

**COMMUNITY EMPOWERMENT AND WETLAND POLICY IMPLEMENTATION
IN UGANDA: CASE OF MUKONO MUNICIPALITY**

By

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DECLARATION

I, **Rwakasole Yoweri**, hereby declare that the work herein is original with exception of sources of information which are duly acknowledged and referenced and I declare that it has never been presented to any Institution of Higher learning for any kind of award.

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APPROVAL

This is to certify that this research report was under our supervision and is now ready for submission.

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DEDICATION

This research work is dedicated to the family of Mr. and Mrs. Sseruhanga Andrew for their tireless contribution in this long academic journey and above all for having set a firm foundation, through which this research work traces its roots.

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LIST OF ABBREVIATIONS AND ACRONYMS

AVHRR	Advanced Very High Resolution Radiometer
DV	Dependent Variable
DWIR	District Wetland Inspection Report
EIAS	Environment Impact Assessment
IDV	Independent Variable
LC	Local Council
MNR	Ministry of Natural Resources.
MODIS	Moderator Resolution Imaging Spectro Radiometer
NEMA	National Environment Management Authority.
NES	National Environment Statute
NWID	National Wetland Inspection Department

ABSTRACT

The study explored the effect of community empowerment on wet land policy implementation in Uganda, with specific reference to Mukono Municipality wetlands. The objectives of the study were: To establish the effect of awareness, financing alternatives and infrastructure development on wetland policy implementation in Mukono Municipality. A case study design was used. A total of 72 respondents, including 52 local and opinion leaders and 20 key informants participated in the study. Primary data was obtained using a structured questionnaire, structured interview guides and an observation guide. Data was analyzed using descriptive and inferential quantitative as well as qualitative methods.

The findings revealed that while authorities in Mukono implemented the wetland policy to some extent, the results were low due community empowerment. The community who are the key implementers of the wet land policy, had low awareness about the policy, there was limited alternatives financed and insufficient infrastructure to prevent wetland degradation. The community was not aware of the contents of the policy and the penalties for degrading wet lands. The communities who depended on wet lands for agriculture and building materials had not been given alternatives to motivate them to stop depending on wet lands. While some infrastructure such as posters existed, they were not very effectively used to prevent degradation. This was due to the fact that monitoring by municipality was weak and people who stay around wet lands had not been relocated neither did they have affordable alternatives.

The study recommends that Mukono Municipality should implement A bottom -Up approach in success full implementation of the policy, because the very community members who operate in the wetlands expressed full knowledge of the dangers their activities cause to the environment, and if empowered and financed to educate and monitor wetland policy implementation the results likely to be generated will offer a lasting and problem fixing solutions to the degradation of wetlands. The issue of poverty eradication and corruption ought to be addressed with significant input, because most of the respondents revealed the willingness to stop operating in the wetlands, in case financed to start other income generating projects on merit.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This study examined the effect of community empowerment on wetland policy implementation in Mukono Municipality within Mukono District. This study was inspired by the need to assess the factors that lead to poor wet land policy outputs in Uganda, despite the country being a role model in making good policies in Africa (NEMA, 2014). This chapter discusses the background to the problem, statement of the problem, purpose of the study, specific objectives of the study, research questions, and conceptual frame work, significance of the study and the scope of the study.

1.2. Background to the study

1.2.1. Historical background

Community participation in public policy implementation and management, formerly taken as radical is now widely accepted, due to the fact that, use of non-participatory methods is considered ineffective and undemocratic (Bulkeley & Mol, 2003, in Yung, 2012). By the beginning of the 1980s, wet land management in Uganda was still neglected. In 1988, the NRM government banned any further large scale drainage of wet lands until a National Wetlands Policy was put in place. Subsequently, the national wetlands programme was established in 1989. In time, the national policy for the conservation and management of wet land resources was adopted in 1995.

Beginning from the 1990's, stakeholder participation in all public programmes became popular due to the call by international development agencies for central governments to bring services nearer to the citizens (Mugalu, 2012). Currently, citizens' participation in decision-making is

perceived as a democratic right (Socio-Economic Research Group [SERG] , 2007). In Uganda, this led to the birth of the Local Government Statute (1997) which decentralized the management of wet lands to districts, and in turn gave birth to the District environment department. This department is in charge of ensuring that wetlands are safeguarded and sustained through the implementation of the National Wetland Policy. Decentralization advocates for community participation in all programs aimed at improving the life of the common man, including National Wetland management (Mugumya, 2013). (Mulondo, 2013) Says that, currently the ministry of water, lands and environment is using a stakeholder participation model in the implementation of the wet land policy. The Uganda government is running the Environment Impact Assessment Regulation (1998) as framework for all stakeholders to accelerate nationwide reduction of environment degradation. All of these interventions depend on community involvement for their success.

1.2.2. Theoretical background

This study was based on the (Checkoway., 1995)model of community participation. The model advocates for community empowerment as a way to improve community participation. (Checkoway., 1995) Argues that community empowerment is achieved through Mass mobilization, Social Action, Citizen Participation, Public Advocacy and Popular Education and Local service development. Community participation starts with organizing large numbers of individuals around issues in order to have change effort. If supporters are not committed to the issue, it is unlikely that mass mobilization will produce significant change. Social Action aims at building powerful organizations at the community level in order to win improvements in people's lives, make people more aware of their own power, and alter the existing power relationship in the community. Citizen participation tries to involve citizens in policy planning

and program implementation undertaken by governmental agencies. The thrust of Citizen Participation is that, people should actively participate in their government by involving them in matters that affect them. Public advocacy is the process of representing the interests of constituents and interest groups in legislative, administrative, or other established institutional arenas. The foundation of (Checkoway., 1995)model is the belief that all groups within the community should have representation in public problem solving forums, regardless of their wealth and power. Popular Education aims to create change by raising critical consciousness about common human need. It assumes that people are able to participate but are temporarily unwilling to do so because they lack competence, confidence, or a common consciousness. Transformation cannot and will not occur unless people's level of consciousness is raised regarding the problems they confront. Local service development is a process by which people provide their own services at the community level. It assumes that problems in communities have local solutions and that residents can take local initiatives to help themselves.

1.2.3. Conceptual background

The key concepts of the study were community empowerment (IV) and policy implementation (DV). (Hildebrandt, 2002) explain empowerment in terms of the PHC principle of community participation. This Principle is based on the idea of working with the community to develop skills that will allow them to gain mastery over their community issues (Israel et al., 2004). It is the direct inclusion of persons or groups who are directly or indirectly affected by negative effects of wet land degradation as well as those who may have interests in the use of wet lands and the ability to influence its outcomes either positively or negatively. Policy Implementation has been defined as the carrying out of a basic policy decisions usually incorporated in a statute but can be in form of important executive orders or court decision (Sabatier, 1983). It has also

been defined as those actions by people that are directed at achievement of objectives set forth in the policy decision (Van meter, Van Horne , 1974). Thus, Policy implementation is what develops between an intention of the government to do something and its ultimate impact following action (Toole, 2000). Implementation is said to commence once goals and objectives have been established by policy decisions and funds committed (Van meter, Van Horne , 1974) .

1.2.4. Contextual background

Wetlands in Uganda cover 13% of the country's land mass. They include, seasonally flooded grassland, swamp forests, permanently flooded papyrus and grass swamps. These areas provide ecological, socio economic functions. However, wetlands in Uganda are facing a lot of pressure from conversion for industrial development, settlement, agriculture, sand and clay mining (National Wetland Policy, 1995). Most of these degrading activities are perceived to be of greater importance than wet land conservation itself (NEMA, 2014). The Government of Uganda mission toward wetlands is reaching a situation where wetlands are properly understood, appreciated and utilised at all levels of society, while sustaining and enhancing all their beneficial functions (National Environment Statute, 1995). Central to this is a balanced and informed decision-making process about wetland management option to ensure that wetlands maintain their place in the national economy and planning for sustainable economic development (MNR, 1994). In 1995, the parliament passed the Policy for the conservation and management of wetlands resources to regulate the use of wetlands. This was done in a bid to reduce wet lands degradation and subsequently conserve the country's good environment. The National Policy for the Conservation and Management of wet land resources has been codified into several pieces of legislation to ensure that "Wet lands are held in trust for the common good of all citizens" (National Wetland Policy, 1995).

The (National Environment Statute, 1995) asserts that without written approval from the NEMA, it is illegal to reclaim or drain any wet land. The Local Government Act (1997) devolved the responsibility of wet land management to Districts authorities. The Environment Impact Assessment Regulation (1998) mandates the use of environmental impact assessments (EIAS) Prior to any developments to ensure that wet lands are protected. Despite these statutory instruments and key technical and supportive interventions, Mukono District faces serious wetland degradation in her urban areas (Mukono District council score card Report, 2013). One of the gaps identified is insufficient advocacy and social mobilization. Effective reduction and eradication of wet land degradation requires empowerment of communities to demand for services, rights, and accountability from duty bearers (MNR, 1994). Advocacy, social mobilization and Information Education should be driven by community engagement and deepened empowerment of households and communities to adopt appropriate behavior.

1.3. Statement of the problem

Despite policies and statutory instruments (National Wetland Policy, 1995; National Environment Statute, 1995; Environment Impact Assessment Regulation, 1998), Uganda has enacted to enable sustainable use of wet land resources; degradation of wet lands resources is on the increase (NEMA, 2015). The district wetland inventory report (2015) indicated that wetlands in Mukono Municipality ranked among the highly degraded in the country. People continue to dispose garbage, drain waste, mine sand and make bricks in wet lands. This scenario has led to frequent flooding, water purification failures and impending public health risks(NEMA, 2015). NWID(2014) indicated that inadequate community empowerment through awareness education, access to alternatives and appropriate infrastructure development could be responsible for the

poor performance of Wet land protection initiatives in Uganda. This study sought to explore the effect of community empowerment on wetland policy implementation in Mukono Municipality.

1.4. Purpose of the study

The purpose of the study was to examine the effect of community empowerment on wet land policy implementation in Uganda, with specific reference to Mukono Municipality wetlands.

1.4.1. Objectives of the study

The study was guided by the following objectives;

1. To establish the effect of awareness on wetland policy implementation in Mukono Municipality
2. To assess the effect of financing alternatives on wetland policy implementation in Mukono Municipality.
3. To analyse the effect of infrastructural development on Wetland policy implementation in Mukono Municipality.

1.5. Research questions

The research sought answers to the following questions;

1. What is the effect of awareness on wetland policy implementation in Mukono Municipality?
2. What is the effect of financing alternatives on wetland policy implementation in Mukono Municipality?
3. How does infrastructural development affect Wetland policy implementation in Mukono Municipality?

1.6. Conceptual frame work

Figure 1 gives a graphical conceptual representation of the variables of study and how they related to one another. The independent variable (IV) was community empowerment while the dependent variable (DV) was policy implementation .The extraneous variable was the political factor.

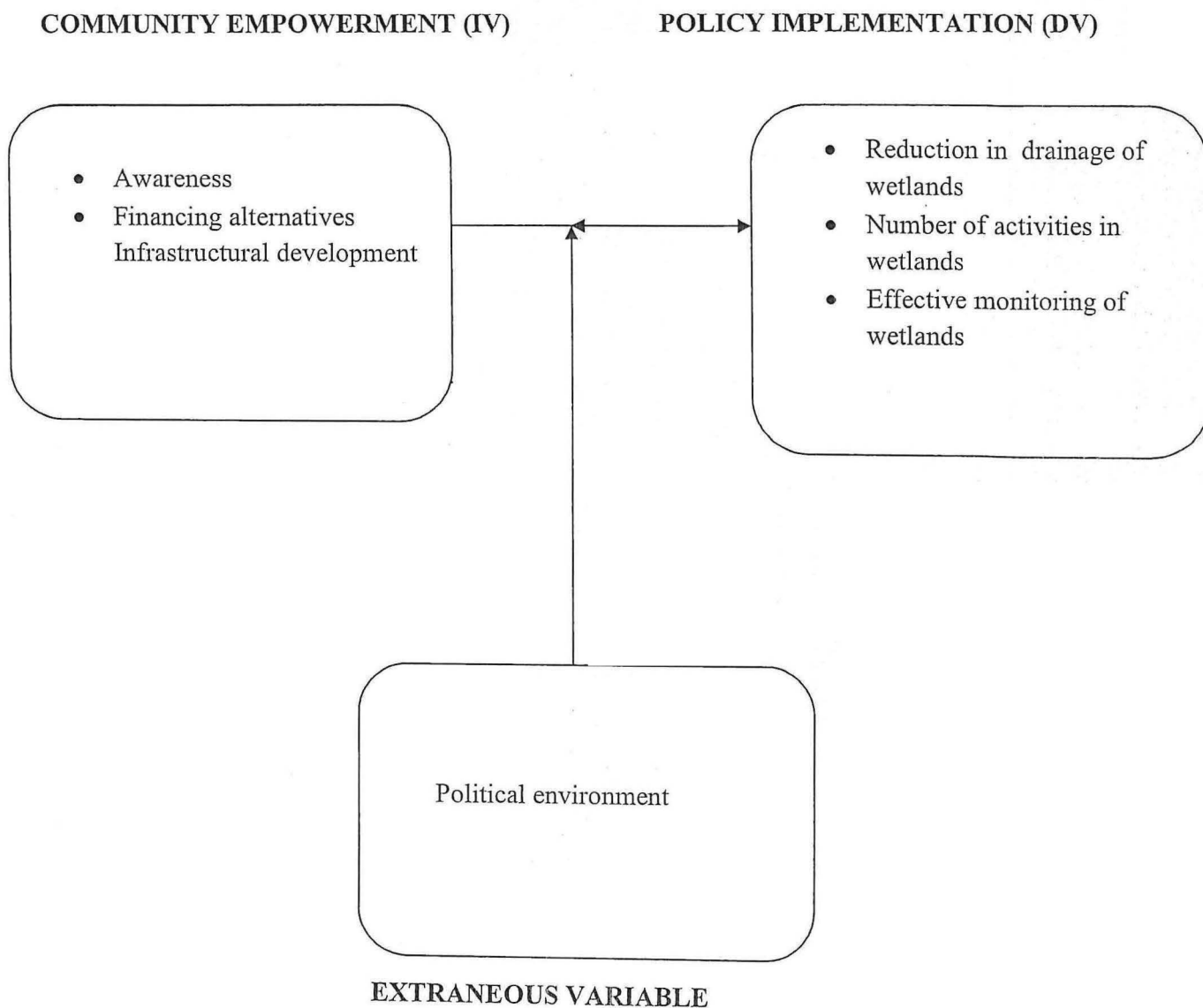


Figure 1: 1 The Conceptual framework: Adapted from (Checkoway., 1995)

The Independent Variable (IV) community empowerment was measured using awareness, financing alternatives and infrastructure development. The dependent variable (DV) Policy implementation was measured using reduction of drainage of wetlands, number of activities in wetlands and reduction of wastage disposal in wetlands. The extraneous variable was political factor. This was perceived as the commitment of central and local governments to policy implementation. Community awareness refers to empowering the community with knowledge, skills and values as regards the importance and sustainable use of wet lands. Armed with this knowledge, the community will support wetland policy implementation through the reduction of drainage of wet lands. As a result of awareness positive values will be instilled, which will lead to the development of skills of wetland conservation.

Financing alternative activities is done through authorities creating other sources of income and construction materials in place of using wet lands. This reduces dependency on wet lands which results into wet land protection. Development of infrastructures is creating cost free accessible communication channels (mobile phones) for free calls, E- government platforms like websites, development of road networks for effective monitoring and evaluation of wetland policy implementation. It also involves creation of public garbage dumping grounds, bio processing machines and putting posters around wetlands with clear rules and regulations on use of wetlands and monetary penalties for degradation of wetlands. This leads to reduction in drainage, number of activities and garbage disposal in wetlands. However, the success of this will depend on the political will in supporting these initiatives.

1.7. Scope of the study

The scope of the study was divided into area, content and time scope.

1.7.1. Area scope

The study was carried out in Mukono Municipality made up of Mukono central division and Goma Division. Various Wards and Zones in Mukono Municipality were considered: Ggulu ward, Ntaawo ward, Namumira Anthony, Namanve namely.

1. 7.2 Content scope

The study explored how community empowerment influences wetland policy implementation in Mukono Municipality. In relation to community empowerment, awareness, financing alternatives and infrastructural development were measured. The three indicators of program performance were also measured. These are quality inputs, process and output efficiency.

1.7.3. Time scope

The study considered community empowerment issues affecting wetland policy implementation in Mukono Municipality from 2008 to 2016; the period when wetland mapping exercise and wet land encroachment assessment has been operational.

1.8. Significance of the study

The findings highlighted the effect of robust community engagement processes in wet land policy implementation in Uganda. Hence various stakeholders will use the findings in several ways

Ministry of Water and Environment

Findings may enable the ministry, to develop more robust community engagement process in the future. The findings may also be used by the ministry to evaluate the current community engagement processes in wetland policy implementation programs. This will enable the ministry to initiate programmes to improve the performance of these programs.

Ministry of Planning and Economic Development

Findings may enable the ministry of planning, responsible for funding and supervision of central government policies improve her activities aimed at increasing policy outputs in Uganda. The findings may also be used by cabinet and parliament to improve public policy implementation.

Bridging Knowledge Gap

The findings of this research may fill the gap in wet land policy management. The results will offer important insights for all other public service institutions in policy analysis.

Mukono District

The information generated by this study may also help the district to, collectively explore and understand the significance of taking advantage of the role of the community in eradicating all possible wet land degradation practices and promote sustainable use of wet lands.

1.9. Operational definitions

Community: is the social and economic infrastructure and relationships among people who live in the same geographic area, and able to be identified with the local authority to plan, make policy and deliver services impacting on that defined area.

Community Participation: is the direct inclusion of persons or groups who are directly or indirectly affected by the program service provision as well as those who may have interests in the service provision and the ability to influence its outcomes either positively or negatively. The

term can also refer to the planning approach in which all stakeholders, and in particular the envisaged beneficiaries, are part of the decision process.

Community empowerment: Refers to the process of enabling communities to increase control over their lives. Communities are groups of people that may or may not be spatially connected, but who share common interests, concerns or identities. These communities could be local, national or international with specific or broad interests.

Empowerment: Refers to the process by which the people gain control over the factors and decisions that shape their lives.

Policy: This is a set of ideas or a plan of what to do in a particular situation that has been agreed to officially by a group of people, a business, organization, a government or apolitical party. According to (Van meter, Van Horne , 1974) a policy are those actions by public or private individuals (or groups) that are directed at the achievement of objectives set forth in prior policy decisions. On the other hand (Sabatier and Mazmanian, 1995.) define a policy as, the carrying out of a basic policy decision, usually made in statute.

Policy implementation: is defined as carrying out of a basic policy decision, usually incorporated in a statute but can be in form of important executive orders or court decisions (Sabatier and Mazmanian, 1995.). It has also been defined as those actions by people that are directed at achievement of objectives set forth in the policy decisions (Vanmeter,Van Horne,1974).

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviews literature related to the research problem. It first reviews the theories on which this study was based and the key concepts of the study. It then, shows how this research relates to the existing body of knowledge, and identifies the gaps existing in the current body of knowledge.

2.2 Theoretical review

This study was based on (Checkoway., 1995) model of community participation. The model advocates for community empowerment as a way to improve community participation. Community empowerment achieved through Mass mobilization, Social Action, Citizen Participation, Public Advocacy and Popular Education and Local service development: community participation starts with organizing large numbers of individuals around issues in order to have change effort. If supporters are not committed to the issue, it is unlikely that mass mobilization will produce significant change. Social Action aims at building powerful organizations at the community level in order to win improvements in people's lives, make people more aware of their own power, and alter the existing power relationship in the community (Birkland, 2001).

Citizen participation tries to involve citizens in policy planning and program implementation undertaken by governmental agencies. It assumes that people should actively participate in their government and that agencies of the government should involve them in matters that affect them. (Acen, 2012) adds that this assumes that people are able to participate but are temporarily unwilling to do so because they lack competence, confidence, or a common consciousness.

Transformation cannot and will not occur unless people's level of consciousness is raised regarding the problems they confront (Birkland, 2001). Local service development is a process by which people provide their own services at the community level. It assumes that problems in communities have local solutions and that residents can take local initiatives to help themselves.

2.3 Effect of awareness on Wetland policy implementation

The Ramsar's 10th conference on sustainable urban development that was held in 2008 advised that urban areas in Africa should have an integrated Frame work for mitigating and compensating for wetland losses. It proposed that the frame work should promote awareness of land, provide guidance on, the importance of wetlands as providers of benefits to urban populations. Raising the levels of community's understanding of the broad utility of wetlands and benefits that they provide is significant in the success of wet land policies.

According to (Hoppe, 2011) awareness involves the community offering some options, and listening to feedback, but not allowing new ideas. Community feedback sessions, focus groups, meetings, community needs analysis are used. The purpose of community awareness education is to provide the authority with a channel for obtaining information from the community relevant to the program to be implemented. Conventional consultation is very significantly rule-bound (McKinley, 2009) Awareness of the Mukono urban wetland dwellers about the future negative effects of urban degradation can greatly encourage them to practice and adopt wetland favorable practices and policies hence saving lives for the urban dwellers.

Awareness is also increasingly seen as offering the one opportunity for the citizen or community to put forward information or views relating to a proposed program (Robb, 2002). Traditional consultation methods tend to be skewed to favour those who are sufficiently literate, articulate,

confident, aware and interested to put their own views forward. This can result in a very narrow section of society participating in the planning process (Robb, 2002). Consultation is often undertaken at the end of the design process, with no clear guidance to those consulted (NCC, 2010). Consulting stakeholder groups can help build support for utility goals and specific infrastructure decisions (EPA, 2012). Citizens' desire for more involvement may be channeled through such mediating groups as NGOs and elected officials. Individual citizens can also push for greater involvement when their direct interests are at stake. However, individual citizens often lack expertise and feel powerless when facing bureaucratic regulations and government hierarchies (Yang K, 2007). Community awareness about a policy involves a number of elements. The most significant are involvement, engagement and participation.

2.3.1 Elements of community Awareness

Involvement, involves an element of deciding together and encouraging additional options and ideas, and providing opportunities for joint decision- making from the community. This can take a form of focus meetings, briefing workshops and program review sessions (Bijlsma, Bots, Wolters, & Hoekstra, 2011) Involvement promotes citizen participation by creating spaces for participation. Citizens gain meaningful opportunities to exercise voice and hold to account those who invite them to participate in program implementation. In contrast to community consultation theory, here are no explicit statutory or legal rules constraining or defining community involvement (Brooks, 2002). Rather than the responsible body reserving the sole right to take whatever decisions are involved, there is a sense that the decision right is to a greater or lesser extent being shared (McKinley, 2009).

Community engagement in its broadest sense may be seen as part of a reassertion of local democracy not as a form of participation within governance, but as a reassertion of the right of the community against the power and prerogatives of the governing body (Bijlsma, Bots, Wolters, & Hoekstra, 2011). A community engagement process can and normally will allow for a dialogue amongst the different interests within the community so that people have a chance to absorb new information, respond to different views and at least, in an ideal world, arrive at an outcome which everyone can accept (Robb, 2002). The focus of community engagement is best seen as enabling the community to make decisions regarding its future, including how any related actions or activities should be undertaken and people held accountable. (EPA, 2012) shows that community engagement can support the planning process by ; Providing necessary input early in the process; Providing understanding of community goals and values ;generating specific ideas about strategies to meet goals, which may be also considered as part of the alternatives analysis where specific projects are selected and building a base of community understanding and support for selecting service levels, establishing reliability standards, and meeting revenue needs through rate changes or other mechanisms.

According to (EPA, 2012) building community awareness, interest and capacity is important part of sustainable wetland planning and management. With regard to Mukono district, a large proportion of her wetlands is on private land, so the actions and decisions of individuals and local communities are critical to ensuring wetlands are used wisely. Wetlands in this area are degraded because the public is either not fully aware or do not appreciate the diversity of values and functions of wetlands. Public awareness is therefore essential in creating a commitment and positive attitudes towards conservation and sustainable utilization of wetland resources. Government will promote public awareness and understanding of wetland resources and actively

encourage participation of the public, local government authorities and institutions. This recognizes that implementation of this policy depends on whether it is realistic in terms of social acceptability and technical feasibility. Hence according to the (National Wetland Policy, 1995) effective community awareness involves; national public Awareness campaign on wetlands resources targeting wetland resource users, ensuring that public awareness campaigns are integrated with other resources users at district and national levels; disseminating awareness on the importance of wetlands through leaflets, posters, radio, television and other media; ensuring wide circulation of guidelines for wetlands developers; developing specific urban wetland development demonstrations projects with the aim of giving local communities better management capacities of wetland resources and Periodically monitoring public response on the need to conserve wetlands in Uganda

2.4 Effect of financing alternatives on Wetland policy implementation

The study by (Murdoch and Hashemi, 2003) define alternative as income generating and survival other than the use of wet lands. (Robb, 2002)Stress the importance of giving micro finance in helping the poor, urban dwellers to pursue other income generation and survival means instead of depending on wet lands. Micro finance support programs by the authorizes are a critical contextual factor with strong impact on the achievements of the MDGS. Microfinance is unique among development interventions: it can deliver social benefits on an ongoing permanent basis and on a large scale”. This can greatly support people planning to encroach on urban wetlands to plan alternative activities, which in the end save urban wetlands from degradation.

According to (Hulme and Mosley, 1996) while acknowledging the role micro finance can have in helping to reduce poverty, and facilitating wetland policy implementation, concluded that micro finance is not a silver bullet, when it comes to fighting poverty, that forces urban poor to

encroach on urban wetlands, it should be supplemented with other programs like public awareness and development mobilisation.

The engagement with appropriate stake holders, and financing the development of holistic approaches which integrate wetland benefits at the heart of urban decision making, the potential to deliver wet land wise use increases greatly, this would in the end, reduce on the rate of encroaching urban wetlands. (Bolund and Hunhammar , 1990) Argue that, it is clear that whilst the human population is becoming increasingly urban, the quality of urban life still depends on nature, particularly on global ecosystems services. Hence, even though societies still pursue resources exploitation rather than embracing resources interdependence (Everard, 2008). Financing alternative activities would reduce on the rate urban wetland degradation in Mukono Municipality.

In situations where development is located near wet lands, communities should use progressive storm water management techniques to prevent a direct discharge or fill into the wetland. These techniques use a combination of site design, resource control, and storm water treatment approaches (Hirschman & Kosco,, 2008). But the success of this would depend on financing alternative projects and integration in the Mukono Municipality financial targets. The extent of urbanization not only results in direct habitant loss, but also generates additional pressures on existing biodiversity in search of food to meet the domestic needs, which implies that, communities ought to be accessed with alternative agricultural practices (Dye, 2008).

The prevalence of invasive species which may spread out from urban areas, out competing native biota, and the increased demand on peri-urban agriculture support the growing urban population can frequently accelerate negative impacts on biodiversity (Buse et al, 2005). There are documented cases which demonstrate the detrimental impacts on water birds and other

animal's populations of illegal hunting by city dwellers in both urban green spaces and peri-Urban habitats (Lawa, 2006). Financing modern and wetland friendly agricultural activities should be prioritized to provide food to urban people to stop encroaching on wetlands for food to meet the growing food deficiencies in urban areas (Salveson, 1991).

It is clear that whilst the human population is becoming increasingly urban, the quality of urban life still depends on nature, particularly on global ecosystem services (Bolund & Hunhammar, 1990) even though societies still pursue resource exploitation rather than embracing resource interdependence (Everard, 2008). Wetlands play a crucial role in providing these services and there is increasing evidence of the importance of managing and restoring urban wetlands (Tong et al, 2007).

Introduction of tax incentives and laws promoting the preservation of wetlands (Dye, 2008). Government's World over can stop encroaching on urban wetlands, through introduction of tax incentives to communities practices wetland friendly activities (Henderson, 1985). The introduction of tax incentives in Mukono municipality wetlands, will attract members of the municipality, to avoid degrading the wetlands so as to benefit from the tax incentives (Dennis, 1985). Financing alternatives requires the community understanding of the value of programs and the resources needed to deliver them (Hoppe, 2011). In the specific planning context, community input about sustainability goals and values can inform program managers (EPA, 2012). If community understand the intention of the program they may be more likely to support it (Gene, Monty & Ric, 2007).

Offering micro finance to the poor alleviates them from poverty, hence saving wetlands from degradation. (Hulme and Mosley, 1996) in a comprehensive study on the use of microfinance to combat poverty, argue that well- designed programmes can improve the incomes of the poor and

can move them out of poverty. They state that, “there is clear evidence that the impact of a loan on a borrower's income is related to the level of income” as those with higher incomes have a greater range of investment opportunities and so credit schemes are more likely to benefit the middle and upper poor and alleviate the urban poor from encroaching on the wet lands.

(Hulme and Mosley, 1996) show that when loans are associated with an increase in assets, borrowers are encouraged to invest in low-risk income generating activities and when the very poor are encouraged to save, the vulnerability of the poor is reduced and their poverty situations improves this facilitates in eliminating urban dwellers from encroaching on the wet lands.

2.5 Effect of infrastructural development on Wetland policy implementation

According to (Buse et al, 2005) say that to effectively and efficiently implement the wet land policy and eliminate encroaching on Urban wetlands, the aspect of developing viable infrastructure to drive the implementation phase ought to be given due attention. Infrastructure plays a key role in economic growth and poverty reduction; conversely, the lack of infrastructure affects production and raises production and transaction costs which hinder growth by reducing the competitiveness of businesses and the ability of government to pursue economic and social development (PIDA, 2015). Mukono Municipality should priorities, financing of infrastructure, in terms of modernized agriculture equipment, and industrialisation to eliminate poverty, which forces the poor urban dwellers to encroach on wet lands.

The lack of infrastructure in Africa is widely recognised, deficits in infrastructure have a clear impact on African competitiveness. African countries, particularly those in south of the Sahara are among the least competitiveness in the world, and infrastructure appears to be one of the most important factors holding them back (Jenkins, 1978). Deficiency in infrastructure in today's Africa has been found to sap growth. This is clearly evident in Mukono Municipality ,the poor

Urban dwellers , have failed to get the necessary infrastructure to motivate them to try the talents elsewhere, this therefore has forced them to resort to the Urban wet lands as means of getting a living.

According to (Lawa, 2006) the quality of leadership affects the pace of development in any wetland policy implementation phase. (Buse et al, 2005) opined that there is a dearth of leadership skills required for effective public government in Africa. (OJO, 2012), added when he highlighted crisis and political instability. Urban wetland policy implementation in Mukono requires raising capable and youth full leaders to manage the infrastructure, meant to support people shifted from wetland activities to earn meaningful living outside the wetlands, because, if the leadership aspect is not attended to, the targeted objectives may not be fully achieved.

Poor leadership, and the endemic bureaucratic corruption that has characterized public sector governance since independence in 1960, have been blamed for the slow pace of development in Key sectors of the economy, especially in the infrastructure sector (Lawa, 2006). This has attracted many youth to degrade urban wetlands, so as to earn a living, so if the resources meant for infrastructure development are properly utilised, wet land encroachers would be able to find alternative ways of living outside the Urban Wetlands. A change in the right direction in the governance of infrastructure development in Mukono might create a favourable climate for economic growth and social stability and hence eliminate the mismanagement of wetlands through the proper implementation of the wetland policy.

The study by (Lawa, 2006) pointed out that good governance should focus on the welfare of the people, and should be geared towards the provision of good infrastructure that will promote the happiness of the citizenry. This implies that a well off Mukono population would find it hard to

encroach on the Urban Wet lands, and would also act as viable vehicles for the implementation of the wetland policy (Oyedele, 2012) posited that success or failure of a leader or government is measured by the level and nature of infrastructure development embarked upon by the leader or government and how well it meets the aspirations of the people in democratic governance. Contrary to (Oyedele, 2012), Mukono Municipality, infrastructure failures, does not necessary, depict, a leadership failure, because on many occasions, government funding is biased , so particular aspects, this makes it hard to develop the relevant infrastructure meant to support the wetland policy implementation. (Rotberg, 2005) Observed that governance is good when it allocates and manages resources to respond to collective socio economic and political problems. (Cheema, 2005) argued that good governance should promote gender equality, sustain the environment, enable citizens to exercise personal freedom and provide tools to reduce poverty, deprivation, fear and violence. This is would check on the rapid degradation of Urban wetlands in Mukono Municipality.

The use of remote sensing for environment policy issues is now quite common and well-documented, as images from remote sensing platforms are often used to focus attention on emerging environment issues and provide potential policy solutions .The diversity of technology and infrastructure to monitor environment systems, from global to local scales is increasing rapidly as public and private organizations increase their investment in them. According to Ogbeide (2012), these data and images support policy by contributing to new policy development and improvement, as new problems can be discovered or better conveyed to the public visually. Policy implementation and evaluation requires data to ensure compliance and to monitor for policy success. Remote sensing products (including aerial photography, airborne and satellite imagery) are increasingly useful for monitoring and reporting requirements established

by national policies and international treaties, conventions and agreements. Remote sensing is used at regional scales to improve land use policy and decision making especially for agricultural and urban areas. Data from AVHRR (Advanced Very High Resolution Radiometer) ,MODIS (Moderate Resolution Imaging Spectroradiometer) and MISR (Multiangle Imaging Spectro radiometer) satellite sensors have been used to monitor compliance with bio mass burning reduction. Satellite sensors can also warn of excessive air pollution events and aid urban planning by denoting areas in which construction should be modified or banned to reduce flooding (Birkland, 2001)Remote sensing data have been used extensively to assess both the loss of wetlands area and, to a lesser degree, to assess the loss of wetland functions and services in the USA. These efforts have led to a more detailed understanding of wetland conditions, such as vegetation community characteristics, hydrologic regimes, and soil conditions. These biophysical details can identify degradation that affects the total functional area of a wetland, as well as the ecosystem services it may provide. The introduction of this technology in the course of wetland policy implementation, in Mukono Municipality can play tremendous role in saving the urban wetlands from degradation, and eliminating the environment risks it can cause to the urban dwellers in Mukono Municipality. However, much as this technology is so effective in providing data relevant to controlling environment degradation, its introduction is too cost intensive, because it demands a lot of financial resources, and training to be able to catch up with the demands of the technology which are quite hard with developing countries like Uganda with meagre resources, and poor performing economies.

Wetland construction success depends to a certain extent on careful design and implementation (Kusler & Kentla, 1990).

Monitoring is important to ensure long term success as well as to aid in determining future mitigation strategies and the feasibility of future plans. Uganda 's success in managing urban wetlands is dependant , on its ability to create a vibrant monitoring infrastructure, capable of reporting , wetlands threatening risks in time, to enable policy makers and stake holders device profound reliable solutions to digest the emerging problems and save the urban wetlands from being encroached. (Akinwale, 2010) argued that, the development of a society depends on the availability of infrastructure. (Zuofa&Ochieng, 2014) found out that corruption was among the key issues responsible for infrastructure project failures in Nigeria. Infrastructure development and elimination of corruption in the course of infrastructure development would provide numerous employment opportunities to the Wetland encroachers in Mukono Municipality, and hence eliminate this problem, and above all facilitate the proper implementation of the Wetland policy.

The World Bank group (2002) remarked that economic and socio political development of most developing countries is dependent on the public sector institutions in those countries. (Therkidsen, 2001) noted that the weak public institutions and poor governance have been identified as the bane of infrastructure development, which serves as the trigger for poverty and corruption in Africa.

Good infrastructure serve as a catalyst for economic growth and also provide the plat form for socio political transformation of the nation (Olaseni, F., Alade,Y, 2012)

According to(Olaseni&Alade, 2012). development of infrastructure should be given priority so as to promote economic development, and provide alternative sources of employment to Mukono urban wet land encroachers. Sustainable development of cities in poor countries entails

investment in infrastructure such as roads, water, sewers, electricity and services such as schools, public transportation and health care (Akinwale, 2010). In cities of middle and high income countries investment in infrastructure, renewable energy, buildings and improved electricity and water is important (National Wetland Policy, 1995).

2.6. Summary of the literature review

While community empowerment is significant in the wetland policy implementation, difficulties remain in securing this empowerment. There is little structured, empirical research into the effect of community empowerment on wetland policy implementation especially as regards urban wetlands in Mukono Municipality. Meaningful community awareness, financing alternatives and infrastructure development program should be considered apriority. Citizen involvement can be used to build partnerships in order to address program success problems. Therefore, the effect of community empowerment on wetland policy implementation programs needs to be investigated so as to improve their performance (Yang,2007).

CHAPTER THREE

METHODOLOGY

3.0. Introduction

This chapter presents the techniques which were used to collect and analyse data. It describes the research design, study population, sample size and selection and sampling techniques. The methods and instruments that were used to collect data, data quality control and data analysis methods are explained.

3.1 Research Design

The research was a case study. A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used (Yin, 1994). A case study method was employed because of its strength in allowing the researcher to concentrate on a specific situation and to identify, the various interactive issues affecting the research problem (Ary, 2002). A case study was more appropriate because of being more holistic and specific; it enables suggestion of possible links between phenomena, a very important requirement for this particular study (Yin, 1994). Correlation methods were used to analyse data. The researcher sought to establish the magnitude and direction of the relationship between the independent and dependent variables. Data on community empowerment practices was correlated and regressed with data on level of policy implementation.

3.2. Study population

The population for this study included local government environment officers, community members around wetlands, local and opinion leaders from Mukono municipality.

3.4. Sampling techniques

The sample had both randomly and none randomly selected respondents. Local and opinion leaders were selected using random sampling. Local leaders included members of the LC1s in the municipality while opinion leaders were leaders of churches and head teachers of schools in the municipality. Municipality record showed that the area has a total of 45 LC members and about 23 opinion leaders, making a total of 69 respondents. The environment leaders were selected purposively. The final sample for these two categories was determined by saturation. According to (Ary, 2002), data saturation is when data is collected from the sample until no new information is being collected. The research then stops the process of data collection at that point. The researcher stopped collecting data when no more new information is being collected. The selection procedure is summarized in the tables below.

Table 3.1: Population, sample and sampling strategies

Sample	Population	Target Sample	Actual	Sampling strategy
	Random			
Local and opinion leaders	69**	56*	52	Random
	Non-Random			
Enforcement officers	8	8	4	Purposive
People staying around wet lands			16	Purposive
Total			72	

* (Krejcie, Robert V., Morgan, Daryle W, 1970.) Sampling guide

**Mukono municipality records (2016)

The findings in table 3.1 show that the actual sample that participated in the study included 52 randomly selected local and opinion leaders, 4 enforcement officers, and 16 people who stay near wet lands. This brought the total sample to 72 respondents.

3.5. Data Collection Methods

Only primary data was collected. It was collected using a structured questionnaire and an interview guide.

3.5.1 Structured Questionnaire for Local and Opinion leaders.

A structured questionnaire (see appendix A) was used to collect data from Local and opinion leaders. Structured questions were used because they allow collection of specific data. Using questionnaires also allowed the respondents some time to reflect on answers to avoid hasty responses (Mugenda Olive M. & Mugenda Abel G., 2005). The use of questionnaire also enabled the collection of data from a large number of respondents and respondents gave sensitive information without fear as their personal identity was not needed on the questionnaire. This supports (Amin, 2005) contention that questionnaires, offer greater assurance of anonymity thus enabling the respondents to give sensitive information without fear and at their leisure.

Section A of the questionnaire measured the demographic variables of respondents. The demographic variables which were measured included; area of operation and gender. Section B, measured the independent variable, Community empowerment, while section C measured policy implementation. For all items in section B and C respondents responded on a five-point scale for which 1 represented “strongly disagree” to 5 “strongly agree”.

3.5.2 Interview guide for Key informants

An Interview guide was used to collect in-depth information from key informants. Interviews were used because the study targets respondents’ real opinions on the research problem. The interview questions focused on the major themes of the study (Kvale, ,Brickmann,, 2009).

3.5.3 Observation guide

The research observed the existence of issues being investigated using an observation guide, aspects observed included: presence of building materials, Presence of messages that promote wetland protection, existence of alternatives to wetland usage and evidence of the infrastructural development on policy implementation.

Validity and reliability of Instruments

In order to collect reliable and valid data, the researcher ensured that good instruments were used. Good research instruments are required to be reliable and valid. Besides, they should be easy to complete so that respondents are motivated to provide honest responses. A pre-test was done to ascertain the validity and reliability of the instruments. Data was collected from ten respondents. This data was used to test the psychometric properties of the questionnaire. Pre-test data was also used to identify any ambiguities, misunderstanding or inadequacies (Amin, 2005). The properties of the instruments which were tested are described in the section below.

3.5.4 Measurement of variables

Community empowerment was measured as awareness, financing alternatives and infrastructural development. Community awareness sought for data about community knowledge of key information in the wetland policy, importance of protecting wetlands and awareness of the penalties for degrading the wetlands.

Financing alternatives was measured by presence of microfinance, Green house modern farming methods, introduction of bio processing machines, and financing of Zero grazing.

Infrastructural development was measured by presence of free hotline, posters for prohibiting garbage disposal in the wetland, presence of patrol vehicles and Nema websites to learn new and modern ways of conserving wetlands. Policy implementation (DV) was measured by reduction

in drainage of wetlands, reduction in number of activities in the wetlands and effective monitoring of the wetlands.

All the variables were measured on a likert scale of 1-5 where 1 represented strongly disagree, 2 =Disagree, 3=Not sure, 4=Agree and 5= strongly Agree.

Methodological limitations

Sample size was not adequate, because not all instruments were returned. This was solved by using a variety of instruments so, one which was missed out was captured by another.

Some respondents were not able to accurately respond to all items in the instruments, this was addressed by supporting them in filling the instruments. Interviews and observations supplemented the gaps left by other instruments.

3.6.1 Validity

The instruments were first pre-tested to ensure their face and content validity. To do this, item interpretation and consistency was analyzed. The questions found vague were eliminated or rephrased. Any ambiguities, misunderstanding and inadequacies were eliminated (Amin, 2005). With regard to face validity, the words which were used were simple, clear and related to the research problem. Based on the advice of the wetland policy supervisor, complicated terminology will be eliminated from the instruments.

With regard to content validity, the researcher ensured that the items on the main variables (independent and dependent variables) conform to the study's conceptual framework (see Figure 1.1). The opinion of the wetland policy protection supervisor on the relevance, wording and clarity of the items in the instruments were sought to validate the instruments. The wetland protection policy supervisor evaluated the instruments. The items in the instruments were

evaluated on a scale on which 1 = relevant, 2 = quite relevant, 3 = somehow relevant, and 4 = not relevant. A content validity test was used to establish the validity of the instruments. The content validity index was measured using the formula: Content validity index (CVI) = Number of items declared valid/Total number of items. The findings are presented in the table below.

Table 3.2: CVIs of Instruments

Rater	Questionnaire	Interview guide for people staying near wet lands	Interview guide for officers	Observation guide
Supervisor 1	0.79	0.76	0.82	.80
Supervisors 2	0.81	0.80	0.76	0.79
Average	0.8	0.78	0.79	0.81

According to fig 3.2 the CVI for the questionnaire was 0.8 that of the interview guide for people staying around wet lands was 0.78, that for interview guide for officers was 0.79 and that for the observation guide was 0.81. As recommended by (Ary, 2002) and (Amin, 2005), the CVIs were above 0.7, and so were appropriate to used as research instruments.

Reliability

When an instrument is reliable, it yields consistent responses because it is interpreted well. If the desired variable is not measured reliably, the information obtained would not be correct and therefore not be valid. Pre-test data was used to help in enhancing the reliability of the instruments. Data from the ten respondents who included 6 local leaders and 4 opinion leaders from Njerere and Nyenje villages were entered in the Statistical Package for Social Sciences (SPSS) and a Cronbach alpha coefficient test of reliability was calculated. The results are presented in the table below.

Table 3.3: Reliability of the questionnaire

Variable	No of items	Cronbach alpha coefficient
Awareness	4	0.74
Financing alternatives	5	0.80
Infrastructure development	5	0.79
Policy implementation	5	0.81

The findings in fig 3.3 above show that all the reliabilities (awareness=0.74, financing alternatives=0.8, infrastructure development=0.79 and policy implementation were above 0.7 a value recommended for research instruments by Amin (2005) . So the questionnaire was reliable enough to be use as a research instrument.

3.7. Research procedure

After the research proposal was approved and data collection tools, the researcher obtained a letter from the University granting permission to proceed with data collection. This was presented to the concerned authorities, for acceptance and authorization to undertake the study in their institution. The authorities' permission to the researcher was needed to clarify and avert suspicion about the study and helped to elicit increased willingness on the part of respondents to be objective and honest while responding to questions posed to them. In addition the letter was requested for assistance to be offered to the researcher. The researcher recruited one research assistant to ensure that the influence of personal factors of the research during data collection are minimized by bringing on board a person who is neutral about the research variable relationship and the selected organization of the study. The researcher trained the assistant for one day before going to the field to ensure quality work. The researcher made contacts with the various authorities where the study was be carried out. This approach enabled proper planning and mobilization of resources on the agreed dates. The research ensured that during data collection,

questions are discussed in the presence of respondents in order to be well understood and where necessary make adjustments to reduce chances of non compliance and non reliability of the tool.

3.8 Data Analysis

3.8.1 Quantitative Data Analysis

After data was collected, it was edited, cleaned and coded. Descriptive statistics was calculated and used to present and analyse descriptive data. Simple linear regression was used to examine the effect of the independent variables on the dependent variable. As recommended by Saunders *et al*; (2003) regression is the most practical way to calculate and show a specific effect of one variable on another. Therefore, regression analysis was used to show the effect of on Wet land policy implementation . The effect was estimated using simple regression line of ; $Y = b_0 + b_1X$;

Where;

Y=Dependent Variable (Wetland Policy Implementation)

X=Explanatory Variable (Community empowerment; awareness, financing alternatives and infrastructural development)

b_1 = Slope of gradient (regression Coefficient)

b_0 = intercept (value of Y when X is Zero) (constant)

Linear regression was used because it focuses on the conditional probability distribution of one variable given another variable. Data was modeled using linear predictor functions to estimate unknown model parameters. According to Zikmund (2010), simple regression analysis is used to find the “best” fit that a straight line of this kind can give.

3.8.2 Qualitative Data Analysis

Content Analysis was used to analyse qualitative data using methods adopted from (Mugenda Olive M. & Mugenda Abel G., 2005) advises that data should be first coded into sub-themes and categorized into themes and used to give credence to qualitative findings. Concepts were classified according to their probable causes and effects. The intensity with which certain words are used was ascertained. The frequency of concepts showed the measure of direction or bias in data interpretation (Tong et al, 2007).

3.9 Ethical Considerations

The issue of ethics is an important consideration in research that involves human subjects (Ary, 2002). Research ethics is appropriate behavior of a researcher relative to the norms of society (Zikmund, 2000). This research considered ethical factors in a number of ways. Participation in the research was voluntary, and research participants had the right to withdraw at any time of their choice. Therefore, before the study was carried out, the researcher sought the consent of respondents by explaining the purpose of the study to them and assuring them of their confidentiality. In addition to this, the researcher discussed the intended data collection period with the respondents of the Municipality before the questionnaire administration started. Approval to conduct the study was sought from the research review committee of KYU which also considered research ethical standard of the research.

The respondents were adequately informed before the research commenced regarding how they would be treated throughout the research, how risks would be managed and what the benefits of participating in this study are. Moreover, the research participants were provided with information sheets prior to the research to enable them to freely decide to participate. All their questions and concerns were answered, and requests of voluntarily consent to participate in the

study were made. The researcher assured the respondents that anonymity and confidentiality would be maintained and guaranteed. The researcher allowed adequate time to reflect on the information provided, and minimize coercion and undue influence. The respondents were not to paid for their participation in the study and we're not required to write their names or signatures.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter presents the findings of the study, which examined the effect of community empowerment on wetland policy implementation in Uganda with specific reference to Mukono Municipality. It analyzed the three objectives that were the major focus of the study.

The objectives were:

1. To establish the effect of awareness on wetland policy implementation in Mukono Municipality.
2. To assess the effect of financing alternatives on wetland policy implementation in Mukono Municipality.
3. To analyze the effect of infrastructural development on Wetland policy implementation in Mukono Municipality.

Data analysis and interpretation is presented in three parts in relation to the study objectives. In the first part, frequency counts and percentages were run to determine demographic characteristics of the respondents. In the second part, descriptive statistics were calculated to establish the levels of the independent and dependent variables. In the third part, linear regression analysis and key informant interviews and observations verified the influence of the independent variables on dependent variable.

4.2 Demographic Characteristics of Respondents

In the study, the researcher collected demographic information on respondents, which was then used to explain the findings.

4.2.1 Gender distribution of respondents

The respondents were asked to indicate their gender because the researcher wanted to make sure that the views of both males and females were adequately represented to avoid differences in findings caused by gender. Through a structured questionnaire, the views of both males and females were collected as indicated below.

Table 4.2.1: Gender of respondents (n=52)

Category	Frequency	%
Male	37	71.2
Female	15	28.8
Total	52	100.0

Source: Primary data(2016)

The findings in table 4.2.1 above showed that the majority (71.2 %) of residents were male and the rest (28.8%) were female. So the views of both gender were adequately represent.

4.2.2 Urban Area where respondents stay/ work

The respondents also indicated the area where they stayed or worked in Mukono Municipality.

This was done to ensure that the respondents had accurate knowledge of the research questions.

The findings are presented in Table 4.2 below.

Table 4.2:2 Urban Area where respondents work/stay(n=52)

Area	Frequency	%
Mukono central division	39	75.0
Goma Division	13	25.0
Total	52	100.0

Source: Primary data(2016)

The findings in table 4.2.2 show that the majorities (75.0%) of residents were in Mukono central Division, and 25.0% were from Goma division. All divisions in Mukono Municipality were adequately represented; hence the findings reflect a complete picture of issues relating to wet land management in Mukono Municipality.

4.3 Descriptive statistics of the Study Variables

The study examined the effect of community awareness, financing alternatives and infrastructural development on the wet land policy implementation in Mukono Municipality. To achieve this, mean and standard deviations of the scores of variables were calculated. This was done to establish the level of occurrence of the variables in the sample. The scores were subsequently used in the inferential data analysis. Hence, descriptive statistics for community awareness, financing alternatives, infrastructural development and wetland policy implementation were calculated and subsequently used in further inferential analysis.

The scores on each variable were derived by summing up the numbers representing the responses on each of the items measuring the variable. As advised by Saunders *et al.* (2003), this turned the scale on which the variables were measured from nominal to ordinal, enabling quantitative analysis and interpretation. Community awareness was measured on a scale of 5- 20, Financing alternatives was measured on a scale of 5–25, and Infrastructure development on a scale of 5–25. Wet land policy implementation was measured on a scale of 5–25. The descriptive statistics of the study variables are presented in Table 4.3 below.

Table 4.3:1 Descriptive statistics of the study variables (n= 52)

Stat	CA	FA	ID	WPI
Mean	14.7	15.3	13.7	14.9
SD	3.9	2.7	3.2	1.4
Max	17.2	24.5	23.2	24.72
Min	5.3	4.2	6.2	13.4
Mean response	Disagree	Not sure	Disagree	Disagree

Source: Primary data (2016)

Key

CA = Community Awareness of policy

FA = Financing alternatives

ID= infrastructure development

WPI= Wet land Policy implementation

The findings in the table above show that , with regard to community awareness, the values were (mean score =14.7, SD= 3.9, mean response=disagree). As far as financing alternatives is

concerned, the values were, (mean score =15.3 .3, SD= 2.7, mean response=not sure). Infrastructure development the values were (mean score = 13.7, SD= 3.2, mean response = disagree). In connection wet land policy implementation the values were (mean score=14.9, SD= 1.4, mean response = disagree). Therefore, the findings show that the mean values were lower than the highest expected values indicating generally low community awareness of wet land policy, limited financing of alternatives to reduce environmental degradation, infrastructural development and wet land policy implementation. This implies that generally the community is not so aware of the key information in the wet land protection policy, the importance of protecting wet lands and penalties for degrading the environment. It also likely that few alternatives have been developed for preventing degradation and limited infrastructure exits for protecting the environment. This scenario may also have negatively affected the level of wet land policy implementation in urban areas of Mukono Municipality. These conclusions were explored further in the sections below.

4.4 Pearson's correlation coefficients of the study variables

Descriptive and interview results in the sections above pointed to a positive linear relationship between the independent variables and the dependent variable. This fact was explored using Pearson's correlation before regression analysis was done. The findings are presented in the table below.

Table 4.4 : Pearson's correlation coefficients of the study variables

Variables		Correlations			
		1	2	3	4
1 Community awareness	R	1			
	P				
2 Financing alternatives	R	.616**	1		
	P	.000			
3 Infrastructure development	R	.565**	.424**	1	
	P	.000	.000		
4 Policy implementation	R	.190*	.230*	.390*	1
	P	.030	.020	.020	

*.Correlation is significant at the 0.05 level (2-tailed)

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

The findings in the table above show that all the variables in were positive corre other. This implies that a positive relationship existed between the independent and dependent variables. The relationship between community awareness and policy implementation was ($r = 0.190$, $p = .30$), that between financing alternatives and policy implementation was ($r = 0.230$, $p = .020$) while that between infrastructure development and policy implementation was ($r = 0.390$, $p = .020$). This implies that positive variations in community awareness, financing alternatives and infrastructure development cause a positive variation in policy implementation. Hence the independent variables have a positive effect on the dependent variable. This conclusion was explored using regression analysis in the section below.

4.5 Regression Analysis

Simple linear regression analysis was done to establish the effect of the independent variables on the dependent variable. Regression analysis was based on the assumption that a linear relationship existed between dependent and independent variables over the spectrum of values. Scores of the independent variables (community awareness, financing alternatives and infrastructure development) were regressed with scores of the independent variable (Wet land policy implementation). The findings are presented in the sections below.

4.5.1 The effect of awareness on policy implementation in Mukono Municipality

The first objective of the study was to examine the effect of awareness on policy implementation in Mukono Municipality. Scores on community awareness (mean score =14.7, SD= 3.9) were regressed with scores on wet land policy implementation (meanscore=14.9, SD= 1.4). The findings are shown in figure 4.4.2 below.

Table 4.5.1: Simple regression results of Community Awareness vs. Wet land Policy implementation

R	R ²	Ad R ²	B	Beta	F Stat	Sig.
0.19	.036	.034	3.10	.19	151.3	.03*

Source: Primary data

**Values significant at 0.05 level (2-tailed)*

Predictor: Community awareness, dependent variable: wet land policy implementation

The regression results in the table show that a positive relationship existed between community awareness and wet land policy implementation. This implies that increased community

awareness leads to an increase in wet land policy implementation. The results of the regression model indicated an adjusted R-square of 3.4 %. This implies that the community being aware of the wet land policy and benefits of wet land protection affected policy implementation by about 3%. Despite the effect being positive, the contribution is low, implying that there is a very low level of awareness. The community is not so conversant with key information in the wet land protection policy, the importance of protecting wet lands and penalties for degrading the environment. This finding was explored using key informant interviews.

Key informants indicated that the rate of wetland degradation in Mukono municipality wetlands is increasing at an alarming rate due to the increase in population driven by the growing need to take advantage of the opportunities created by the Municipality and by the escalating levels of rural urban migration. The environment officer for Mukono central division said that, protecting wetlands plays a fundamental sustainable development role, in the social, economic growth and development of the Municipality.

The Councilor for People with disabilities who stays near Nakiyanja wet land complained that 'there are almost no avenues for earning a living for those willing to relocate from the wet lands, even those areas where government banned further activities in the wetlands', no compensation scheme was established, the former habitants are excommunicated without offering the next course of life. This has forced many urban dwellers to increasingly degrade the wetlands, since they expect no future outside the wetlands. Besides that government leases wetlands to foreigners, a case in view the Namanve wetlands gazetted for industrial park, who degrade it at the expense of the natives, this has greatly influenced the natives to retaliate by degrading the remaining wetlands Mukono municipality wet lands inclusive (appendix 7).

As a result of community awareness community concern towards wetland sustainability has been gradually increased. Another occupant of Goma division who stays near wet land of Goma known as Nakalele asserts, that twice a month they access the services of Division environment officer, which helps them understand the gravity of saving wetlands for the future generation, but if the services could be provided regularly it would be easy for various wetland encroachers to gradually understand the importance of wetlands beyond their personal and individualistic interests.

These findings from the key informants show that community awareness in Mukono municipality is seriously lacking, due to scarcity of environment officers and limited personnel in the municipality.

Observations also indicated, that most people in Mukono municipality lack clear understanding of the presence, goal and aims of the wetland policy since most of the people interviewed claimed that they had never heard about the policy. There was no laid down infrastructure to equip people in the Municipality with adequate knowledge and skills and about the dangers of degrading the wetlands and environment in general. Only in some few areas where there were posters prohibiting people from unnecessary dumping of garbage in the wetlands and areas gazetted for wetlands (*Appendix 6*).

4.6 The effect of financing alternatives to policy implementation in Mukono Municipality

The second objective of the study was to assess the effect of financing alternatives to wetland policy implementation in Mukono Municipality. Scores on financing alternatives (mean=15.3.3, SD= 2.7) were regressed with scores on wet land policy implementation (mean=14.9, SD= 1.4). The findings are shown table 4.5.1 below.

Table 4.6:1 Simple regression results of financing Alternatives vs. Wetland policy implementation

R	R ²	Ad R ²	B	Beta	F Stat	Sig.
0.23	.052	.050	0.57	.23	91.3	.02*

Source: Primary data

*Values significant at 0.05 level (2-tailed).

Predictor: financing alternatives, dependent variable: wet land policy implementation

The regression results in the table above show that financing alternatives had a positive contribution on wet land policy implementation. The results of the regression model indicated an adjusted R-square of 5 %. This implies that the community having alternatives financed by authorities affected wet land degradation by 5%. Therefore, when the community has alternatives to using wet lands financed by authorities it can reduce wet land degradation by 5%. Though the effect is positive it is low, implying existence of few alternatives to wetland use by the community that have been financed by the authorities. Therefore, stakeholders had a few alternatives specifically developed for them so that they do not abuse wet lands. This finding was further explored using key informant interviews.

The findings from the key informants indicate existence of some few alternatives developed by authorities to stop community reliance on wet lands. The environment officer for Mukono central Division said that , *“financing alternatives can be an available alternative to wetland degradation in form of mining sand and making bricks in the wetland but, unfortunately there is limited finances from government to help in providing an alternative to people who formerly depended on the wetlands for earning a living”*

The LC 1 village near a wetland called Nakiyanja added that

“ due to poverty and escalating levels of unemployment as well as high cost of living in the urban areas people especially the youth find themselves with no option of earning a living but to resort to urban wetlands from where they mine sand and bake bricks for income e generation to meet their costs of living”.

This has resulted into severe wetland degradation and its accompanying effects. A law enforcement officer in Goma division intimated that , *“ if this situation is not corrected , it will*

pose serious environmental risks which will in the end affect the plant and animal life that greatly depended on the wetlands “.

This scenario has resulted from failure to finance alternatives that would force people to get out of the wetlands. However observations showed that, as long as government and concerned institutions fail to finance alternatives, urban encroachers will continue with their activities, which will in the end affect the proper maintenance of Mukono Municipality Wetlands (*Appendix 10*).

4.7: The effect of infrastructural development on policy implementation in Mukono Municipality

The last objective of the study was to ascertain the effect of infrastructural development on policy implementation in Mukono Municipality

Scores on infrastructure development (mean= 13.7, SD= 3.2), were regressed with scores on wet land policy implementation (mean=14.9, SD= 1.4). The findings are shown in table 4.6.1 below.

Table 4.7.1: Simple regression results of Infrastructure development vs. Wet land policy implementation

R	R ²	Ad R ²	B	Beta	F Stat	Sig.
0.39	.152	.150	1.33	.39	431.4	.02*

Source: Primary data

**Values significant at 0.05 level (2-tailed)*

Predictor: Infrastructure development, dependent variable: Wet land policy implementation

The regression results in the table above show that infrastructure development contributed positively to wet land policy implementation. The results of the regression model indicated an adjusted R-square of 15 %. This implies that, to some extent the community having infrastructure to use in wet lands protection contributed to a 15 % variation in wet land policy implementation. The contribution of infrastructure development was the highest among the three variables indicating it is probably the one most implemented or most significant. However, the descriptive statistics had pointed inadequate infrastructure developed to prevent wet land degradation. This finding was further explored using key informant interviews.

Key informants indicated just one type of infrastructure had been specifically developed for wet management. A councillor from the Goma division near Nakiyanja wet land said;

“Garbage disposal in the wetlands is one of the acute problems faced in the urban wetlands.” (Appendix 9).

An environmental officer from Mukono central division added that,

“...Mukono municipality in abid to fight against garbage disposal in the wetland decide to start the Katikolo garbage recycling plant that generates fertilizers from garbage to support plant life, however, despite all the efforts put forward by the municipality to collect all the garbage in the municipality, many people still dispose garbage in the wetlands, which has poses serious environment risks” (Appendix 11).

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a discussion, conclusion and recommendations of the study that examined the effect of community empowerment on wetland policy implementation in Mukono municipality. Discussion of the findings is presented first, followed by conclusion and finally recommendations for action and further research.

5.2 Discussion

5.2.1 Effect of awareness on wet land policy implementation in Mukono Municipality

The first objective of the study was to examine the effect of awareness on policy implementation in Mukono Municipality. The findings indicated that, awareness positively contributes ($AdR^2 = .034$) to policy implementation. This implies that awareness plays a fundamental role in the wetland policy implementation. Despite this finding, descriptive statistics indicated that there was low community awareness of the contents of the policy. As indicated by EPA (2012), this was partly due inadequate community sensitization. Key informants indicated that they have never seen or read the policy. Even some high-level local leaders who are supposed to monitor the implementation of the policy intimated that they do not have copies of reference. Some key informants complained that most government policies were in the English language which the majority could not read. Lack of knowledge on what the policy is and its intentions had reduced community support for its implementation. Hence wet land policy implementation did not follow the Checkoway (1995) model. There was limited or no mass mobilisation and organisations to implement the policy. This was probably due to inadequate resources to carry

out awareness campaign. As indicated by Robb (2002) awareness is achieved when citizens or community are given the opportunity to put forward information or views relating to proposed program.

The findings have revealed that while authorities in Mukono implemented the wet policy to some extent, the results had been slow due to low community empowerment. The community who are the key implementers of the wet land policy, had low awareness about the policy, there was limited alternatives financed and insufficient infrastructure to prevent wet lands degradation. The community was not aware of the contents of the policy and the penalties for degrading wet lands. The communities who dependents on wet lands for agriculture and building

5.2.2 The effect of financing alternatives to wet land policy implementation in Mukono

Municipality

The second objective of the study was to assess the effect of financing alternatives to policy implementation. Findings indicated a positive ($AdR^2 = .050$) but low contribution of financing alternatives on policy implementation. The positive contribution indicated the significance of the community having alternatives to use instead of the resources that are being protected. The low values point to lack of or low availability of alternatives to using the environment. The key informants indicated that the communities around wet lands were still using them to get basic life needs. They used them for agriculture, making bricks for building and selling. The majority of the citizens actually had business that depended on wet lands such as car washing bays and sand mining. The environment officers agreed that the municipal authorities had not initiated alternative livelihood projects to people around wet lands. This findings agrees with Checkoway (1995) who says that insufficient social action to encourage wet land protection can lead to more degradation.

There were no community level organizations supported by authorities to make improvements in people's lives without degrading the wetlands. According to Hoppe (2011), this reduced People's empowerment to alter their environment threatening behaviors by adopting alternative ways. the existing power relationship in the community While most of the respondents, claimed that, they are very much willing to leave the wet land if they are financed to do other activities out of the wetlands, th3e available alternatives were not very practical for them This findings agreed with Murdoch and Hashemi (2003), who stress the importance of financing alternatives, especially giving micro finance in helping the poor, urban dwellers. This is indeed a stimuli to enabling urban wetland operators to relocate to other areas, but should be supported with other programs like public awareness, financial literacy since a good number of the respondents showed little financial literacy.

5.2.3 The effect of infrastructural development on wet land policy implementation in Mukono Municipality

The third objective of the study was to analyze the effect of infrastructural development on policy implementation. The findings showed a positive, but low contribution ($\Delta R^2 = .015$) of Infrastructural development on wet land policy implementation. Hence people having infrastructure to use such as mobile phones for reporting abuses, and garbage recycling small scale industries can reduce wet land degradation (Brooks, 2002). While some infrastructure such as posters, reduce wet land abuse existed, they were not very effectively used to prevent degradation. As indicated by Yang (2005), this was due to the fact that monitoring by municipality was weak and people who stay around wet lands had not been relocated neither did they have affordable alternatives. This finding agrees with Akinwale (2010) who said that

effective monitoring and meaning involvement are needed for communities to use alternative infrastructure. Otherwise people would go back to the easier wet land degrading behaviours. Observations indicated that those areas which had infrastructure and regular monitoring by environment officers had well preserved wet lands. For example, the Katikolo garbage recycling plant reduced the volumes of garbage

5.3 Conclusion.

The current efforts of Mukono Municipality in preventing wet land degradation are yet to bear significant results. The results had been slow due to low community empowerment. The community who are the key implementers of the wet land policy, have low awareness about the policy, there is limited alternatives financed and insufficient infrastructure to prevent wet lands degradation. The community is not aware of the contents of the policy and the penalties for degrading wet lands. The communities who depended on wet lands for agriculture and building materials did not have alternatives to motivate them to stop depending on wet lands. While some infrastructure such as posters, existed, they were not very effectively used to prevent degradation. This was due to the fact that monitoring by municipality was weak and people who stay around wet lands had not been relocated neither did they have affordable alternatives.

The municipality uses a top down approach in wet land policy implementation which has left out the majority of community members. Most of the members do not own the policy since they feel they did not take part in planning and even monitoring. A bottom -Up approach in success full implementation of the policy, because the very community members who operate in the wetlands expressed full knowledge of the dangers their activities cause to the environment, and if empowered and financed to educate and monitor wetland policy implementation the results likely to be generated will offer a lasting and problem fixing solutions to the degradation of

wetlands. The issue of poverty eradication and corruption ought to be addressed with significant input, because most of the respondents revealed the willingness to stop operating in the wetlands, in case of any financed to start other income generating projects on merit.

The findings revealed shortage of awareness platforms, inadequate financing of alternatives and limited access to infrastructure, which had a profound negative effect to policy implementation in the form of garbage disposal in the wet land, increased human activities in the wet land, and mining of sand as well as brick making. This scenario can be corrected by using a stake holder modal, which brings on board all people concerned in a friendly, attractive and respective manner yet keeping its set objectives in focus, using this modal, the stake holders sit and share meaningful ideas, which can safeguard the environment, yet addressing their daily concerns, in a free non punitive environment.

5.4 Recommendations for action.

In view of the above findings and basing on the objectives the following recommendations are made.

5.4.1: Awareness and wetland policy implementation in Mukono Municipality

Accessing Wetland policy document by stakeholders

Most of the local leader expressed their ignorance about the existence of the wetland policy, this worked to the advantage of the wet land encroachers, so the policy should be provided to all the local leaders and opinion leaders so as to enable them know the role they have to play.

Encourage ownership of the policy by the Community

All wet land protection programs should be implemented using the bottom-Up approach, so as to encourage ownership of the policy and all activities geared towards its implementation.

Youth cooperatives

Youth cooperatives should be emphasized so as to enable the youth, tap the benefits of the benefits of the government programme of empowering and financing youth cooperatives, this will reduce on the number of dependants on the wetlands in Mukono Municipality.

5.4.2: Infrastructural development and wetland policy implementation

Hotlines

Should be put in place at the grass root levels to enable the community members provide quick report to the concerned authorities about environment issues so as to curb against the mismanagement of the environment especially wetlands which are under great threat of human and animal encroachment.

Strengthening monitoring and Evaluation

Monitoring and evaluation plays fundamental role in checking on program success and failure, so as to redirect the program to the set goal, Mukono Municipality should empower the local leaders and opinion leaders to support policy monitoring and evaluation because they have easy access to their people.

5.5 Suggestions for further research .

The findings of this research point to the need for further research in the following areas:

- a) Comparative analysis of community empowerment across the major urban districts of Uganda and its contribution to wetland policy implementation.
- b) Comparison of community empowerment and its contribution to general policy outs in Uganda.
- c) As with most research studies, replication of this study is suggested for validation purposes.

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APPENDICES

Appendix 1: Questionnaire for Local and opinion Leaders

Dear respondent,

I'm..... conducting a study titled: "The influence of community empowerment on the implementation of the Wet land policy in Mukono district". You have been selected to participate in this study. I kindly request you to candidly complete this questionnaire. The information you give will be treated with utmost confidentiality and it will be used for the purpose for which it was collected.

Thank you.

Section A: Demographic Data of Respondents

Please tick what is most appropriate to you:

1. Write the division in which you stay or operate from

Mukono municipality Goma Sub County

2. Gender

Male	Female
1	2

Section B: community empowerment

3. Please circle the number on the scale that best indicates the extent to which the members of the community is empowered to contribute to wetland policy implementation in your area.

1 = Strongly Disagree (SD)

2 = Disagree (D)

3 = Not Sure (NS)

4 = Agree (A)

5 = Strongly Agree (SA)

Community empowerment					
Awareness					
All people in Mukono municipality are aware of the wetland protection policy.	1	2	3	4	5
All communities in Mukono municipality know key information in the wet land protection policy	1	2	3	4	5
All communities in Mukono municipality are aware of the importance of protecting wet lands	1	2	3	4	5
All communities in Mukono municipality are aware of the penalties for degrading wet lands	1	2	3	4	5
Financial alternatives					
Communities dependant on wetlands in Mukono municipality have been given micro finance to start alternative activities	1	2	3	4	5
Financing the use of Green house modern farming methods have been introduced in Mukono municipality to replace dependence on wetlands for Vegetable growing.	1	2	3	4	5
Mukono municipality has funded the introduction of bio processing machines to prevent garbage disposal in the wetlands.	1	2	3	4	5
There is no need for anyone to depend on wet lands to earn a living in Mukono municipality because many alternative now exit	1	2	3	4	5
All people grazing in the wetlands have been financed to start Zero grazing.	1	2	3	4	5
Infrastructure development					
All communities in Mukono municipality have a free hotline to report, in case of wetland degradation	1	2	3	4	5
All wetlands in Mukono municipality have posters prohibiting garbage disposal.	1	2	3	4	5
Mukono municipality has vehicles for monitoring and evaluating environment degradation.	1	2	3	4	5
All people dwelling in wetlands in Mukono municipality have been relocated to other areas.	1	2	3	4	5
All people in Mukono municipality have access to NEMA website to learn new and modern wetland conservation methods.	1	2	3	4	5

Section C: Wet land policy implementation

10. In this section, please circle the number on the scale that best indicates the level of in

Wet land policy implementation in the aspects below.

Wet land policy implementation	1	2	3	4	5
Wetland protection policy in Mukono Municipality has significantly increased the number of wetlands in the area	1	2	3	4	5
Wetland protection policy in Mukono Municipality has significantly reduced the degradation of wet lands.	1	2	3	4	5
Wetland protection policy in Mukono Municipality has decreased the number of activities being done in wetlands	1	2	3	4	5
Wetland protection policy in Mukono Municipality has reduced garbage disposal in the Wetlands.	1	2	3	4	5
Mukono municipality now significantly benefits from natural wetlands after the implementation of wetland protection policy	1	2	3	4	5

Appendix 4: Observation guide

1. Presence of awareness building material in the community (e.g , TV programmes, Tracts, posters).
2. Existence of financed alternatives (e.g , green house farming, Cement brick making factories, Ecosan latrines).
3. Effect of infrastructural development on policy implementation (Garbage recycling plants, posters, Hotlines).
4. Number of activities in the wetlands and reduction of wastage disposal in the wet land (reduced presence of garbage, sand mining and agriculture).

Appendix 5: Table for Determining Sample Size From A Given

POPULATION

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size

"S" is sample size.

END.

Appendix 6: A poster Restricting Dumping in the Wetland

This picture shows, that much as, the issue of dumping garbage in the wetlands is still a big problem in Mukono municipality, effort are being put in place, although to a small scale to restrict garbage disposal in the wetlands, but more awareness campaigns are needed to raise people's attention to the fundamental issue of safeguarding wetlands for the future generation.

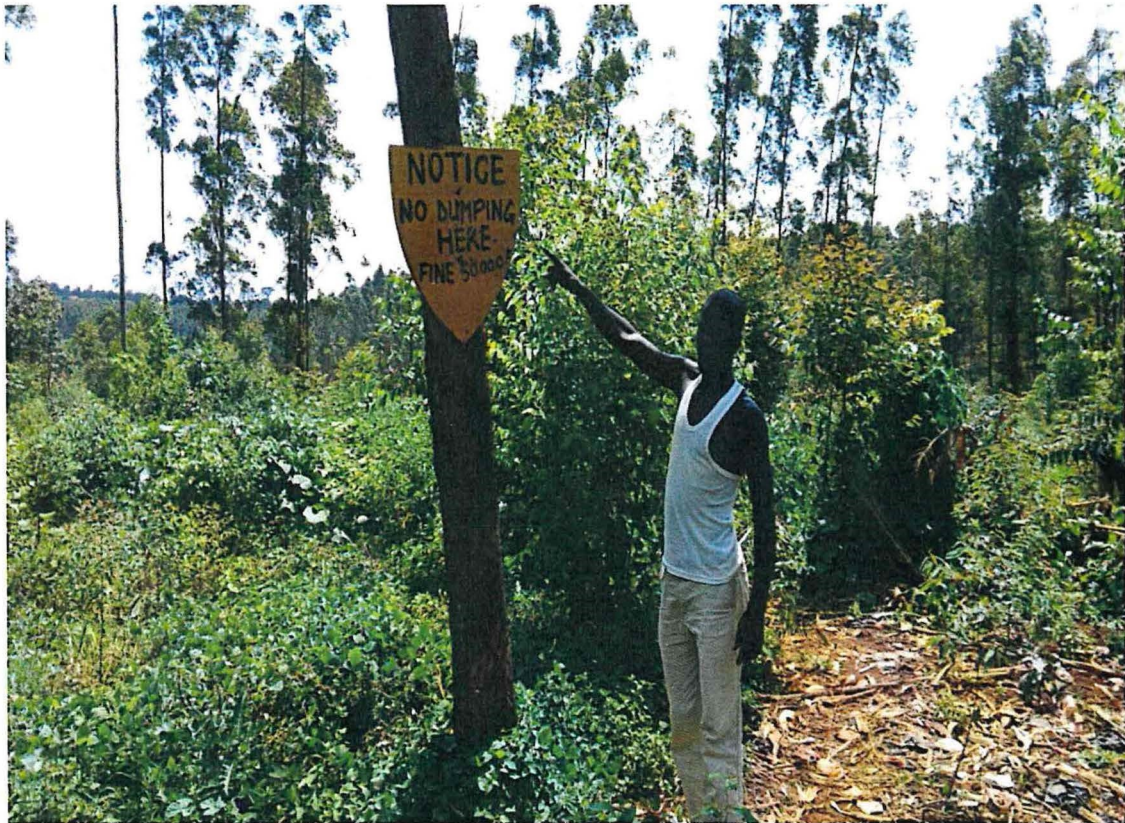


Fig of poster restricting community members from dumping garbage in the wetland within Goma Division.

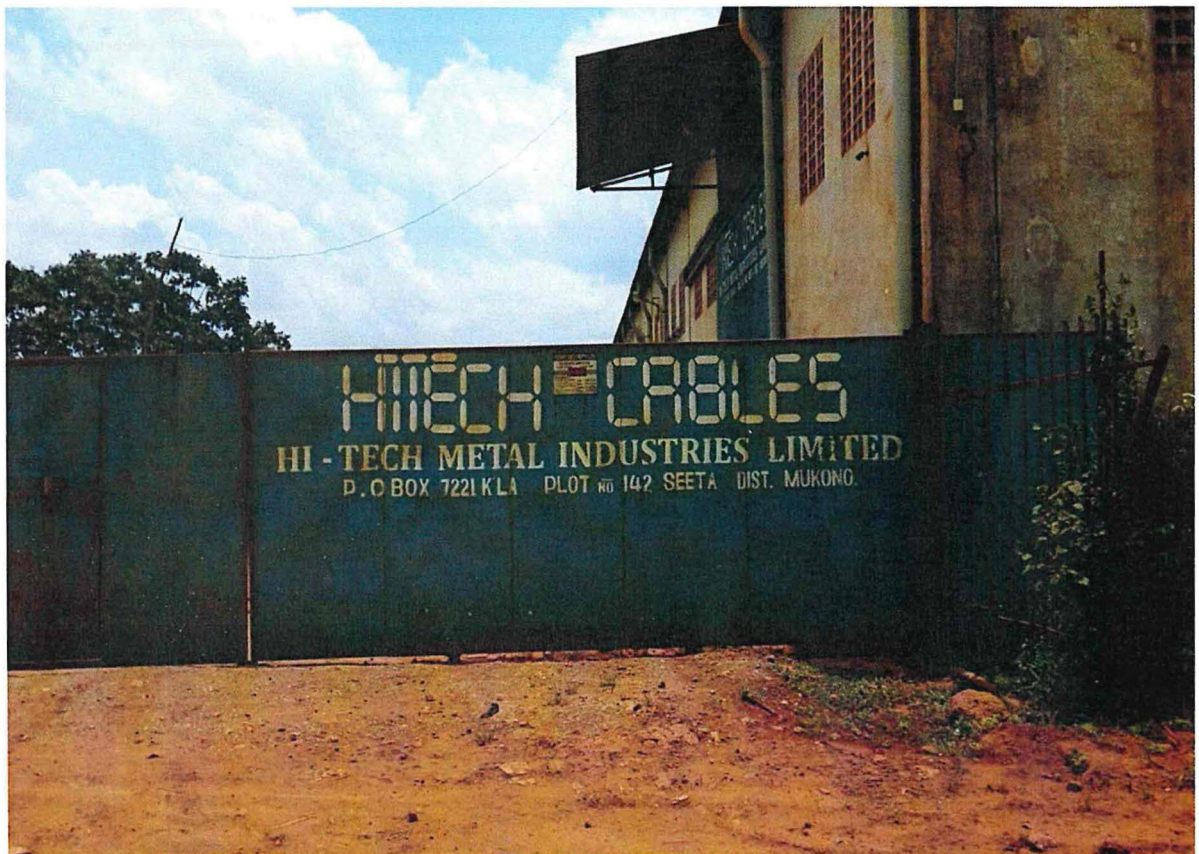
Appendix 7: A Community member cultivating the wetland in Goma division

This figure shows one of the people cultivating within one of the wetlands in Mukono municipality. Cultivation is one of the ways of wetland degradation, because it disturbs the well known wetland habitants which forces them to relocate and extinct.



Appendix 8: Industrial Development within Goma division wetland

This is one of the various industries which were constructed in Mukono municipality wetlands. This is a serious wetland management challenge, because most of the rich natural resources in the wetlands have been abused and destroyed in the course of constructing factories in the wetlands. In the process of constructing in the wetlands, volumes of soils have been dumped in the wetlands, which have caused severe flooding in various communities living around the wetlands.

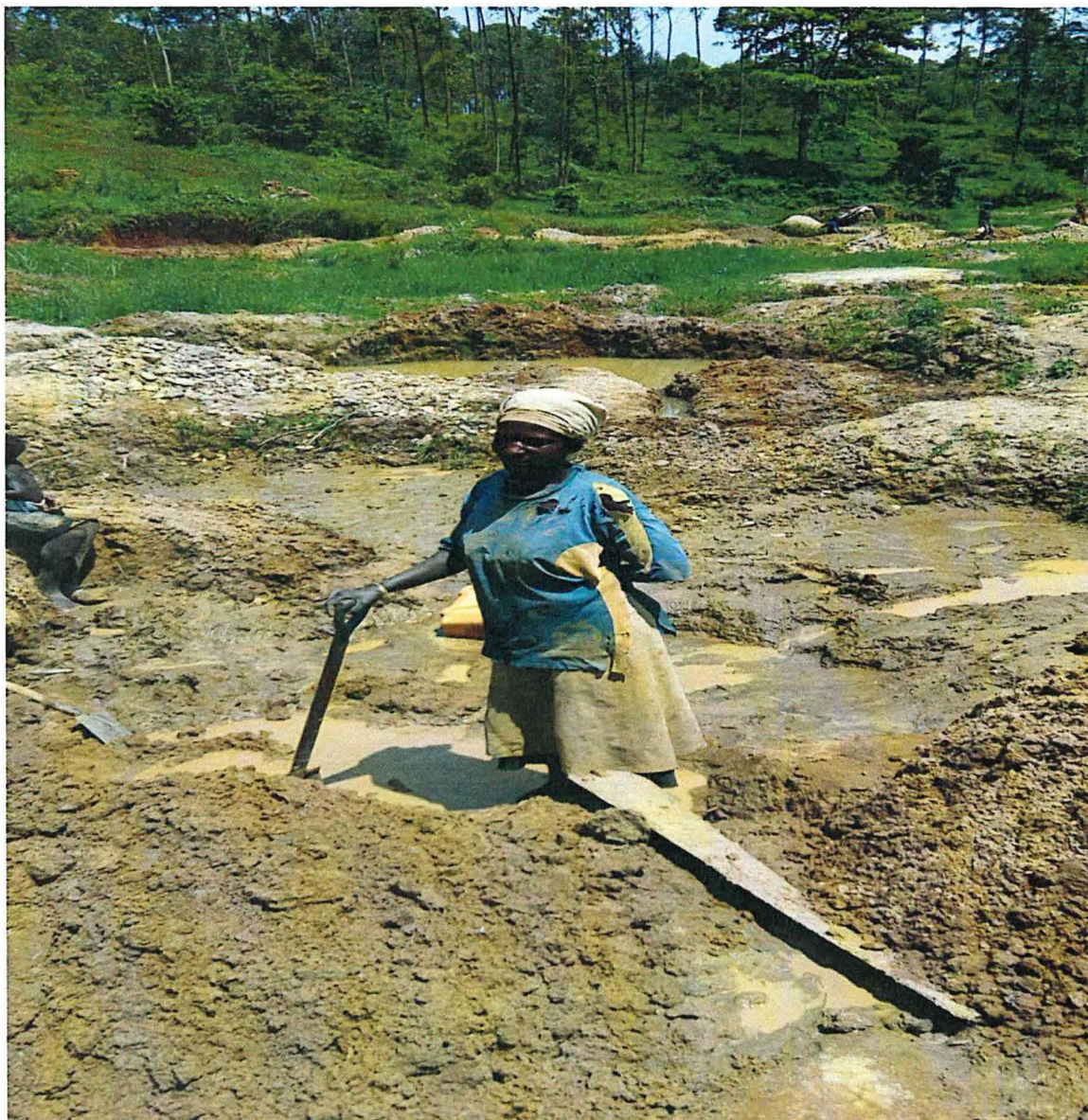


Appendix 9: Garbage disposal in the wetland

This figure shows garbage disposal in the wetlands of Mukono Municipality, this is partly due to lack of clear knowledge about the dangers of garbage disposal in wetland .Research findings revealed that, many communities lacked wetland policy awareness campaigns which resulted into various negatives activities .



Appendix 10: Mining within Mukono municipality wetlands



Appendix 11: Katikoro garbage recycling plant



Mukono Municipality developed a garbage recycling plant to fight against garbage disposal in the wetlands. Garbage is recycled into manure as shown in appendix 11