demands on financial and staff resources are likely to impede progress in this area. For example, environmental effects monitoring is generally costly, especially over the time and scale boundaries which are often needed to determine the extent and level of environmental change caused by a project. Additionally, when multiple projects with similar impacts occur together, it can be problematic determining which proponent(s) should be held financially responsible for area-wide and

cumulative effects monitoring. Staffing continuity is another important issue. (EPA, 2006) Personnel changes in both proponent and regulatory agencies may disrupt implementation programs and impede learning from experience.

Project EIA implementation and follow up is, therefore, a task that requires financial commitment on the part of all implementation parties. Given that in Kenya, NEMA is the main implementing and coordinating agency for the Government's environmental programs, its financial disposition is critical to the implementation of EIA recommendations in Nakuru County. The C D E in Nakuru County prepares an annual work plan with a budget which is forwarded to NEMA Headquarters for consideration. This study will endeavor to establish whether budgetary allocation is adequate and also whether the other EIA management institutions allocate adequate financial resources to the EIA process.

According to NEMA's strategic plan 2009-2013, the authority draws the bulk of its funding from the exchequer; processing and issuing of licenses as provided in EMCA; private sector in line with PP principle; publicity; educational initiatives and advertising in its quarterly newsletter. Interest earned from the environmental funds e.g., Deposit Bonds and the Restoration Fund, is an additional source of income to the authority.

Many donors have an active interest in funding environmental initiatives as part of their strategic objectives and therefore it is anticipated that they would fund the activities outlined in the strategic plan 2010-2013,(Kakonge,2013).In this regard NEMA would engage in positive dialogue with development partners with a view to seeking support for the implementation of the plan. In order to achieve its goals and objectives, the authority would require a total of Kshs 5,944.4m, 5,113.3m and 5,062.0m for recurrent and development expenditure for the financial years 2010/11, 2011/12 and 2012/13 respectively. The cost includes enhancing and strengthening institutional capacity to undertake its mandate and implementing different

programs e.g. education for sustainable development, climate change and development and enforcement of air and water quality regulations among others, construction of NEMA laboratories among other activities. NEMA will continue strengthening its internal administrative and monitoring systems in order to meet donor funding requirements. The authority will have identifying more donors and establish working relations to support implementation of the plan. Lead Agencies form part of the partnership envisaged under EMCA. They provide support "in kind" (in terms of human, technical and logistical resources as well as facilities) and bear the cost of implementation within their jurisdiction. NEMA work proactively with all lead agencies to optimize support for environmental management activities within their respective areas of responsibility. NEMA budget for Compliance and Enforcement Department which is pertinent to the implementation of EIA over the strategic plan period 2010-2013 is given in Table 2.1.

Table 2.1: Nema budget projections.

GOAL	**ANNUAL BUDGET PROJECTIONS (KSHS MILLIONS)**				
	2009/10	2010/11	2011/12	2012/13	Total
Enhanced supervision of environmental management and quality standards through development and enforcement of EMCA and environmental regulations.		1,876.33	358.7	356	2525.6
Others		4,068.07	4,754.6	4,703	13,525.67
Total		**5,944.4**	**5,113.3**	**5,062.0**	**16,119.7**

2.5 EIA model of decision making

In recent years there has been a greater interest in developing the theory underpinning EIA, which began as a very practical tool to aid decision-making. Since its origins in the 1960s EIA

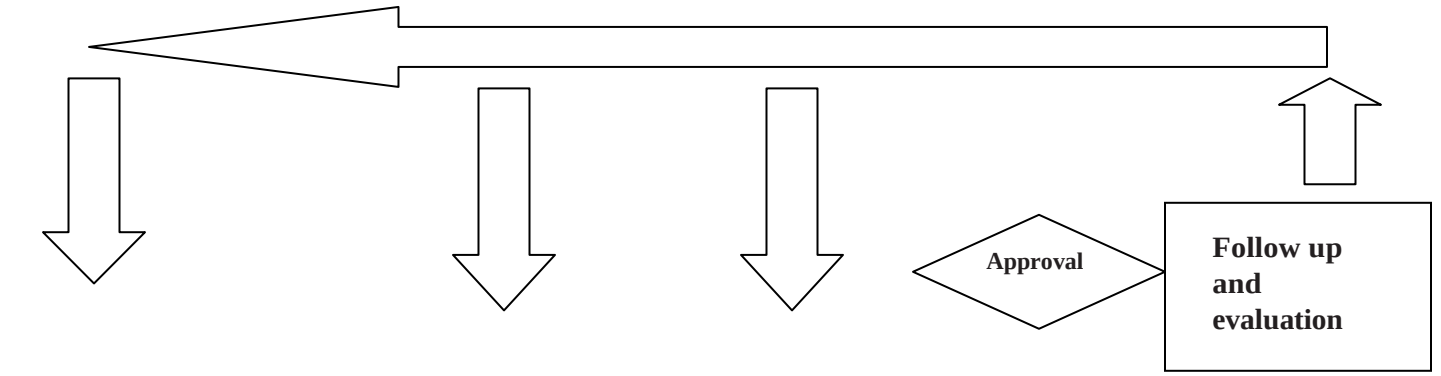
has had to adapt to different contexts, most notably the concept of sustainable development which came to prominence after EIA had already started being used,(Biswas,1987).Today, we tend to see EIA as one of the suite of tools that help support more sustainable decision-making, but there is a wide range of views as to how effective it can be from a theoretical point of view.

Broadly speaking EIA arose out of the natural science disciplines, particularly in the ecology field. Early writers such as McHarg (1969) referred to the need to 'design with nature' and EIA was seen as a way in which development projects could be developed with the aim of designing out as far as possible the worst effects on the environment. And EIA was very much seen as a way of elevating the environment in decision-making which had traditionally been dominated by economic considerations.

However, as time has gone on and environmental assessment has broadened its application around the world, and its influence has stretched into the more strategic arena of plans and policies (through SEA), so social scientists have taken an interest in it, often highly critical of the scientific, 'rationalist' model out of which EIA has evolved (see, for example, Weston 2004, Cashmore 2004); rationalist in the sense that - so the argument goes - if you provide better and more information to the decision-maker then they will make a more rational decision because they will be better informed. But we all know that, in reality, decisions about development are not made solely or in some cases even at all on a rational basis. Decisions are based on many considerations, and are often highly political (Lawrence 2001, Nilsson and Dalkmann, 2001). However, that argument can sometimes overlook the wider value of the process of EIA; EIA is not just about its immediate outcome (whether it influences the decision to give consent or not) or the environmental impact statement (EIS) that is produced, but the process of engaging with

stakeholders that EIA engenders and the potential for dialogue created may have greater value (Sheate and Partidario 2010, Owens *et al* 2004).

Why might theory be important? Well, theoretical models and understanding help in refining and developing practice - there should be an ongoing iteration between theories and practice so that theory is developed from, and tested with, observation, and practice is informed by maturing theoretical ideas. For example, how best to engage local communities in decision-making can be informed by understanding different theories of communication and power relations between stakeholders. No one theory will hold the answers (they are theoretical after all), but the discussion among the theorists can help to identify issues that should be taken into account when designing good public engagement practices as part of EIA, and issues that can be tested in practice,(Bond,1999).



Scoping is meant to identify as early as possible:

- the information necessary for decisionmaking;
- the important issues and concerns (interests);
- the significant effects, factorsand alternatives to be considered;and
- the appropriate content and boundaries of an EA study.

Determination of significance may be made by reference to:

- the nature and extent of impacts (e.g. typeduration);
- likely adverse effects on the receiving environment (e.g. sensitive areas, land use, community traditions);
- magnitude of impacts (e.g. low, moderate, high);and

options for impact mitigation (e.g. reduction, avoidance

Pre-approval of an ES provides a check on:

- sufficiency of information provided (e.g. complete and conforms to study objectives);
- reliability of analysis or interpretation (e.g. consistent with state of scientific knowledge and methodology);and
- utility fordecision making (e.g. clear description of environmental consequences and, where appropriate, management options).

Monitoring and follow up covers:

- surveillance and inspection to ensure terms and conditions are being followed in project construction;

monitoring to check for compliance with standards, to test the effectiveness of mitigation and other protective measures, and to detect potentially damaging changes (e.g. exceeding predicted level);
management to respond to unforeseen events or to offset larger-than-predicted effects (e.g. by employing

- management plans);and

auditing/evaluation to review aspects of EA practice and performance and to provide feedback for process improvement (e.g. on success of mitigation measures or newprocedures
contingency plans or revising environmental

Source;saddler and fuller

Figure 1: Priorities for better EIA practice

2.6 Evolution of Environmental Impact Assessment

EIA was formally introduced in the United States through the National Environmental Policy Act (NEPA) of 1969. According to Goodland et al. (1996), forms of what later became known as environmental assessment had started under town planning, land use and other policies prior to this period. EIA regulations rapidly spread to others, mainly industrialized countries of the world. Today, it is applied in more than 100 countries, and by all development banks and most international aid agencies (ECA, 2005). At international level, there are a number of legal instruments having concern on EIA. For example, the principle of the 1972 Stockholm Declaration has a rationale underlying EIA. This can be identified in Principle 14 and 15, which states: rational planning constituted an essential tool for reconciling development and environmental needs. In the same spirit, Principle 15 reads: planning must be applied to human settlements and urbanization with a view to avoiding adverse effects on the environment and opting maximum social, economic and environmental benefits for all. The 1992 Rio declaration also identified Principle 17 that endorses the institutionalization of Environmental Impact Assessment (EIA) at the national level as a decision-making instrument for proposed activities that are likely to have significant adverse impact on the environment (ECA, 2005). The Johannesburg Plan of Implementation (JPOI) which was the output of the World Summit on Sustainable Development identifies the use of EIA procedures as a key action to be undertaken in addressing the challenges of unsustainable patterns of consumption and production (UN, 2003 cited in ECA, 2005).Among others, the International Association for Impact Assessment (IAIA) in cooperation with Institute of Environmental Assessment, UK has set objectives of EIA in 1998. According to these institutions the main objectives of EIA are: Ensure that environmental considerations are explicitly addressed and incorporated into the development decision making process; anticipate and avoid, minimize or offset the adverse

significant biophysical, social and other relevant effects of development proposals; protect the productivity and capacity of natural systems and the ecological processes which maintain their functions; and promote development that is sustainable and optimizes resource use and management opportunities.

Abaza et al. (2004) has also identified nine general principles of EIA application that are broadly correspondent to the basic principles issued by the IAIA (1999). The general principles are intended to be a first step toward EIA good practice. These principles of good EIA practices are: EIA should be applied as a tool to help achieve sustainable development; EIA should be integrated into existing development planning and approval processes; EIA should be applied as a tool to implement environmental management, rather than as a report to gain project approvals; EIA should be integrated into the project life-cycle to ensure that environmental information is provided at the appropriate decision points and the correct time. EIA should be applied to all proposed actions that are likely to have a significant adverse effect on the environment and human health. In a social context, particular attention should be given to vulnerable groups, such as indigenous peoples, and local communities who depend upon the resource base for their sustenance or lifestyle; EIA should include an analysis of feasible alternatives to the proposed action,(Creswell,2009).The process should be applied early in project development at a stage when these alternatives are still practicable; EIA should include meaningful opportunities for public involvement. These should occur throughout the EIA process, using mechanisms that are appropriate to stakeholders; EIA should be carried out in a multi-or inter-disciplinary manner, using best practicable science; and EIA should integrate information on social, economic and biophysical impacts to the maximum extent possible. An integrated approach can be applied as part of an EIA study or carried out as part of report preparation and synthesis,(DHS,2012).

2.6.1 EIA in Kenya

Kenya has since independence pursued policies and strategies aimed at achieving reasonably high levels of development for its rapidly increasing population. Over time, the natural resource base has become severely stressed due to unsustainable use of the resources leading to scarcities of vital environmental goods and services in many parts of the country. This has made it imperative to harmonize environmental laws in Kenya under EMCA for the purpose of coordinating environmental management. The National Environment Action Plan (GoK, 1994) and the National Policy on Environment emphasize the need for environmental impact assessment (EIA) on development projects. The Environmental Management and Coordination Act (1999) clearly makes EIA mandatory for all projects specified in the Act. In the NEAP (GoK, 1994), the Government proposes to "integrate environmental conservation in economic development to provide sustainable development for posterity. This includes integration of environmental considerations in development planning at all levels; (Angwenyi (2004). promotion of environmentally sound use of both renewable and non-renewable resources in the process of national development; establishment of an institutional framework for coordinating, monitoring, and enforcing environmental regulations and standards; and finally providing human and financial resources to support an environment and development coordinating agency and an EIA institution.

The EIA Guidelines and Administrative procedures have been developed in response to the policy framework and legal provisions. Their major purpose is primarily to assist in the integration of environmental concerns in economic development to foster sustainable development in Kenya.(Deng,2013). EIA identifies potential environmental impacts of proposed development activities as well as policies, plans and programmes of the Government, including those undertaken jointly with bi-lateral and multi-lateral institutions. In addition EIA identifies

measures to mitigate the negative impacts, while maximizing on the positive ones. EIA is essentially a tool that facilitates informed decisions-making on sustainable development in Kenya,(Fuller,1999).

2.6.2 EIA Legal Framework

The EMCA (1999) is the main piece of legislation that adopts a centrally directed environmental scheme. The Act provides for the establishment of an appropriate legal and institutional framework for environmental management and is the only single piece of legislation that contains to date the most comprehensive system of environmental management in Kenya (Angwenyi (2004).

Subsequent to the act, the Environmental Impact Assessment Guidelines and Administration Procedures (EIAGAP, 2002) and the Environmental (Impact Assessment and Audit) Regulations (EIAAR, 2003) were enacted. These two guidelines and procedures have since become vital tools for EIA and SEA implementation in Kenya.

Section 58 (1) of the EMCA (1999) and section 3(3) of the EIAAR (2003) are very explicit on the need to conduct an EIA. Without a license issued by the Director General of National Environmental Management Authority (NEMA), no development likely to have a cumulative negative impact on the environment can occur (EMCA, 1999). Section 138 of the EMCA (1999) imposes a penalty of imprisonment for a term not exceeding 24 months or a fine of not more than 2 million shillings (approximately 24,000 Euros) or both for non compliance with EIA report guidelines. Further to this, the categories of projects that must undergo EIA are broadly defined in the second schedule of the Act. This schedule can be amended by the minister responsible for matters relating to the environment after consultations with key actors in the environmental field. The projects to be subjected to EIA are specified in the Second Schedule of the Environmental Management and Coordination Act (1999). Environmental audit is also a legal requirement

under Sections 68 and 69 of the Act. Strategic Environmental Assessment (SEA) aimed at guiding implementation of policies, plans and programmes as well as groups of projects is also mandatory under Part IV Sections 37 – 41 of the Act,(Velma,2012).Besides the schedule activities, the Act empowers the Minister for the time being responsible for environmental matters to prescribe for EIA appraisal any other activity which in his view may cause significant adverse environmental impacts. NEMA is ultimately responsible for issuing, varying or cancelling environmental impact assessment licenses, will coordinate the EIA process. NEMA is also responsible for coordinating powers over all public and private sectors. However, each sector plays a role in the implementation of the EIA Guidelines. This requires the establishment of Environmental Liaison Units (ELU's). Each sector is responsible for the costs of maintaining their ELU. For the purpose of overseeing implementation of the EIA Guidelines at County and sub county levels, the NEMA sets up environmental committees,(Goidemberg,2002). These committees are close allies and strong partners at the local levels and are empowered in the Act. The administrative and decision-making process regarding formal submissions of project proposal is schematically illustrated in Fig.2.2. The project approval process involves decision-making at various levels and the necessary authorization is given once all EIA requirements have been fulfilled and accepted by NEMA and the relevant lead agencies. The EIA license is issued when NEMA are satisfied that an EIA has been satisfactorily conducted and a satisfactory Environmental Management Plan (EMP) to developed. The relevant lead agencies and NEMA ensure that the EMP is implemented. In addition, NEMA provides a framework for conflict resolution with respect to: Disputes within and between Central Government departments, Disputes between Central Government and Local Authorities, Dispute involving the public sector, private enterprise and the public. Any complaints regarding compliance with EIA requirements which NEMA may not resolve will are subject to a review by the Environment

Tribunal, with the provisions to bring proceedings in a court of law where necessary, for judicial review.

2.7 EIA Process

EIA in Kenya is undertaken by the project proponent at their own expense but with a NEMA approved expert (EMCA, 1999). According to EIAAR (2003), the process comprises the following 7 steps:

2.7.1 Submission

Submission of proposed project report to NEMA by the proponent.

2.7.2 Screening

Screening of the report to determine EIA requirement. This is done by appointed lead agency in consultation with the Provincial and County Environmental Committees. If no EIA is required, then NEMA grants an EIA license.

2.7.3 Scoping

Scoping to determine whether EIA is necessary. Important aspects of this stage are Public participation and issuance of the terms of reference. The scoping report is supposed to demonstrate how the affected community will be involved in the project formulation stages.

2.7.4 Submission

Submission of EIS to NEMA by the proponent: The EIS is prepared on behalf of the proponent by a legally registered EIA expert.

2.7.5 Review

Review of the EIS by NEMA review experts in conjunction with relevant lead agency, Provincial and County Environmental Committees as well as the public.

2.7.6 Decision making

Decision making in which either a license is issued or the proposal is rejected. The decision is based on the validity of EIS with emphasis on environment, economic and social-cultural impact of the report; the various comments made by the affected parties under EIA guidelines; the report of the preceding officer at a public hearing under regulation 17 of the EIAGAP (2002) and any other information that may be required.

2.7.7 Implementation

Implementation with a sound EMP, monitoring, auditing and conditions of approval.

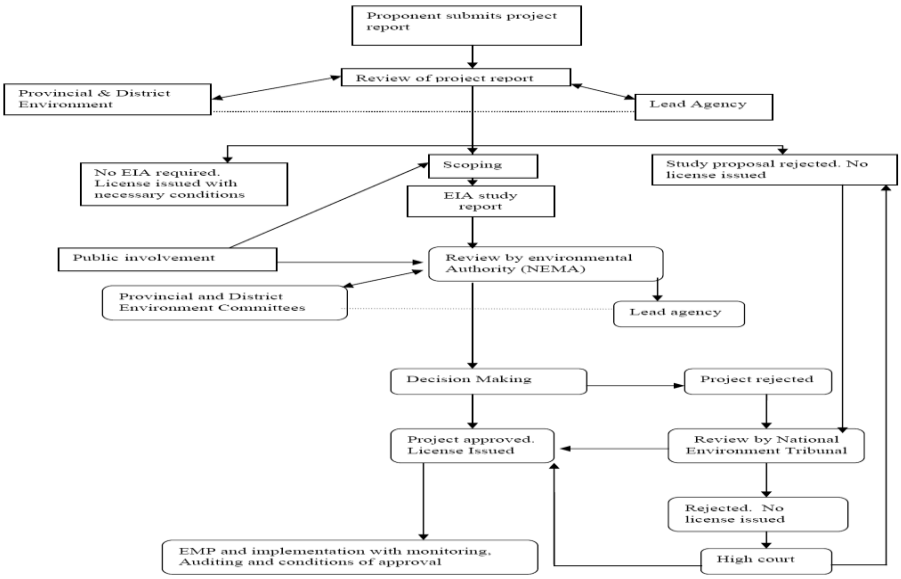


Figure 2: Structure of the EIA process in Kenya (EMCA, 1999)

2.8 Importance of EIA to commercial projects.

The primary function of EIA is to avail to both the developer and the authorities such as NEMA and the Town Planners, the opportunity to choose projects with full knowledge of their impact on the environment. It also enables the relevant authorities to decide whether to allow the project to proceed or not,(Grover,2012).This will save the developer time and costs that would have been incurred and enables him to develop plans and policies for the mitigation of such impacts. EIA enables developers and decision makers to predict and assess the potential impacts of the project on the well-being of the natural environment and also helps them identify alternatives through recommending the implementation of appropriate modifications / actions that integrate economic, social and environmental concerns,(Harrison,2012).

An EIA is also important to ensure the safety of both the workers and the public. An EIA is designed to enable the environmental effects of a project to be weighed on a common yardstick with economic costs and benefits. EIA is good for planners as it enables them to make environmentally and economically viable decisions during planning and to choose whether to continue or discontinue with such projects that are likely to have an impact on the environment. It is as seen earlier a legal requirement for any project that is likely to have adverse effects on the environment to carry out an EIA,(Wood,2005).

2.9 Implementation of EIA recommendation practices in Netherlands and Canada.

While implementations of EIA recommendation requirements are not yet included into the environmental legislation of most of the countries, Netherlands have a mandatory requirement to implement follow up program for all E.I.As. Netherlands follow the rule to include EIA implementation into the scope until it is decided not to do this. While in most of the countries EIA recommendation implementation is included into the scope only if it is

decided so at the screening and scoping stages (Morrison- Saunders and Arts 2004). Section 7.9 of the Netherlands Environmental Management Act (2004) requires state authorities to determine scope of the EIA evaluation program at the consent decision-making stage. Netherlands were first to incorporate requirements for the EIA implementation into the national laws and regulations, and to date have the most stringent and comprehensive EIA implementation system (Morrison-Saunders and Arts 2004). EIA system in Netherlands emphasizes particularly high level of public participation and utilizes independent EIA Commission to implement scoping of each particular EIA and participate in the EIA implementation program (Glasson *et al.* 2005).However, availability of the strict regulations unfortunately does not guarantee implementation of the recommendations. According to Arts and Meijer (2005), implementation of EIA recommendations was initiated only in 16% of 376 sampled approved projects.

Dutch EIA follow-up legislation system suggests rather broad definition of the" environment", includingnotonlybiophysical environmentofflora,fauna,habitats,air,water andsoil,ecosystem,butalsoculturalandhistoricalvaluesandimpactonthepublichealthand "quality of life". Economic issues are not included into the EIA legislation as such; how everthisremainsuptotheresponsiblepartieswhethertoincludeeconomicconsiderationsintothe follow-up program (Morrison-Saunders and Arts 2004, Environmental Management Act 2004).In the Canada case it is legally required to decide if monitoring and implementation of identified recommendations is necessary at the screening stage of the EIA process. According to Canadian Environmental Assessment Plan (CEAA 2007), sections 16, 17 and 38: "monitoring of stated recommendations are mandatory for all projectsassessedbyacomprehensivestudy,mediationorreviewpanel,butdiscretionaryforprojec ts assessedbyscreening".Sections55-55.5oftheCanadianEnvironmentalAssessmentRegistry

regulatepublic participate onintheEIAfollow-upprogram,providingaframeworkforpublic webaccesstoinformationonimplementation of requirementsandreportsforallprojects.Sections20, 23 and 37 of the CEAA (2007) provide a delegation of roles and responsibilities for the requirements of EIA implementationaswellasgivingguidanceonhowtheprocesswillbesupervised, i.e. responsibilities of federal authorities and provincial/territorial governments. Generally CEAA (2007) is an excellent guiding and regulating document for the implementation of EIA requirements reference, providing all necessary regulations on financial assurance, public concerns, and issuesregardingvulnerableenvironments,unproventechnologies,cumulativeeffects,limited knowledge, as well as complexity and scope of the required follow-up program in all of the mentionedcases.

Coming to the role of the commercial project developers in the implementation of EIA requirements in Canada it is necessary to mention example of the commercial industry which is now driving progress in the implementation of EIA recommendation and activities and going beyond legal commitments. But as the EIA requirement implementation processcontinuestoevolvesodotheregulationsinthisfield,shiftingtowardsmoreemphasis on the socio-economic and effects on the local community (Birk and Noble 2009). It is also worth mentioning Canada's experience in involvement of indigenous communities at all stagesoftheenvironmentalassessment,includingimplementation process(O'Faircheallaigh,2007). Having inherent knowledge and understanding of the local environment and adaptive techniques, participationoftheindigenouscommunitiesbringsadditionalvaluetotheoverall efficiencyoftheprocess (Brody2000,Randall2003).

2.10 E.I.A in Cameroon

Review in Cameroon for preparation of environmental assessment and audit and EMPs by Inter Ministerial Committee on Environment within the ministry for a period of 90 days (WB, 2008). The IMC is the body that delivers a final opinion on EIA review prior to ministerial decision. This takes place after a special team comprising members from competent authority and ministries in charge of the environment have deliberated. The IMC itself is made up of members from different government ministry having connection to the project in question one way or another. Given the increasing requirement for EA review, questions may be raised about a comprehensive review that meets standards from a department plagued with understaffed personnel, financial insufficiency, and inadequate technical competence. Competent personnel are vital for a successful EIA implementation. In an event of a badly reviewed EIA report, the consequence on the decision-making are severe. Given the important part that review plays in an EIA system, international standards require an independent review panel to advice assist and review assessment produce by the project developer. The existence of such an independent authority shows commitment and interest in the process (Fuller, 1999). Unlike in a number of developed countries where this exists, it is often lacking in developing country (Clarke, 1999). In the absent of an independent panel of review, the possibility of undue political influence in the process is not far-fetched.

Monitoring and Follow-up of the implementation of EIA requirements process and its mitigation measures are well understood, and therefore the influence that the EIA system makes on an action, monitoring and follow-up are undertaken. Monitoring and evaluation are permitted in Decree No. 2005/0577/PM by relevant government services. Petts (1999) notes that follow-up of EIA requirements lack in most systems.

Public Participation is in Article 9 of the law regulating environmental protection in Cameroon that makes provision for broad base public participation. It states' decisions concerning environmental protection must be taken only after consultation with relevant sector of activity and groups or after public debate where the project or action is of general interest' (Cameroon Environmental Code, 1996). Article 72 further emphasis the need to get people more effective during consultation meetings with reference to statements like 'free access to environmental information', 'production of environmental information', 'sensitization', 'training', 'research' and 'environmental education.' The law thus obliges the project proponent to make an evaluation of opinion of the population and the community concern about the project through consultation and public meetings. Date, venue, purpose and schedule for the meeting are specified prior to the actual meeting. When this process of establishing an EIS is over, the public is again consulted by a mixed team drawn from the competent authority and the authority in charge of the environment. Only this time, contact with the public is more of verification of whether information on EIS matches with public views. In Cameroon, the means by which information is passed on the public is through public meetings and seminars making use of the public audio visual and print media by competent authorities, in particular the ministry in charge of the environment and the ministry of information. Unfortunately, these means of passing information currently suffer from public trusted due to bribery and corruption (Ndangam, 2009).

2.11 Conceptual Framework.

Independent variables

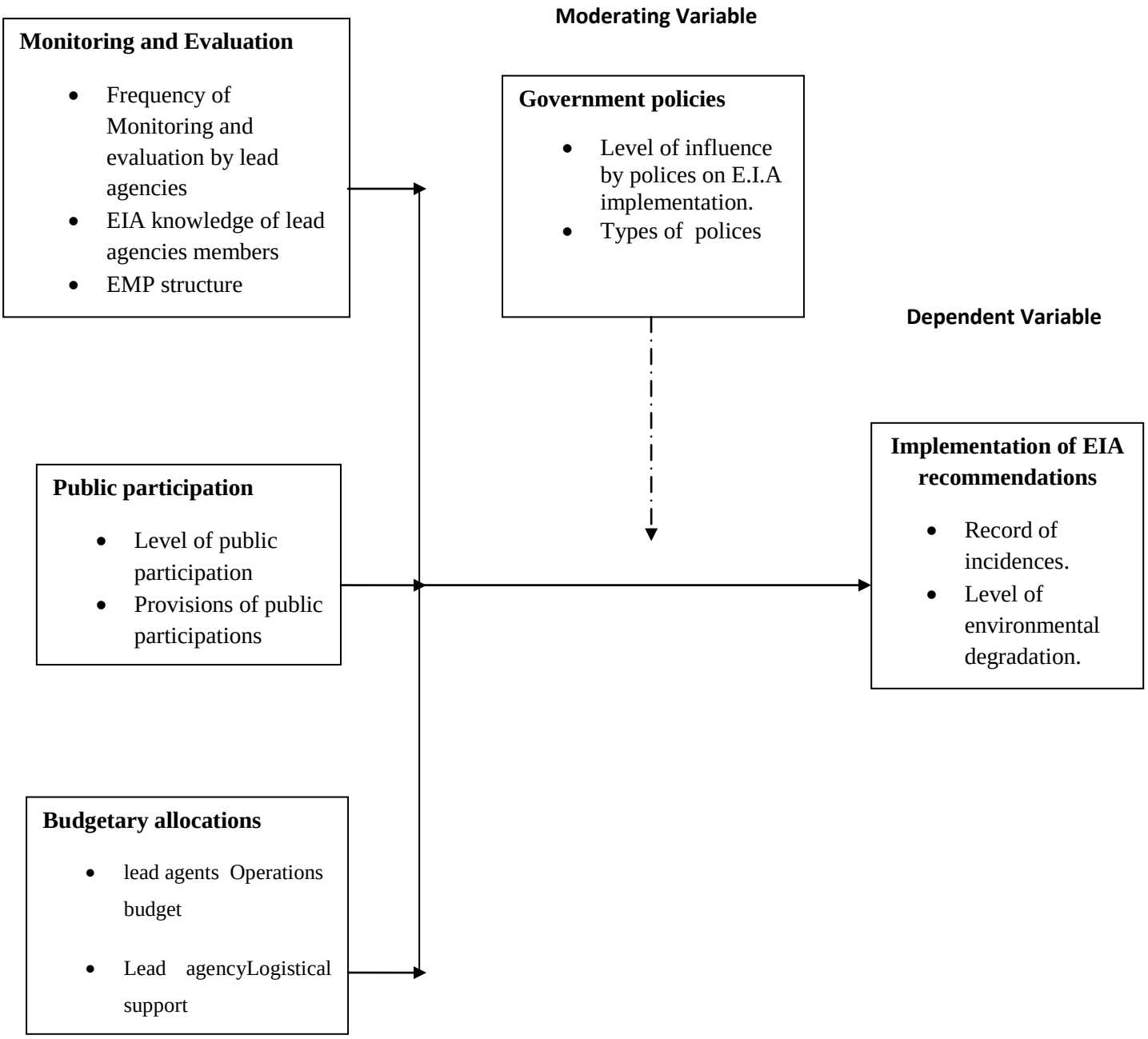


Figure 3: Conceptual frame work

The fact that environments are dynamic and subject to change makes the implementation of recommendations process one of great value in keeping data up to date and accurate. (Morrison Saunders and Arts, 2004).The extent to which monitoring and evaluation of these activities are done to commercial projects will most certainly have an effect to how well the EIA recommendations will be implemented. The EMP of an EIA provides the basis for monitoring and evaluation this should dictate to Environmental Lead experts the seriousness of preparing adequate EMPs. In Public participationWende (2002) concludes that early participation of stakeholders in the EIA scoping stage is important. Christensen et al. (2003) also claim that during the decision-making process public participation is a crucial factor in changing the design of EIA projects. The levels of public participation as well as the stage which they are involved are very crucial as well as mandatory under EMCA**.**Until the benefits of EIA implementation are more widely recognized in terms of long-term cost savings and improved environmental management, the demands on financial resources are likely to impede progress in this area, the lead agencies have continually faced financial challenges due to the inadequate budgetary allocation for ensuring that the EIA recommendations are efficiently implemented.

2.12 Knowledge gap.

The review of implementation of EIA recommendation studies with regard to commercial projects provided by Emmelin (1998) indicates that performance studies focusing on implementation of the recommendations are generally underrepresented. With respect to practical performance, there is a clear lack of studies considering the substantive outcomes of EIA recommendation implementation. Further, the influence of budgetary allocation on EIA performance is mostly neglected, even though its consideration is essential to gain a comprehensive implantation of EIA system. Finally, little literature is available regarding implementation of EIA recommendation in developing countries. This research is intended to

address these identified knowledge gaps on implementation of EIA recommendations. It thus combines several of the discussed approaches to study implementation of EIA recommendations comprehensively. Hence, EIA implementation of recommendations will be studied thoroughly through the use of a practice-oriented case study approach.

2.13 Summary of Literature Review

This chapter has provide an in depth literature review. the monitoring and evaluation of EIA recommendations, the need for monitoring and evaluation of the recommendations, public participation in EIA ,the constrains of public participation, the budgetary influence on implementation of EIA recommendations, the theory of EIA decision making, evolution of EIA ,legal frame work of EIA, EIA process, EIA and commercial projects as well as international case study of Netherlands and Canada and a regional case of Cameroon have been analyzed to revel that there is a knowledge gap in understanding the factors that influence the implementation of EIA recommendations in Nakuru town. As per the conceptual framework the study investigated implementation of EIA recommendation as the depended variable while EIA monitoring and evaluation, budgetary allocation and public participation will be the independent variable.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the descriptions of activities and aspects that will be involved in the study. The subsections include; research design, study area, target population, sampling procedure and sample size, instrumentation, data collection procedure, data analysis and the ethical considerations observed during the study.

3.2 Research Design

Since the relationship between the main variables (independent and dependent variables) already exists, *ex-post facto* study design was considered appropriate for the research. According to Fraenkel and Wallen (1996), *ex post facto* study design, also known as causal – comparative research design, involves comparing groups in order to explain the existing differences between the variables of interest. Kothari (2003) argues that the main characteristics of the causal comparative design is that the researcher has no control over the variables but can only report what has happened or what is happening. Consequently, this study examined the existing factors that affect the implementation of EIA recommendations on commercial projects. The researcher did not have control over the independent variable because the manifestations have already occurred or they are inherently not manipulatable (Kerlinger, cited in Black, 1999).

3.3 Target Population

The study target the licensed commercial developments in Nakuru town in the last two years from the date of commencement of the study, the total number of licensed projects were 360 within Nakuru town, the study further targeted lead agencies enshrined in the environmental

management and coordination act which totaled to 27 lead agents therefore totaling to 10% of the commercial projects 36 and 27 lead agents.

3.4 Sampling Procedure and Sample Size

According to Sekaran (2003), sampling is the process of selecting a sufficient number of elements from the population, so that a study of the sample and an understanding of its properties or characteristics would make it possible to generalize such properties or characteristics to the population elements. The study used 10% of the total number of licensed commercial projects within Nakuru town. A random sample of 10% of the total population is justified as representative of the active population in *ex-post facto* studies, according to Cohen et al. (1996). In an integrated qualitative and quantitative research, a researcher can use 0.05-10% of the accessible population as the sample size (Mugenda and Mugenda 1999). According to Sekaran, (2006), judgment sampling design, a non probabilistic sampling design, is suitable when data sought can only be obtained from certain groups. Since the information needed for this study could only be obtained from the members of the few selected members of the Environmental Committee as constituted under section 29 of EMCA, and from local authority works officers and public health officers, judgment sampling will be seen as most appropriate.

Table 3. 1: Sampling Frame

RESOURCE PERSON	DEPARTMENT	TARGET
County Water Resources	County Water officer	**1**
County Research and Technology Officer	County Research and Technology Office	**1**
County Works Officer	County Works Office	**3**
Representative of CBOs	Nakuru County	**2**
County Medical Officer	M.O-Nakuru PGH	**1**
County public health officer	P.H.O-Nakuru county	**1**
County natural resource officer	N.R.O-Nakuru county	**1**
Kenya police	O.C.P.D-Nakuru division	**1**
Representative of farmers, pastoralists youth and women	Nakuru town	**4**
Representative of business	Nakuru town	**2**
Representative of NGOs	Nakuru town	**2**
County environment department	C.E.O-Nakuru county	**2**
National environment management authority	Nema Nakuru	**2**
National construction authority	N.C.A .Nakuru	**2**
County engineer and works	Nakuru county	**2**
Licensed Commercial development proponents	Nakuru town	**36**
Total		**63**

3.5 Data Collection Methods

A questionnaire with both closed ended and open ended questions and an interview schedule was used as tools for the collection of primary data. The questionnaire was hand delivered to respondents and a time for collection agreed upon. The use of an interview schedule required administration by an enumerator, who helped the respondent fill the schedule. The enumerator explained the aims and objectives of the study and also helped remove the difficulties which any respondent may have in understanding the implications of a particular question or the definition

or a concept of a difficult term. Kotari (2004) considers this method as being very useful in extensive inquiries and can lead to fairly reliable results, despite being very expensive. The questionnaire was preferred over other instruments as the respondents were able to record the responses themselves, a fact which will ensure no distortion of information as it will be recorded. The schedule was chosen to supplement the questionnaire as there would be need to gather certain additional environmental information from the local authority works officers and Engineers, Public Health Officers, CEO through close interaction.

3.6 Pilot Study

According to Kotari, (2004) it is advisable for a researcher to immerse himself or herself in a subject matter of study in order to clearly define the problem. This is best done through the carrying out of a pilot study. This method can be employed in the task of ensuring instrument validity and reliability as hereafter set out.

3.7 Validity of Research Instrument

Mugenda and Mugenda (2003) define validity as the accuracy and meaningfulness of inferences which are based on the research results. Validity in this research design was assured by careful choice of indicators which informed the construction of the questionnaire and interview schedules. The supervisor played a big role in ensuring the validity.Validity was further enhanced by undertaking a pilot survey prior to collecting the final data from the respondents. The part of the population engaged in the validity test were not involved in the final data collection exercise in order to avoid bias.

3.8 Reliability of Research Instrument

Reliability is the tendency of an instrument to yield consistent results when applied on several occasions. The questionnaire and the interview schedules were subjected to a test-retest

technique, data being collected with the instruments from a few selected subjects of the population at the first instance and again one week later. A pilot test was undertaken to test the research questionnaires .Cronbach's Alpha test was be used to carry the reliability test. The questioners were tested against an alpha value of 0.7 according to Andrew Pedesen and Mcevoy (2011) .7 is considered acceptable in most social science research situations.

Reliability Statistics

Table 3. 2: Reliability Statistics Cronbach's Alpha Based on Standardized

Cronbach's Alpha Items	N of Items
.783	3
.815	1

Cronbach's alpha of 0.783 in Table 3.2indicates that the instruments used in the measurement of the data employed in this analysis were reliable enough.

3.9 Ethical Issues

Informed consent of respondents was obtained before being presented with the survey instruments of data collection. Towards this end, they were given an explanation as to the purpose and significance of the research. All due arrangements were made to obtain allnecessary legal requirements. According to Sekaran,(2006) the confidentiality of the data collected for the study should be assured, self esteem of the respondents should never be violated, participation of respondents should be voluntary and the data collected during the study should never be distorted or misrepresented. This study was made with that foregoing idea in mind.

3.10 Methods of Data Analysis

Data collected from respondents was processed and analyzed. According to Kothari, (2004) this is essential for a scientific study and for ensuring that all relevant data for making contemplated comparisons and analysis are available. The process consisted of; editing which involve examination of raw data to detect errors and omissions in questionnaires and interview schedules and to make corrections where possible; coding which involve assigning numerals to answers so that responses could be classified into a limited number of categories or classes appropriate to the research problem under consideration; classification which involve reducing the data into homogenous groups according to attributes or in class intervals; tabulation which was essentially display the data in compact form.

A descriptive analysis of the data after processing was involve multiple regression analysis. Measures of central tendency of mean, mode and median was made with the help of Statistical Package of Social Sciences Software (SPSS) and Microsoft Excel and presented in frequency tables. The Deterministic Component of the Regression Model was the multiple regression model used to determine the extent to which independent variables affect the dependent variable.

Where Y is the dependent variable

0- is the Y intercept, occurring when X,= X2 =X3 =O

X is

The independent variables

X, - Monitoring and evaluation

X2 - budgetary allocations

X3 -public participation

Bo -is the constant

BI-S -is the regression coefficient or change induced in Y by each X

EO: - is the error which represents the factors affecting the dependent variable not taken into account in the model.

Table 3.3: Operationalization of variables

	Research Objective	**Independent Variable**	**Indicator**	**Measurement scale**	**Data Collection Method**	**Data analysis Method**
1	Influence of budgetary allocation on EIA recommendation Implementation	CEC Operational Budget Operational budgets of lead agencies Lead agency CEC logistical support	Adequacy of DEC operational budget Adequacy of lead agency operational budgets Transport provision for CEC activities	Ordinal Ordinal Ordinal	Self administered Questionnaire and researcher administered schedule interviews	Correlation analysis Linear regression

2	Influence of Monitoring and evaluation on EIA recommendation Implementation	Experience of CEC members In Monitoring EIA knowledge of CEC members EMP structure Project EIA Implementation	Previous membership of monitoring team Knowledge of EIA structure Suitability of EMP Inspection reports Self Audit Reports Control Audit	Nominal Nominal Ordinal ordinal	Self administered Questionnaire and researcher. administered schedule interviews	Correlation analysis Linear regression
3	Influence of public participation to EIA recommendation implementation	Coordination of all partners	Frequency of CEC meetings Logistics Level of involvement of CEC members and stakeholders in EIA implementatio	Ratio Ratio Ordinal	Self administered Questionnaire and researcher administered schedule interviews	Correlational analysis Linear regression.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents analyses of the data collected and offers the interpretation of results from the findings made from the sampled respondents. The purpose of the study was to examine how components of governance namely; monitoring and evaluation, public participation budgetary allocation government policies and implementation of EIA recommendations in Nakuru town and to make recommendations on ways of instituting improvements and enhancements in procedures in order to realize better environmental outcomes.

4.2 Questionnaire return rate

A total of 63 questionnaires were distributed out of which 55 were returned and adequately filled this represented 87% return rate.

4.3 Data Analysis

While descriptive statistics were used in the analysis and presentation of the data, inferential statistics were used to establish whether there was any significant correlation between the variables. Data was presented in the form of frequency and percentage tables and bar charts.

4.4Demographic Characteristics of Respondents

This section addresses itself to the demographic variables of respondents. The distributions of respondents by gender, experience, type of membership and organization represented are considered. Table 4.1 presents the gender of respondents who participated in the research.

Table 4.1: Gender Respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	34	61.8	61.8	61.8
Female	21	38.2	38.2	100.0
Total	**55**	**100.0**	**100.0**	

From Table 4.1,one observes that of the 55 respondents, 34 or 61.8% were male while 21 or 38.2% were female; reflecting the fact that most of the representatives of government Departments and special groups holding positions in lead agents as well as project proponents are men. This gender imbalance in representation could be as a result of an education system that has for a long time favored the boy child while discriminating against the girl child. As a result, most government officers serving in Ministries are male property ownership could also play a big contribution in the imbalance since most project proponents are male.

Table 4.2: Levels of Education

Level of education	Frequency	Percent	Valid Percent	Cumulative Percent
College	13	23.6	23.6	23.6
University	42	76.4	76.4	100.0
Total	**55**	**100.0**	**100.0**	

From the participants 76.4 percent of them had gone through university education while 23.6 per cent of the respondents had underwent through college education.

4.5 Extent to which monitoring and evaluation by lead agencies influence implementation of EIA recommendations

This section presents the results of the analysis of data collected from respondents in order to investigate the influence the three independent variables indicated in the study objectives have on the dependent variable.

Table 4.3 shows the frequency of involvement in the EIA follow up among the major stakeholders

Table 4.3: Frequency of involvement in environmental impact assessment and follow up activities

Frequency of involvement	Frequency	Percent	Valid Percent	Cumulative Percent
Very Often	22	40.0	40.0	40.0
Often	26	47.3	47.3	87.3
Neutral	3	5.5	5.5	92.7
Rarely	4	7.3	7.3	100.0
Total	**55**	**100.0**	**100.0**	

From the respondents 26 of them which represented 47.3% were often involved in EIA follow up activities,22 of them which is 40% were very oftenly involved in EIA follow up activities 4 of them which is 7.3% were rarely involved while 3 which is 5.5% choose to remain neutral. From the findings its was then interpreted that a high percent of people involved in EIA follow up activities mostly the implementation of EIA recommendations are people who are directly involved in the EIA process.

The study seeked to understand that most common challenges encountered during the process of EIA monitoring and evaluation and the finds were analyzed and presented in table 4.

Table 4.4: Most common challenges encountered during E.I.A monitoring and evaluation

Challenges encountered	Frequency	Percent	Valid Percent	Cumulative Percent
Limited financial support from regulator and proponent	10	18.2	18.2	18.2
Deficiency in E.I.A recommendations and reports	7	12.7	12.7	30.9
Lack of guidance	13	23.6	23.6	54.5
Enforcement deficiency	12	21.8	21.8	76.4
Poorly developed monitoring techniques	13	23.6	23.6	100.0
Total	**55**	**100.0**	**100.0**	

The study established that 23.6% were of the opinion that poorly developed monitoring techniques for the implementation of EIA recommendations was the most common challenge encountered in the monitoring and evaluation. This was a tie with another 23.6 % of the respondents who indicated lack of guidance as there major challenge; this was closely followed by a 21.8% who indicated enforcement deficiency as a challenge. Its was also interestingly revealed that 18.2% faced limited financial support from the regulator and proponent.12.7% were of the opinion that deficiency in EIA reports recommendations was there major challenge in the monitoring of EIA recommendations.

The areas of improvement were sought and present in table 4.5 as follows

Table 4.5: What can be done to improve monitoring and evaluation by relevant agencies

What can be done	Frequency	Percent	Valid Percent	Cumulative Percent
Proper enforcement	12	21.8	21.8	21.8
Develop better monitoring techniques	10	18.2	18.2	40.0
Conduct joint monitoring	33	60.0	60.0	100.0
Total	55	100.0	100.0	

Table 4.5 indicates that the majority of the respondents which was 60% were of the opinion that conducting a joint monitoring by all lead agents would greatly improve the implementation of EIA recommendations.21.8% described proper enforcement as the main thing to be improved for effective implementation of EIA recommendations.18.2% were of the opinion that development of better monitoring techniques would adequately improve the implantation of EIA recommendations.

4.6 Extent to which public participation influences implementation of EIA recommendations

The involvement in EIA was sought and the findings presented in table 4.6

Table 4.6: Involvement in EIA

Involvement in EIA	Frequency	Percent	Valid Percent	Cumulative Percent
yes	55	100.0	100.0	100.0
No	0	0	0	0

Table 4.6 indicate that out of all the 55 respondents all of them had taken part in EIA this was due the purposive nature of the research which look for people who had taken part in the EIA.

The research also sought to establish the capacity of involvement in the EIA process and presented in table 4.7.

Table 4.7: Capacity of involvement in the EIA process

Capacity involved in	Frequency	Percent	Valid Percent	Cumulative Percent
EIA certified expert	21	38.2	38.2	38.2
Regulator(Nema)	12	21.8	21.8	60.0
Lead agent	19	34.5	34.5	94.5
Interest group	3	5.5	5.5	100.0
Total	55	100.0	100.0	

21 of the respondents which equaled to 38.2 % had taken part in the EIA as certified lead experts,34.5% as lead agents,21.8% as the regulator as well as custodian of EIAs while 5.5% took part as interest groups.

The adequacy of stakeholders in the EIA process was also sought and presented in table 4.8.

Table 4.8: Adequacy of stake holders as described in the EIA guidelines

Adequacy of stake	Public	Lead agency	NGOs and interes	E.I.A certified	Proponents	Nema
Response	Freq/%	Freq/	Freq/%	Freq/%	Freq/%	Freq/%
Very adequate Adequate	2		10.9		36.4	50.9
Neutral	38	23.6	40	14.5	18.2	12.7
Inadequate	3.6		49.1	25.5		10.9
Very inadequate	38.2				25.5	25.5
Total	100	100	100	100	100	100

Adequacy of the public as a stake holder was 40% neutral closely followed by 38.2% as very in adequate 18.2% said the role of public as a stakeholder was adequate and finally 3.6% were of the opinion that the role of the public was very inadequate. Adequacy of lead agency as a stake holder was 73% as adequate while 23.6% were neutral the Adequacy of NGOs as a stake holder was 49.1% inadequate closely followed by 40% as neutral while only 10.9% was recoded as very in adequate. Adequacy of the E.I.A certified expert as a stake holder was 60% as adequate 14.5% neutral inadequate was recorded as 25.5%Adequacy of project proponents as stakeholders

was established as 36.4% as very adequate 25.5% as very inadequate,20% as adequate while 18.2% was Adequacy of the public as a stake holder was 40% neutral closely followed by 38.2% as very in adequate 18.2% said the role of public as a stakeholder was adequate and finally 3.6% were of the opinion that the role of the public was very inadequate.

Table 4.9 presents the communication means in getting public views in the EIA process

Table 4.9: Communication means in getting public views in the EIA process

Communication means in getting Response	Technical workshops Freq/%	Non technical workshops Freq/%	Interpersonal contacts Freq/%	Questioners and surveys Freq/%
Yes			49.1	85.5
No	92.7	76.4	27.3	14.5
Do not know	7.3	23.6	23.6	
Total	100	100	100	100

Table 9 indicates that 92.7% of the respondents did not undergo a technical workshop during the EIA process 7.3% were not aware of anything to do with technical workshops in the EIA process, this is a clear indicator of the challenge of the EIA process since the use of technical workshops in documented in the legal EIA framework. 76.4% of the respondents did not undergo a nontechnical workshop during the EIA process 23.6% were not aware of anything to do with nontechnical workshops in the EIA process, the study also established that 49.1% of the respondents were involved in interpersonal contacts during the EIA process, 27.3% were not involved while 23.6% did not know what interpersonal contact meant. Use of questioners was

the most common means of public involvement with 85.5% having been engaged in use of the same while 14.5% did not know or have never been interviewed using questioners

The research also established areas of improvement in public participation and the findings were present in table 4.10.

Table 4.10: What can be done to improve effective public participation in EIA process

Areas of improvement	Frequency	Percent	Valid Percent	Cumulative Percent
Create public awareness	28	50.9	50.9	50.9
EIA experts to more serious in public participation	15	27.2	27.2	27.2
More enforcement for public participation	12	21.8	21.8	21.8
Total	**55**	**100.0**	**100.0**	**100.0**

The findings presented in table 10 indicate that for there to be adequate public participation in the EIA process there need to be a lot of public awareness which was reported as 50.9, that EIA experts need to be more serious in public participation, and finally more enforcement of the legal requirement of public participation.

4.7 Extent to which budgetary allocation influences the implementation of EIA recommendations

From the study money allocated for monitoring of EIA recommendations was sought and the findings presented in table 4.11.

Table 4. 11: Money allocated for monitoring of EIA recommendations

Money allocated for monitoring of EIA recommendations	Frequency	Percent	Valid Percent	Cumulative Percent
100001-200000	4	7.3	7.3	7.3
200001-300000	13	23.6	23.6	30.9
300001-400000	22	40.0	40.0	70.9
0ver 500000	16	29.1	29.1	100.0
Total	55	100.0	100.0	

From the lead agencies interviewed 40% of them reported to have a budget of 300001 to 400000 for the follow up of EIA recommendations this was followed by lead agents with a budget of over 500000 which recorded 29.1%.200001 to 300000 came third at 23.6% while the budget between 100001 to 200001 came forth with 7.3%.

Adequacy of money for monitoring of EIA recommendations was presented in table 4.12 as indicated.

Table 4. 12: Adequacy of money for monitoring of EIA recommendations

Extent to which money allocated for monitoring of EIA recommendations adequate	Frequency	Percent	Valid Percent	Cumulative Percent
Small extent	8	14.5	14.5	14.5
Moderate extent	40	72.7	72.7	87.3
Large extent	7	12.7	12.7	100.0
Total	**55**	**100.0**	**100.0**	

Out of the money allocated to implementation of EIA recommendations 72.7% of the respondents indicated it was moderately adequate 14.5% were of the opinion it was adequate only to a small extent while 12.7% were of the opinion that money allocated for monitoring of EIA implementation was adequate to a large extent.

The budgetary allocation efficiency was also determined and presented in table 4.13.

Table 4.13: Budgetary allocation on E.I.A implementation

Budgetary allocation on E.I.A implementation	Budgetary allocation provide adequate provisions for	Money allocated for implementation of EIA	Realistic estimation is done during budgetary planning	Major challenge of lead agency is sourcing and securing financial resources
Response	Freq/%	Freq/%	Freq/%	Freq/%
Strongly agree				30.9
Agree		29.1		49.1
Neutral	80	32.7	40	
Disagree	10.9	12.7	40	20
Strongly disagree	9.1	25.5	20	
Total	**100**	**100**	**100**	**100**

80% of the respondents were reported to remain neutral on budgetary allocation and how it facilitates the implementation of EIA recommendations 10.9% disagreed with budget allocation while 9.1% strongly disagreed with the allocation. 32.7% of the respondents remained neutral on weather money allocated to follow for implementation of EIA recommendations is channeled to the right purpose,29.1% agreed that the money allocated is channeled to the right purpose 25.5%

strongly disagreed while 12.7% disagree. The study also established that 40% of the respondents were neutral on the realistic estimation of budgetary allocation towards monies for implementation of EIA recommendations this was a tie with another 40% who disagreed with the same. it was further reviled that 20% strongly disagreed this was a clear indicator of the perception towards budgetary estimations49.1% agree that the major challenge of lead agencies is sourcing and securing financial resources for the follow up of implementation of EIA recommendation 30.9% strongly agreed while 20% disagree.

Familiarity with the government policies regulating the environment was determined and presented in table 4.14.

Table 4.14: Familiarity with policies regulating the environment

Familiarity with policies regulating the environment		Frequency	Percent	Valid Percent	Cumulative Percent
	very familiar	21	38.2	38.2	38.2
	Familiar	34	61.8	61.8	100.0
	Total	55	100.0	100.0	

Familiarity with government policies regulating EIA was 61.8% while 38.2% were not familiar this were mainly proponents who were new in the EIA requirements

The study sought to determine the efficiency of guidelines as provided by NEMA and the findings presented in table 4.15.

Table 4.15: Sufficiency of the environmental guidelines as provided by NEMA

Sufficiency of the environmental guidelines as provided by NEMA	Frequency	Percent	Valid Percent	Cumulative Percent
very sufficient	7	12.7	12.7	12.7
sufficient	3	5.5	5.5	18.2
insufficient	45	81.8	81.8	100.0
Total	55	100.0	100.0	

The study also sought to determine how sufficient the environmental guidelines were as provided by NEMA.81.8% were of the opinion that the guidelines were insufficient,12.7% said they were very sufficient while 3% said they were sufficient.

The extent to which government policies affect the implementation of EIA recommendations was determined and presented in table 4.16.

Table 4.16: Extent to which government policy affect implementation of EIA recommendations

Extent to which government policy affect implementation of EIA recommendations	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Moderate extent	26	47.3	47.3	47.3
large extent	29	52.7	52.7	100.0
Total	**55**	**100.0**	**100.0**	

Table 4.16 shows the extent to which the polices affect the implementation of EIA recommendations, 52.7% said the polices affect the policies affect the implementation to a large extent while 47.3 it affect to a moderate extent.

The study established the records of incidences from commercial projects and the findings presented in table 4.17.

Table 4.17: Availability of record of incidence emanating from commercial developments

Availability of record of incidence emanating from commercial developments	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	55	100.0	100.0	100.0

Out of all the respondents they reported to have a record of incidence in there organization that document incidences from commercial development.

The level of incidences was determined and presented in table 4.18.

Table 4.18: Level of incidences

Number of incidences have you recorded in the past 6months	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
1-5	11	20.0	20.0	20.0
6-10	13	23.6	23.6	43.6
11-15	22	40.0	40.0	83.6
over 25	9	16.4	16.4	100.0
Total	55	100.0	100.0	

From the record of incidences 40% reported to have recorded 11 to 15 incidences in the last 6 months 23.6% had recorded 6 to 10 ,20% had recorded 1 to 5 while over 25 incidences were recorded by 16.4%.

Environmental consequences emanating from commercial developments was presented in table 4.19.

Table 4.19: Environmental consequences emanating from commercial developments

Environmental consequences	**Noise**	**Dust**	**Waste**	**Blockage of water ways**
Response	Freq/%	Freq/%	Freq/%	Freq/%
Very severe	40	65.5	61.8	21.8
Severe	32.7	34.5		9.1
Moderately severe	5.5		38.2	21.8
Not severe	12			47.3
Total	**100**	**100**	**100**	**100**

The study established that from the construction sites there was very sever noise emanating which was evident by the 40% .Another 32.7% said they experienced sever noise,5.5 moderately severe with only 21.8% were of the opinion that noise from these sites was not severe. The study also established that from the construction sites there was very sever dust emanating from the sites which was evident by the 65.5% .Only 19% were of the opinion that dust emanating from the sites was not severe.61.8% of the respondents were very concerned with waste from commercial site having indicated that it was very severe 38.2% were moderately concerned having indicated that waste was moderately severe.47.3% blockage were of opinion that storm water ways as a result of the commercial development sites was not severe at all ,21.8 were of

the opinion that the blockage was moderately severe which was a tie with very severe which also recoded 21.8% only 9.1% said it was severe.

Multiple Regression Analysis

The study analysed data using multiple regression model as shown in table 4.20.

Table 4.20: Model Summary

Model	RR Square	Adjust R Square	Std. Error of the Estimate
.420	.288		.27835

Predictors: (Constant), Monitoring and evaluation, pubic participation and budgetary allocation

In Table 20 R is the correlation coefficient; R square is the coefficient of determination which gives the amount of variation in the dependent variable that can be explained by the predictors listed in the table. In this case, 42% of the variations in the dependent variable can be explained by the predictors but 58% can be explained by factors not considered in this study.

Table 4.21: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig .
Regression	1.234	21	.247	3.186	. 026[a]
Residual	1.705	34	.077		
Total	2.939	55			

A large F value implies that most of the variation in the dependent variable is explained by the regression equation and the model is useful. Vice versa is also true.

Coefficients of the study variables was done and presented in table 4.22

Table 4. 22: Coefficients

Coefficients"

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta		
(Constant)	1.187	.953		1.246	.226
Monitoring and evaluation	.421	.209	.337	2.010	.057
Public participation					
Budgetary allocation	-.009	.169	-.010	-.055	.956

a. Dependent Variable: Implementation of EIA recommendations

A descriptive summary was presented on the influence of monitoring and evaluation, budgetary allocation and public participation on implementation of EIA recommendation and presented in table 4.23

Table 4.23: Descriptive Statistics

					Std. Deviation
Monitoring and evaluation	55	2.13	3.00	2.6552	.26018
Public participation	55	3.33	5.00	4.1724	.53542
Budgetary allocation	55	3.00	5.00	4.1034	.57289
Government policies	55	2.13	3.00	2.6552	.26018
Implementation of EIA recommendations	55	3.50	5.00	4.8000	.32623
Valid N (list wise)	55				

Correlation Analysis

To check the level of association between the independent and dependent variables, person correlation was undertaken and the findings presented in table 24.

Table 4.24: Correlation Analysis

		Implementation of EIA recommendations	**Influence of monitoring and evaluation**	**Influence of public participation**	**Influence of budgetary allocation**
Implementation of EIA recommendations	Pearson correlation	1			
	Sig.(2-tailed)				
	N	55			
Influence of monitoring and evaluation	Pearson correlation	.479**	1		
	Sig.(2-tailed)	.000			
	N	55	55		
Influence of public participation	Pearson correlation	.523**	.263**	1	
	Sig.(2-tailed)	.000	.000		
	N	55	55	55	
Influence of budgetary allocation	Pearson correlation	.471**	.223**	.070**	1
	Sig.(2-tailed)	.000	.001	.313	
	N	55	55	55	55

**Correlation is significant at the 0.01 level (2-tailed)

On the influence of monitoring and evaluation table 24 indicate there was a moderate positive correlation between monitoring and evaluation and the implementation of EIA recommendations R=0.479 which was further significant at $p=0.00<\alpha(0.05)$.It was deducted that an increase in monitoring and evaluation leads to improved implementation of EIA recommendations based on the findings its actually true what Telfer and Beveridge, (2001) argue that The primary aim of monitoring is to provide information that will aid impact management; to help achieve a better understanding of cause-effect relationships and to improve EIA impact prediction and mitigation methods.

The study also established that public participation positively correlate with implementation of EIA recommendations R=0.523, $p=0.00<\alpha$ (0.05).increase in public participation leads to effective implementation of EIA recommendations. Studies have indicated that having adequate public participation have innumerable benefits as indicated by Sadler (1996).

Lastly there was a moderate positive relationship between the budgetary allocation and implementation of EIA recommendations R=0.471 which was further significant at $p=0.000<\alpha(0.05)$.it was thus inferred that increase in the budget for EIA follow up activities would increase the implementation of EIA recommendations. The findings of the study resonates well with Morrison(2004) who is well aware that follow up requires considerable recourses in terms of money and time.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of major findings, discussions, conclusions and recommendations in relation to the purpose of research; which was to find ways to incite project proponents, planners, designers, managers, the regulating authority, members of the public and lead agencies to re-look at project implementation of EIA recommendations with a view to improving better environmental performance. The study specifically aimed at establishing to what extent three independent variables influenced the dependent variable of implementation of EIA recommendations in Nakuru town , through the analysis of primary data obtained there relevant lead agencies and project proponents as well as secondary data obtained from NEMA. Discussed here below are the summarize findings against the research questions.

5.2 Summary of Findings

The summary of findings was discussed in relation to the study objectives which were; To examine the extent to which monitoring and evaluation by lead agencies influences the implementation of EIA recommendations, to establish the extent to which public participation influences the implementation if EIA recommendations and finally to examine the extent to which budgetary allocation influences the implementation of EIA recommendations on commercial projects

5.3 Discussions of the study

Statistical tests showed that there is indeed a high significance and relationship between the dependent and the independent variables. Monitoring and evaluation by lead agencies were found to show aspects in many ways to prove that successful implementation EIA recommendations is enshrined in the lead agency monitoring and evaluation. Field results indicated that there are environmental consequences of poor monitoring and evaluation. This corroborates what Saunders (2003) proved that monitoring of the implementation of EIA recommendations is necessary to avert environmental degradation. The findings have therefore shown adequate monitoring and evaluation have a great impact in reducing environmental degradation by commercial developments.

Findings of the study indicated that public participation positively correlate with implementation of EIA recommendations $R=0.523$, $p=0.00<\alpha$ (0.05).It is also clear as per the results of the study that only two percent of the lead agencies have adequately involved the members of public in the EIA process. The results corroborates what other scholars found out for example wood (2003), Saddler (1996) and Rafique(2005) who observed the very minimal public involvement is done during the EIA process due to the several challenges uncounted during the during the implementation on EIA participation, even thou it is completely inevitable for the public to be overlooked. This simply means that public participation needs to be consulted from the early stages of the EIA process. Traditionally, lead agencies have tended to overlook importance of public involvement either through ignorance or sometimes with a purpose in order to avoid censorship. Theoretical thinking has it that the public should be approached using a systems approach and that individuals who cooperate and work towards the same goal and objective are more likely to achieve more than those who go it alone.

In this study, it has been proved that poor public involvement by lead agencies and EIA experts have a direct impact in the implementation of EIA recommendations. Stakeholders are therefore very important in the successful implementation of EIA recommendations by commercial project proponents To ensure effective public participation the study established that, public awareness, enforcement of public participation and more seriousness by the EIA experts as the main areas to bank on The use of questioners and surveys was noted as the most common mode of public involvement with technical workshops, Non technical workshops and interpersonal contacts not being well utilized despite there being a legal requirement for there utilization

Results indicated the lead agencies insufficiently budget for the follow up of the implementation of EIA recommendations These results corroborate Morrison, Saunders and Arts (2004) argument that until the benefits of EIA implementation of recommendations are widely recognized in terms of long term cost savings and improved environmental management lead agents will continue to under budget finances for EIA follow up of recommended recommendations diversion of the under budgeted finances was found to be large contributor of the already existing challenge with unrealistic estimation during the budgetary process as the course of under budgeting and finally sourcing and securing of adequate finances as the major challenge encountered by the budget process

5.4 Conclusions of the study

The first conclusion from study findings was that monitoring and evaluation affect the implementation of EIA recommendations on commercial projects In particular, lack of guidance, poorly developed monitoring and evaluation techniques, enforcement deficiency, limited financial support and deficiency of EIA recommendations

The study also concluded that public participation by persons involved in the entire EIA process had great influence on degree of implementation of EIA recommendations lead agencies are however familiar with the government regulations in pertaining public participation matters.

Another important conclusion was that adequate budgetary allocation paramount in the implementation of EIA recommendations. The study has shown that there is a perfect positive correlation between budgetary allocation and the implementation of EIA recommendations and therefore lead agencies must be nurtured to have adequate budgetary allocation.

5.5 Recommendations of the study.

EIA/A Regulations 2003 should be amended to include a paragraph that requires EMPs in EIA reports to include clear environmental indicators to aid implementation of EIA recommendations. Special joint oversight teams should be established in order to facilitate periodic monitoring and evaluation of EIA recommendations and ensure effective implementation of the stated recommendations. It is further recommended that public education on the importance of implementation of EIA recommendations be an integral part of all lead agencies.

All lead agencies should make provision for deep analysis of finances adequate for the special joint oversight teams in there budgetary process The study also recommended that there should be more research and development (R & D) as this would give EIA experts quality judgment in providing there recommendations to commercial development proponents . Finally, there is need for lead agents to work towards self-sustainability to avoid financial dependency form the government and international donors

5.6Suggestions for Further Research

The subject of implementation of EIA recommendations and follow up needs to be treated seriously by all stakeholders in order for the inhabitants of Nakuru town in particular and Kenya in general to reap the benefits of sustainable development that accrue with good environmental management practices. While the objectives were clear and successfully accomplished, several areas remain unclear and require further research.

First the study focused only on the concept monitoring and evaluation of implementation of EIA recommendations. The concept of effective monitoring and its advantages should be considered for further study. Second, It is proposed that further research be carried out on the quality of EIA reports since they form the basis of the entire EIA process. Finally, the study only used three aspects of the organization namely monitoring and evaluation, public participation and budgetary allocation. Other aspects of the organization could be reconsidered in a future research for example training and development, of EIA lead agents.

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APPENDIX 1

LETTER TO RESPONDENTS

Kelvin Kiromo Karanja

University of Nairobi

Nakuru Extra Mural Center

Nakuru

Dear respondent,

I am a student at University of Nairobi pursuing a Masters degree in project planning and management. I am carrying out a research on the factors affecting the implementation of E.I.A recommendations by commercial development projects in Nakuru town of Nakuru County, Kenya. I kindly request for your participation in this work by answering this questionnaire booklet. Please note that the information obtained from this booklet will be used for the purposes of the research only and will be treated with utmost confidentiality.

Thank you for your anticipated support.

Yours faithfully,

Kelvin Kiromo Karanja

L50/77950/2015

APPENDIX II

QUESTIONNAIRE

Questionnaire number.....

SECTION A: BIO DATA

1. **Indicate your Gender**

   Male [ ] Female [ ]

2. **Tick your Age bracket**

   20-24 ( ) 25-29 ( ) 20-34 ( ) 35-39 ( )

   40-44 ( ) 24-49 ( ) 50& Above ( )

3. **Indicate yourMarital status**

   Married [ ] single [ ] separated [ ] divorced [ ] other [ ]

2. Level of Education

Secondary [ ] College [ ] University [ ] Post Graduate [ ]

SECTION B; Monitoring and Evaluation of E.I.A Recommendations

1. **How often are you involved in EIA implementation and follow-up activities of commercial development projects in Nakuru town?**

   Very often [ ]

   Often [ ]

   Neutral [ ]

   Rarely [ ]

   Not at all [ ]

2. What are the most common challenges encountered during EIA monitoring and evaluation of recommendations in commercial projects?

1. Limited financial support from regulator and proponent [ ]
2. Deficiency in E.I.A recommendations and reports [ ]
3. Lack of guidance [ ]
4. Legislative deficiencies [ ]
5. Enforcement deficiency [ ]
6. Inadequate expertise [ ]
7. Poorly developed monitoring techniques [ ]
8. Uncertainties about EIA monitoring and evaluation benefits [ ]

3.In your opinion what can be done to improve on monitoring and evaluation by the relevant agencies

……

……

……

SECTION C; Public Participation

1. Have you ever taken part in E.I.A?

Yes [ ]

No [ ]

2. **If yes in what capacity were you in?**

- Affected public member [ ]
- EIA certified expert [ ]
- Regulator(NEMA) [ ]
- Project proponent [ ]
- Lead agent [ ]
- Interest group [ ]

3.How would you classify the provisions provided for public involvement and consultation in the EIA process?

- Very good [ ]
- Good [ ]
- Poor [ ]
- Very poor [ ]

4. How adequate are the roles of the following stake holders as described in the EIA guidelines and regulations?

Very adequate [5] Adequate [4] Neutral [3] Inadequate [2] Very inadequate [1]

	Very adequate	Adequate	Neutral	inadequate	very inadequate
Public					
Lead agency					
NGOs and interest groups					
EIA certified expert					
Proponents					
NEMA					

5. Was there use of the following means of communication in getting the views of the affected parties during EIA?

	YES	NO	DO NOT KNOW
Technical workshop			
Non-technical workshops with public			
Interpersonal contacts (door to door visits, telephone conversations)			
Questionnaires and surveys			

6. In your view what can be done to ensure effective public participation in the E.I.A process .....

.....

.....

.....

SECTION D; Influence of budgetary allocation to implementation of E.I.A recommendations.

1. What was the total amount in Kenyan shillings allocated specifically for monitoring the implementation of E.I.A recommendations

.....

2. To What extent do you feel the money allocated for monitoring of EIA implementation recommendations adequate?

   Small extent [ ]Moderate extent [ ]Large extent [ ]

3. The following are statement on budgetary allocation in regarding the implementation of EIA recommendations; indicate your feeling in each by

   SA-Strongly Agree [5]

   A-Agree [4]

   N-Neutral [3]

   D –Disagree [2]

   SD-Strongly Disagree [1]

STATEMENT	SA	A	N	D	SD
The budgetary allocation provide a clear and adequate provision For finances for facilitation of EIA follow up of recommendations					
Money for follow up of implementation of EIA recommendations is usually channeled to the right purpose					
A realistic estimation for monies adequate for EIA follow up of recommendations is usually undertaken in budgetary planning					
The major challenge of the lead agency is sourcing and securing financial resources for efficient check up of the implementation of EIA recommendations					

SECTION E: Government policies

1. How familiar are you with polices regulating the environment

Very familiar ( )

Familiar ( )

Not familiar ( )

2. How sufficient are the environmental guidelines as provided by the National Environmental Management Authority

Very sufficient ( )

Sufficient ( )

Insufficient ( )

Very insufficient ( )

3. To what extent does the government polices affect the implementation of EIA recommendations

Small extent ( )

Moderate extent ( )

Large extent ( )

SECTION F: Environmental Impacts

Does your institution has a record of environmental incidences/complains

Yes ( )

No ( )

If yes how many incidences have you recorded in the past 6 months emanating from commercial developments

Tick where applicable

1-5 [ ]

6-10 [ ]

11-15 [ ]

16-20 [ ]

21-25 [ ]

Over 25 [ ]

How would you categories the following environmental consequences as a result of commercial developments

Very severe 1

Severe 2

Moderately severe 3

Not severe 4

	Very severe	Severe	Moderately severe	Not severe
Noise				
Dust				
Waste				
Block of water ways				

Thank you

APPENDIX III: NACOSTI LETTER

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email:dg@nacosti.go.ke
Website: www.nacosti.go.ke
when replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.
NACOSTI/P/16/15994/11374

Date:
17th June, 2016

Kiromo Kelvin Karanja
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Factors influencing the implementation of environmental impact assessment recommendations on commercial projects. A case of Nakuru Town, Nakuru County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **13th June, 2017.**

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

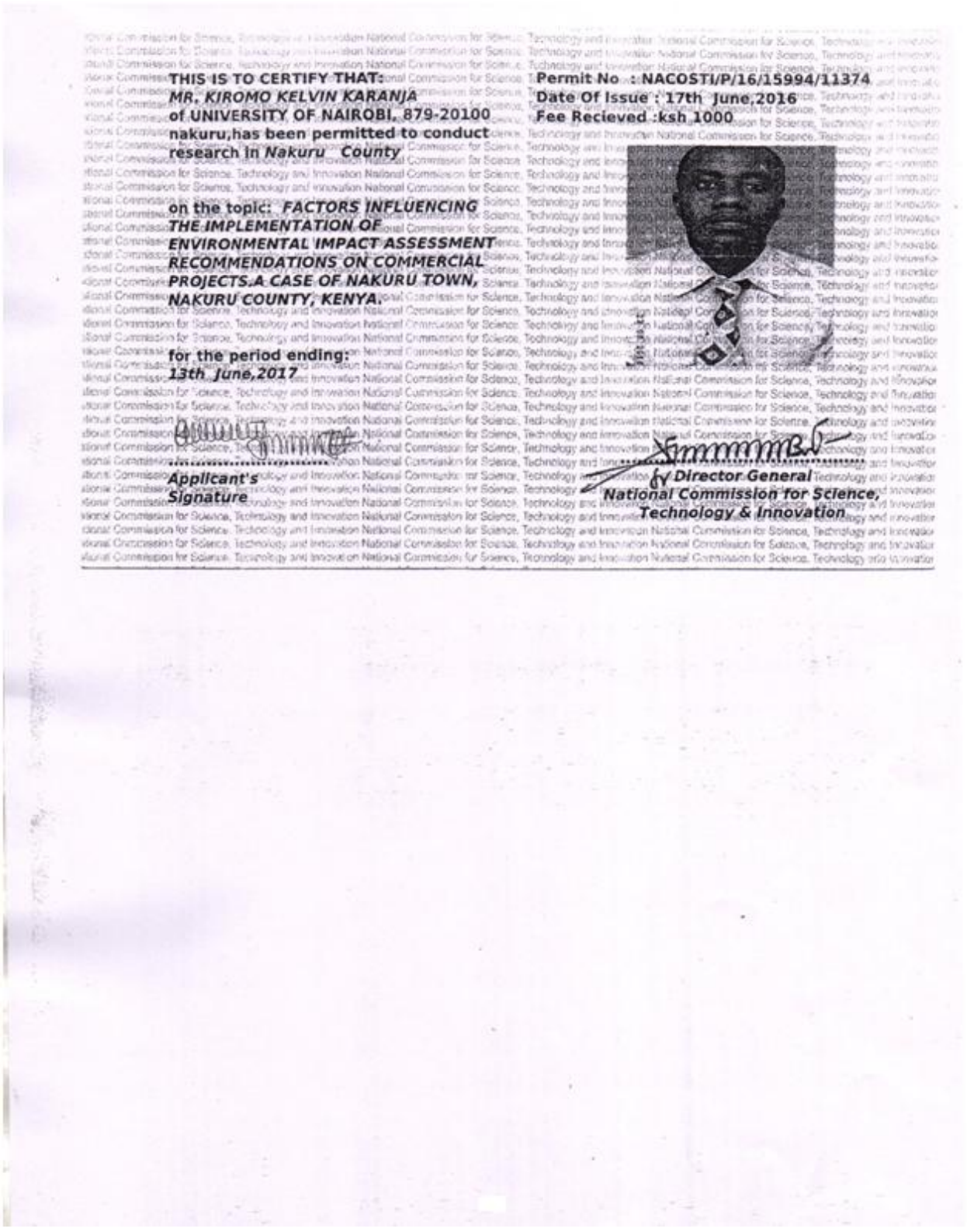
DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

APPENDIX IV: NACOSTI PERMIT



THIS IS TO CERTIFY THAT:
MR. KIROMO KELVIN KARANJA
of UNIVERSITY OF NAIROBI, 879-20100
nakuru,has been permitted to conduct
research in Nakuru County

on the topic: FACTORS INFLUENCING THE IMPLEMENTATION OF ENVIRONMENTAL IMPACT ASSESSMENT RECOMMENDATIONS ON COMMERCIAL PROJECTS.A CASE OF NAKURU TOWN, NAKURU COUNTY, KENYA.

for the period ending:
13th June,2017

Applicant's
Signature

Permit No : NACOSTI/P/16/15994/11374
Date Of Issue : 17th June,2016
Fee Recieved :ksh 1000

Director General
National Commission for Science,
Technology & Innovation

APPENDIX V: UNIVERSITY LETTER

UNIVERSITY OF NAIROBI
COLLEGE OF EDUCATION AND EXTERNAL STUDIES
SCHOOL OF CONTINUING AND DISTANCE EDUCATION
DEPARTMENT OF EXTRA - MURAL STUDIES

Tel 051 - 2210863

P. O Box 1120, Nakuru
12th May 2016

Our Ref: *UoN/CEES/NKUEMC/1/12*

To whom it may concern:

RE: KELVIN KIROMO KARANJA – L50/77950/2015

The above named is a student of the University of Nairobi at Nakuru Extra-Mural Centre Pursuing a Masters degree in Project Planning and Management.

Part of the course requirement is that students must undertake a research project during their course of study. He has now been released to undertake the same and has identified your institution for the purpose of data collection on "Factors Influencing the Implementation of Environmental Impact Assessment Recommendations on Commercial Projects. A Case of Nakuru Town, Nakuru County, Kenya."

The information obtained will strictly be used for the purpose of the study.

I am for that reason writing to request that you please assist him.

Yours faithfully

RESIDENT LECTURER
Mumo Mutie
Resident Lecturer

EXTRA MURAL CENTRE
P.O. Box 1120
NAKURU
UNIVERSITY OF NAIROBI

APPENDIX VI: MEST LETTER

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

State Department of Education

Telegrams: "EDUCATION",
Telephone: 051-2216917
Fax: 051-2217308
Email: cdenakurucounty@yahoo.com
When replying please quote

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.

Ref. NO. CDE/NKU/GEN/4/1/21 VOL. IV/65

27th June, 2016

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – KIROMO KELVIN KARANJA
NACOSTI PERMIT NO. P/16/15994/11374

Authority is hereby given to the above named to carry out research on "***Factors influencing the implementation of environmental impact assessment recommendations on commercial projects. A case of Nakuru Town, Nakuru County,***" for a period ending 13th June, 2016.

Kindly accord him the necessary assistance.

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

DANSON M. WANGORU
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

APPENDIX VII: MICNG LETTER

THE PRESIDENCY

Ministry of Interior and Coordination of National Government

Telegram: "DISTRICTER" Nakuru
Telephone: Nakuru 051-2212515
When replying please quote

DEPUTY COUNTY COMMISSIONER
NAKURU SUB COUNTY
P.O. BOX 81
NAKURU

Ref No ED.12/10 VOL.V/34

27th June 2016

TO WHOM IT MAY CONCERN

RE:- RESEARCH AUTHORIZATION
KIROMO KELVIN KARANJA

The above named student from University of Nairobi has been authorized to carry out research on "**factors influencing the implementation of environmental impact assessment recommendations on commercial projects**". A case study of Nakuru Town, Nakuru County for a period ending 13th June, 2017.

Please accord him all the necessary support to facilitate the success of his research.

C. W. NJOROGE
FOR DEPUTY COUNTY COMMISSIONER
NAKURU SUB COUNTY

APPENDIX VIII: LIST OF ACCESSIBLE COMMERCIAL PROJECTS WITHIN NAKURU TOWN

1. Proposed commercial development long Kenyatta avenue Nakuru town
2. Proposed commercial development along Mosque road Nakuru town
3. Proposed commercial development along Umardin street Nakuru town
4. Proposed commercial development along Oginga Odinga street Nakuru town
5. Proposed commercial development along Pandit Nehru road Nakuru town
6. Proposed commercial development at Ngala estate Nakuru town
7. Proposed commercial development along Ronald Ngala StreetNgala estate Nakuru town
8. Proposed commercial development along Prison road London estate Nakuru town
9. Proposed commercial development along Prison road opposite WRMA offices
10. Proposed commercial development along Nakuru –Mogotio road national oil area
11. Proposed commercial development at Bismark area off Nakuru Nyahururu road
12. Proposed commercial development at white house area opposite Loreto High school
13. Proposed commercial development at Naka area Nakuru
14. Proposed commercial development at Dog section area Nakuru
15. Proposed commercial development at Section 58 Nakuru
16. Proposed commercial development at Kabachia area Nakuru
17. Proposed commercial development NCCK area along Kanu street
18. Proposed commercial development at racecourse Nakuru municipality
19. Proposed commercial development at top 10 area along Baringo road
20. Proposed commercial development at Kenlands area Nakuru municipality
21. Proposed commercial development at Shabab Nakuru municipality

22. Proposed commercial development at Gilanis Estate Nakuru municipality
23. Proposed commercial development at Bagladesh off Nakuru Eldoret highway
24. Proposed commercial development at industrial area Nakuru municipality
25. Proposed commercial development at showground area Nakuru municipality
26. Proposed commercial development at lower Milimani Nakuru municipality
27. Proposed commercial development at Milimani area Nakuru municipality
28. Proposed commercial development at free area Nakuru municipality
29. Proposed commercial development at Nakuru blankets area Nakuru municipality
30. Proposed commercial development along Nakuru Nairobi highway around Tuskys highway.
31. Proposed commercial development at Free Hold Area Nakuru municipality
32. Proposed commercial development at Afraha Stadium area Nakuru municipality
33. Proposed commercial development at St Mary's area Nakuru municipality
34. Proposed commercial development along Oginga Odinga street Nakuru municipality
35. Proposed commercial development along Oginga Odinga street Nakuru municipality
36. Proposed commercial development along Oginga Odinga street(next to Tydis restaurant) Nakuru municipality