

**FACTORS INFLUENCING MANAGEMENT OF ENVIRONMENTAL PROJECTS
IN MASABA TOWN COUNCIL KISII COUNTY: KENYA. A CASE OF SEWAGE
AND WASTE PROJECTS**

BY

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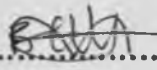
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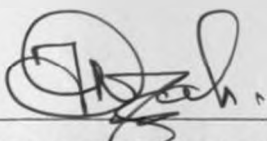
DECLARATION

This research project report is my original work and has never been presented for any award in any university.

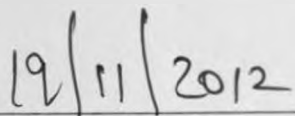
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DATE

**LECTURER DEPARTMENT OF EXTRA-MURAL STUDIES
UNIVERSITY OF NAIROBI**

DEDICATION

This research project report is dedicated to my son Jeff Mogire for their his understanding and encouragement.

ACKNOWLEDGEMENT

In a special way I recognize supervisor Dr. Ouru John Nyaegah for his guidance and advice in preparation of this project report. I'm most grateful to my course lecturers Mr. Kepha Marube - statistical methods, Dr. James Nyambati – project planning design and implementation, Dr. Justus Inyega – Research Methods, Mr. Dennis Opondo – Social change and Community Development, Mr. Joseph Awino – Fundamentals, Monitoring and Evaluation, Dr. Paul Odundo – Project Financing, Dr. Samwel Mwanda – Environmental issues in project planning and Management, Mr. James Abila – Management of Information Systems. I thank the Chair and Dean of students, Department of Extra-Mural studies, school .of continuing and Distance Education, University of Nairobi for conducting training in research project writing. I cannot forget to thank colleagues in the Master of Arts and project planning and Management class University of Nairobi for their encouragement and support throughout the period of my study. Further appreciation goes to my child for giving me ample time to complete this course. I recognize my secretaries Vincent, Lydia and Ondabu for their effort, patience and support in typing this report. Lastly I would like to appreciate the work of the typist and all the staff of the University of Nairobi for their input in this study.

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LIST OF ABBREVIATIONS AND ACRONYMS

CIFOR	Centre for International Forestry Research Report
EFs	Environmental Funds
EMCA	Environmental Management and Coordination Act
EU	European Union
IMF	International Monetary Fund
M.T.C	Masabal Town Council
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations
PCC	Public Complaints Committee
PPs	Public-private Partnerships
SANA	Situation Analysis and Needs Assessment
UNEP	United Nations Environmental Programme
UNDP	United Nations Development Program
WHO	World Health Organization

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ABSTRACT

Wastes continue to contaminate and degrade the environment causing problems of global warming, pollution, depleting natural resources, poverty, diseases and conflicts. These problems will continue to persist unless measures are taken to properly manage environmental programs. There is a need to ensure proper management of environmental project so as to address environmental degradation which leads to environmental problems such as global warming, climate changes, diseases, disasters, poverty and conflicts. The study was conducted to address the problem of poor management of projects to make them manageable, minimize problem arising and contribute to sustainable use and conservation of our environment. The objectives of the study were to establish whether financing, qualified personnel, stakeholder participation, partnerships between local councils and NGOs and public awareness are factors influencing management of projects. Research questions were drawn from objectives and they sought to determine the extent financing, staff qualification, stakeholder's participation, partnerships between councils and NGOs contributed to project management. The study used descriptive research design supported by quantitative and qualitative approaches. The target population was permanent employees of the Masaba Town Council who were sampled, stratified and randomly drawn on the basis of departments of the councils. Out of 530 permanent employees of the council, a representative sample of 30% was selected. Questionnaires, interviews schedules and observations were used to collect data for the study. These were most appropriate because questionnaires enabled respondents answer and fill information required confidentially and easily at their own time whereas observation gave the researcher opportunity to physically check on the existing status of projects and variables and record findings. The study found that management of environmental projects depended on qualified staff, adequate financing and prioritizing environmental projects when allocating funds in the council's budget, participation of stakeholders in projects and partnerships with NGOs in undertaking projects. The study used descriptive analysis in analyzing data. The factors were ranked and analyzed in order of their significance and finally presented using tables. The study's contribution to the body of knowledge is in terms of empowering local councils to freely generate revenue to fund environmental projects so as to reduce over reliance on central government, formulation of policies to employ qualified manpower to manage environmental projects in local councils, removal of monopoly of local council in undertaking environmental projects and embracing stakeholder, public and community participation in environmental conservation efforts within local authorities in Kenya. The study recommends adequate financing, stakeholder participation, partnering with NGOs and public awareness to address the problem of mismanagement of projects.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Man started to develop elaborate sewage and other waste disposal systems only about 150 years ago. A technological approach to solid-waste management began to develop in the latter part of the 19th century. Watertight garbage cans were first introduced in the developed countries and sturdier vehicles were used to collect and transport wastes. A significant development in solid-waste treatment and disposal practices was marked by the construction of the first refuse incinerator (equipment that burns up and reduces wastes to ashes) in England in 1874. By the beginning of the 20th century, 15% of major American cities were incinerating solid waste. Even then, however, most of the largest cities were still using primitive disposal methods such as open dumping on land or in water (Britannica Corporate Site, 2001; Pakistan Environmental Protection Agency, 2005).

Technological advances continued during the first half of the 20th century, including the development of garbage grinders, compaction trucks and pneumatic collection systems. By mid-century, however, it had become evident that open dumping and improper incineration of solid waste were causing problems of pollution and public health. As a result, sanitary landfills were developed to replace the practice of open dumping and to reduce the reliance on waste incineration. New refuse incinerators were designed to recover heat energy from the waste and were provided with extensive air-pollution control devices to satisfy stringent standards of air quality.

The environment has to provide all things to all human kind at all times. It's to be life supporting, useful yet beautiful. Human kind seems to have some sort of innate drive to control his environment. However, because people have different wants from their environment and differing perceptions about their environment and its capability, conflict almost inevitably arises when determining the best option for managing environment. As a result of the struggle by mankind to meet his need and conflicts that arise between development programs and projects to conserve the environment, effort to conserve environment will be hampered and yet life can not exist without a clean, safe and sustainable environment.

There is need to conserve environment and local authorities can play a role through engaging in management of environmental projects. According to Karam (1975), our planet's capacity to sustain us is fast declining. This is blamed on human activities that cause destruction to the environment which include; poor sewage and waste management practices, rapid urbanization, pollution, contaminating water sources

and de-forestation. This leads to poverty, water borne and vector borne diseases, changing weather and climate patterns and global warming which tend to increase the problem.

These problems may continue to increase if appropriate measures are not taken to address them. According to the Centre for International Forestry Research report of 2009 (CIFOR) mitigation measures to these problems may be found in taking deliberate measures to conserve the environment, restore it to its proper use and management thoroughly implementation of sustainable environmental projects by governments and communities. Negative effects associated with environmental destruction will reduce.

According to Henrich, (2002) most governments focus more on human welfare development instead of taking care of the environment. There has not been a balance between development and conservation of the environment. The implication of this is continued destruction of environment and promotion of negative effect associated with such destruction. The government of Kenya has taken steps to curb this trend through enactment of the environmental management and coordination act, (1999) which provides for an improved legal framework and co-ordinate administration of environmental matters. This is meant to enhance the national capacity to effectively manage the environment and ensure that environmental considerations are integrated into the countries overall economic and social development for sustainability. Kenya's strategic development plan dubbed "Kenya Vision 2030" recognizes the environment as one of the pillars of development. It proposes measures to conserve and manage the environmental projects such as sewage and waste management.

A study by Oxfam, (2002) found that poor sewage disposal, poor management practices unplanned and haphazard construction and settlement are among human activities that have negative impacts on the environment within local council in Kenya. The study cites degrading soils and waterways, alteration of landscapes, destruction of biodiversity and habitat as some of the negative impacts.

A solution to these problems appears to be linked to sustainability of environmental projects undertaken by local councils in Kenya. It is therefore important to conduct a study on factors that can influence management of such projects.

Across Kenya, individuals, corporations, Non-Governmental Organizations (NGOs), local councils and other groups are getting involved in projects to conserve and improve the environment to make it better to live in and improve the quality of life presently and in future. Masaba Town council has witnessed an increase in environmental projects as more organizations participate in green space planning and habitat

restoration activities. However the ability of this projects & activities to maintain their operations, services and benefits during their projects life time is lacking. This is because environmental projects are not given priority in allocations of the councils & no other means are available to fund projects. There is also lack of qualified and competent staff to manage projects which results in poor planning and implementation, lack of monitory and evolution of projects. The exclusion of stakeholders and limited collaboration & partnership with NGOs who could lend support in projects in terms of finance, technical assistance monitoring & evaluation has made it difficult to achieve management of sewage and waste projects in Masaba town council, Kisii county. If properly planned, executed and managed, these efforts can enable our country to 'leap frog' from the current situation of environmental degradation to a clean, efficient, safe and sustainable environment. However, this has not been the case so far. Most projects seldom achieve their objectives due to management of environmental projects in local councils in Kenya while focusing on sewage and waste disposal projects in Masaba town council.

1.2 Statement of the problem

The town council has no clear waste and sewage management system in place. It is characterized by poor drainage, poor sewerage system, open dump and growing piles of rubbish which acts as a breeding ground for disease carriers like flies, cockroaches and rodents. The air is polluted by the bad smell from the sewage system. The presence of the market and trading as an activity makes the situation worse and the population there is growing every single day and most properly they will find problems with diarrhea and other related diseases. It is the very reason the researcher is interested in finding out the causes of sewage and waste management problems in Masaba Town Council, Kisii County.

To address environmental degradation it will require joint efforts through management of environmental projects to deal with loads of wastes generated in terms of collection, storage, transportation and disposal so as to curb environmental degradation and ensure safe and healthier environment. Financial constraints are the biggest barriers to the growth and an efficient waste management system. This can solved through local councils identifying links with private sector to raise funds to manage projects through financing projects recurrent costs monitoring and infrastructure maintenance Local authorities in Kenya are mainly responsible for managing wastes in there respective administrative units.

Most environmental project collapse during or after implementation because local council do not employee qualified and competent personnel to manage projects right from initiation stage to post implementation

stage. This will be overcome through employing qualified and competent staff to manage projects. Qualified staff participates in careful identification of projects, proper planning, implementation monitoring and evaluation.

Council do not encourage stake holder participation in project such as providing skills, labour funding monitoring and evaluation which will influence management of projects. Stakeholders should be engaged in design and implementation. Councils should cooperate with the stakeholders in drafting of legislation that check on pollution, manage waste collection, transportation, disposal and recycling of wastes to ensure safety of the environment and life. The community sector needs to be included in waste management effort as both private and public sector actors are unable to provide waste services to low income areas of the town. Syagga (1992) support the involvement of the community sector as an effective way of increasing access of the poor to urban services including management. This guarantee motivation and transfer of skills to people which helps to manage the projects.

Lack of partnerships with NGOs also contributes to poor management of the environmental project in local council. The NGOs assist project management through bringing in capital required by town councils to support efforts towards effective waste management. They engage in provision of adequate technical expertise, increase efficiency, improves customer service, monitoring and evaluation.

There is therefore urgent need to address the problem of poor management and find solution in order to make projects sustainable. This research will explore and highlight factors that influence management of environmental projects namely financing, qualified staff, community and stakeholders' participation, partnerships with NGOs and public awareness to conserve the environment.

1.3 Purpose of the study

The purpose of this study is to establish factors influencing management of sewage and waste projects so as to conserve the environment to benefit current and future generations.

1.4 Research objectives

The study guided by the following objectives:

1. To establish how financing influence the management of sewage and waste projects in Masaba Town council, Kisii County.
2. To assess the influence of staff qualification in management of sewage and waste projects in Masaba town council, Kisii County.

3. To determine the extent to which stakeholders' participation influences management of sewage and waste projects in Masaba town Council, Kisii County.
4. To investigate whether joint efforts by the council and other organizations acting in partnership can influence management of waste and sewage projects in Masaba town Council, Kisii County

1.5 Research Questions

The study was guided by the following research questions.

1. How does financing of projects influence management. of sewage and waste projects in Masaba town council, Kisii County?
2. How does staff qualification influence the management of sewage and waste projects in the council, Kisii County?
3. To what extent does stakeholders' involvement in sewage and waste projects influence management in Masaba Town council?
4. Does partnering with other organizations play a role in managing sewage and waste projects in the council in Masaba Town Council, Kisii County?

1.6 Significance of the study

The study findings are meant to benefit both the central and local government to undertake effective management environmental projects. Students and scholars pursuing studies in this field may find the research a useful foundation for any future studies. The study will also help improve on sensitization and awareness level of the public as far as waste and sewage is managed in this very community. The findings contribute to environmental conservation effort and limit waste of resource that arise from poor management of projects by ensuring that waste and sewage projects undertaken are well managed and deliver the intended services and benefits.

1.7 Assumptions of the study

It was assumed that sewage and waste project in Masaba town council where the study was conducted were representative of the sewage and waste management projects undertaken by local authorities in Kenya. It was also assumed that data collection using questionnaires, interview schedules and observations would yield relevant information easily, correctly and reliably. It was assumed that data collected yielded the desired findings and results and respondents interviewed were to answer questions and give correct, truthful and valid information. It was further assumed that most sewage and waste projects undertaken local

authorities in Kenya did not achieve the desired management and that management of sewage and waste projects within the Town Council of Masaba is achieved through adequate financing, correct budgeting, qualified staff, stakeholders' participation and through partnering with other organizations.

1.8 Limitations of the study

The main limitation of the study was funding. Due to this, the study did not obtain information from all past projects. An economic sample of the projects sufficed. Time available for the study was insufficient due to the amount of investigation, perusals, interviews and scrutiny involved and this can be facilitated by the instrument to be used. Data inaccessibility because council employees initially were suspicious that the researcher was after uncovering wrongs in the town council. This problem was however, solved when the researcher held discussion with chief officers of the council and explained that the study was meant to explore factors influencing project management which could also benefit the council in successfully implementing environmental projects and that the research was being done in good faith for academic purposes.

1.9 Delimitation of the study

Owing to the large number of local authorities in Kenya currently estimated at 178, it was not possible for the researcher to conduct research on sewage and waste projects in all of them. The scope of the study was limited to sewage and waste projects undertaken in the Town Council of Masaba, Kenya hence generalizing the study to apply to all local councils in Kenya was a problem. The problem was however solved through the researcher conducting thorough and in depth inquiry from Chief Officers of the council when interviewing them many of whom had served in several local councils throughout Kenya before being deployed to the Town Council of Masaba. They provided valuable information on environmental projects not only concerning Masaba but other councils where they had served. Secondly, this problem was solved by the fact that environmental projects undertaken in Town council of Masaba and the problem of mismanagement of projects is not a unique problem only to Masaba. It is a problem experienced in all other local councils in Kenya. The study therefore, though conducted in the Masaba Town Council was relevant and applicable to other local councils in Kenya. The study findings can be generalized to apply to all local council in Kenya.

1.91 Definitions of significant terms

Project-	Refers to temporary endeavor undertaken to create a unique product or services a community.
Environment -	Refers to the sum total of the physical, Chemical, Biological and socio-economic conditions and processes which operate within or otherwise influence an arbitrary defined geographic-political entity, and which have a positive or negative impact on the survival, livelihood and fulfillment of the human development potential of the inhabitants of the geo-political entity.
Environmental projects -	Refer to any project aimed at preventing or reducing degradation of the environment or restoring the natural state or condition of the planet Earth.
Sewage -	Any waste matter disposable through the sewer system in town or municipality. Spent water from residence and institutions carrying body wastes, washing water, food preparation wastes, laundry wastes and other domestic sewage.
Sewerage -	Are the pipes, pumps and infrastructure through which sewage flows.
Waste -	Anything that affects the environment negatively to reduce its quality and is capable of being collected and disposed of to ensure safety of the environment.
Management -	In this study it refers to a continuous process undertaken by council authorities to implement projects and ensure their sustainability for the benefit of the community.
Funding-	refers to resources including money allocated by and or thoroughly local authorities to cater for expenses of operating environmental projects in the council.
Budgeting-	refers to financial provisions made in the councils' yearly budgets for

environmental projects.

Stakeholders-

refers to anybody (individual or corporate) who stands to or is affected in any manner by environmental projects undertaken in a local council.

Partnerships-

refers to any collaboration between a local authority and anybody in the affairs of environmental projects undertaken within the local authority.

Non-governmental organizations refers to any private or quasi-public organization.

1.92 Organization of the study

Chapter one contains an introduction to the study. It consists a background of the study, statement of the problem, purpose of the study, objectives of the study and their corresponding research questions of the study, significance of the study, assumptions, limitations and delimitation of the study, definition of significant terms and the organization of the study. Chapter two contains literature review that entails environmental concerns, problems arising from environmental degradations factors that influence project management in America, Europe, Asia, Africa and efforts being made in Kenya to conserve the environment and challenges facing environmental projects in Kenya. It consists of theoretical and conceptual frameworks of the study. Chapter three covers a detailed description of research methodology for the proposed study. It outlines the research design, target population, sample and sampling design, research instruments used in the study, pilot testing, reliability and validity of research instruments, data collection procedures and data analysis techniques. Chapter four covers data analysis, presentation, interpretation and discussion of results. Chapter five bears summary of findings, conclusions, study's contribution to body of knowledge and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature relating to management of environmental conservation efforts through sustainable environmental projects in various regions of the world namely Europe, Asia, N. America and Africa. It also looks at the Kenyan situation on environmental management. The theoretical and conceptual frameworks of the study are also dealt with.

2.2 Concepts of Environmental projects

The environment may be defined as “totality of conditions and influences that affect the way things live and develop”. ‘Things’ as used in this definition refers to both living and non-living things. Thus non-living things such as the rocks, water and air chemistry, soil acidity, temperature also fall within this definition.

In the context of environmental projects, the environment keeps changing over time during the Stone Age; the environment was dominated by natural factors such as soils, vegetation, climate, availability of water and other animals. Now, man is surrounded by an environment of his own design and construction largely due to technological advancements (Hamilton, A.C, 1982). Hence, one can say we have a man-made natural environment on one hand and the natural environment on the other which are conflicting.

2.3 Influence of Financing in Management of projects in Europe, Asia, Africa and N. America

The European Union provides avenues for funding of environmental projects not only within member state but for other parts of the world especially the Third World. Such funding is pegged on the principles of sustainable projects sustainable development. Many other organizations give funding to environmental programs in Europe such as the World Bank, the United Nations environmental program. (UNEP) and Global Environmental Facility. These engage in development of and operation of infrastructure such as wells, public toilet and waste collection surface.

Funding is one factor that contributes to sustain environmental project in Asia. Government have increased public investment on environmental management to achieve sustainability for example, the Chinese government’s environmental investment was set to increase from 1.3 percent during 2001, to 2005, to 1.5 percent during 2006 to 2010. This means that the government of China gives priority to environmental conservation programs through allocating sufficient money to fund the project to make sustainable and maintain environmental conservation. The government of Kenya can do the same in its budget so that

adequate funding is guaranteed for environmental projects to solve the problem of poor management experienced.

Environmental Funds have been created in Africa to provide long term sources of finance for conservation and sustainable environment program. They finance project recurrent costs like permanent monitoring, infrastructure maintenance and any other regular costs that can be planned well a head. Examples of such funds are trust fund, cash fund and revolving funds. The government of Kenya can do the same in its budget so that adequate funding is guaranteed for environmental projects to solve the problem of poor management experienced

Financing environmental projects in America involves training in local fundraising and identifying links with the private sectors, charging for use in order to raise fund to manage projects. For example there is an established Environmental Grant Program where participating state in U.S.A. award grants of up to \$10,000 to support diverse type of environmental management activities such as watershed cleanups, reforestation effort hazardous waste collection effort. The grant program also offers funds for innovative, community-based environmental projects that improves, protect a watershed, service water in local communities in America such as in California, Illinois, Indiana, Iowa, Kentucky, Michigan and many other state in U.S.A.(Womersley, Michael, 2002).

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2.4 influence of qualified staff in management of environmental projects in N. America Europe and Africa

Management of projects in N. America is done with highest degrees of professionalism, expertise and employment of quality management attributes such as monitoring and evaluation. This as ensured proper management of projects. The same can be applied in Kenya to attain proper management of projects

A wide variety of initiatives that have attempted to progress in the direction of management such as local programmes, state projects, companies etc have often devoted considerable efforts to developing very specific and detailed assessment systems of quality management (Smyth, 2002). Quality management is taken as a starting point of reverence for performing manageable projects and permanent attention to quality is important at every stage of a project and every body in project at all levels shares the collective responsibility. This is done through the co operation of stakeholder's urban authorities, government and private organization. Quality management therefore leads to an integrated and effective environmental

project management system which grants projects sustainability. (Ryder, Grainne, 1990). If this is adopted in local councils in Kenya, it will go a long way to support management projects.

It has often been said that the environmental managers and policy makers in Africa and most of the so-called developing countries, see themselves as custodian of the public interest and believe that the public will accept what is thought to be good for them. Quite often, it appears that the policy makers are oblivious to the gulf that divides them from the grass-root feelings. There is little consideration that the public may have worthwhile expertise) at a stage when the proposals are often, (if ever), for public discussion after they have been formulated and implemented. Examples of reversal at this stage are rare to come by in most developing countries and the value of public opinion in the so called developing countries in Africa is minimal, Hordog (2001).

2.5 Role of stakeholder participation in projects management in Europe Asia N. America and Africa

In Europe governments and urban authorities engage stakeholders and private organization in research project to develop machines equipment and vehicles that are less pollutant to avoid degradation of the environment. They also cooperate in drafting of legislations that check on pollution, manage waste collection, transportation and disposal and recycling wastes to ensure safety of the environment and life. This model as worked in Europe because it ensures perpetual succession in management of projects that guarantees continued and uninterrupted operations of projects even when there is a change of staff in a project. Quality management therefore leads to an integrated and effective project management system (Ryder, Grainne, 1990). If this is adopted in local councils in Kenya, it will go along way to support management of projects.

The media in many countries are increasing their coverage of environmental issues. Judicial activism, notably in India has been driving better implementation of government environmental policies through increasing funding. These have increased the level of public awareness of the need to conserve the environment sustainably. These factors have assisted Asian countries to improve on management of the environmental projects. This can be applied in Kenyan situation to support sustainability of environmental project.

Participation and ownership of the projects by stakeholders is one factor. They genuinely participate in design and implementation of environmental project in America. Most of the projects are built on

stakeholder initiative and demands and they get involved in monitoring the projects and periodically evaluate them for results. This ensures that projects are kept existing and delivering the intended results and benefits for long periods. Capacity building and training involves participation of stakeholders in environmental projects right from the start of a projects and continue throughout. This guarantees motivation and transfer of skills to people which helps to manage the projects.

In emotive and complex issues such as environmental management, conflict is almost inevitable. Therefore it's not surprising that there are strong differences as to how to implement and deal with environment conservation programs in Africa. What is not in dispute however is the fact that environmental management is about people, and therefore people will be concerned about any decisions on environmental management that are taken in and around their community. Theoretically, if the public had a hand in shaping those decision, right from the beginning, there is less likelihood of conflict arising (Pellikan and Van der veen, 2002). Public participation is not easy road to travel. The system is slow, costly frustrating and in some ways can be very counter productive. The frustrated professionals and administrators may start crying foul " why is it always necessary in a democracy to have to listen to laymen on professional issues? It is sometime necessary to inform the public what is good for them ". Imagine trying to set up a meeting between two pastoral clans to explain to them the need to reduce their herds to preserve communal grazing or one between pastoralist and agricultural communities to discuss the utilization of available water resources and land. It will be quite a task (Hamilton, 1982).

In Action groups, pressure groups and lobbyist are actively involved in raising and participating in environmental matters and decision making. Resolution of environmental conflict is based on bargaining and concession trading (Kelman, S, 1981). For example when a proposal for an undesirable facility, such as a nuclear power station, waste dump, modern high rise building or a highway generates hostility in various interest groups the provision of benefits to the affected community reduces negative reaction. If these payments are not made, delays can and do occur, thereby adding considerable costs to the project. These benefits become a form of transaction cost, the size and nature of which depends upon the effectiveness of opposing groups.

2.6 Partnership with NGOs for Project Management Europe Asia N. America and Africa

NGOs also play a role in advocacy so that environmental programs are implemented. Their activities in those areas give a reprieve in terms of funding to environmental projects and thereof contribute to manage

the projects. NGOs have the advantage of selecting particular places for innovative environmental projects and specify in advance the length of time which they will be supporting the project thereby overcoming some of the short comings that governments face in this respect. NGOs give assistance in technical training, can do research, monitoring and evaluation that permit the sharing of results with the people themselves as well as the project staff. Our local council can embrace collaboration, partnerships, and co operation with such organizations to undertake and manage environmental projects.

Another factor contributing to management of environmental project in Asia is the promotion of international partnership that supports environmental project in terms of fund and management. This collaboration leads to sharing of technologies and knowledge on environmental management and improves management of environmental projects. For ex ample, Asia's private sector, as the engine of growth, as played a vital role in responding to environmental challenges and is already responding with real leadership and innovation. Huge contribution in terms of money, expertise, equipment and manpower are made by NGOs to assist in environmental projects. This has led to sustainability of the projects.

It is common in America to see local authorities partnering with manufacturers and private business in projects for environmental conservation to ensure a clean and safe environment(Meyer & Scot 1983). Industries, manufacturers and private enterprises agree with city authorities and on standards and enforcement measures to keep waste generation and emissions to fixed level to minimize and control pollution continuously. This reduces environmental degradation and ensures that environmental projects are properly managed.

Cooperation and collaboration is one factor that is being applied to management of environmental projects in African countries. For example UNEP has developed large portfolio of about 20 conservation finance projects all over the world and is actively promoting collaboration among the to support environmental projects in Africa. UNEP has been promoting exchanges of experiences between Uganda, Kenya, Thailand and Philippines look at how best to promote environmental conservation through sustainable environmental projects (Meinel,1994).

2.7 Environmental challenges in Asia

Asia's rich environmental management traditions sustained its people for centuries. Practical examples include the rice terraces of Indonesia and the Philippines, and common property management of Japanese inland fisheries. Some of the greatest Asian thinkers- the Buddha, Confucius and Gandhi- had a profound appreciation of the dependence of people on the natural world. Perhaps such traditions, in part, explain why

the Asian public is more concerned about current environmental projects on health and well being than people in any other region (EnviroNics International 2002). In the early stages of Asia's drive for economic development, Asian environmental traditions were challenged by economic development models which promoted exploitation of natural resources for export. Forests were cleared, first for high value hardwoods and then for tea, coffee and rubber. Mines were developed in previous remote areas. Environmental change accelerated with rapid agricultural and industrial growth in the twentieth century, becoming more extreme in recent years. Asian agricultural production rose 62 per cent from 1990 to 2002. Forests were cleared rapidly, in part to make way for food production. Indonesia alone lost 1.7 million hectares a year of forest during 1990s. large areas were irrigated for food production, with high amounts of water and agrochemicals being applied. Asian industrial production rose per cent from 1995 to 2002, compared with 23 per cent globally.

As in other regions that experienced industrial revolutions, early industrial developments have involved highly polluting industries. Further developments constantly generate new type of environmental burdens e.g. the heavy metal hazards from "e-waste" (computers, phones, televisions etc) one of the fastest growing sources of waste (UNEP 2004; World Bank 2005). Asian urbanization, the fastest in the world, is posing massive environmental challenges. Today, most of the world's mega-cities are in Asia, and so also the world's biggest slums. By 2020, Asia's urban population is projected to double to 2.2 billion from a little over 1 billion in 1990 and nearly a half of Asia's population will live in cities (United Nations Secretariat 2002/3). Water supply, housing, wastewater treatment, solid waste management and transport infrastructure already cannot keep pace.

For example, municipalities will face a more than ten-fold increase in solid waste burdens by 2025 (with China, Indonesia and Philippians facing the largest increases). Pollution may reach intolerable levels: already, eight of the world's ten most polluted cities are in China, where 3-6 million lives are lost each year from pollution (World Bank 2005). Despite having the fourth largest fresh water reserves in the world, more than 400 Chinese cities, including the capital, face severe water shortages and people are being forced to migrate because of lack of water (Anonymous, 1988). There is decline in quantity or quality of natural resources- such as fisheries or soils which threatens many livelihoods and most economic activity.

There is increased climate-related environmental hazards such as floods and droughts which imposes major costs to life and property. Those environmental problems are increasingly felt at the regional level. To address these problems Asian countries have taken initiatives such as environmental projects to address them and improve the quality of environmental that worthy learning from.

2.8 Environmental concerns and management in Kenya.

A look at the Kenyan situation, 1985 -1994, shows a widespread disregard for environmental concern and legislation. Enforcement of discharge standard for waste entering Nairobi River, Indian ocean and Lake Victoria are excellent examples this means that public action groups have become very involved with environmental management issues.

In Kenya this is apparent in the prolonged discussions surrounding the future of the Mama Ngina drive park in Mombasa, with developers insisting that the local council stands to gain more from them than from the hundreds of Kenyans who use the park daily for rest and recreation Darmount College, (1986).

Between, 1985-1994, the situation in Kenya involved widespread and flagrant disregard for environmental concern and legislation. Enforcement of discharge standards for waste entering Nairobi River, Indian Ocean and Lake Victoria are excellent example; as is overgrazing of rangelands.

This disregard combined with the high degree of administrative discretion and limited access to information have meant that public action groups have become very involved with environmental management issues such as the green belt movement (Brunner, 2000).

According to Combell (1997), full and informed public involvement would seem to be a necessary prerequisite before calm resolution of ideas can occur. Public participation at the earliest possible stages of planning process will mean that as many diverse ideals can be considered. It would be unrealistic to believe that such a scheme would avoid conflict but it should allow relatively painless resolution.

In Kenya, the decision to stop the building of the Kenya Times Complex at Uhuru park and cancel that allocation of the Tana River delta were made as a result of pressure from the donor community, world bank and International Monetary fund rather than in response to public appeal. This indicates how non-involvement of the public can cause conflict in environmental issues.

According to Kenya's current long term planning strategy officially known as "Kenya vision 2030" it is aimed to make Kenya a nation that has a clean, secure and sustainable environment by 2030. Among goals to achieve 2012 include improvement of pollution and waste management through the design and application of economic incentives and the commissioning of public-private partnerships (PPS) for improved efficiency in water and sanitation delivery. Among the flagship projects for the environment in that strategy are": The solid waste Management Initiative and the plastic Bags Initiative. Local authorities will play a big role in these initiatives to achieve a secure and sustainable environment by 2030. One way is to embark on sustainable sewage and waste management projects.

Cointreau, (1982) carried out a study on environmental management of urban solid wastes in developing countries and found out that management of solid waste requires political will free of corruption. To avoid illegal dumping requires participation of all the concerned bodies. Provision of proper dumping sites and the management of the solid waste at the dump site are of major concern.

Mbogu, N.V (1980) conducted research on refuse collection and disposal in the city of Nairobi but did not touch on sustainability of the environmental projects involved. Peter, K. (1998) conducted research on community based waste management for environment and income generation in low income areas in Nairobi. The research did not deal with the problems of sustainability of such projects.

Sira, F.N (2000) studied solid waste management and the environment within the municipal council of Thika but did not touch on sustainability of the projects involved. Similarly, Sibanda B.N (1980) research on planning for basic infrastructure services in

Thika but did not deal with sustainability of environmental projects in the council. Jones G. (1979) carried out a study found that management plays a key role in reducing costs involved in environmental projects.

Mayabi, A.O and Muli T.W (2006) studied monitoring parameters for windrow composition of municipal solid wastes and found that involving community members participation a factor to contributing to waste collection and management in urban areas.

Owing to the above review there have been studies conducted on environmental project limited to waste management. These studies have not specifically dealt with factors that could influence sustainability of such projects. This study is seeking to investigate and determine the factors and fill this gap.

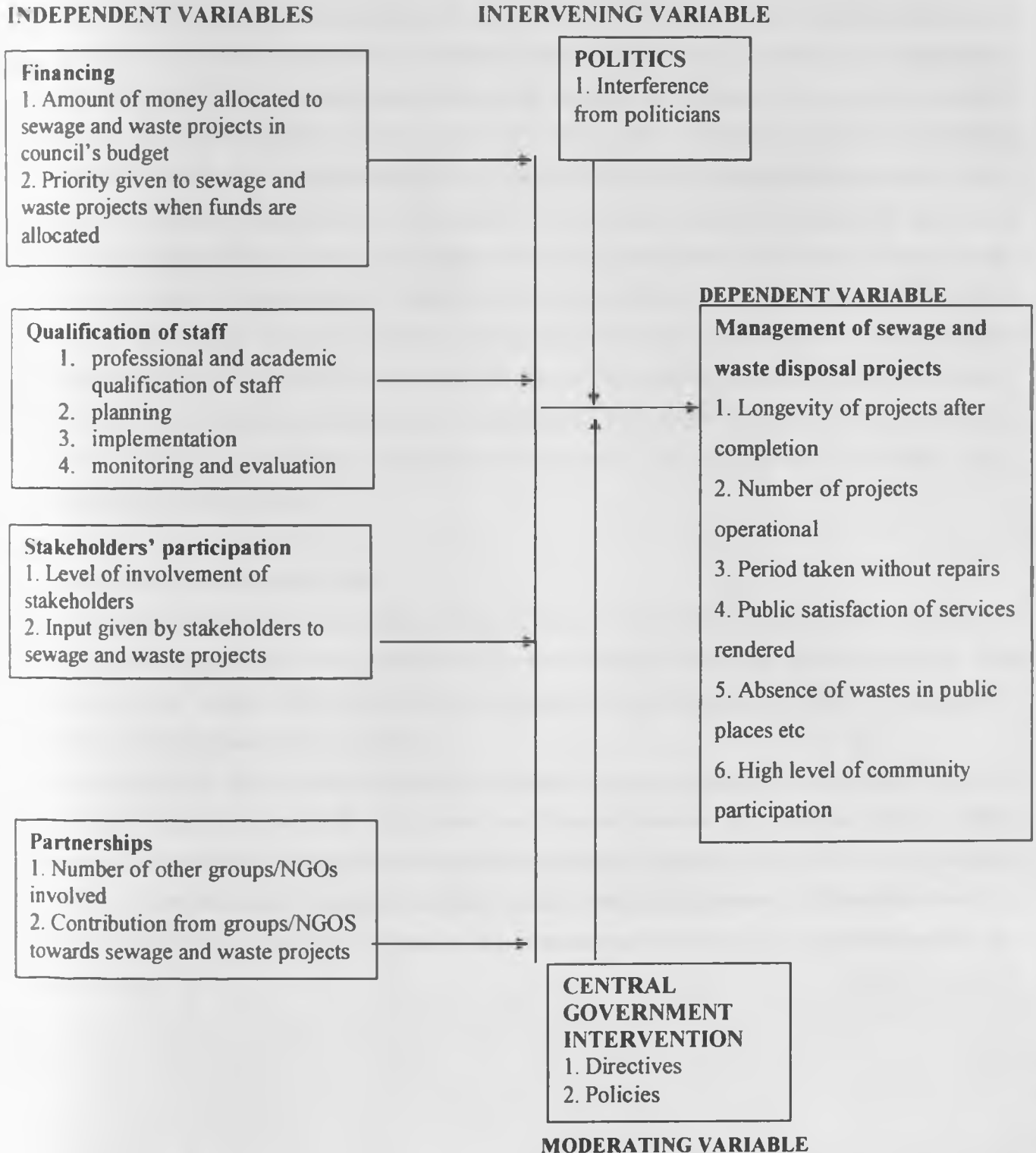
2.9 Theoretical Framework

The study will look to ecological to shed light on sustainability of environmental project. The theory advocates sustainability in the use of resources and environment and demand that resources need to be used sustainably for present and future generation while guarding against environmental degradation. The theory suggests measures such as recycling of wastes to avoid contaminating the environment. One measure that contribute to management of the environment is though sustainable environmental projects which is the focus of this study. The study explored how financing competent staff, stakeholder participation and partnership with NGOs contribute to manage environmental projects to achieve sustainable use of resources and environment. Ecological theory's origin is from Romanian economist Nicholas Georgescu-Roegen in his 1971 book "The Entropy Law and the Economic process" and its application has been expanded by Herman E. Daly, a former world Bank economist and by the united Nations World Commission on Environment in 1987.

Ecological theory found great impetus after deprivations of the Great Depression and World War II when the developed world entered a post- 1950s “great acceleration” of growth and population (the “Golden age of capitalism”) while a gathering environmental movement out that there were environmental cost associated with the many material benefits that were now being enjoyed. In 1970s environmentalism’s concerned with pollution, the population explosion, consumerism and the depletion of the finite resources found expression in ecological theory. In 1987 the United Nation’s World Commission on Environment and Development in its report “Our Common Future” while echoing the ecological theory tenets suggested that sustainable development was needed to meet human needs while not increasing environmental problems. In the 21st century there is heightened awareness of the threat posed by the human-induced greenhouse effect. Ecological economics now seeks to bridge the gap between ecology and traditional neoclassical economics and proposes an inclusive and ethical model for society, and expansion of ecological theory. Sustainability has become a wide ranging term that can be applied to almost every facet of life on earth ranging from use of resources, environment, institutions, projects etc. Today sustainability draws on and connects with many different disciplines and fields to the extend that in recent years there is an area that has come to be called sustainability science. Sustainable environmental project paves way to proper management of resources that gives rise to sustainable environment.

2.91 Conceptual Framework

Fig.1: Conceptual Framework



The study looked at factors that influence management of environmental projects using the case of the town council of Masaba and the independent variables were financing the projects in terms of sufficient amount of money allocated to projects and priority given in the budget for the projects. Qualified staff was another independent variable that involved professionally qualified staff to manage projects, proper planning and implementation, monitoring and evaluation of projects activities at all stages. Participation of stakeholders and partnership with NGOs in undertaking the projects in terms of managerial, financial and technical support were the other variables to consider in the study. When these variables are applied in undertaking environmental projects they support management in projects which was the dependent variable in the study. Indicators for measuring management were longevity of projects in continuing to provide goods and services after implementation, level of community satisfaction, participation and access to projects goods and services, financial independence of projects after implementation, level of community satisfaction, participation and access to project goods and services, financial independence of projects after implementation and environmental friendliness of the project. There are moderating variables in the study whose impact can promote or hinder projects management. These were interference from politicians, government directives and policies on environmental projects. Figure 1 shows the variable, their relationships and resulting effects.

2.92 Summary of the literature review

One major question we should pose is what solution can be offered to environmental project to make them manageable for conservation of the environment so as to benefit current and future generations. The government should increase public investment on sewage and waste projects to achieve management, through allocating adequate funds to projects.

For better management the government should put in place its own environmental action program supported with adequate and competent staff, institutional and financial resource and political support, Public participation and awareness to promote environmental management because people will be concerned about any decision on environmental management taken in and around there community. Partnerships between governments and NGOs encourage co-operation and collaboration in managing environmental project the African country.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section deals with a description of the methods used in carrying out the research. It shows the research design, target population, sample selection, research instruments used in the study, pilot testing, validity, reliability, data collection procedure and data analysis techniques.

3.2 Research Design

The study adopted a descriptive research design supplemented by both quantitative and qualitative approaches which enabled the researcher gather information on existing status of variables. The design was also appropriate because it enabled the researcher to interact and get views freely from targeted population through describing and explaining facts and event as they exist. The design made it possible for the researcher to get respondent's feelings, opinions and insights on the subject hence was free of researcher bias. Kerlinger, (1993) states that descriptive studies are not only restricted to fact findings, but may often result in the formulation of important principles of knowledge and solution to significant problems. They involve measurement, classification, analysis, comparison and interpretation of data in addition to data collection. In this study the researcher did not have direct control of independent variables because their manifestations had already occurred. A descriptive design was therefore most appropriate to find out factors that cause sewage and waste projects be manageable through interviewing respondents and making observation on the status of projects under study. The design further enabled the researcher to analyze data using tables showing frequency distribution and percentages making it easier to rank factors influencing project management on the basis of responses obtained from the respondents.

3.3 Target Population

Target population includes all members of an area or hypothetical set of people, events or objects from which a researcher intends to generalize the research study (Mugenda and Mugenda, 1999). This study targeted permanent employees of the Masaba town council, Kisii county Kenya whose total number was 530 spread in 13 departments according to information obtained by the researcher at Administration and Human resource Department of the council. The researcher targeted this population because it is made up of workers involved and well conversant with projects and activities of the councils in Masaba and other councils where some have worked before being deployed to Masaba. They provided useful and relevant information on management of sewage and waste projects.

3.4 Sample selection

According to Webster, (1985), a sample is a finite part of a statistical population whose properties are studied to gain information about the whole. Sampling is the process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group (Orodho and Kombo, 2002). When dealing with people, a sample is a set of respondents selected from a large population for the purpose of a survey.

In this study, a purposively stratified sample was randomly selected from the target population. This was done by stratifying permanent employees of the council into homogenous sub-groups according to 13 departments they belonged. The reason was to get views of employees from every department of the council because factors that influence management of sewage and waste projects in the council concerned and touched on all department. Further more all departments interact, relate and work together to provide services. All councils employees are therefore aware of activities and projects undertaken in the councils although a touched to different departments. Using this purposively stratified random sampling technique the researcher was able to select a representative sample of 159(30%) employees out of the total 530 permanent council employees. The researcher selected 30% of the number of employees from each department and purposively included Chief Officers from each department as respondents due to their leading roles in management, supervision and decision making. Stratified random sampling is regarded as one of the best statistical method because it is free of bias (Kombo and Tromp, 2006). According to Kerlinger, (1993), 30% of the total accessible population is enough for any study. In this study, the researcher selected 30% of the council employees total population which was representative. Table 1.1 shows the population sample selected. It indicates names and departments in the town council Masaba, Kenya, the number of permanent employees in each department selected for interviewing from each department.

Table 1: target population and Sample selection

Department	No of staff workers	30% of staff members
Administration & Human resource	60	18
Finance	55	17
Environment (water & sanitation)	50	15
Health	35	11
Roads	66	20
Procurement	25	8
Physical planning	32	8
Lands	38	11
Engineering	26	8
Fire department	25	8
Inspectorate	34	10
Public works	37	11
Education	47	14
Total	530	159

3.5 Research Instruments

The researcher used questionnaires, interview schedules and observation to collect data and information. In formulating and choosing instruments researcher took into consideration objectives of the study and the geographical and administrative area where the study was to be conducted. The population sample was also considered. Interview schedules and observation will also be used to gather information. Questionnaires were used because they enabled the researcher gather relevant data quickly and with ease using the drop-and-pick later system while interview schedules were used in face to face interview and responses recorded instantly at the interview. Questionnaire ensure collection of information from a large sample and diverse places, ensure confidentiality, save time and are convenient because they contain standard questions for respondents to respond to (Kombo and Tromp, 2006).questionnaires also ensure confidentiality and guard against interview bias since they are presented in paper format. The questionnaires consisted of both open ended and close ended questions that enabled respondents to give responses and supplies answers to question in their own words while at the same affording the respondent with a list of options from which select appropriate answers in matters considered difficult. The questionnaires used to obtain data from

respondents were divided into three sections. Section A consisted of information about respondents identity, gender, work department, age, academic qualification and work experience. Section B had questions requiring respondents to identify environmental projects undertaken in the town council of Masaba over the last three years and their current status. This was meant to gauge the respondents awareness' of environmental projects so as to give responses on factors that had contributed to such status. Section C of the questionnaires sought respondent's views on factors influencing management of environmental projects in the councils. It required respondents to rank factors using a ranking key provided. This enabled the researcher to rank factors on the basis of responses obtained in order of their importance in influencing projects management.

Interview schedule was used for selected Chief Officers in the town council of Masaba such as the Town Clerk, Treasurer, Chief Accountant, Public Health Officer and Environmental Officer. This was because of the important roles they play in administration, policy making and implementation of policies, decisions making, projects and supervision in the council. Their position made them accessible to important and relevant information concerning the status of environmental projects in the council and factors that influence management. Interview schedules used were structured where by the informants were asked similar questions. This ensured reliability of the information gathered was high since each informant was subjected to similar question. They also ensure that the researcher got relevant information of the study within minimal time that was comprehensive since questions had been formulated before the interview.

Interview schedule was divided into sections A, B, C. Section A sought respondents background information. Section B contained both open and close ended questions on environmental problems and concerns facing the town council of Masaba, various types of environmental projects in the council and their status, factors that influence project management. Section C contained ranking of factors influencing project management by respondents, the period projects have been operational, comments on impacts on community and whether projects are environmentally okay.

Open ended and closed ended questions enabled respondents give answers, comments and explanations in own words while confining within the scope of the study. Respondents selected appropriate answers and ranked factors without difficulty. Questions in questionnaires were structured where by informants were asked similar questions this ensured reliability of information gathered was high because each informant was subjected to similar questions. They also ensured that the researcher got the relevant information to the

study within minimal time that was comprehensive since questions had been formulated before the interview.

Direct and physical observation were carried by the researcher to check if sewage and waste projects were yielding desired results such as public cleanness, garbage collection, transport and disposal of wastes. From the observation, the researcher was able to find out the status of the projects and determine whether they were manageable or not through indicators used in the study for measuring management

3.51 Pilot study

A pilot study was conducted by the researcher prior the main study. According to Mugenda and Mugenda (1999), the purpose of pre-testing is to ensure that items in the instrument are stated clearly and have same meaning to all respondents. The researcher randomly selected 52 respondent 4 from each department consisting of casual employees of the town council of Masaba. Then the researcher distributed questionnaire to all of them using " drop- and – pick – later" method which gave them ample time to read and complete the information. Out of the 52, 43 of them did fill and return the questionnaires those who failed to return the questionnaires were said to be busy elsewhere, sick or absent from duty.

The responses obtained in the mini-survey showed that respondents were well conversant with environmental projects undertaken in the council though they had difficulty in classifying factors influencing management of projects. To solve this difficulty the researcher adjusted the questionnaires to include a list of suggested factors influencing management and respondents to assign numerical scores according to how they regarded each factor's importance towards influencing project management and explain their choices.

The pilot test also showed that questionnaires were appropriate instruments to use because they were easy to distribute and collect data from a large number of respondents scattered in various departments within a short period.

3.52 Validity of research instruments

The researcher piloted instruments on non-sampled population in the town council and the items were adjusted accordingly. The pilot study ensured that research instrument and research design employed was appropriate and enabled the researcher gather correct information for the study. Gay, (1983), states that validity of research instruments is determined by expert judgment. The researcher relied more on the

supervisor and other lecturers for expert judgment to determine validity of the research instruments. They were expected to indicate if the items in the instrument measure the concept under study.

3.53 Reliability of research instruments

According to Borg and Gall, (1986), reliability is the level of internal Consistency or stability of the measuring device over time. A measuring instrument is reliable if it provides consistent results. Using the pilot study the researcher was able to determine whether the questionnaires were fit to be used in the study because they were received positively by the pilot respondent and were answered relevantly and yielded consistent results. The reliability of the instruments was established through a test re-test method. The test was performed twice by giving a group of participants the same questionnaires on two different occasions

3.6 Data Collection Procedure

After defining and identifying the target population and research design, the researcher prepared research instruments in sufficient copies and distributed to sampled respondents.

The researcher sought a permit to conduct research, informed and requested permission from the town council of Masaba town Clerk to be allowed to interview targeted employees after explaining the purpose of the study. The researcher did pretest research instrument through conducting a pilot study on casual employees of the council. This tested the feasibility of the study techniques and perfected questionnaires' concept and wording.

The researcher proceeded to conduct the study by distributing to sampled respondents who were given time to complete answering them. The "drop-and-pick later" method was used and the researcher went to collect the questionnaires from respondents after five days. Face to face interviews were held and responses filled on the spot in respect of interview schedules conducted for chief officers of the council

The researcher also traveled within the town to observe sewage and waste projects, situations on the ground, drew and recorded relevant information on what was observed

3.7 Data analysis Techniques

Raw data and information was collected from the field using questionnaires and notes taken on observations made in the field after which the researcher organized data into systematic form by examining and reading contents contained in the questionnaires and the notes made in the field to check if facts and information were relevant to the problem being investigated. Examination of the filled questionnaires enabled the researcher to check if data collected revealed information relevant to the study. It also made the

researcher to eliminate data found unusable and do away with any ambiguous and contradictory information on related questions.

The researcher classified responses according to items contained in questionnaires, issues and concerns raised and made in responses by respondents. The classification enable the researcher to identify responses made to particulars question in questionnaires to determine their frequency and rankings in order of their influence in managing projects. To determine frequency, rankings and percentages, the researcher considered respondents' rankings of each of the factors raised in the questionnaires. Using the rankings the researcher manually calculated percentage responses to classify factors influencing project management in order of importance.

The researcher used Likert rating scale comprising a list of factors suggested and respondents required to express their opinion in respect of each factor using the words: very important, important, fairly important, unimportant and least important, towards influencing project management. Each response was given a numerical score to reflect its degree of importance. Depending on the respondents ranking for each factor it was possible to determine and rank the factors in order of their importance in influencing project management. This was done through calculating frequency of responses and there percentages. Frequency and percentage rankings are presented in tables in this report. Likert scales are easy and quick to construct, are more reliable and provide a greater volume of data than other scales.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter begins with presentation of demographic characteristics of respondents, influence of financing, staff qualification, stakeholder participation and partnerships with NGOs on management of sewage and waste projects in Masaba Town Council and ends with ranking of factors influencing project management.

4.2 Demographic characteristics of respondents

This section presents demographic characteristics of respondents on questionnaire response rate, gender, age, academic qualifications and work experience.

4.3 Questionnaire response rate

The study sampled 159 respondents and 150 (94%) responded in all the departments of the Council. Administration and human resource department, finance, health, physical planning, engineering and inspectorate departments all recorded 100% response rate. These were followed by roads department which recorded 95% response rate, then Education and Social Services department which recorded 93% response rate. Lands and public works departments registered 91% each. Procurement and environment followed with 88% and 87% respectively. The Fire department recorded 75% response rate.

Table 1.2 shows the number of permanent employees in each department, the number of employees that was targeted for interviewing, the actual number of respondents realized when the interview was conducted and the percentage of actual response that was obtained.

Table 1.2: Questionnaire response rate

Department	Total No. of staff	Number of staff targeted for interview	Actual response obtained	Percentage actual response obtained.
Administration & human				
Resource	60	18	18	100%
Finance	55	17	17	100%
Environment	50	15	13	87%
Health	35	11	11	100%
Roads	66	20	19	95%
Procurement	25	8	7	88%
Physical planning	32	8	8	100%
Lands	38	11	10	91%
Engineering	26	8	8	100%
Fire department	25	8	6	75%
Inspectorate	34	10	10	100%
Public Works	37	11	10	91%
Education &	47	14	13	93%
Social services				
Total	530	159	150	94%

4.4 Respondents' gender and academic qualification distributions

The study obtained the following distributions for gender and academic qualifications of respondents shown in Table 1.3.

Gender	No.	percentage%	academic Qualification	No.	Percentage
Male	89	59	Primary	49	32.66
Female	61	41	Secondary	50	33.33
			Diploma	37	24.66
			Degree	14	9.33
Total	150	100%		150	100%

Table 1.3 shows there were more male employees interviewed than female who consisted of 89 (59%) and 61 (41%) respectively. Majority of employees i.e. 50 (33.33%) have attained secondary school level of education followed by primary school level consisting of 49 (32.66%), diploma holders consisting of 37 (24.66%) and lastly degree holders who were 14 (9.33%) of sampled respondents. This implies that there are more male employees at the council than female which reflects gender disparity. It also shows that most employees at the council have attained diploma level of education and training whereas highly qualified and trained professionals form a paltry 14 (9.33%) of work force at the council. The implication is that most projects undertaken in Masaba Town Council are manned by personnel not adequately trained. This has effect on performance of projects and their sustainability. Qualified personnel was established has an important factor in influencing management of sewage and waste projects in the council. In the absence of enough managers and staff sufficiently qualified, trained and competent to manage projects management will not be easily achieved.

4.5 Age distribution of respondents in years

Table 1.4 shows age distribution of respondents.

Age Bracket	frequency	percentage (%)	Average Age
0-30	31	30.666	38
31-40	49	32.666	
41-50	46	30.666	
51-60	24	16.000	
Total	150	100%	

Table 1.4 shows that average age of respondents was 38 years. The respondents age was obtained through each respondent indicating his/her age bracket and the mid-point for each bracket was calculated and average age computed. Majority of respondents were between age bracket 31-40 who consisted of 49 (32.666%) while above 51 years consisted of 24 (16%). This shows that people over 51 years are fewer in the council employment which is dominated by middle aged people.

The implication is that more experienced workers are few in the council to manage projects. Experienced managers are more likely to manage projects competently than inexperienced ones. Experience is an aspect of management that needs to be incorporated in managing environmental projects in order to achieve proper management of projects. Experienced managers are in a better position to supervise project work and activities, employ proper planning, monitoring and evaluation of projects so that appropriate steps are taken in advance to ensure proper project management. There is need therefore for the council to employ experienced managers to manage environmental projects.

4.6 Environmental projects undertaken in Masaba Town Council

Before responding to questions dealing with factors influencing project management respondents were required to identify environmental projects undertaken in the council for the last three years prior to the study. The following projects were identified:

Garbage Collection and Disposal Project, Water and Sanitation Project, Drainage System Projects, public toilets, Town Greening Project, UN-habitat- Masaba Town Environment project, Road Rehabilitation Project, Tree Planting Project and Public Awareness Campaign Project. Some of these projects were completed and are operational whereas others were abandoned. Operational projects are garbage collection and disposal project, water and sanitation projects, UN-habitat- Masaba Town Environment project and the Road Rehabilitation Project. The Town Greening Project, Public Awareness Campaign Project public toilets and three planting abandoned. 143 (95.33%) of respondents cited in efficient management, 7 (4.67%) of respondents indicated lack of support of Central Government, poor remuneration of staff and graft as being responsible for abandonment and collapse of the project.

Adequate funding, support of Government and donors, qualified staff involving careful planning, monitoring and evaluation, involvement of private organizations and support of the council were cited as reasons behind success of operational projects by 129 (86%) of respondents. In view of these responses it was found that most sewage and waste projects undertaken by the council were not well managed due to lack of finance, inefficient staff, lack of monitoring and evaluation systems, disregard by council authorities, graft and lack of support from the central government. This finding is comparable to results obtained in studies for Thika Municipality in Kenya (Sira, 2000).

4.7 Management of environmental projects in M.T.C

Respondents were asked to rank factors influencing project management in order of importance which included the following: managing projects in terms of professionally qualified staff in planning, implementation, monitoring and evaluation. Financing in terms of the amount of money allocated to the projects and priority given to environmental projects when council funds are allocated at budget stage. Stakeholder participation in terms of the level of involvement of stakeholders at all stages of project and their input. Partnership with NGOs in terms of number of NGOs involved in environmental projects in the council and finally public awareness in terms of training given to public environmental conservation through Campaigns. The following ranking of factors influencing management of sewage and waste projects were obtained.

4.8 Ranking of qualified staff

Ranking of qualified staff as a factor influencing management of environmental projects in the council was done and the results obtained by the researcher were analyzed and are shown in the table 1.5.

Rank	Frequency	Percentage (%)
Very important	143	95.33
Important	6	4.0
Fairy important	1	0.67
Unimportant	0	0.0
Least important	0	0.00
Totals	150	100%

Table 1.5 shows that 143 (95.33%) respondents ranked qualified staff very important towards influencing management of sewage and waste project in M.T.C. Respondents cited monitoring and evaluation, careful identification of projects and proper planning as aspects of management that the council needs to focus to achieve proper management. These check whether implementation of projects is done according to plan, time schedules and quality. Monitoring enables detection of any mistakes, delay and risks so that measures are taken in advance to take corrective action. Evaluation ensure that quality of project and activities are met. It further ensures that project goods and services continue to be provided after implementation and that beneficiaries continue enjoying them.

Qualified staff is considered important in ensuring viability of projects by majority respondents. Examples of project cited by respondents where qualified staff has ensured management are Garbage and Solid Waste collection project, Water and Sanitation project and road rehabilitation project. Another 6 (4%) respondents ranked it as important while 1 (0.67%) respondent ranked it as fairly important. The cited projects were implemented over 3 years ago and are still operating successfully. They are delivering services to the satisfaction of residents and are environmental okay.

The success and management of these projects was attributed to qualified staff in terms of planning, implementation, monitoring and evaluation. Projects that are not properly managed due to staff qualification problems were Tree Planting project, Drainage system projects and Town Greening projects. 143 (93.33%)

cited an qualified staff as a most important reason for mismanagement of this projects. They point out unqualified and incompetent staff as one aspect of management that contributed to unsustainability. In the department of environment, out of 50 employees only one had university education and professional training in environment management the rest did not have any formal training in environment or its management. The implication is that there are not sufficient qualified managers to manage environmental projects in the council. This has negative impact on management of projects because application of quality management techniques cannot be achieved by unprofessionally qualified staff.

This is a challenge council authorities need to address through employment of qualified manpower to manage environmental projects. This problem was observed in areas such as tending public Parks, public sanitation facilities, inspection of cleanliness in public facilities, unblocking drainages, repair of broken sewer lines and water pipes and enforcement of environment by-laws. These were neglected with virtually nobody manning, caring or supervising them. This exposed facilities to damage pilling of litter and wastes in open places and vandalism. In order to address this problem the council needs to improve its management practices and ensure strict adherence and enforcement of by-laws, supervision of project activities, tending and responsible of project facilities.

When asked why the council does not employ professionals to manage projects during the interview schedule conducted by the researcher, the Town Clerk blamed lack of reliable and adequate funding. Simply, the council does not have money to higher qualified staff to manage projects. This response shows that incompetent staff is a serious problem that needs to be addressed if proper management of sewage and waste projects is to be achieved.

Lack of support from other government agencies such as National Environment Management Authority (NEMA) was mentioned by the environment officer has hindering project management. A case observed by the researcher is illegal acquisition of land along rivers and flood plains where private developers have barred the forestry department from planting trees. In fact, they uprooted trees already planted by the forestry department at Masaba District and fenced off land and sub-divided it among themselves without NEMA raising a finger.

4.9 Financing

Respondents were required to rank financing as another factor influencing management of sewage and waste projects in the council and the response obtained indicated that financing is second to qualified staff in terms of influencing management of projects in the council.

The problem of financing was found to have resulted in abandoning and collapse of sewage and waste projects such as sewage system and maintenance of drainage system in the council. Responses obtained concerning influence of financing on project management were analyzed by the researcher and the findings are shown in Table 1.6.

Table 1.6: Ranking of financing

Rank	Frequency	Percentage (%)
Very important	137	91.33
Important	7	4.670
Fairly important	3	2.00
Unimportant	3	2.00
Least important	0	0.00
Totals	150	100%

Table 1.6 shows that 137 (91.33%) respondents ranked financing very important in influencing management of sewage and waste projects M.T.C. In their comments, respondents pointed adequate funding and prioritizing of environmental projects in the council's budgetary allocation as important aspects that the council should focus on. The council needs to find reliable sources of funds to finance environmental projects. Currently no reliable sources or means are available to finance them. This has contributed to mismanagement.

Increased funding from central government and expansion of the council's capacity to collect revenue to finance projects were cited as possible solutions to overcome inadequate funding for sewage and waste projects. Adequate financing ensures that project activities and facilities are managed. Other respondents commented that with adequate financing of projects, cases of abandonment of projects, collapse and mismanagement can be reduced.

Examples of projects cited where financing has ensured management are Garbage collection and Disposal project. Another 7 (4.6%) respondents ranked it as important, 3 (2%) ranked it fairly important and 3 (2%) ranked it as unimportant. During the interview schedule, the council's chief finance officer attributed the problem

of financing environmental project to the councils limited sources of raising revenue which include land rates, rents, business permit levies, market charges and allocations from central governments through the ministry of local government. In addition he cited inefficiency in revenue collection and graft as other factors. Some of these limitations are as a result of legal requirements under the local authority act which denies councils a free hand to raise revenues without ministerial accent. Any rates and charges levied are subject to approval by the minister of local government. For example parking fees levied must be provided for in the councils by-laws which must be in turn approved by the minister. Other challenges facing the council in raising revenue cited by the chief officer were lack of institutional capacity to raise additional revenue, limited economic activities, negative attitude towards environmental issues and inefficient urban management.

A solution lies in amending relevant legislations to allow councils levy fees without interference from central government. The new constitutional dispensation that is underway at the time of conducting this study may solve this problem. Monopoly of environment projects by councils in their jurisdictions was also cited as locking out organizations that may finance environment projects and lessen the burden on councils. It was observed that the council appears averse to other bodies engaging independently in undertaking environmental projects without permission or authority from the council which is difficult to come by without the council having a stake in the projects.

Such as scenario discourages independent organizations from undertaking environment projects in the councils. This limits support in terms of financing, technical assistance, equipment, competent management, that comes along through NGOs s and other organizations which can assist in managing projects. In order to attract persistence from NGOs and organizations the council should not put unnecessary restrictions for organizations that want to undertake environmental projects. It should encourage their participation. Essentially this lessens the council's burden in environmental conservation projects and efforts hence improve on management of projects.

4.91 Stakeholder participation in sewage and waste projects

Participation of stakeholders in sewage and waste projects undertaken in the council was ranked as a factor that contributes to management and on the basis of data obtained by the researcher it was found that 333 (88.668%) respondents ranked it very important in influencing project management. Another 10 (6.666%) of respondents ranked it as important. 7 (4.666%) respondents rated as fairly important. None of the respondents ranked it as unimportant or least important. It is ascertainable from this figures that stakeholder participation plays an important role towards influencing management of environmental projects.

Table 1.7 Ranking of stakeholder participation

Rank	Frequency	Percentage (%)
Very important	133	88.668
Important	10	6.666
Fairy important	7	4.666
Unimportant	0	0.000
Least important	0	0.00
Totals	150	100%

Table 1.7 shows ranking of stakeholder in participation as a factor influencing management of sewage and waste projects in M.T.C. Respondents observed in their comments that involvement of stakeholders such public or community within M.T.C, businesses, self help groups and individuals in identifying projects to be initiated, implemented, supervised and funded went along way in influencing sewage and waste projects. They cited garbage collection and disposal project as a success case where stakeholder participation has continuously influenced management. However, the researcher observed one sad case where the council is a hindrance to stakeholder participation. This was in respect of provision of public toilet facilities. The council pulled down permanent toilet facilities put up and managed by a self help group depriving the public use of facilities and occasioning huge loss to self- help group. The reason, the council was not reaping financial gain from the facility.

The town council of Masaba therefore needs to fully encourage stakeholder participation in undertaking and operating sewage and waste projects. Maintenance of parks, flower gardens, provision of public toilet facilities are examples of projects cited by respondents where stakeholder participation will promote management.

Interference by the council discourages participation of stakeholders and other parties who are willing to engage in activities in projects to conserve environment. It shows the council's monopoly in undertaking environmental projects within its jurisdiction which bears negative impact towards management of sewage and waste projects. It was observed that participation of stakeholders in sewage and waste projects reduces the council's burden in managing sewage and waste projects so that available funds can be used to manage

them. More actors in the projects leads to more money being availed to manage projects. Areas the researcher observed where stakeholders lend support to manage environmental projects included provision of voluntary cleaning services of public places by institutions such as universities, hospitals, and banks in the town council.

Stakeholders too provide facilities such as litter pins at strategic points in public places to allow proper collection and disposal of wastes. Putting up advertisement urging the public clean and conserve the environment is another area where stakeholders are supporting management. They also play a watch-dog role and raise alarm when encroachment made by private developers on land set aside for sewage and waste projects and water sources. Self-help groups are collecting garbage from estates within the council e.g. in jogoo, a self help is engaged in collecting solid waste and transporting it to vintage points for councils lorries and tractors to pick and deliver to dump sites for disposal. This project has existed since 2008 and is proving manageable.

4.92 Partnerships with Non-Governmental Organizations

Another factors ranked in terms of its influence towards management of sewage and waste projects in M.T.C was partnership between the council and NGOs in undertaking and managing projects. The respondents interviewed gave information on the role played by partnerships between M.T.C and NGOs in influencing project management and the finding is shown in table 1.8.

Table 1.8: Ranking of partnerships between the Council and NGOs in influencing project Management

Rank	Frequency	Percentage (%)
Very important	129	86.00
Important	11	7.333
Fairy important	6	4.00
Unimportant	4	2.667
Least important	0	0.00
Totals	150	100%

Table 1.8 shows that 129 (86%) respondents ranked partnerships between the town council of Masaba and NGOs in undertaking environmental projects very important towards influencing management of sewage and waste projects. Respondents cited partnership between UN-habitat and the Town of Masaba in solid waste management as a point of reference in this regard. Such partnerships open way for financial support of projects by other organizations which relieve the council in term of funding sewage and waste projects undertaken within its jurisdiction.

Other examples cited where partnership between the council and NGOs is bearing fruit in managing sewage and waste projects are tree planting projects where international organizations, government and the council undertake tree planting programmes to restore forest cover especially in water catchments areas. The partnership has ensured manageable collection, transportation and disposal of solid wastes within the Town Council for 3 years now which is a clear demonstration that such partnership should be encouraged to achieve management. Aspects of partnering his provision of skilled manpower to manage projects, sharing and transfer of technical skills, funding and income generation activities, equipment and facilities.

4.93 Other factors hindering management of sewage and waste projects

During the study other factors emerged which hinder project management.

a) Graft

Embezzlement of funds by council agents such as employees and councilors was cited. Money is usually allocated to wards within the council to cater for environmental projects. Each ward presents its list of projects that are required to be financed by the council on priority basis. Once funds are released to wards, they are managed by area councilors and development committees of the respective wards. It was found that most wards do not include or give priority of sewage and waste projects that conserve environment. Development projects are preferred and given priority to environmental ones. No accountability requirements or measures are put in place to check how the money is spent. Project work is awarded to selected parties without adhering to merit or competency. This paves way for embezzlement of project funds. In absence of priority given to environmental programs no funds are availed hence most of them are not sustained and collapse. The council needs to take measures to stamp out embezzlement and diversion of funds meant for environmental project so that money is utilized to sustain the projects.

A number of measures were suggested that can be taken to stamp out the problem. The council should audit how money allocated is spent on projects. Accountability should be demanded. The council too needs to be

more involved in supervising; monitoring and evaluating project work in the wards rather than leaving supervision to area councilors and their development committees.

b) Attitude

After conducting interview schedules with chief officers of the council namely the Town Clerk, Finance Officer, Town Engineer, Public Health Officer and the Deputy Town Clerk, the researcher found that development projects within the council are given more attention than environmental projects. The attitude discernible from responses was that what matters most were projects such as construction of roads, houses, markets and bus parks. These are regarded as more beneficial to the council and residents than environmental projects. This attitude by council authorities is shared by public. This has made the council ignore and or give little attention to activities and projects meant to protect and conserve environment. This negative attitude towards environment has found its way in budgetary allocations of the council where development projects are given a lion's share of available development funds. This starves sewage and waste projects financially and results in their mismanagement.

Change of attitude through sensitization is required in order to elevate environmental conservation to the status of development projects. This will make council authorities prioritize environmental projects during budgetary allocations. Public awareness needs to be stepped up so that public is made aware of importance of conservation of environment.

Once sewage and waste projects are prioritized in council resolutions and get support of public more funding is likely to be given to finance them. The public may also lend its support through voluntary donations, labour, care and protection of project facilities. These contribute towards management of projects.

c) Political interference

The study found that politics play a role in management of sewage and waste projects though to a lesser extent. Council policies are often discussed and passed at council meetings where various political interests come into play. Councilors pass council resolutions without compromising their political interests and inclinations. Projects that earn them political mileage are given priority to those that do not. In most cases development projects earn them more political support from their electorate hence pass through council resolutions. This limits the council's support and engagement in sewage and waste projects and allows development projects take most funds. In effect, funding for sewage and waste projects is kept minimal which undermines management. To overcome this hindrance, measures suggested include vetting projects ratified at council resolutions to ensure that both developmental and environmental projects are given equal

status. Another measure is to introduce professionalism and expertise in developing council policies which hitherto are made by councilors who are ill-equipped, ignorant and incompetent. The council can engage consultancy services to identify, plan and implement environmental projects.

d) Government policy

The study found local authorities are under supervision of central government through the ministry of local government. To a large extent policies made at local authorities are required to agree with government policy and get approval of the president or relevant minister. Whereas councils may be interested in undertaking certain sewage and waste projects, government policy may be against. This can hinder support for sewage and waste projects which undermines management.

To overcome this problem local authorities need to be empowered through legislation so that they freely take decisions on environmental projects. This can enable councils make decisions that manage projects timorously without having to wait for ministerial accent. Another measure is for government to ensure that environmental matters and conservation are given priority right from national to local authorities level.

e) Land use Conflicts

The study found that land is an important aspect in managing sewage and waste projects. Projects require land to be implemented. Examples include drainage systems, sewerage and sanitation, and water sources. It was observed that land set aside for such projects has been encroached upon by private developers even with connivance of council agents and officials. The researcher observed a case where land set aside for waste disposal at west land estate within the council is facing similar fate. These hinder management of sewage and waste projects. To overcome this, the government needs to exercise more control and supervision of use of land by local councils to eliminate cases of disposition of public land that undermines environmental conservation efforts and projects.

f) Weak enforcement of environmental laws.

The researcher found that whereas environmental laws, rules and regulations existed, their enforcement was a huge challenge to the council. For example development projects such as construction require environmental impact assessment by NEMA before approval by the council. Disposal of waste by residents is required to be done on designed areas. However, the researcher observed that most of these legal requirements were not enforced.

Private developers do construction and get approval of the council without environmental impact assessment done. Disposal of waste is done haphazardly without compliance to requirements which has resulted in heaps of garbage piling in undesignated public and private spaces.

Lack of enforcement of planning regulations is common place in the council. The researcher observed cases along Kenyerere River where private developers have constructed residential premises, and hotels right onto the flood plain of rivers and springs which form important water sources.

Such encroachment is due to non-compliance with laws and regulations.

g) High density population

This is another hindrance observed standing in the way of management of sewage and waste projects in M.T.C. Rapid population growth in the council has overstretched environment projects such as garbage collection and disposal and water and sanitation services. The rate of population increase is higher than the ability to expand such services. It requires more funds to expand projects which funds are not available. This compromises on management of sewage and waste projects.

4.94 Ranking Factors Influencing Management of sewage and waste Projects in MTC.

Having analyzed data obtained concerning ranking of each factor influencing management of sewage and waste projects the researcher was able to determine and rank all the factors considered in order of their importance. The findings are presented in table 1.91.

Table 1.91: Ranking of factors contributing to management of sewage and waste projects in M.T.C.

Factors	Frequency	
	Very Important	Percentage (%)
Qualified staff	143	95
Financing	137	91
Stakeholder participation	133	89
Partnership between Councils NGOs	129	86

Table 1.9.1 shows that 143 (95%) respondents ranked qualified staff in sewage and waste projects in the Council very important in influencing management of projects. Management aspects to be focused are close monitoring and evaluating of projects at all stages right from initiation to post- implementation stage. This shows that qualified staff is the most important variable that makes sewage and waste projects manageable in the council. Aspects of management that need to be embraced are qualified and competent managers to man projects, application of quality management measures such as planning monitoring and evaluation of projects.

Financing for sewage and waste projects were ranked very important by 137 (91%) respondents. Financing is the second most important variable promoting sewage and waste management of projects. Participation of stakeholders in undertaking environmental factors was ranked very important by 133 (88%) respondents thereby emerging the third most important variable that influence sewage and waste project management. Partnership between the council and non-governmental organizations was ranked very important by 129 (86%) respondents in the study in terms of influencing management of environmental projects in the council. Hence it is the fourth most important variable promoting sewage and waste project management.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter begins with a summary of findings on influence of qualified staff, financing, participation of stakeholders and partnership with NGOs in management of sewage and waste projects. It is followed by conclusions, contribution of the study to body of knowledge and recommendations.

5.2 Summary of findings

The study found that qualified staff is the most important factor that influences management of sewage and waste projects in the town council. Aspects of staff that are employed to achieve management are professionally qualified and competent staff to manage projects, putting in place monitoring and evaluation measures throughout the life span of projects, proper planning and careful identification of projects undertaken. When these are applied in managing projects management is guaranteed. Without competent staff proper management cannot be realized.

Provision of adequate funding for projects and prioritizing sewage and waste projects in the council' budget is the second most important factor that influences management of projects. Sufficient funds ensure project activities such as maintenance and repair of facilities, purchases, salaries of project staff and other recurrent project expenses are met. Without sufficient funding projects collapse, are abandoned and fail to achieve management which hitherto has been the case. The third most important factor that influence project management is participation of stakeholders in undertaking environmental projects. Stakeholders such as members of public, businessmen, self-help groups and organizations play an important role in promoting management. The participation of stakeholders in terms of proper use, care of project facilities such as public toilets, sewer and water systems, parks, flower and tree gardens, water sources and points, making donations to support project activities, offering voluntary labor and advise contribute to manage sewage and waste projects. It is important that the council involve stakeholders at all stages of project work.

Partnerships between M.T.C and non-governmental organizations play an important role in achieving management of environmental projects. In cases where such partnerships exist, projects have existed and continued to provide services to the satisfaction of beneficiaries for many years. An example that was cited is the partnership between the council and UN-habitat where they partner to collect and manage solid waste within the town council. The partnership has been in place for 3 years and is still operating successfully. Partnerships bring in expertise, skills, sound management and funding for projects. This limits the council's

monopoly in sewage and waste projects and allows other actors to engage in projects which promotes management.

Public awareness to conserve environment is another important factor influencing management of environmental projects in M.T.C though to a lesser extent. It was established that such awareness raises community participation in projects to conserve the environment in terms of care and protection of project facilities, acceptance of projects in the community, voluntary donations and assistance to project work. This contributes to manage the projects through continuation of delivery of project goods and services and changes stimulated by projects and new initiatives caused by projects in the community.

5.3 Conclusions

The following conclusions are made:

There have been major deficiencies and flaws in management of sewage and waste projects in local councils in terms of unqualified and incompetent staff managing projects, lack of planning, monitoring and evaluation of project work and activities. This has hindered management of project. Quality management of projects is required to alleviate this problem. This can be done through change of employment policy in councils to allow employment of only professionals who are qualified and competent to manage projects. Planning monitoring and evaluation of project work should be done throughout to check on any shortcomings and ensure prompt remedial action to manage projects.

Sufficient and reliable financing for projects is mandatory to achieve project management. It causes project work to continue because project staffs get paid, maintenance and repairs are done and project recurrent expenses are met which prevents interruptions, collapse or abandonment of projects. One way councils can ensure sufficient funding for projects is to give priority to environmental projects during budgetary allocations. Participation of stakeholders, collaboration and partnership with NGOs in environment projects plays an important role towards achieving project management in councils. Stakeholders and NGOs lend support to projects through financial assistance, provision of technical skills, training, researcher, monitoring and evaluation of project work and management. These attributes work to manage projects and lessen the burden on councils in undertaking the projects. Involvement of stakeholders and NGOs acts to limit the monopoly of councils in undertaking environmental projects in their jurisdictions by bringing in other actors with sufficient funds that guarantee management. Councils therefore should embrace and increase involvement of stakeholders and NGOs in the projects. Public awareness of the need to conserve environment contributes to manage sewage and waste projects. The public supports project work in terms of care and protection of project facilities, perpetuates projects initiatives in the community for continued

enjoyment of project goods and services and given voluntary support such as money and labor. This helps to manage projects.

4.5 Recommendations

The study makes the following recommendations

1. The quality of staff in sewage and waste project in local councils needs to be improved to achieve efficient management. Poor and incompetent management of the projects has largely contributed to mismanagement. This problem can overcome through introduction of stringent policies and guidelines to ensure that professionally qualified and experienced people are employed to manage projects in councils. These should set standards and qualification to be met before staff his employed to ensure that professionally qualified and experienced people are employed to manage projects The management need to plan properly for projects and employ monitoring and evaluation to check on activities of projects to ensure success and viability.
2. Sufficient funds should be availed to local councils to fund sewage and waste projects in their jurisdictions. Most projects collapse once implemented due to lack of funds to cater for projects operations and activities after huge sums of money have been spent. This problem can be solved through central government allocating enough money to specifically finance sewage and waste projects in local authorities. The monopoly of local councils to undertake most of the projects in their areas should be phased out to allow in independent organizations and stakeholders to engage in sewage and waste projects without hindrance from councils. This can ease the shortage of funds to run projects.
3. Local councils should aggressively seek collaboration and /or partnerships with NGOs that engage in sewage and waste projects to increase the level of management of project. The problem has been that such collaboration and partnering if any, is limited. NGOs can lend support in terms of funding, technical skills, management, monitoring and evaluation of projects to achieve management as is the case in other regions of the world such as Asia, Europe and America. To achieve this, council should employ professional who can source for such linkage
4. Stringent relevant legislations and regulations on environmental conservation ought to be enacted to guide, control and safeguard activities of the sewage and waste projects in councils in order to achieve management these should be accompanied by stiff sanctions or penalties for non-compliance. There is a problem of lack of adequate legislation and regulations governing environment matters in local councils. This has had negative impact on environmental projects e.g. grabbing of land meant for projects such as waste disposal , protecting water catchments areas and

sources. This renders projects unmanageable. Legislation can make such situations a thing of the past.

Residents within councils need to be involved in sewage and waste projects undertaken in their areas through public awareness campaigns. This is lacking. Public participation will ensure responsible use, care and support for projects which can go along way to manage them.

Contribution of Study to Body of Knowledge

Figure 9.2 shows the contribution made by this study to the body of knowledge:

Figure 9.2: Contribution to body of Knowledge:

Objective	Contribution
Establish how financing for sewage and waste projects influences their management.	1. Empower local councils through enacting legislation that allows them to freely source and generate revenue to fund sewage and waste projects without interference and /or constraints for central government.
Explore extent to which qualified staff influences management of sewage and waste projects in local authorities.	2. Formulate strict policies that ensure employment of qualified and competent staff to manage sewage and waste projects undertaken in local authorities.
Assessing stakeholder participation in influencing management of sewage and waste projects in town councils.	3. Removal of monopoly by councils' in sewage and waste projects to open doors for other actors to move in. such projects can be privatized and/or done in partnership. This will ensure management of projects.
4. Determine the extent partnerships between councils and NGOs influence project management.	4. Partnering with non-governmental organizations to attract technical and financial support which can go a long way to ensure management of projects.

Recommendation for further researcher

This study looked at financing, qualified staff, stakeholder and NGOs' participation and involvement and public awareness as factors influencing management of sewage and waste project. This does not mean that they are the only factors influencing project management. Further research can be done to establish other factors and the extent to which they influence sewage and waste project management. Funding of sewage and waste project was found to be a factor influencing management of environmental projects. However, there is a problem of finding adequate and reliable sources of funds for projects. Research needs to be conducted to determine ways to make councils raise sufficient and reliable funds to finance projects. It was found that incompetent staff has resulted to mismanagement of sewage and waste projects in councils. Research need to be done on competent staff that can be adopted for management of sewage and waste projects in local authorities in Kenya. It is further recommended that research be done on possible ways and means of attracting stakeholders, NGOs' and public to be more involved in sewage and waste project within their localities to promote management of projects.

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APPENDIX 1

LETTER OF TRANSMITTAL

BETTY KERUBO MAGEKA
UNIVERSITY OF NAIROBI
mkerubo 2002 @ yahoo.com
MARCH, 2011

THE TOWN CLERK,
KEROKA TOWN COUNCIL,
P.O. BOX 418,
KEROKA.

Dear Sir/Madam.

**RE: FACTORS THAT INFLUENCE MANAGEMENT OF SEWAGE AND WASTE PROJECTS IN
KEROKA TOWN COUNCIL.**

I'm a postgraduate student at the University of Nairobi undertaking a master of arts Degree in project planning and management.

Currently, I am carrying out a research on the above topic which is a requirement that must be met in order to successfully complete the course.

I request that you assist by filling this questionnaire to enable me get the relevant information on this research work. The information you give shall be treated with utmost privacy and confidentiality and applied only for academic purposes.

Yours faithfully,

Betty Kerubo Mageka

**APPENDIX II
EMPLOYEES' QUESTIONNAIRE**

I am a student at the University of Nairobi undertaking a masters in project planning and management and therefore, request you to assist me in this interview as part of a requirement to complete my project. There is no right or wrong answer. All responses will be kept secret.

SECTION A

Instructions

1. Please fill the details required

Personal Information (Put a tick where appropriate)

Gender

Male

Female

Age Bracket

0-30 years

31-40 years

41-50 years

51 and above years

Highest academic qualification attained

INDICATE YEAR ATTAINED

Primary

Secondary

Certificate

Diploma

Degree (other)

SECTION B

1. Influence of financing, staff qualification, participation of stakeholders in management of sewage and waste projects. (Put a tick where appropriate.)

2. To what extent do you rate the following factors' influence in managing sewage and waste projects within the council?

Rating key: 5 = very important, 4 = important 3 = Fairly important, 2 = Unimportant, 1 = Least important.

Factor	5	4	3	2	1	Comments
Efficient Management which requires a high degree of professionalism.						
Funding						
Participation of stakeholders' in managing projects						
Collaboration with other organizations e.g. NGOs						
Public's awareness to conserve environment						
Budgetary allocations for environmental projects						
Continuous Capacity Building						
Support and assistance of Central Government						
Careful identification of projects						
Proper planning						
Competitive remuneration of staff						
Monitoring & evaluation of Projects						
Specify other factors you may be knowing in this regard						

SECTION C

Influence of stakeholders and qualified staff in management of sewage and waste projects. (Put a tick where appropriate.)

3. What is your rating on the following factors' influence to managing the sewage and waste projects?

Key for ranking: 5 = Strongly Agree, 4 = Agree, 3 = Fairly Agree, 2 = Disagree 1 = Strongly Disagree.

Factors	5	4	3	2	1	Comments
Unregulated and unsanitary squatter settlement						
High density living conditions						
Traffic						
Unmanaged sewage disposal						
Grabbing of municipal council's land meant for project sustainability.						
Land use conflict						
Inefficient laws & enforcement						
Graft						
others (specify)						

SECTION D

5. Which of these areas should the town Council management concentrate to achieve management of environmental projects?

Influence of qualified staff on management of sewage and waste projects. (Put a tick where appropriate.)

Key: 5 = Very important, 4 = Important, 3 = Fairly important, 2 = Unimportant, 1 = Least important.

Factors	5	4	3	2	1	Comments
Proper planning of town council sewage and waste management projects.						
Honesty in management of municipal council's resources like funds						
Professionalism in waste management						
Prioritize sustainability of environmental project.						
Education & public awareness						
Collaboration/ partnership with other groups, people						
Sufficient funding and correct budgeting						
Monitoring and evaluation						
Paying more attention to environmental by the council						

SECTION E

fluence of financing in management of sewage and waste projects. (Put a tick where appropriate.)

5. Rank the following challenges in raising revenue by Town Council meant for sewage and waste disposal?

Key: 5 = Strongly Agree, 4 = Agree, 3 = Fairly Agree, 2 = Disagree, 1 = Strongly Disagree

Challenges	5	4	3	2	1
Lack of institutional capacity to source out additional sources of revenue and using the existing one.					
Weak economic position i.e. limited economic activities at their disposal					
Bureaucratic red tapes i.e. Bottlenecks in the urban administration and partly corruption					
The attitude of urban management officials and the public i.e. taxes, charges, duties are considered as imposition by some one powerful to take away their money.					
Absence of legal empowerment of town councils by the central governments to raise and utilize their own funds.					
Inefficient regulatory system of urban management.					

SECTION F

6. What can you comment about the Town Council in terms of its commitment to effective management of environmental projects particularly for management of sewage and waste disposal?

(Put a tick and comment)

	Comments	
a) Excellent	<input type="checkbox"/>
b) Very Good	<input type="checkbox"/>
c) Good	<input type="checkbox"/>
d) Average	<input type="checkbox"/>
e) Below Average	<input type="checkbox"/>
f) Very Poor	<input type="checkbox"/>

PENDIX III

INTERVIEW SCHEDULE

to be filled by the chief officers of the council

I am a student at the University of Nairobi undertaking a masters in project planning and management and therefore, request you to assist me in this interview as part of a requirement to complete my project. There is no right or wrong answer. All responses will be kept secret.

This interview is based on the factors that could influence management of sewage and waste projects in the Town Council of Masaba purely for Educational purposes. Kindly indulge me.

Personal Information

1. What is your designation?

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2. How long have you been in this council?

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Influence of financing, staff qualification and stakeholders in management of sewage and waste projects.

1. Kindly identify environmental projects that have been undertaken by this council in the last 3 years

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2. Which ones are specifically meant to manage sewage and wastes?

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3. How were the projects funded and budgeted for?

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3. Have they been successfully completed?

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4. Are there some not successfully completed? (Specify them and give reasons why they were unsuccessful)

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5. Were there problems during planning and implementation of the projects? (specify)

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6. How were problems solved (if any)?

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7. Are the projects operational since their completion?

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8. Are they providing the intended services satisfactorily?

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How are the projects managed?

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9 Are there qualified staff managing the projects? (Specify their qualifications)

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How does the council get funding for the projects?

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Influence of collaboration with other organizations in management of sewage and waste projects.

1. Is there adequate and reliable funding for the projects?

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Does the council get any support from outside in funding and managing the projects?

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2. Do you involve stakeholders in planning, managing and executing the projects?

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3. Do you get any support from the public in running these projects?

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4. How does the council ensure that these projects are sustainable?

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5. Are there Monitoring and evaluation mechanisms for the projects? Explain

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6. How do you rate the relationship in terms of consultation of your office with the stakeholders and other teams involved in the management of the project? (Put a tick where appropriate)

a) Excellent

b) Very Good

c) Good

d) Average

e) Below Average

f) Very Poor

How do you rate the level of funding for sewage and waste management projects?

i. Adequately

ii. Inadequately

iii. Fair funded

7. How do you rate the assistance given by the government to sustain sewage and waste projects?

i. Government is highly supportive

ii. Moderately supportive

iii.

Unsupportive

8. In your own view, what do you consider to be the main challenge facing of sewage and waste management programmes?

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9. What are some of the environmental concerns in Masaba Town Council?

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10. What is the council doing to contain them?

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11. The following are the possible challenges facing the management when implementing environmental laws. Rank them in terms of importance. (Put a tick where appropriate)

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KEY 1. Least insignificant 2. Insignificant 3. Fairly Significant 4. Significant 5. Very Significant

Challenges	5	4	3	2	1
Increased slum settlements					
poor garbage disposal					
Ignorance by public					
No adequate solid waste collection and disposal infrastructure and facilities					
Lack of goodwill and support for environmental projects by councilors, employees & chief officers of the council					
Resistance					
Graft					
Land grabbing					
Unskilled manpower					

9. In your effort to promote sewage and waste management projects, do you work in collaboration with other institutions or other organizations?

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APPENDIX IV

QUESTIONNAIRE FOR MEMBERS OF THE PUBLIC

I am a student at the University of Nairobi undertaking a masters degree in project planning and management and therefore, request you to assist me in this interview as part of a requirement to complete my project. There is no right or wrong answer. All responses will be kept secret.

- 1. What can you comment on the management of sewage and waste disposal system in the Town Council.

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- 2. What is the role of Town Council in the management of sewage and waste disposal?

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- 3. Are you satisfied with the state of sewage and waste management disposal?

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- 4. Have you ever consulted or involved in any way in collecting and disposing of wastes by the council?

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5. What problems do you face connected with sewage and wastes?

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6. What do you propose as solutions?

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7. Are you aware of any projects by the council dealing with sewage and waste management? **(If yes identify them :)**

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8. In your view, have they been successful in offering the services intended?

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9. Give reasons in support or against

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UNIVERSITY OF NAIROBI
COLLEGE OF EDUCATION AND EXTERNAL STUDIES
SCHOOL OF CONTINUING AND DISTANCE EDUCATION

Telegram: "CEES"
Telephone: KARURI 32117&32021
Our Ref:

P.O BOX 30197, NAIROBI
or P.O BOX 92 KIKUYU
KENYA

27th July, 2011

TO WHOM IT MAY CONCERN

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RE: BETTY KERUBO MAGEKA REG. NO. IL50/60600/2010

The above named is a student at the University of Nairobi, College of Education and External Studies, Department of Extra-Mural Studies, pursuing a course leading to the award of Masters Degree in Project Planning and Management. For the course to be complete, she is required to write and submit a Research Project. Therefore, the purpose of this letter is to kindly request you to accord her necessary assistance in getting information that will enable her complete the Research Project. Her area of study is titled "**Factors influencing Management of Environmental Projects in Masaba Town Council Kisii County; A case of Sewage and Waste Projects.**"

Thank you.


Mr. Sakaja Y M,
Centre Organizer,
Kisii Extra-Mural Centre.



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APPENDIX III

THIS IS TO CERTIFY THAT:

Research Permit No. NCST/RRI/12/1/ES/25

Date of issue 12/08/2011

Fee received SHS 1,000

Prof./ Dr./ Mr./ Mrs./ Miss. BETTY

KERUBO MAGEKA

of (Address) UNIVERSITY OF NAIROBI

P.O. BOX 2481, KISII

has been permitted to conduct research in

Location,

KISII CENTRAL District,

NYANZA Province,

on the topic Factors influencing management of environmental projects in Masaba Town Council, Kisii County.



A case of sewage and waste projects

for a period ending 30TH SEPTEMBER 2011

[Handwritten Signature]
Applicant's Signature

[Handwritten Signature]
Secretary
National Council for Science and Technology