Environmental management in Uganda: A reflection on the role of NEMA and its effectiveness in implementing Environment Impact Assessment (EIA) of the Greater Kampala Metropolitan Area (GKMA)

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Abstract

The aim of this study was to investigate the role of NEMA and its effectiveness in implementing Environment Impact Assessment (EIA) of the Greater Kampala metropolitan Area (GKMA). To achieve the above aim, the study adopted a qualitative document review method to collect data. The concept of the Actor Network Theory was used in identifying how and why NEMA through the process of translation relates with other actors both human and non-human and in what capacity (either in a centralized or decentralized manner) at the various stages of implementing EIA from the various electronic environment management policies reviewed. The socio techno gram tool was used to illustrate the relationship between NEMA and other actors both Human and non-human. In order to understand the aspects of representation of NEMA in the implementation and enforcement of a specific role at various stages of EIA implementation, a matrix framework was developed using the key policy implementation phases. The level of responsiveness from settlement occupants to EIA was used to evaluate the effectiveness of various roles of NEMA in implementing and enforcing EIA in GKMA. The results indicated that NEMA at various stages of EIA implementation and enforcement assumed the statuses of being both a centralized and decentralized institution at the same time. However the study findings also revealed that NEMA was less successful using the centralized approach as compared to the decentralized approach and this was largely attributed to internal weaknesses such as Inadequate skilled personnel, corruption, use of inappropriate implementation tactics among others.

Keywords: NEMA, GKMA, Actor network theory, Socio techno gram, Environment degradation, Environment management

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INTRODUCTION

Environmental management is a purposeful activity with the goal to maintain and improve the state of an environmental resource affected by human activities (Barrow, 2006; Xiaoyun & Siqi, 2018). The natural environment is the provider of the basic elements that human beings need to survive such as food, water and shelter. However in the process of harvesting the natural resources, human beings impact the environment by over use or exploitation of the nonrenewable resources and also through the production of waste materials and pollution for example greenhouse gases, which are ozone layer depleting substances and hazardous materials. This has led to the degradation of the very environment that human beings depend on. The impact of human activities on the environment increases with population growth, settlement expansion, economic growth and increased consumption.

The GKMA is a merged region to Kampala in the central part of Uganda comprising of three districts which include Wakiso, Mpigi and Mukono (The Republic of Uganda, 2015). The grand strategic plan for the joint development of the GKMA was aimed at ensuring that the area is jointly planned and developed with modern infrastructure and all the necessary amenities. The plan also revolved around constructing a road network which would link Kampala to the three districts for economic and infrastructural development (https://bit.ly/3eUyuzP).

In Uganda, the role of implementing and enforcing environmental management is constitutionally undertaken by the NEMA. The NEMA which is a semi-autonomous institution which was established in May, 1995, under the National Environment Act, Cap. 153 to help protect and preserve the environment. NEMA became operational in
December, 1995 as the principal agency in Uganda charged with the responsibility of coordinating, monitoring, regulating and supervising environmental management in the country. NEMA has undertaken the implementation and enforcement of environmental management in the GKMA/Uganda through spear heading the development of environmental policies, laws, regulations, standards and guidelines; and guiding Government on sound environmental management in Uganda. However despite all government’s efforts through NEMA to help protect and save the natural environment from the environment degrading human activities through implementing and enforcing EIA, natural environment degradation in the GKMA has continued to increase and this has been attributed to various development practices which have taken place under intriguing conditions. The World Bank (2015) cited that as Uganda’s capital city “Kampala” continued to experience significant urban and economic growth, human settlements and their resulting activities in unplanned areas have put a strain on its natural environment and are eroding the vital eco system services it provides. To this extent, the study sought to investigate the role of NEMA “as the principal agency in Uganda charged with the management of the environment” in GKMA/Uganda.

LITERATURE REVIEW

Human Activities and their Influence on the Environment in GKMA

The GKMA is gifted with a beautiful natural environment comprising of lakes such as Lake Victoria in Wakiso district, Rivers such as river Sezibwa, River Musamya in Mukono district and a natural vegetation cover including seasonal and permanent wetlands. For example according to NEMA state of the environment report 2006/2007, Mpigi district has an area of 719 sq. km covered by wetland resources whereby the permanent wetlands lie in the fringes of Lake Victoria and the seasonal wetlands are formed in the forest areas and grasslands which all form into one major system called the Lake victoria drainage system. Mukono district as indicated by the district local government 2019/2020 has a total area of 1162 km covered with water bodies mainly Lake victoria out of which open water bodies cover 396.3 km (rivers and the lakes) and wetlands/swamps cover 151km. Kampala city experiences a tropical wet and moderate dry type of climate and it’s situated on 20 low flat topped hills which are surrounded by wetland valleys characterized by scattered informal settlements (Sutthipornphalangkoon, 2016; United Nations Habitate, 2008).

The region acts as Uganda’s commercial and industrial hub with a 60% contribution to the country’s GDP and also accounting for over 80% of Uganda’s industrial sector (Kampala Capital City Authority, 2014). The GKMA has been occupied by a number of urban settlements dominantly engaged in secondary and tertiary activities. These have existed in the form of residential settlements, industrial developments (industrial parks) and real estate businesses among others. The industrial sector in the Greater Kampala metropolitan area ranges from small to large scale small scale industries are involved in production activities such as metal fabrication, wood works, wine and soft drinks, brick making while the large scale industries are involved in textile, manufacturing, brick making, steel rolling mills, soft drinks, beer bottling, hollow ware and tannery and tiles manufacturing (Nyakaana, Sengendo, & Lwasa, 2007). Also with a development goal of achieving the Uganda vision 2040 through the National Development Plans (NDP), NDPI and NDPII, the government of Uganda formulated a 10 year industrial policy which has one of its core strategies of creating 22 industrial parks across the country to spur economic growth.

Environmental degradation in the GKMA and Uganda at large has persisted and continued to worsen because of the fact that the livelihoods of Uganda’s biggest population mostly depend on the natural environment both as a source of subsistence and also as a basis for production. Agriculture is the leading economic sector in Uganda and together with the environmental sectors has a 90% contribution to Uganda’s exports and energy requirements in terms of firewood and charcoal (Fadwa, 2018; Moyini, Muramira, Emerton, & Shechambo, 2002). The natural resources and environmental sectors in 2000 contributed 55% of the total GDP which was a very substantial contribution to Uganda’s economy (Ministry of Finance Planning and Economic Development, 2000).

Although the growth in economic activities that rely more on the natural environment such as agricultural and industrial activities has sometimes been seen as an indicator of development opportunities, in the GKMA however it has had serious environmental consequences which include wetland degradation that also involves pollution of wetlands with both solid and toxic wastes and drainage channels. For example wetlands in Kampala city have been subjected to extreme pressure and this has been due to the economic development activities such
as residential development which has affected several wetlands including Nsooba, Bulyera, Kiyanja Kansanga, Kyetinda, Mayanja and Nakivubo wetlands. Furthermore, all the seasonal wetlands have also been reclaimed and currently people have now resorted to degrading the critical wetlands such as Kinawataka, Nakivubo and Kansanga wetlands. Nakivubo wetland for example which had an original area of wetland vegetation mainly composed of papyrus on an area of 4.4kms was degraded and reduced to 2.8 km in 1991, to 1.9km in 1995 and to 1.3km in 2000. The current estimates have indicated that the size of the wetland has been reduced to now 1 km. This has been attributed to factors such as perverse economic subsidies that don’t consider the link between eco system services and the human livelihoods, poorly formulated responses to poverty and the lack of recognition of the ecological, hydrological and economic functions and values associated with wetlands being intact (state of the environment report for Uganda 2006/2007).

The industrialization has also largely contributed to the influx of migrants into the city beyond its capacity intake which has resulted in the rapidly expanding and disorganized informal sector. This labor influx has resulted in a growing unplanned housing sector which has now become a threat to the environment (Nyakaana et al). As a result, this degradation of land and natural resources in Uganda has accounted for over 80% of the environmental degradation (Morrison, 2009).

This encroachment on and depletion of the resources such as wetlands, forests, pastures fields, rivers, lakes and swamps have greatly endangered human lives because of the resulting loss of water, food, energy and it’s also associated with reduced foreign exchange revenue and balance of deficits.

**Literature Gap**

The persistence of environmental degradation in the GKMA and Uganda at large has attracted several scholars to investigate the effectiveness of environment management policies such as EIA aimed at regulating environment degrading human activities. For example Akello 2007 in her work titled “Environmental regulation in Uganda” investigated the success and challenges associated with EIA as an environment management tool. Akello based her conclusion relating to the success of EIA implementation on compliance from project developers and the challenges cited in her work were external to the main environment management implementing institution NEMA such as lack political support, failure to audit industries that existed before the environment law came into existence. In another scenario, Morrison (2009) while investigating the effectiveness of Uganda’s environmental policies with EIA inclusive put more emphasis on lack of government financial commitment as the leading cause of environment policy failure in Uganda. There has been no research investigating the effectiveness of environment management policies in the GKMA and Uganda at large from a governance perspective with focus on the main environment management implementing institution NEMA.

The significance of this research therefor is that its investigation being centered on governance practices within NEMA and the fact that it’s using the concept of the Actor Network Theory Network not only helps the role of NEMA as the principle agency but will also brings to light and appreciate the role of other actors both human and non-human that form a network with NEMA in the implementation and enforcement of EIA in GKMA. This research also investigates how the negative influence of other actors both human and non-human affects the effectiveness of EIA implementation and enforcement in the GKMA. This therefor will help in designing a holistic approach aimed at improving environment management policies in the GKMA and Uganda at large.

**Hypothesis**

The hypothesis being tested in this research includes.

**H1:** There’s no significant role played by the NEMA in implementing and enforcement EIA in the GKMA.

**H2:** There’s a low level of settlement occupant’s responsiveness to EIA implementation and enforcement in the GKMA.

**METHODS OF STUDY**

**Research Design**

The study used a qualitative document review method to collect data relating to the role of an environment management institution and data relating to settlement occupants responsiveness to EIA implementation and en-
forcement in GKMA. Document review is the systematic collection, documentation, interpretation and analysis, and organization of data as a data collection method in research (Bretscher, Cirilli, Jones, Lynch, & Wilson, 2017). The electronic documents reviewed comprised of both internal (those that are from the environment management institution) and external to the institution.

In deriving the role of environment management institution from the various electronic documents reviewed, the concept of Actor Network theory was used in identifying how the environment management institution through the process of translation relates with other actors both human and non-human (either in a centralized or decentralized manner) and in what capacity at the various stages of implementing EIA.

The relationship of the environment management institution with other actors was illustrated using the socio techno gram tool. The interconnection between various actors was represented by an arrow line such that incases of the arrow line being full uninterrupted; it was an indication of the flow of influence from the environment management institution to other actors within its organizational structures while incases of the connecting blue arrow line appearing broken between the environment management institution and other actors, it illustrated the environment management institution involving other actors (stakeholders) likely to be affected directly or indirectly by a development activity. In cases of a black line, it was used to illustrate other concerned stakeholders in support of the implementation and enforcement of EIA as illustrated below.

**Socio Techno Gram Illustrations**

![Figure 1. Socio techno gram illustrations](image1)

Matrix Framework illustrating the representation of an environment management institution in the implementation and enforcement of a specific role at various EIA implementation stages.

![Figure 2. Implementation stages](image2)
• The green color represents active participation of the main environment management implementing agency at the various stages of policy implementation. The uncolored spaces under the various stages of implementation represent absence of the involvement of other stakeholders in the implementation of a specific role. The purple color is a representation of participatory (Inclusive) environmental management policy implementation. Active involvement of other stakeholders. The tick symbol demonstrates the aspect of representation of NEMA in a specific role either as a centralized or decentralized institution or both. Other stakeholders include players outside the Organizational structure of the main environment management implementing agency (NEMA) such as the, project initiating departments/ministries, groups likely to be affected either directly or indirectly by a given development activity such as individuals and groups seeking change, indigenous groups, public (local community) among others.

• A Centralized institution is one in which all the important powers regarding the implementation of a specific policy are made by one institution and all other actors follow its directions while a decentralized institution is one which shares its important powers regarding the implementation of a specific policy with other actors below it.

• In cases where all the implementation phases are colored green for the main agency while those of other stakeholders uncolored, the main implementing agency is labeled centralized (no devolution of implementing powers to other stakeholders) as indicated by a tick symbol in the centralized box. Where the implementation phase boxes for the main agency are all colored green at the same time the implementation phases for the stakeholders are all colored purple, the main agency is labeled decentralized (there’s active involvement of other stakeholders in the implementation exercise because of devolution of implementation powers). In scenarios as indicated in the table above where all the implementation phases for the main agency are colored green while for the stakeholders, only the agenda building box is colored purple, the main implementing agency is labeled centralized (no devolution of implementation powers from main agency to other stakeholders). A scenario involving all implementation phases colored green while those of other stakeholders colored purple from policy adoption to evaluation, the main agency is regarded as both being centralized with devolution of some powers (decentralized) to other stakeholders which is also the same case when all the implementation phases of the main agency are colored green while for the stakeholders part only the implementation phase is colored purpose.

These tools helped in deriving the role of NEMA by creating a clear understanding of how NEMA relates with other actors and in what capacity at the various stages of implementation and enforcement of EIA in GKMA.

Study Area

The study targeted NEMA as the main actor in its role of regulating human activities to conserve the natural environment in GKMA. This research also took into consideration other actors both human and non-human that form a network with NEMA in this role.

Data Analysis

The analysis of the secondary data collected from the various electronic documents in this study involved breaking down the study topic into two specific parts which include;

1) The role of an environment management institution as the main actor with other actors both human and non-human in implementing and enforcing environmental Impact Assessment. In deriving the main institutions role from the various environment management policies, the concept of the Actor network Theory was applied to help in creating an understanding of how and why the environment management institution through the process of translation relates with other actors both human and non-human and in what capacity (either in a centralized or decentralized manner) at the various stages of implementing environment impact assessment. The aim was to trace and define the aspects of representation of an environment management institution in a specific role. The relationship of the main actor (Environment management institution) with other actors was illustrated using the socio technogram tool. The interconnection between various actors was represented by an arrow line such that in cases of the arrow line being full uninterrupted, it was an indication of the flow of influence from the environment management institution to other actors within its organizational structures while in cases of the connecting arrow line appearing broken from the environment management institution to other actors, it illustrated involvement of other actors (stakeholders) likely to be affected directly or indirectly by a given environment management policy.
in the implementation process. In cases of a black line, it was used to illustrate other concerned stakeholders in support of the implementation of a specific environment management policy as illustrated above.

2) The level of responsiveness of the settlement occupants to the implementation and enforcement of EIA. Document review and interpretive analysis from the various literature sources, as indicated in the research design were used in this particular area of study. The results were used in determining the level of effectiveness of the environment management institution as the main actor in the implementation and enforcement of EIA. For example if the settlement occupants level of responsiveness was high towards EIA implementation and enforcement, the implementing environment management institution was credited for being effective, however if the settlement occupants level of responsiveness was low, the implementing environment management institution was labeled ineffective. The results of this analysis in these two specific parts were used in presenting a general perspective and conclusion about the role of an environment management institution and its effectiveness in implementing and enforcing EIA.

Ethical Guidelines

The criterion that was used in identifying electronic data resources used in this study and evaluating their reliability and validity was based on the following:

Systematic observation and methodology. Established research methodologies and procedures in the electronic data resources had to be systematically applied in order to answer the questions of interest. Objectivity. Authors of the electronic documents to be used in this study were expected to report the facts as observed, whether or not these facts support the investigators original hypothesis. Research integrity demands that information be provided in an objective manner, reducing sources of investigator bias to the greatest possible extent.

Transparency and Replicability/reproducibility. The electronic data resources to be used in this study had to have reported findings in such a manner that other investigators understand precisely what was done and what was found in a particular research study –to the extent that they could replicate the study to determine whether the findings are reproduced when repeated. The outcomes of an original and replication study may differ but a reader could easily interpret the methods and procedures leading to each study’s findings. (Press books “Module 2, Chapter 3: What is empirical literature and where can it be found”).

RESULTS

The 1995 National Environment Act, cap 153 includes the concept of EIA in its general principles as one of the requirements supposed to be undertaken by any proposed project or activity which may significantly affect the environment or the use of natural resources. NEMA being empowered by this act in consultation with the lead agencies to issue guidelines and also to prescribe the measures and standards that should be followed in the management and conservation of the natural environment prepared the guidelines for The Environment Impact Assessment Regulation (1998) which clearly define the roles of the different stakeholders in the EIA process. Developers in this act under section 19 are obliged to carry out EIA for their projects that are likely to have adverse impacts on the environment (Ecaat, 2004).

The EIA Process in the Ugandan Context with the Relevant Stakeholders

First stage submission of project brief

This is the first step in the EIA process of Uganda and it involves a developer preparing a document describing the nature of the project, the projected water, air and land which may be affected by the project, expected social and economic benefits to the nation in general and also the local community. The developer submits ten copies of the prepared project brief to the executive director of NEMA. This stage also may involve transmission of a copy of the project brief to the lead agency by the executive director. The executive director might consider the project brief at this stage under subsection (1) of regulation 7. However if the executive director finds out that the project significant impacts on the environment and the submitted project brief doesn’t disclose sufficient mitigation measures to counter the anticipated impacts, the executive director is authorized to require the developer to undertake an environment impact study and shall issue a notification to the developer in writing within a period of 21 days from the date of submission of the project brief. The concepts of the Actor Network Theory and socio
In the first stage as illustrated above using the concept of socio techno gram, the implementation of EIA is done in both a centralized and decentralized manner. However the decisive decisions are centralized to the Executive Director of NEMA. The role of NEMA in this stages included preparing the EIA guidelines 1997 that are being used up to date, reviewing the project brief submitted by the developer. The Executive director of NEMA under subsection 1 of regulation 7 might approve the project brief at this stage or refer it for the Environment Impact Study (EIS).

Second stage: Environment impact study

An environment impact study is conducted in line with the terms of reference made by the developer in consultation with the authority and the lead agency. Terms of reference includes all matters that are required to be included in the EIS as provided for in regulation 14 and other matters as the Executive director may provide in writing. The developer is also mandated under regulation 10 upon the approval of terms of reference submitted to the Executive director for approval the names and qualifications of the persons who are going to carry out the EIS.
The developer is required by law to take all measures necessary in seeking the views of the people from communities which might be affected by the project during the process of the conducting the study as seen in the following regulations, publicize his/her intended project with its anticipated effects and benefits using mass media. As mandated by law, the developer is also supposed to ensure that the venues and times of the meetings are in agreement with the local council leadership. The socio techno gram that was used in illustrating and deriving the role of NEMA in the fourth stage of EIA implementation. The actors involved at this stage include; Human actors (Developers, Executive Director, local council, local communities) Non-human actors (Uganda Legal Information Institute, 1995) media platforms, public meetings, EIA guidelines, NEMA, Terms of Reference (TOR), EIS.

From the socio techno gram illustration above, the EIA implementation exercise at this stage is both at the same time centralized and decentralized in nature. However the devolved powers from NEMA to other stakeholders are less influential and as a result cause low or no impact to the EIA implementation exercise at this stage. The Executive Director of NEMA remains with the absolute powers that cause significant impact to the EIA process at this stage. The role of NEMA at this stage includes authorizing the developer to carry out an EIS before approving the project proposal (brief), offering consultancy services to the developer in terms of what is needed in the TOR and this might involve advice from the lead agency, the executive director is also authorized at this stage with the task and powers of reviewing, approving or disapproving EIA experts proposed by the developer.

Stage three: Environment impact statement

The developer upon being instructed to make an environment impact study is expected at the completion of the study to make an environment impact statement. The developer is expected to submit 20 copies of his/her environmental impact statement to the executive director of NEMA and it’s the obligation of the executive director of NEMA to submit to the lead agency for comments and the lead agency in considering the EIS may carry out other procedures that might be considered necessary by the technical committee. Within a period of ten days after receiving the comments of the lead agency, the executive director of NEMA is mandated to invite the general public to make written comments on the EIS and this group includes persons most likely to be affected by the proposed project. At this stage, the Executive director may approve the project or part of it.

The socio techno gram below was used in illustrating the role of NEMA and its influence during stage 5, 6 & 7 of EIA implementation. Actors involved at these stages include; Human actors (executive director, Developer, local community, technical committee) Non-human actors (Uganda Legal Information Institute, 1995).

Figure 5. Socio techno gram for stage three socio techno gram for stage three
As illustrated in the above socio techno gram, the third phase for the EIA implementation is both centralized and decentralized. Just like in the previous stages, the influential powers that can cause an impact on the process are still vested within the authority of the Executive Director of NEMA. The roles of the executive director of NEMA at this stage includes receiving and reviewing the Environment Impact statement submitted by the Developer, inviting the general public likely to be affected by the project to have their views with regards to the submitted Environment Impact statement. At this stage, the executive director is also mandated with the role of either approving or disapproving the project.

Stage four: Post EIA monitoring

The developer is obliged to carry out self-monitoring, self-record keeping and self-reporting and the collected information through monitoring is supposed to be stored and availed during the inspection process. The responsible lead agencies also in consultation with NEMA are supposed to monitor the compliance levels with regards to the implementation of activities (The Environment Impact Assessment Regulation, 1998).

In deriving the role of NEMA and illustrating its influence at this stage, the concept of socio techno gram was applied. Actors involved at this stage include; Human actors (Executive director, Developer) Human actors (Uganda Legal Information Institute, 1995) EIA guidelines, lead agency, post EIA monitoring).

DISCUSSION

The study findings revealed that NEMA has to a larger extent succeeded in its various roles aimed at implementing and enforcing EIA in the GKMA and this has been manifested in the current recognition and consideration of EIA as a good basis for making crucial decisions regarding development activities likely to negatively affect the environment in the greater Kampala Metropolitan area. The positive responsiveness to EIA by the project developers has been based on the fact that it has saved many projects from financial loses that they might have incurred in cases where implementation has been done with conducting EIA in time and also it has acted as a savior with regards to improving sitting of projects that would have otherwise been poorly located in sensitive areas such as fragile eco systems like wetlands or even industrial projects being proposed in residential areas. For example according to the NEMA annual corporate report FY 2017/2018, a total of 1518 compliance and audit verification inspections were undertaken which was far beyond the planned target of 1400 with a percentage representation of 108%. Various facilities and activities across the country were inspected and these included players in the manufacturing and processing industry, waste management and health care, infrastructural projects such as roads, mining and quarrying activities that impact on the green environment. Major hydro power projects such as Nalubale and Bujagali were also inspected for compliance to the EIA legislation. Inspections...
were based on the risk categorization of the facilities, the project location and its compliance history as well as the environmental audit reports submitted for review. From the NEMA annual corporate report FY 2017/2018, the five categories of projects ranked highly in terms of EIA approval and certificates that were issued to the developers included: fuel stations with the total number of EIA approved (200) and a percentage of 24.8%, second category were infrastructure roads, housing, renovations (194) and a percentage of 24%, third category were information communications Technology with (123) and a percentage of 15%, fourth Processing/manufacturing industries with the total number of EIAs approved (105) and a percentage of 13%.

However despite the success registered by NEMA in the various roles it plays during implementation and enforcement of EIA from its infancy stage in 1995 were it wasn’t largely understood to a stage where currently it’s being widely used in evaluating environmental aspects of various development activities that might have significant negative impacts on the environment in the greater Kampala Metropolitan area as discussed above, a number of weaknesses stemming from both within NEMA and some settlement occupants side have been cited which have negatively impacted on the effectiveness of the EIA process. During the financial year 2016/2017, out of the 1688 EIA related documents including TORs, Project briefs & Environment Social Impact statements received by the authority, only 1469 were reviewed by NEMA which was also below the set target of 2500. NEMA had made a projection to review 2500 on a basis of the previous submissions by developers /investors, reforms made by the authority to improve the EIA. The failure to meet the expected target was however two sided as some weaknesses were cited to have come from the settlement occupants and the authority’s side whereby the expected number wasn’t received from the developers and also the fact that the recruitment of more staff at the authority was done in the middle of the financial year and not at the beginning of the financial year as it had been earlier anticipated. The study also found out that while NEMA during the financial year 2017/2018 managed to undertake a total of 1518 compliance and audit inspections against the planned target of 1400, which figure represented an achievement of 108% at various facilities and activities across the country inclusive of compliance inspections carried out at major hydro power projects within the greater Kampala metropolitan area such as; Nalubale dam found between the town of Jinja in Jinja district and the town of Njeru in buikwe district approximately 85 kilometers by road east of Kampala, Bujagali hydro power projects in Buikwe district, there was some level of unresponsiveness from the developers of these projects cited in areas such as inadequate waste management infrastructure and practices, waste water treatment plants were either lacking or not functioning effectively and the fact that the facility owners did not maintain record of waste water quality. There were also cases of emissions particularly from industrial boilers and burning of waste owing to the fact that the main fuel source for boilers are biomass and heavy fuel oil. Compliance agreements were prepared for spinners in Kampilpa, Tembo steels in lugazi and Mayuge sugar (steel division) in Iganga district. Another weakness cited in the implementation exercise of EIA is the current trend by the EIA hired experts putting more emphasis on financial gains hence undermining their role of providing guidance and advisory services to the project developers. This has also undermined the value and quality of EIA. Escaat 2004 further reports that it was discovered that some EIA practitioners have reached an extent of advising some developers especially those whose projects would have not been approved due to their negative impact on the environment to continue and start project development. This has not only affected the quality of EIA but also it has led to serious financial losses in cases where NEMA makes compliance inspections on their projects. Escaat 2004 reports that it was discovered that some EIA practitioners have reached an extent of advising some developers especially those whose projects would have not been approved due to their negative impact on the environment to continue and start project development. This has not only affected the quality of EIA but also it has led to serious financial losses in cases where NEMA makes compliance inspections on their projects. Escaat 2004 reports that it was discovered that some EIA practitioners have reached an extent of advising some developers especially those whose projects would have not been approved due to their negative impact on the environment to continue and start project development. This has not only affected the quality of EIA but also it has led to serious financial losses in cases where NEMA makes compliance inspections on their projects. As a multi storied classroom block which was constructed by Kampala parent’s school below a 132kv hydroelectric power transmission line and in the end had to be relocated at cost incurred by the school worth 700000000 shillings. In Seeta Kampala, a car show room with an already completed concrete foundation had a project discontinued because it was located in a wetland. In another case, an abattoir which was constructed in a wetland at Kajjansi at a cost worth of 26 million was denied permission to continue operating since the developer failed to comply with the preliminary assessment proving the illegality of constructing an abattoir in a wetland. Corruption scandals within NEMA have also manifested at various stages of the implementation of EIA in the GkMa. For example
NEMA officials were criticized for approving and giving a go ahead to a Chinese plywood company in the Katonga wetland. This prompted the ministry of environment to carry out an investigation in which it was found out that the area allocated to the ministry was a wetland.

CONCLUSION

The purpose of this study was to investigate the role of NEMA and its effectiveness in implementing EIA in the Greater Kampala Metropolitan area. The study used a qualitative document review method to collect data relating to the role of the NEMA and its effectiveness in implementing Environment Impact Assessment of GKMA. This is because the study didn’t involve carrying out field visits. The electronic documents reviewed comprised of both internal (those that are from NEMA) and external to the institution.

In deriving the role of NEMA from the various electronic documents reviewed, the concept of Actor Network theory was used in identifying how and why NEMA through the process of translation relates with other actors both human and non-human and in what capacity (either in a centralized or decentralized manner) at the various stages of implementing EIA. The relationship between NEMA with other actors was illustrated using the socio techno gram tool. The interconnection between various actors was represented by an arrow line such that incases of the arrow line being full uninterrupted; it was an indication of the flow of influence between NEMA and actors within its legal organizational structures while incases of the connecting blue arrow line appearing broken between NEMA and other actors, it illustrated NEMA involving other actors (stakeholders) likely to be affected directly or indirectly by the implementation process of EIA. In cases of a black line, it was used to illustrate other concerned stakeholders in support of the implementation of EIA.

In order to understand the aspects of representation of NEMA in the implementation and enforcement of EIA, a matrix framework was developed using the key policy implementation phases. These tools helped in deriving the role of NEMA by creating a clear understanding of how NEMA relates with other actors and in what capacity at the various stages of implementing and enforcing EIA. The level of responsivenss was used in determining the effectiveness of NEMA as the main actor in the implementation and enforcement of EIA. For example if the settlement occupants level of responsiveness was high towards EIA , NEMA was credited for being effective, however if the level of responsiveness was low, NEMA was labeled ineffective.

The results from the study indicated that NEMA’s representation in EIA implementation is both centralized and decentralized. The study found out that despite the element of devolution of powers from NEMA to other stakeholders outside its organizational structures, the influential powers that can cause an impact on the process are still vested within the authority of the Executive Director of NEMA. The role of NEMA in EIA implementation and enforcement include: Reviewing and approving the project brief, Authorizing the developer to carry out EIS, reviewing Environment Impact Statement, Inviting general public while reviewing Environment Impact study and offering consultancy to the lead agency during post EIA monitoring, inspecting project implementation to ensure compliance to EIA.

The findings from this research revealed that NEMA as the principle environment management agency has to a larger extent succeeded in its various roles aimed at implementing and enforcing EIA in the GKMA and this has been manifested in the current recognition and consideration of EIA as a good basis for making crucial decisions regarding development activities likely to impact negatively on the environment. The positive responsiveness to EIA by the project developers has been based on the fact that it has saved many projects from financial loses that they might have incurred in cases where implementation has been done with conducting EIA in time and also it has acted as a savior with regards to improving siting of projects that would have otherwise been poorly located in sensitive areas such as fragile eco systems like wetlands or even industrial projects being proposed in residential areas.

The study also found out that despite the success, a number of weaknesses both internal within NEMA and external to NEMA were cited to have affected the effectiveness of the EIA exercise including: Failure to recruit staff in time, internal corruption, un professional and incompetent EIA practitioners whose focus is mostly on financial gains, unresponsiveness from small scale project developers to EIA regulations. Despite the fact that the devolution of implementation powers from NEMA to other stakeholders outside its organizational structures did register success, the key decisive powers at all stages of EIA implementation which remained centered around the
Executive Director of NEMA were associated with a number of weaknesses as discussed above hence not only affecting the progress of EIA implementation in the GKMA but also causing huge financial loses to the developers of various projects which affected investments.

Conclusively based on these key findings of this study, NEMA in the 21st century is still faced with major challenges of providing relevant and quality environment management services for the people especially in the GKMA, environment management services which address local concerns both from a regional and international outlook and which can help sustain the environment to meet both the needs of the present without compromising the ability of the future generations to also benefit from it.

LIMITATIONS TO THE STUDY

Given the fact that the study didn’t involve carrying out field visits but rather relied on electronic documents as a source of information, the biggest challenge faced by the researcher while conducting this study was the inability to access current or up to date electronic data files. The researcher as a result resorted to using electronic files that are not up to date although preference was given to those not more than ten years old.

Future Research

With the persistent occurrence of environment degradation in the GKMA despite the numerous efforts from the government of Uganda through NEMA to curb it down, the researcher recommends for more research aimed at investigating NEMA as the principle agency charged with environment management and its effectiveness in implementing other environment management policies besides EIA. This should however be conducted using the concept of the Actor Network Theory. This will not only help in appreciating the role of NEMA as the principle agency but will also bring to light and appreciate the role of other actors both human and non-human that form a network with NEMA in the implementation and enforcement of environment management policies in GKMA. Also this method will give room to an investigation how the negative influence of other actors both human and non-human affects the effectiveness of environment management policies implementation and enforcement in the GKMA.

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