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## Urban Expansion in the Greater Kampala Metropolitan Area, Uganda

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A landscape photo of Uganda's capital city, Kampala. @Shutterstock

The Greater Kampala Metropolitan Area (GKMA) includes the Kampala city centre and the inner suburbs, the outer dormitory towns and suburbs, peripheral towns and peri urban extension to Mukono, Wakiso and Mpigi districts. The area has experienced significant urban growth for many decades and is currently the second-fastest-growing urban area in Eastern Africa. It is an industrial, commercial and educational centre and vital to the country's economic growth. The urban growth of GKMA impacts on the environmental resources.

The main objective of this study is to analyse how environmental reviews are implemented in the GKMA. It reviews the urban environmental profile of GKMA and specifically identifies its environmental resources; it reviews the environmental and social impact assessment (ESIA) process in Uganda; the legal, regulatory and institutional framework for ESIA; provides ESIA experience in the GKMA urban development projects; and provides challenges of environmental reviews in the GKMA. Finally, it makes conclusions and recommendations for ESIA implementation in urban development in the GKMA.

The study has established the following key findings:

- Environmental resources in GKMA: GKMA is rich with environmental assets such as wetlands, birds and forests. However, these resources are being degraded due to urban developments, such as the establishment of sewage and faecal sludge treatment plants, and the construction of roads, shopping arcades, leisure centres and small-scale agriculture.

- ESIA process: There is a comprehensive ESIA process in Uganda. However, there are challenges with implementing the requirements of ESIA reports in urban development projects due to limited post-ESIA enforcement and monitoring.
- ESIA policy, legal and regulatory frameworks: There are several ESIA-related international and regional instruments and other soft law instruments and national policies, laws and guidelines that have been developed. The policy, legal and regulatory framework provides standards for environmental and social reviews in urban development. However, the biggest challenge is compliance with the standards.
- Institutional and administrative framework for ESIA implementation in the GKMA urban development: There are key institutional actors at both national and urban levels with mandates regarding urban planning and development and environmental management and social protection. The institutions play a critical role in environmental reviews. The challenge is that there is an overlap of mandates and lack of coordination between the institutions.
- ESIA experience in GKMA urban development projects: ESIA studies have been conducted for urban development projects in the GKMA. These projects affect land, water, wetlands, wildlife, forestry and air resources. There are also social issues, such as resettlement and compensation, that arise due to urban development projects. There are some challenges with implementing mitigation measures proposed in the environmental reviews and ensuring sustainability of environmental resources.
- Challenges of implementing environmental review reports in the GKMA: There are some challenges that affect the implementation of the reports of the environmental reviews and as a result environmental resources are degraded. The major issues are: a weak regulatory framework; overlapping legal mandates; overlapping institutional mandates; inadequate coordination; weak development guidance at

city and local government levels; loose adherence to development approval processes; limited financial and human resources; limited environmental awareness; limited environmental data resources; political interference; and professional ethics for EIA consultants.

The recommendations are:

- The Ministry of Water and Environment (MWE), in collaboration with NEMA and KCCA, need to survey, map environmental resources and demarcate boundaries in the GKMA.
- There is a need to consolidate and reinforce the institutional structures and mandates of the relevant institutions.
- Inter-agency integration and coordination across the full spectrum of development processes needs to be improved.
- KCCA and local government authorities need to develop a coordinated and wider physical development plan of the GKMA.
- There is need to strengthen environmental legislation by developing city, district/local-level by-laws for the proper management of the environment and guidelines for environment reviews at the city, district/local levels in the GKMA.
- There is a need to enforce accountability and track performance within each institution responsible for environmental reviews.
- There is need to promote environmental public education and develop communication initiatives.
- The Ministry of Finance, Planning and Economic Development and MWE need to assess economic value of environmental resources so that policy makers can appreciate the importance of environmental reviews and conservation of environmental resources.

## Acronyms

<b>AfDB:</b>	African Development Bank	<b>GKMA:</b>	Greater Kampala Metropolitan Area	<b>NFTPA:</b>	National Forest and Tree Planting Act
<b>CFR:</b>	Central Forest Reserve	<b>GoU:</b>	Government of Uganda	<b>NWSC:</b>	National Water and Sewerage Corporation
<b>CSO:</b>	Civil society organization	<b>KCC:</b>	Kampala City Council	<b>PPEs:</b>	Personal protection equipment
<b>DLB:</b>	District Land Board	<b>KCCA:</b>	Kampala Capital City Authority	<b>PAPs:</b>	Project-affected persons
<b>DLG:</b>	District Local Government	<b>KIIDP:</b>	Kampala Institutional and Infrastructure Development Project	<b>PCR:</b>	Physical cultural resource
<b>DWD:</b>	Directorate of Water Development	<b>MLHUD:</b>	Ministry of Lands, Housing and Urban Development	<b>RAP:</b>	Resettlement action plan
<b>DWRM:</b>	Directorate of Water Resources Management	<b>MoH:</b>	Ministry of Health	<b>SGR:</b>	Standard gauge railway
<b>ESIA:</b>	Environmental and social impact assessment	<b>MWE:</b>	Ministry of Water and Environment	<b>ToR:</b>	Terms of reference
<b>EIS:</b>	Environmental impact statement	<b>NEMA:</b>	National Environment Management Authority	<b>UIA:</b>	Uganda Investment Authority
<b>EIStudy:</b>	Environmental impact study	<b>NEA:</b>	National Environment Act	<b>UNRA:</b>	Uganda National Road Authority
<b>EIR:</b>	Environmental impact review	<b>NFA:</b>	National Forestry Authority		

# 1. GENERAL INTRODUCTION

## 1.1. Introduction

The GKMA covers Kampala city and extends to Mukono, Wakiso and Mpigi districts. It plays a major role in driving Uganda's transformation to a middle-income country as envisaged in Vision 2040. GKMA is developing at higher relative rate in terms of infrastructure, urbanization, industrialization, commerce and trade than other areas within Uganda. However, in the drive for greater industrialization and urbanization alongside rapid population growth, pressure is being exerted on the existing natural resources and the general environment.

This report assesses how urban development projects affect environmental resources in the GKMA. It examines the ESIA process and how it is implemented in urban development projects in GKMA. The report is divided into the following eight chapters. Chapter one provides a background to the study and defines its methodologies. Chapter two provides an environmental profile of the GKMA and chapter three examines the ESIA process in Uganda. This is followed by a presentation of the legal and policy framework for ESIA in Uganda in chapter four, and of the institutional framework in chapter five. Chapter six analyses the ESIA experience in GKMA projects. Chapter seven discusses the general ESIA challenges and the last chapter provides the conclusion and recommendations. An annex of GKMA projects and ESIA studies is attached.

## 1.2. Background

The United Nations Human Settlements Programme, UN-Habitat, is the United Nations agency mandated by the United Nations General Assembly to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all. The Urban Legislation Unit, within the Urban Legislation, Land and Governance Branch of UN-Habitat is mandated to promote enabling legislation adequate to meet the challenges of rapid urbanization. UN-Habitat recognizes urban law as one of the foundations of effective urban management and development. Well formulated law based on sound policy supports effective implementation. It creates a stable and predictable framework for both public and private sector action, and can guarantee the inclusion of the interests of vulnerable groups while also being a catalyst for local and national discourse.

Environmental reviews, often in the form of environmental impact or strategic environmental assessments, play a fundamental role in the process of urban development. They are institutionalized decision-making arrangements in domestic legislation to address the environmental impacts and risks associated with a project. The EIA contributes to sustainable development through the provision of information that is used to approve and implement projects and development that

is ecologically sensitive, socially acceptable and economically cost-effective. Apart from the obvious gatekeeping role, whereby an environmental review determines whether a development is environmentally harmful or whether expected negative outcomes can be mitigated, environmental reviews make many other contributions to urban development. Among these are promoting the efficiency and sustainability of cities and contributing to transparency in decision making. However, weaknesses in environmental reviews have been noted in some cases and in the GKMA in particular, and there is a clear need to strengthen environmental reviews in urban development processes and to promote their integration into broader decision-making frameworks. This study examines the concerns, with the focus on the GKMA.

## 1.3. Objective of the study

The main objective of the study is to highlight the central role of environmental reviews in urban development decision-making and to identify and validate key implementation issues. Building on this, the study will also outline capacity building needs and coordination approaches that are appropriate to resource-poor contexts. Specific recommended actions and activities will be identified, including any common needs for legislative, regulatory or administrative reform.

The outcomes of this will be to:

- (i) assist countries in the implementation of multilateral environmental obligations;
- (ii) promote coordination between levels of government and effective governance; and
- (iii) increase the efficiency and reliability of decision-making at the local level.

Ultimately, these activities will contribute to enhancing the quality of sustainable development decision-making in urban areas and will support the implementation of UN-Habitat's legislative reform processes at country level.

## 1.4. Scope of work

This focus of this report is limited to the parts of the Greater Kampala Metropolitan Area known as Kampala city, Mukono District, Wakiso District and Mpigi District. There was a special focus, however, on road works, industrial and business parks, waste management, landfills and wetland development.

The study engaged specific ministries, KCCA, district local governments, statutory authorities and NGOs that are related to implementation of ESIA in Uganda and in the GKMA in particular. Field visits were not conducted to assess the practical application of relevant policies and laws in the different in the GKMA. The report covers the following:

- Review of key international and regional ESIA related contained conventions and other soft law instruments, the status and application of such instruments within the Ugandan legal system;
- Review of ESIA reports, plans, strategies, policies and laws in Uganda and the extent of their implementation in the GKMA;
- Review of institutional mandate, practices and capacity in the implementation of ESIA requirements Uganda.

## 1.5. Methodology

The consultants employed two major approaches to carrying out this study. These were:

### a) Literature and documentation review

A comprehensive literature review of relevant documents, policy papers, international instruments, national legislation, ESIA reports, strategies, plans academic papers, research reports, programme reports, evaluation and assessment reports was done.

### b) Interviews and consultations with key informants and stakeholders

A preliminary analysis of the reports, policy, legal and institutional frameworks relevant to ESIA compliance and practice within the GKMA revealed that a number of stakeholders had to be consulted to identify their role in the implementation of EISA recommendations. These consultations were done through face-to-face interviews and email exchanges with key informants and stakeholders. Key consultations were with people in government ministries, KCCA, district LGs, statutory authorities, the private sector and NGOs.

## 2. URBAN ENVIRONMENTAL PROFILE OF GREATER KAMPALA METROPOLITAN AREA

### 2.1 Introduction

GKMA includes the Kampala city centre, the inner suburbs, the outer dormitory towns and suburbs, peripheral towns, and the peri urban extension to areas of Mukono, Wakiso and Mpigi Districts. The GKMA has experienced decades of significant urban growth and is currently the second-fastest-growing urban area in East Africa.

It is an industrial, commercial and education centre and is vital to the country's economic growth. The urban growth of GKMA impacts on the environmental and natural resources and this chapter looks at environmental resources and analyses how urban development has affected them.

### 2.2 Overview of the GKMA

The Greater Kampala Metropolitan Area (GKMA) covers an area of 1,000 km<sup>2</sup>. It is the major business and industrial hub of Uganda and contributes over 70 per cent of the country's industrial production and over 60 per cent of the country's GDP. Greater Kampala has a day-time population of about 3.5 million. It is increasing at rate of about 5 per cent per annum and is projected to reach 15 million people by 2040.<sup>1</sup> About 23 per cent of the GKMA is fully urbanized, a significant portion (60 per cent) is semi-urbanized, and the remainder consists of rural settlements. Approximately 7 per cent of the GKMA area is wetlands (KCCA, 2012). The majority of Kampala's urban development has been residential, which covers approximately 23 per cent of the GKMA landmass (over 60 per cent of the total developed area in the GKMA) and approximately 64 per cent of the Kampala city land area. A recent survey estimated that 40 per cent of the city's population and many of the recent migrants live in informal settlements and/or slums that lack basic infrastructure services for the provision of water, storm drainage, sewage treatment, and solid waste collection (KCCA, 2012). The dense informal settlements predominate at the edges of the wetland corridors throughout the city. A consequence of rapid urbanization has been the overall decline in the quality of the urban natural environment. The impacts of climate change have exacerbated the rate and extent of environmental degradation and have made the city's efforts at environmental management more challenging.

### 2.3 Environmental resources in GKMA

GKMA has a lot of environmental resources. The key ones are:

#### 2.3.1 Aquatic ecosystems

Kampala and the GKMA are rich with aquatic environmental assets. The urban fabric has been shaped by the wetlands and the waters that flow into Murchison Bay on Lake Victoria. These aquatic ecosystems provide floodwater attenuation, sewage treatment, water purification, food and building materials, while areas such as Lutembe Bay, designated an "important bird area" by Birdlife International, provide critical habitats for the city's biodiversity. There is a steady decrease in wetland area due to various developments in the GKMA. These include:

- A sewage and faecal sludge treatment plant (SFSTP) has been under constructed in the Lubigi Wetlands alongside the Northern Bypass in one of the sections that is already degraded (NWSC, 2014; NWSC, 2013).

<sup>1</sup> Standard Gauge Railway Project, the Greater Kampala Light Rail Mass Transit (LRT) project. <https://www.sgr.go.ug/> accessed 28 April 2017.

- Wetland encroachment for roadway and other infrastructure construction, particularly along the Northern Bypass, has reduced the capacity of the wetland areas to capture, store and dissipate storm water (UNRA, 2011).
- The Southern Expressway, proposed to be built through the Nakivubo wetland, is anticipated to cause further disturbance to the wetland's function and hasten its decline. Expansion of the Northern Bypass road is expected to further contribute to loss of habitat and loss of overall wetland function. In particular, road construction at Lubigi is anticipated to reduce the diversity of plant species due to construction materials such as limestone, which alter wetland water chemistry.
- Small-scale agriculture is a threat to the green system's overall health and function and is seen as a threat to most of Kampala's wetlands. Uprooting wetland vegetation and converting the land to agriculture can compromise a wetland's nutrient cycle functions by reducing its ability to treat wastewater. For example, cocoyam is cultivated in the GKMA wetlands by removing native-grown papyrus, but papyrus has a higher wastewater treatment potential and removes 95 per cent of nutrients from wastewater compared with cocoyam's 65 per cent rate of nutrient removal (Kansiime et al., 2007).

### 2.3.2 Terrestrial ecosystems

GKMA's terrestrial ecosystems include hills, a patchwork of forests, urban tree canopy, and lowland forests/floodplain forests alongside wetlands that collectively provide habitat for a considerable diversity of birdlife. Available information is limited about the state of the city's terrestrial environmental resources; however, spatial analysis shows that the amount of undeveloped land in Kampala decreased more than 50 per cent between 1989 and 2010, indicating a significant overall degradation of the city's terrestrial assets. Combined with the conversion of protected open spaces and gardens into development, this loss of soil, vegetation, habitat and biodiversity constitutes a significant threat to the city's overall ecological health.

Decades of expanding urban development has led to the clearance of much of the natural vegetation on the hill tops and slopes. This has destabilized the soil and caused increased runoff, erosion, siltation and flooding in the low-lying areas between. Residential and industrial development has reduced the land area of lowland forests in Kampala from 7.6 per cent in 1983 to 0.4 per cent in 2004 (Nyakaana, et al. 2004). Forest lands have been virtually eradicated from the city with only 58 ha remaining (KCCA, 2012). Public park spaces have been converted to urban development. For example, most of the Centenary Park was remodelled to develop a leisure and recreation centre, Lugogo green park is now a shopping plaza, and approximately 1,000 ha of Namanve Forest Reserve were de-gazetted in 1997 and allocated to the Uganda Investment Authority for development. This significant decline in overall forest coverage and associated topsoil erosion has left the GKMA with only a few areas of extensive, contiguous forest habitats and upstream catchments.

### 2.3.3 Air quality

Though there is limited information about local air quality conditions and risks for Kampala, some studies indicate that there is unhealthy air and suggest that exposure to ambient air in Kampala may increase the burden of environmentally induced cardiovascular, metabolic and respiratory diseases, including infections (Schwander et al. 2014; World Bank Sub-Saharan Study, 2009). Some studies show that Kampala's local air appears to show signs of poor quality with regard to particulate matter from vehicles, road dust and biomass burning (Schwander et al., 2014). Deteriorating air quality also has implications for public health through outdoor air pollution, particularly vehicle exhaust, particulate matter from burning, road dust and factory emissions (US EPA, 2014).

## 3. THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) IN UGANDA

### 3.1 Introduction

An ESIA is a process of analysing the positive and negative effects of a proposed project, plan or activity on the environment. This may include studies on the weather, flora and fauna, soil, human health including physical, social, biological, economic and cultural impacts. It is one of those measures taken to ensure that development is sustainable by studying the possible project impact on the environment and determining the possible mechanisms to eliminate or avoid them. All EIAs are expected to assess the ecological, social and socio-economic aspects of the environment. It is for this reason that the practice in Uganda so far has been 'not to' separate EIA from social or health impact assessment as is the case in other jurisdictions, and hence the term ESIA (Justin Ecaat, NEMA 2004). For instance, road projects generate impacts that cut across the ecological, social and economic dimensions. In the conduct of EIAs for roads, therefore, the Uganda EIA system emphasizes coverage of all these aspects, including compensation for lost property and/or land, the selection of least cost road alignments, and the spread of HIV/AIDS among others.

An ESIA should be conducted before the commencement of projects and before a project is licensed or approved for implementation by the responsible licencing and/or approving agencies.

In practice so far, three approaches are used for the application of ESIA by developers:

- a) an ESIA as part of the project planning and design process;
- b) an ESIA after finalization of the project design but before implementation; and

- c) an ESIA after project development has commenced through site preparation or construction and, in most cases, as a consequence of the project having been halted by regulatory authorities on the basis of an EIA not having been done.

The level of EIA required for a particular project varies and is determined on a project-by-project basis but, in general, there are three major levels:

- a) Small-scale projects whose potential adverse environmental impacts can easily be identified and for which mitigation measures can readily be prescribed and included in the design and /or implementation. The environmental aspects of such small-scale projects would normally be approved on the basis of the mitigation measures identified, without the need for a detailed environmental impact study requiring field investigations.

- b) Projects for which there is some level of uncertainty about the nature and level of impacts. They require a more in-depth environmental impact review (EIR) to determine if mitigation measures can be identified, or a more detailed environmental impact study (EIS) would be required. If, during the review, adequate mitigation measures can be identified and incorporated into the project design, the necessity for a detailed EIS may be eliminated and the environmental aspects of the project may be approved.

- c) Projects which clearly will have significant impacts and whose mitigation measures cannot readily be prescribed unless a detailed EIS of the project and its possible alternatives is conducted. Conducting an EIS requires greater public participation.

### Box 1: Issues considered in an environmental impact assessment

#### 1. Ecological considerations;

- (a) Biological diversity including:
  - (i) effects of the proposal on the number, diversity, breeding habits, etc. of wild animals and vegetation.
  - (ii) the gene pool of domesticated plants and animals, e.g. monoculture as opposed to wild types.
- (b) Sustainable use, including:
  - (i) the effect of the proposal on soil fertility;
  - (ii) the breeding populations of fish and game or wild animals;
  - (iii) the natural regeneration of woodland and sustainable yields;
  - (iv) the wetland resource degradation or wise use of wetlands.
- (c) Ecosystem maintenance including:
  - (i) the effect of the proposal on food chains;
  - (ii) nutrient cycles.
  - (iii) aquifer recharge, water run-off rates, etc.
  - (iv) the real extent of habitats;
  - (v) fragile ecosystems.

#### 2. Social considerations, including:

- (a) the effects of the proposal on the generation or reduction of employment in the area;

- (b) social cohesion or disruption;
- (c) effect on human health;
- (d) immigration or emigration;
- (e) communication - roads opened, closed, re-routed;
- (f) local economy;
- (g) the effects on culture and objects of cultural value.

#### 3. Landscape:

- (a) views opened up or closed;
- (b) the visual impacts (features, removal of vegetation, etc.);
- (c) compatibility with surrounding area;
- (d) amenity opened or closed, e.g. recreation possibilities.

#### 4. Land uses:

- (a) the effects of the proposal on current land uses and future land use;
- (b) the possibility of multiple use;
- (c) the effects of the proposal on surrounding land uses and land-use potential.

The NEA provides for ESIA as a project implementation requirement for all projects listed in Table 1.

Table 1: Projects considered for environmental impact assessment

No.	Sector	Activity
1	General	(a) an activity out of character with its surroundings; (b) any structure of a scale not in keeping with its surroundings; (c) major changes in land use.
2	Urban development, including	(a) designation of new townships; (b) establishment of industrial estates; (c) establishment or expansion of recreational areas; (d) establishment or expansion of recreational townships in mountain areas, national parks and game reserves; (e) Shopping centres and complexes.
3	Transport, including—	(a) all major roads; (b) all roads in scenic, wooded or mountainous areas; (c) railway lines; (d) airports and airfields; (e) pipelines; (f) water transport.
4	Dams, rivers and water resources, including	(a) storage dams, barrages and weirs; (b) river diversions and water transfers between catchments; (c) flood-control schemes; (d) drilling for the purpose of using ground water resources, including geothermal energy.
5	Aerial spraying	Aerial spraying
6	Mining, including quarrying and open-cast extraction of	(a) precious metals; (b) diamonds; (c) metalliferous ores; (d) coal; (e) phosphates; (f) limestone and dolomite; (g) stone and slate; (h) aggregates, sand and gravel; (i) clay; (j) exploration for the production of petroleum in any form.
7.	Forestry-related activities, including	(a) timber harvesting; (b) clearance of forest areas; (c) reforestation and afforestation.
8.	Agriculture, including	(a) large-scale agriculture; (b) use of new pesticides; (c) introduction of new crops and animals; (d) use of fertilisers.

9	Processing and manufacturing industries, including	<ul style="list-style-type: none"> <li>(a) mineral processing, reduction of ores and minerals;</li> <li>(b) smelting and refining of ores and minerals;</li> <li>(c) foundries;</li> <li>(d) brick and earthenware manufacture;</li> <li>(e) cement works and lime processing;</li> <li>(f) glass works;</li> <li>(g) fertiliser manufacturing or processing;</li> <li>(h) explosives plants;</li> <li>(i) oil refineries and petrochemical works;</li> <li>(j) tanning and dressing of hides and skins;</li> <li>(k) abattoirs and meat-processing plants;</li> <li>(l) chemical works and process plants;</li> <li>(m) brewing and malting;</li> <li>(n) bulk grain processing plants;</li> <li>(o) fish processing plants;</li> <li>(p) pulp and paper mills;</li> <li>(q) food processing plants;</li> <li>(r) plants for the manufacture or assembly of motor vehicles;</li> <li>(s) plants for the construction or repair of aircraft or railway equipment;</li> <li>(t) plants for the manufacturing or processing of rubber;</li> <li>(u) plants for the manufacturing of tanks, reservoirs and sheet-metal containers;</li> <li>(v) plants for the manufacturing of coal briquettes.</li> </ul>
10	Electrical infrastructure, including	<ul style="list-style-type: none"> <li>(a) electricity generation stations;</li> <li>(b) electrical transmission lines;</li> <li>(c) electrical substations;</li> <li>(d) pumped-storage schemes.</li> </ul>
11	Management of hydrocarbons, including the storage of natural gas and combustible or explosive fuels.	
12	Waste disposal, including	<ul style="list-style-type: none"> <li>(a) sites for solid waste disposal;</li> <li>(b) sites for hazardous waste disposal;</li> <li>(c) sewage disposal works;</li> <li>(d) major atmospheric emissions;</li> <li>(e) offensive odours.</li> </ul>
13	Natural conservation areas, including	<ul style="list-style-type: none"> <li>(a) creation of national parks, game reserves and buffer zones;</li> <li>(b) establishment of wilderness areas;</li> <li>(c) formulation or modification of forest management policies;</li> <li>(d) formulation or modification of water catchment management policies;</li> <li>(e) policies for management of ecosystems, especially by use of fire;</li> <li>(f) commercial exploitation of natural fauna and flora;</li> <li>(g) introduction of alien species of fauna and flora into ecosystem</li> </ul>

Source: Third Schedule and section 19 of the National Environment Act (NEA) Cap 153.

## 3.2 Basic ESIA steps

The EIA process conforms to most international guidelines, including those of Uganda's development partners. It comprises of the project brief, screening, an environmental impact study, decision-making, and monitoring and auditing. Below is a brief description of the general requirements of the EIA process extracted from the EIA regulations and the NEMA guidelines:

### a. Project brief

A developer is required to prepare a project brief, giving relevant background information and a description of the project for the consideration of NEMA.

The EIA process normally begins once the developer has submitted the project brief to NEMA, who may forward a copy to the lead agency for comments. The lead agency is required to make comments within 14 working days of receiving the project brief. The regulations define the lead agency as any agency to whom NEMA delegates its functions.

A project brief is required, which should describe:

- a) the nature of the project;
- b) the projected area of land, air and water that may be affected;
- c) activities to be undertaken during and after project development;
- d) the design of the project;
- e) the materials that the project shall use, including both construction materials and inputs;
- f) the possible products and by-products, including waste generation by the project;
- g) the number of people that the project will employ, the economic and social benefits to the local community and the nation in general;
- h) the environmental effect of the materials, methods, products and by-products of the project and how they will be mitigated (or eliminated); and
- i) any other matter which may be required by the NEMA.

### b. Screening

The purpose of screening is to determine the extent to which an environmental impact study is required, and the screening process results in an environmental categorization of the project.

The process begins with the proponent submitting a project brief to the executive director of NEMA for review. If the brief meets the prescribed requirements set in the EIA regulations, it is sent to the lead agency and any other relevant stakeholders for comments. The executive director, after review of the project brief and the comments from other stakeholders, may issue a certificate of approval for the activity if:

1. no significant impacts are expected; or
2. sufficient mitigation measures are proposed.

If the review reveals that the proposed project is likely to have significant negative impacts for which no adequate mitigation measures are prescribed, then a detailed EIA is requested.

### c. Scoping

If the project brief is not adequate, a full EIS and scoping will be required to determine the likely significant environmental impact to be done. The process involves drawing up the terms of reference for the EIA, usually by the developer in consultation with NEMA and the lead agency. The ToRs have specific requirements under the EIA regulations 1998. After the acceptance of the ToRs, the proponent is required to submit the names of the consultants to conduct the EIA study to the executive director of NEMA for approval. Methods of scoping are not given but the proponent is required to ensure that the views of the public among other stakeholders are incorporated and considered.

ToRs should be submitted which should, in effect, contain a scoping document. The required contents are listed under the EIA regulations and, in summary, are:

- project description;
- site description;
- alternatives and reason for rejecting alternatives;
- material inputs & their potential effects;
- an economic analysis of the project;
- technology;
- product and by products;
- effects;
- mitigation;
- knowledge gaps;
- alternatives;
- methods of data collection;
- names and qualifications of the people who will do the study.

### d. Environmental impact study

During the environmental impact study, relevant data are collected and analysed,

the major impacts investigated in depth, mitigation measures developed for adverse and beneficial impacts, and compensatory measures recommended for immitigable impacts. All project alternatives are thoroughly examined. Impacts are quantified in terms of magnitude (major, moderate, negligible), extent (regional, local, site specific) and duration (long-term, medium-term and short-term). During the study, consultation must be undertaken with the relevant authorities, stakeholders and affected and interested parties.

The findings of the environmental impact study are presented in an environmental impact review report (EIR report) in the case of a study with limited scope, or an environmental impact statement (EIS) in the case of a full study. The report or statement must contain a description of the project site, surroundings, proposed activities and the significant environmental impacts and risks. The EIR report or EIS should discuss the project alternatives and recommend mitigation measures. It should also contain a monitoring and evaluation programme.

### e. Decision-making

The EIR report or EIS is submitted to NEMA for review and comments and NEMA invites stakeholders and the public to comment on the document. If the EIR report or EIS is approved, then a certificate of approval of the EIA is issued, after which a decision can be made to proceed with the project.

If, however, the EIR report or EIS is not approved, the project may be rejected, or the developer may be asked to revise the proposed actions or develop other mitigation measures in order to eliminate adverse impacts. A record of the decision is prepared whether or not the project is approved. NEMA shall make a decision within 180 days.

### f. Monitoring and auditing

The NEA, EIA regulations, the audit regulations of 2006, and the environmental audit guidelines of 1999 provide for monitoring and auditing in mitigation of environmental impacts.

During and after implementation of the project, the EIA regulations require that the developer carries out environmental monitoring to ensure that recommended mitigation measures are incorporated into the project design and that these measures are effective.

The regulations further prescribe that, after the first year of operation, the developer must undertake an initial environmental audit to compare the actual and predicted impacts, and to assess the effectiveness of the EIA and its appropriateness, applicability and success. Thereafter, NEMA may require additional audits to be made as circumstances warrant.

## 3.3 Time frames for various stages of the Uganda EIA process

Under the National Environment Impact Assessment Guidelines, time frames for the various stages of the EIA process are defined and included in the Table 2 below:

Table 2: Time frames for various stages of the Uganda EIA process

Activity:	Duration (Working Days) (Upper limits)
Scoping process:	14
Preparation of environmental impact statement	To be determined by the proponent in consultation with the study team
Circulation and comment on EIS by lead agencies	21
Public display of EIS for public review and scrutiny (where public hearing is to be held)	28
Decision making after review	14
Entire EIA decision making process	Within >180

## 3.4 Judicial review and enforcement

The EIA regulations provide for any person who is aggrieved by any decision of the executive director to appeal to the High Court within 30 days of the decision.

Regarding project monitoring, the developer is required to conduct an audit between 12 and 36 months after completion of the project or commencement of operations. The regulations allow an inspector to enter the land or facility to determine if the predictions made in the project brief or EIA are being complied with and to inspect records. Also, any member of the public may petition NEMA to undertake an audit. The petitioner must show reasonable cause. Audits may be performed by certified and registered consultants.

Enforceability of EIA detail is the responsibility of the executive director who may require the developer to take specific mitigation measures to ensure compliance. Also, an environmental inspector may issue an improvement notice and begin appropriate criminal or civil proceedings.

## 3.5 ESIA and public consultation

Although no regulations exist for public consultation, national guidelines for ESIA in Uganda require that the public is given a full opportunity for involvement and participation throughout the ESIA process. People - individuals or groups of local communities who may be directly affected by a proposed project - should be a focus for public involvement.

Since identification of the "public" likely to be indirectly affected by the proposed activity is often difficult, it is required to exercise care in deciding who participates

to ensure that a fair and balanced representation of views is obtained, and the views of minority groups are not overshadowed by more influential members of the public. The public may be involved in the EIA process appropriately by:

- Being informed about the proposed project;
- Participating in scoping exercise;
- Attending open public meetings/hearings on the projects;
- Being invited to submit written comments on proposed project;
- Using community representatives;
- Commenting and reviewing the environmental impact statements; and,
- Making relevant documents available to any interested members of the public in specified places or at the cost of reproduction.

Three stages for public involvement in the EIA process are:

#### a) Public consultation before EIA is done

If, after receiving and screening/reviewing the developer's project brief, the authority (NEMA), in consultation with the Lead Agency, decides that it is necessary to consult and seek public comment, it shall, within four weeks from submission of the project brief and/or notice of intent to develop, publish the developer's notification and other supporting documents or their summary in a public media. It is required that objections and comments from the public and other stakeholders be submitted to the authority and to the lead agency within 21 days from the publication of notice.<sup>2</sup>

#### b) Public consultation during the ESIA

The team conducting the ESIA shall consult and seek public opinion/views on social and environmental aspects of the project. Such public involvement shall be during scoping and any other appropriate stages during the study.

#### c) Public consultation after ESIA (ESIA review)

The EIS shall be a public document and may be inspected at any reasonable time by any person. Considering the scale and level of influences likely to result from the operation of a project, the authority, in consultation with the lead agency, shall decide on the regions where it is necessary to display the EIA report to the general public. Several stakeholders in the GKMA urban development are crucial for consultation as indicated in table 3.

### 3.5.1 Methodologies for public involvement

The right to freedom of speech and public involvement is guaranteed by the Constitution of Uganda 1995, the NEA and the regulations. Depending on the magnitude and sensitivity of the impacts, the following methodologies may be used individually or in combination:

- open house;
- interview survey;
- public meetings/public hearings,
- individual/group discussions;
- on-site consultations; and
- rapid rural appraisals.

The developer is required to take all measures necessary during the process of conducting the study to seek the views of the people in the communities which may be affected by the project, including publicizing the project and its anticipated effects and benefits for a period of 14 days. After 14 days, the developer shall hold meetings with the affected communities to explain the project and its effects. (EIA regulation 12)

The project proponent must hold a public meeting prior to finalizing the EIA study. In addition, after the EIA is submitted to NEMA, the executive director must call a hearing if the project is controversial, may have transboundary impact, or if the executive director believes a hearing is necessary for the protection of the environment and the promotion of good governance (EIA regulations 21 & 22).

Regarding public input at meeting, anyone may attend either in person or through a representative and make presentations at a public hearing provided that the presiding officer shall have the right to disallow frivolous and vexatious presentations which lead to the abuse of the hearing (EIA regulations 23(1)).

The days for the public review of the final EIA are 21 days for the affected individuals and 28 days for the general public. The public is provided 28 days to comment on the EIA and NEMA executive director shall consider any comments when making a decision regarding an EIA (Regulation 19 (4) EIA regulations).

The invitation to comment on the project and EIA must be accomplished through mass media and through local governments, and "shall be in languages understood by the majority of the affected persons."

However, although the invitation to comment may be written in a local language, EIAs are written in English and may not be understood by people who could be most affected by a project.

<sup>2</sup> Regulation 22 of the EIA regulations provides that on the written request of the Executive Director, the lead agency shall hold a public hearing on the environmental impact statement if, as a result of the comments made on it, the Executive Director is of the opinion that a public hearing will enable him or her to make a fair and just decision.

Table 3: Stakeholders and the purpose of consultation

Stakeholder	Role
Kampala Capital City Authority, Wakiso, Mukono & Mpigi DLGs	<ul style="list-style-type: none"> <li>Provide the ToRs, introductory letter and any other documentation relevant to the projects</li> </ul>
Project Affected Persons (PAPs)	<ul style="list-style-type: none"> <li>To solicit their views on the project impact.</li> <li>Provide the necessary documentation with regard to land acquisition</li> <li>Provide information on their socio-economic status</li> </ul>
Local Council Leaders	<ul style="list-style-type: none"> <li>Give guidance on who are the rightful PAPs</li> <li>Give information on rightful property owners</li> <li>Provide information to absentee landlords about the projects and its impacts</li> <li>Solicit for support of the project among the community members</li> </ul>
Division/ Municipal Leaders i.e. Nakawa, Kawempe, Rubaga, Makindye, & Central Division Entebbe, Kira, Kyengerera, Nansana and municipal councils	<ul style="list-style-type: none"> <li>Guide the project team on the general situation on the ground</li> <li>Provide information regarding the project area</li> <li>Authorize consultations in the project area</li> </ul>
Utility Services Providers i.e. NWSC, UMEME, Telecom companies such as UTL etc	<ul style="list-style-type: none"> <li>To provide information on the utility installations in the projects</li> </ul>

### 3.6 ESIA and climate change

Uganda's economy is highly vulnerable to climate change impacts on key sectors such as agriculture, fisheries, water resources, forestry, energy, health, infrastructure and settlements. In urban areas such as the GMKA, climate change may lead to hazards such as floods that affect transport systems by damaging bridges and making roads impassable.

Uganda has developed an integrated policy response to climate change. The policy is intended to help meet Vision 2040's goals through strategies and actions that address both sustainable development and climate change. This pathway shall also help the government to achieve the Post-2015 Development Agenda and other internationally agreed development goals without compromising the environment and the natural resource base. The overarching objective of the policy is to ensure that all stakeholders address climate change impacts and their causes through appropriate measures while promoting sustainable development and a green economy.

The policy gives two options for inclusion of climate change issues in environmental management. These are amending the National Environment Act, 1995, to cater for climate change and enacting an overarching standalone climate change law to facilitate the direction, coordination and governance and high-level political prioritization of climate change policy and practice. The National Environment Act is being amended and the Climate Change Bill is being drafted. It is expected that documents will include specific provisions for climate change consideration in the ESIA process. Also, the climate change law is still to be drafted, giving an opportunity to incorporate ESIA into it.

### 3.7 Strategic environmental assessment (SEA)

Strategic environmental assessment refers to a range of analytical and participatory approaches that aim to integrate environmental considerations into policies, plans and programmes and evaluate the interlinkages with economic and social considerations. The aim of SEA is to protect the environment and promote sustainability.

#### Benefits of SEA

- SEA ensures prudent management of natural resources and the environment, providing the foundations for sustainable economic growth.
- It strengthens project level EIA.
- It addresses cumulative and large-scale effects.
- Assists in building stakeholder engagement for improved governance, facilitate transboundary cooperation around shared environmental resources, and contribute to conflict prevention.
- Incorporating sustainability considerations into the 'inner circles' of decision making.

SEA is not a substitute for and EIA, but complements it and other assessment approaches and tools. SEAs are applied at the policy, plan and programme levels prior to more detailed EIAs at the individual project level. Actions submitted to SEA are those for which the subsequent implementation is likely to give rise to significant environmental impacts that cannot be satisfactorily assessed later in the planning process.

#### 3.7.1 Legislative and institutional framework for SEA in Uganda

The environmental legislation in Uganda provides for integration/ mainstreaming of environmental issues into development. The NEA provides for statutory functions of NEMA, among them to:

- ensure the integration of environmental concerns in overall national planning through coordination with the relevant ministries, departments and agencies of government;
- propose environmental policies and strategies to the policy committee; and
- ensure observance of proper safeguards in planning and execution of all development projects, including those already in existence that have or are likely to have a significant impact on the environment.

In general, SEA is still a relatively new concept and its application in the country has mainly been donor driven and/or voluntary.

The revised National Environment Management Policy, 2016, and National Environment Management Bill have both incorporated the principles of SEA. Thus, once the Bill is adopted, it will become legally binding to carry out SEA for selected policies, plans and programmes. In the meantime, a detailed SEA regulation and comprehensive step by step guidelines which highlights institutional roles and responsibilities for carrying out, reviewing, implementing, monitoring and evaluation of SEA are under development to back up the policy and Bill.

### SEA in the Albertine Graben

Oil and gas in Uganda are found in Albertine Graben (AG) which is Uganda's biodiversity hotspot.

The Albertine Graben (AG) hosts 51 per cent of Africa's bird species, 30 per cent of the mammal species, 19 per cent of its amphibian species and 14 per cent of its plant and reptile species. The region harbours more endemic species than any region in Africa and also contains 79 threatened terrestrial species.

A SEA was undertaken from 2009 to 2013.

A key objective of the SEA was to ensure that environmental issues associated with the oil and gas activities in the AG and beyond are considered and integrated into laws/regulations, major decisions connected to policies, plans and programmes (PPPs) and specific strategic aspects related to petroleum activities at the earliest stage.

An international consultant was procured because Uganda has not yet developed sufficient capacity to carry out a SEA in oil and gas development. However, it was with the support of a local consultant.

SEA steering committee was also put in place to oversee the SEA activities and is composed of NEMA, UWA, DWRM, PEPD, DEA, MAAIF, MLHUD, the National Planning Authority and a representative from the Uganda Association for Impact Assessment,

Source: NEMA

[http://www.nemaug.org/reports/Current\\_reports/Strategic\\_environment\\_assessment.pdf](http://www.nemaug.org/reports/Current_reports/Strategic_environment_assessment.pdf) -- accessed 16/09/2017

<http://chein.nema.go.ug/wp/sea/> - accessed 16/09/2017

## 3.8 Resettlement action plan and the basic steps

Resettlement action plans (RAP) are required in instances where PAPs have been identified. A number of actions are required by the implementing agency and the principles of compensation and resettlement of the affected landowners form the basis of the RAP. These principles are premised both in national legislation and international standards. They include: participation, promotion of choice of resettlement or compensation options, gender-sensitivity, restoration of livelihoods, and monitoring and evaluation to mitigate the negative effects of resettlement and compensation. The steps undertaken in preparing a RAP are discussed below.

### 3.8.1 Basic RAP steps

#### a) Consultation and participatory approaches

The programme investment activities and locations undergo preliminary evaluation on the basis of the objectives of the programme. A participatory approach is adopted to initiate the compensation process. Consultations must start during the planning stages when the technical designs are being developed and at the land selection/screening stage. The process therefore seeks the involvement of PAPs throughout the census to identify eligible PAPs and throughout the RAP preparation process.

#### b) Census of affected entities

In this step, every owner of an asset to be affected by the project is enumerated and their socio-economic condition documented.

#### c) Disclosure and notification

The developer approaches the affected communities through the local government authorities to get consensus on possible sites for the type of facility to be adopted. All eligible PAPs are informed about the project and the RAP process. A cut-off date is established as part of determining PAPs' eligibility. In special cases where there are no clearly identifiable owners or users of the land or asset, the RAP team must notify the respective local authorities and leaders.

#### d) Documentation and verification of land and other assets

The government authorities at both national and local levels (village councils, parish/sub-county and district development committees), community elders and leaders, and the developer arrange meetings with PAPs to discuss the compensation and valuation process. For each individual or household affected by the sub-project, the RAP preparation team completes a compensation report containing necessary personal information on the PAPs and their household members; their total land holdings; inventory of assets affected; and demographic and socio-economic information for monitoring of impacts. This information is documented in a report and ideally should be "witnessed" by an independent or locally acceptable body (e.g. Resettlement Committee). The report is regularly updated and monitored.

#### e) Compensation and valuation

All types of compensation are clearly explained to the individuals and households involved. These refer in particular to the basis for valuing the land and other assets. Once a valuation is established, the developer produces a contract or agreement that lists all property and assets being acquired by the project and the types of compensation selected. These options of compensation include in-kind (e.g. replacement housing) and cash compensation. All compensation should occur in the presence of the affected people and the community leaders.

#### f) Grievance mechanism

The project RAP team establishes an independent grievance mechanism. This may be set up through local authorities, including a resettlement or land committee, and through community leaders. All PAPs are told how to register grievances or complaints, including specific concerns about compensation and relocation. The PAPs should also be informed about the dispute-resolution process, specifically about how the disputes will be resolved in an impartial and timely manner. The RAP team then produces a summary of all grievances. If needed, the dispute-resolution process should be referred to the Ugandan courts, but traditional institutions are recommended as an effective first step for receiving and resolving grievances.

#### g) Defining entitlements and preparing an entitlement matrix

The basis of what is to be paid as compensation is determined by identifying the most appropriate entitlement for each loss. Based on the entitlements, options for resettlement can be selected and the merits of the option.

The RAP planner prepares an entitlement matrix with respect to both temporary and permanent displacement. This matrix provides payment for all losses or impacts and lists the type of loss, criteria for eligibility and definitions of entitlements.

### 3.8.2 RAP timeframes

The following key timeframes apply in cases of any RAP implementation related to projects:

- asset inventory is completed most four months prior to the commencement of work;
- Resettlement plan shall be submitted to the chief government valuer and the funder/developing partner for approval immediately after completion of asset inventory;
- Development works commence after compensation or resettlement activities have been effected.

Adequate time and attention is required for consultation of affected parties. The amount of time depends on the extent of the resettlement and compensation and has to be agreed upon by all parties.

## 3.9 Compulsory land acquisition

Land in Uganda belongs to the people and is owned through four tenure types: customary, mailo, freehold and leasehold. The GKMA is mainly mailo land. The ESIA process takes into account all landowners and their land rights irrespective of the tenure. The land law requires that the use of land complies with all environmental laws.

The laws that govern compulsory acquisition of land for public purposes and compensation are the Constitution, the Land Act and the Land Acquisition Act. Under these laws, private land can be acquired for the following purposes:

- For public use
- In the interest of defence
- Public safety
- Public order
- Public morality and
- Public health

Before the government can acquire land, it must compensate the owner without delay, fairly and adequately (Article 26 of the Constitution and Section 42 of the Land Act).

The procedure for acquisition is as below:

1. The minister responsible for land determines the suitability of land for the purpose it is being acquired. This includes surveying the land, digging or boring for samples, etc. If damage occurs on the land, the government compensates the landowner for the damage (Section 2 of the Land Acquisition Act).
2. The minister then makes a declaration by statutory instrument (by law) that the land is suitable and a copy of the declaration is given to the landowner (Section 3 of the Land Acquisition Act).
3. The assessment officer (a public officer appointed by the minister) orders the marking, measuring and a plan of the land to be made (Section 4 of the Land Acquisition Act).
4. Notice of not less than 15 days is given to all people with an interest to meet the assessment officer on a specific day, time and place to determine the nature of their claims, the amount of compensation to be paid and any objections they may have to the plan for the land use (Section 5 of the Land Acquisition Act).
5. On that day, the assessment officer hears the claims and makes an award specifying the true area of the land and the compensation which should be paid to each person having an interest in the land (Section 6(1) of the Land Acquisition Act).

6. Compensation is paid based on the current market price of the land in the area that is prepared annually by the District Land Board. (Section 59(1) (e) & (f) of the Uganda Land Act).
7. Any person aggrieved by the award of the Assessment officer may appeal to the District Land Tribunal or the High Court if the value of the land exceeds UGX 50 million (Section 76 1(b) &(c) of the Land Act)
8. The Uganda Land Commission then compensates for the value of the land if no appeal is made to the courts (Section 6(4)(b) of the Land Acquisition Act).
9. It is only after all those with an interest in the land have been fully and adequately compensated that the government takes possession of the land and the land is managed by the Uganda Land Commission (Section 7 of the Land Acquisition Act, Article 26(2)(b)(i) of the Constitution).

- EIA/SIA process shall be fully transparent so that all stakeholders will have access to it and the process will serve to provide a balance between environmental, economic, social and cultural values for sustainable development in the country.

A draft National Environment Management Policy for Uganda was prepared in 2016 to replace the above policy. It promotes strategic environmental assessments (SEA) for initiated government policies, plans, programmes and private sector investments and requires the integration of SEA into private sector investments. For ESIA, it requires that public and private sector development options should be environmentally sound and sustainable. ESIA should consider not only the biophysical/environmental impact but should also address the impact of existing social, economic, political and cultural conditions.

ESIA must be conducted for development activities in the GKMA that are likely to have significant adverse ecological or social impacts.

## 4. ESIA POLICY, LEGAL AND REGULATORY FRAMEWORKS

### 4.1 Introduction

There are several ESIA-related international and regional instruments and other soft law instruments, national policies and laws that have been developed. The implementation of environmental and social reviews is critical for promoting urban development. In most cases, the requirements for ESIA are met in the reports, but implementation of the environmental impact mitigation measures lacks compliance. The section below reviews the relevant international and national laws and policies related to ESIA implementation in Uganda.

### 4.2 National policy frameworks

#### a) National Environment Management Policy, 1994

The aim of the policy is to promote sustainable economic development and social development that enhances environmental quality. It seeks to raise public awareness about linkages between the environment and development, and to ensure individual and community participation in environmental. The Government of Uganda's (GoU) policy is outlined in the National Environment Management Policy as follows:

- An environmental and social impact assessment (ESIA) shall be conducted for planned projects that are likely to or will have significant impacts on the environment so that adverse impacts can be foreseen, eliminated and or minimized;
- EIA/SIA process shall be interdisciplinary;

#### b) National Water Policy, 1999

The National Water Policy seeks to manage and develop the water resources of Uganda in an integrated and sustainable manner, so as to secure and provide water of adequate quantity and quality for all the social and economic needs of present and future generations, with the full participation of the stakeholders.

Developers in the GKMA must take measures not pollute the receiving surface water or ground water.

#### c) Policy on Conservation and Management of Wetland Resources, 1995

Wetlands are ecologically sensitive areas harbouring a lot of aquatic macro and micro biota, and they fulfil critical ecosystem functions such as flood control and ground water recharge. The GoU adopted a National Policy for the Conservation and Management of Wetland Resources to sustain wetlands' value for present and future wellbeing of the people. One of the elements of the policy is to carry out EIA on planned developments that are likely to impact on wetlands. There are several wetlands in the GKMA and ESIA have to be conducted to protect these systems.

#### d) National Land-Use Policy, 2013

The policy goal is to ensure an efficient, equitable and optimal use and management of Uganda's land resources for poverty reduction, wealth creation and overall socio-economic development. The relevant objectives of this policy include;

- Ensure sustainable utilization, protection and management of environmental, natural and cultural resources on land for national socio-economic development;

- Ensure planned, environmentally friendly, affordable and orderly development of human settlements for both rural and urban areas, including infrastructure development.

The policy is vital given the land requirement for development and its scarcity, especially in the GKMA. Affected local communities have to be consulted.

#### e) Uganda Forestry Policy 2001

The policy goal is an integrated forest sector that achieves sustainable increases in the economic, social and environmental benefits from forests and trees for all the people of Uganda, especially the poor and vulnerable.

The policy provides for the promotion of urban forestry. One of the strategies is to promote among urban authorities the establishment and maintenance of green belts in urban areas as part of urban land-use planning. Urban development should be in line this strategy.

#### f) National Health Policy 2005

The Environmental Health Policy concentrates on the importance of environmental sanitation which includes: safe management of human waste and associated personal hygiene; the safe collection, storage and use of drinking water; solid waste management; drainage; and protection against disease vectors (MoH, 2005). Environmental health practices include: safe disposal of human waste, hand washing, adequate water quantity for personal hygiene, and protecting water quality, all of which influence the morbidity and mortality of diseases. The policy provides guidance for the implementation of public health and hygiene intervention measures on the GKMA. Public health aspects should be given adequate attention in preparation of this ESIA. Impacts on water and its possible contamination, traffic impacts and accidents, occupational health and safety, noise and dust issues in areas of concentrated business as well as key administrative units have to be given consideration.

#### g) Uganda Gender Policy, 2007

The policy provides a legitimate point of reference for addressing gender inequalities at all levels of government and by all stakeholders. The major aspects of this policy include:

- Increased awareness of gender as a development concern among policy makers and implementers at all levels;
- Strengthened partnerships for the advancement of gender equality and women's empowerment, and increased impetus in gender activism.

The development of projects in GKMA affect both men and women. This requires a comprehensive gender responsive analysis while conducting the ESIA. All planning

requirements during construction, traffic management and compensation should consider gender aspects.

#### h) National Child Labour Policy, 2006

The main objective of the policy is to guide and promote sustainable action aimed at the progressive elimination of child labour, especially its worst forms. Attention should be given to this policy by the developers and their contractors.

#### i) HIV/AIDS Policy, 1992

The policy recognizes the considerable risk of HIV/AIDS in construction of infrastructure projects. Together with the ministry responsible for labour, the policy encourages employers to develop in-house HIV/AIDS policies, provide awareness and prevention measures to workers and avoid discriminating against workers living with or affected by HIV/AIDS. Most civil works in the GKMA are associated with migrant workers who may not have families or spouses living with them at the time of civil works. Given that the projects are within the central business district, it becomes pertinent that workers are trained on gender awareness and HIV/AIDS so that the money they earn should be used effectively at household level through joint planning and decision making with their spouses.

#### j) UNRA's Resettlement/Land Acquisition Policy Framework, 2002

This policy aims to minimize social disruption and to assist those who have lost assets as a result of a road project to maintain their livelihoods. In accordance with Ugandan laws and standards, a disturbance allowance of 15 per cent (or 30 per cent in lieu of six months' notice) is to be paid to the project-affected individual or family to cover costs of moving and re-locating. Community infrastructure must be replaced and ideally be improved in situations where it was deficient. This includes the installation of sanitary facilities, electricity generation systems, road links and the provision of water. In the GKMA, development projects should ensure the impact on social disruption and assets is addressed.

## 4.3 Legal frameworks

#### a) Constitution of the Republic of Uganda, 1995

The importance of the environment in Uganda is recognized by the Constitution of the Republic of Uganda.

National objective XXVII concerns the environment. It requires the utilization of the country's natural resources to be managed in a way that meets the development and environmental needs of present and future generations. The state has to take all possible measures to prevent or minimize damage and destruction to land, air

and water resources resulting from pollution or other causes. The objective further makes provision for the state and local governments to create and develop parks, reserves and recreation areas.

Article 39 provides for the right to a clean and healthy environment. Any aggrieved person can take legal action in response to any pollution or poor disposal of waste. Article 245 points out parliament's legal duty to protect and preserve the environment from abuse, pollution and degradation, and to ensure measures for sustainable development.

In respect to land, article 26 and 237 (2) provides for the right to ownership of property, and land belongs to the citizens of Uganda. The government holds in trust for the people all natural resources for their common good.

Government or local government may acquire compulsory land in public interest with prompt payment of fair and adequate compensation, prior to the taking of possession or acquisition. Article 242 empowers Government to regulate land use.

The constitution therefore, requires the developers in the GKMA to implement the projects without endangering human health and the environment and in accordance with the land acquisition principles where applicable.

### **b) National Environment Act, Cap 153**

The act establishes principles for sound environmental management and provides an institutional framework for environmental management. It establishes the National Environment Management Authority (NEMA) and mandates lead agencies (LA) in sound management of the environment. It also specifies management measures, addresses pollution control and stipulates mechanisms for enforcement of the law. Under Part V on Environmental Regulations, the act elaborates on the environmental impact assessment process for projects listed in the Third Schedule to the act. The process is further elaborated upon in the environmental impact assessment regulations and the environmental impact assessment guidelines in Uganda. The projects listed therein include general projects that feature an activity out of character with its surroundings; any structure of a scale not in keeping with its surroundings; major changes in land use; urban development that includes designation of new townships; establishment of industrial estates; establishment or expansion of recreational areas; and establishment of shopping centres and complexes.

### **c) Water Act Cap 152**

The act provides for the management of water resources in Uganda. Section 5 invests all rights to investigate, control, protect and manage water in Uganda in the government and in section 31 it makes it an offence to pollute or cause the risk of water pollution. Section 6 (1) prohibits any unauthorized construction or the operation of any works in any water and in section 18 such persons should apply to the Directorate of Water Development for a permit to do so. All development activities in the GKMA that may influence water quality and quantity should comply

with the provisions of this act. This act is mainly applicable to projects that require water abstraction, such as road construction, and abstraction permits should be obtained.

### **d) National Forestry and Tree Planting Act 2003**

The National Forest and Tree Planting Act (NFTPA) seeks to provide for the conservation and sustainable management and development of forests for the benefit of the people of Uganda. Section 5 entrusts the government or a local government with the protection of forest reserves. In furtherance of the right to a clean and healthy environment, the NFTPA provides for any person or responsible body to undertake legal action against those whose actions or omissions have had or are likely to have a significant impact on a forest. Section 54 requires NFA in conjunction with other regulatory authorities (e.g. NEMA, UIA, KCCA, DLGs) to control and monitor industrial and mining developments in central forest reserves. Section 38 requires a person intending to undertake a project or activity which may, or is likely to have, a significant impact on a forest to undertake an EIA.

Section 38 requires a person intending to undertake a project or activity which may, or is likely to have a significant impact on a forest to undertake an Environmental Impact Assessment. The Act is relevant since forest produce such as timber are used as construction material in the different development projects in the GKMA

### **e) Uganda Wildlife Act Cap 200**

The act provides for sustainable management of wildlife, to consolidate the law relating to wildlife management and establishes the Uganda Wildlife Authority (UWA) as a coordinating, monitoring and supervisory body for the management of wildlife resources in Uganda.

Section 15 requires any developer desiring to undertake any project which may have a significant effect on any wildlife species or community to undertake EIA in accordance with the NEA. Section 16 allows the Uganda Wildlife Authority to carry out audits and monitoring of projects in accordance with the NEA.

### **f) Land Act, Cap 227**

The Land Act provides for tenure, ownership and management of land. Land is to be used in compliance with relevant national laws, such as those listed in section 43, including the Water Act, Forestry Act and NEA. Environmental legislation should be taken into account in urban developments. Section 44 reiterates the constitutional provision creating a trust over environmentally sensitive areas as stipulated in Article

237 (2) of the Constitution, and prohibits the government or local government from leasing or otherwise alienating any natural resource referred to in this section. In addition, section 70 provides that all rights over the water of natural resources are reserved for the government, and no such water shall be obstructed, dammed, diverted, polluted or otherwise interfered without authorization by the responsible minister. The developers therefore, have to take all the necessary measures not to interfere with water rights under this provision.

Under section 45, use of land must conform to the provisions of the Town and Country Planning Act (now the Physical Planning Act 2010). The act, under section 71, subjects all land to all existing public rights of way reserved and vested in the government on behalf of the public.

Section 42 provides for compulsory land acquisition by the government or local government under the conditions set in the Constitution.

Section 77 stipulates how payment of compensation is assessed. Briefly, the section provides as follows:

- The value of customary land is the open market value of the unimproved land;
- The value of the buildings on the land is taken at open market value for urban areas, and depreciated replacement cost for rural areas;
- The value of standing crops on the land is determined in accordance with the district land board. In addition, a disturbance allowance of either 15 per cent or 30 per cent of the assessed amount, depending on the period given in the notice to vacate, should be paid.

Urban authorities or authorized developers should comply with the above provisions in securing land for development.

## **g) Land Acquisition Act, Cap 226**

The act provides for acquisition and legal proceedings, the former including: power to enter on and examine land, declaration that land is needed for public purpose, land to be marked out, notice to persons having an interest, inquiry and award, taking possession, withdrawal from acquisition. Therefore, KCCA and other development authorities are required to comply with the provisions of this act in the process of land acquisition.

## **h) Local Governments Act, Cap 243**

This act provides for decentralized governance and devolution of central government functions, powers and services to local governments that have own political and administrative set-ups.

Districts have powers to oversee the implementation of development activities

through respective technical and political offices, such as those responsible for water, production, engineering, natural resources and environment, health and community development.

Part 2 of the second schedule of the act states that district councils are responsible for natural resource management, land surveying, land administration, physical planning, forests and wetlands, environment and sanitation, and road services. Thus, the district councils play an important role during the process of acquisition of land for development purposes, and in the sensitization and mobilization of the local communities.

GKMA has five divisions making up Kampala city and extends to Wakiso, Mukono and Mpigi, which should be actively engaged in monitoring, supervising and resolving potential disputes in the development process.

## **i) Kampala Capital City Authority Act 2011**

The act establishes Kampala Capital City Authority, whose functions are, amongst others, to promote economic development in the capital city and to carry out physical planning and development control. Under section 21, the act established a Metropolitan Physical Planning Authority that is responsible for:

- developing a physical development plan for the capital city and the metropolitan areas covering Mukono, Mpigi and Wakiso;
- planning major transport, infrastructure and other utilities in conjunction with relevant bodies;
- planning recreation parks, tree planting, green corridors and other environmental areas.

Under part B of the third schedule of the act, urban councils are responsible for environmental care and protection.

On the social impact aspect, section 22 (6), provides for compensation to be made by the central government where land is required by the authority for public use or public health, including the expansion of roads, constructing new roads, water and sewerage systems, and demolishing buildings to construct new structures, in accordance with article 26 of the Constitution and the Land Acquisition Act.

## **j) Physical Planning Act 2010**

The act regulates the approval of physical development plans and applications for development permission. It requires physical planning committees to ensure integration of social, economic and environmental plans into the physical development plans.

Section 37 requires an applicant for a development permit to acquire an environmental impact assessment certificate in accordance with the National

Environment Act before he or she can be granted full approval to develop. Physical planning committees in the GKMA should comply with the environmental requirements of this act.

### **k) Investment Code Act, 1991 (Cap 92)**

The act sets out the procedure for acquisition of an investment licence and the kind of information to be included therein in Part II of the act. It establishes the Uganda Investment Authority with the mandate to promote, facilitate and supervise investments in Uganda. Section 18 (2) (d) requires the investor to take necessary steps to ensure that the operations of the business enterprise do not cause injury to the ecology or environment.

### **l) Public Health Act, Cap 281**

This act aims at to avoid pollution of environmental resources that support the health and livelihoods of communities.

Section 5 confers every local authority the duty to take prevent the occurrence of, or to deal with, any outbreak or prevalence of any infectious, communicable or preventable disease to safeguard and promote public health. Part IX of the act prohibits the causation of nuisance by any person and empowers local authorities to use lawful and administrative actions against non-compliant persons. Under section 103, local authorities protect water sources to which the public has a right of use and does use for drinking or domestic purposes.

The act is thus relevant to control development activities involving waste disposal, water abstraction, digging of pits, channels that may pollute the environment or which become a nuisance. The GKMA projects should be implemented with the corporation of the local authorities (urban and local councils) which are mandated to safeguard and promote the public health.

### **m) Historical and Monuments Act, Cap 46**

This act provides for the preservation and protection of historical monuments and objects of archaeological, paleo-ontological, ethnographical and traditional interests. Under this act, the minister has wide-ranging powers to protect any of the above objects and, under section 8, no person, whether owner or not, shall cultivate or plough the soil so as to effect to its detriment any object declared to be protected or preserved, and no alteration is permitted on any object declared to be protected or preserved. Under section 11, any person who discovers any object which may reasonably be considered to be a historical monument, or is an object of archaeological, paleo-ontological, ethnographical or traditional interest, is required to report it to the Conservator of Antiquities within 14 days of the discovery.

Environmental Management and Monitoring Plans for development projects should put in place measures for the protection of Physical Cultural Resources (PCRs). The act, however, has limited scope and is outdated (it is under review).

### **n) Employment Act, 2006**

This act is the principal legislation that seeks to harmonize relationships between employees and employers, protect workers' interests and welfare, and safeguard their occupational health and safety through: prohibiting forced labour, discrimination and sexual harassment at workplaces (Part II); providing for labour inspection by the relevant ministry (Part III); stipulating rights and duties in employment (weekly rest, working hours, annual leave, maternity and paternity leaves, sick pay, etc. (Part VI); and continuity of employment, such as continuous service, seasonal employment, etc (Part VIII).

The Employment Act is required to be made known to the developers and contactors or their representatives and adhered to in order to promote a healthy working environment for employees. KCCA and the other urban councils are required to regularly monitor the developers' or contractors' performance and compliance with the requirements.

### **o) Occupational Safety and Health Act, 2006**

The purpose of the act is to improve the working conditions of working people and, in particular, their safety, health and the hygiene of their working environment - to ensure that they work in an environment which is reasonably free from all hazards that can lead to injury and poor health.

In section 13, the act gives the responsibility of protection of the worker and the general environment to the employer and he or she must take all measures to protect workers and the general public from the dangerous aspects of his or her undertaking. In section 18, the employer also has the responsibility of monitoring the environment under the influence of his or her undertaking, while under section 95, the employer is to take all preventive measures, including administrative and technical measures, to prevent or reduce contamination of the working environment to the level of exposure limits specified by the commissioner. Many workers are, however, ignorant of their rights and obligations under the act.

Urban developers or contractors have an obligation to ensure that the right personal protective equipment is provided and effective measures are taken to protect the general working environment.

### **p) Workers Compensation Act, 2000**

This act is closely related to the Occupational Safety and Health Act, and provides for compensation to workers for injuries and diseases suffered in the course of their employment.

Section 28 states that where a medical practitioner grants a certificate that a worker is suffering from a scheduled disease causing disablement, or that the death of a workman was caused by any scheduled disease that was due to the nature of the worker's employment, and was contracted within the 24 months immediately prior to the date of such disablement or death, the worker, or his or her dependants, shall

be entitled to claim and receive compensation under this act.

There are already many complaints of occupational injuries and disease related to people and workers in the different employment sectors in the country and attention has to be drawn to the Workers Compensation Act in implementing the GKMA development projects.

#### q) Children's Act Cap 59

Section 8 of the act prohibits the employment of children in work that may be harmful to their health, education, mental or moral development. Section 2 defines a child as a person below the age of 18 years. Developers should ensure contractors do not employ children in the project implementation processes.

#### r) Traffic Act Cap 361

This act seeks to enforce safe use of public roads. For this reason, the act requires that developers of public roads take measures that guarantee the safety of road users during project implementation. These include alternate routing of traffic, diversions, safety signalling and the use of traffic wardens/signallers among other things.

#### s) Road Act, Cap 358

This act provides for the declaration of road reserves and prohibits any persons from erecting buildings or planting trees or permanent crops within the road reserve, except with the written permission of the road authority. There are a number of development activities in the GKMA that may lie within the standard reserve requirements for roads. Standard road reserve requirements should have preference in any development project as under the law.

#### t) Access to Roads Act, Cap 350

The Access Roads Act regulates the rights of private landowners who have no reasonable means of access to public highways through adjoining land. The act further provides for payment of compensation to landowners of adjoining land in respect of the use of the land, the destruction of crops, trees and such other property. In essence, road projects in the GKMA should be compliant with law and in consideration of the rights of private landowners.

## 4.4 Enabling Regulatory Frameworks

#### a) Environment Impact Assessment Regulations, 1998

The Environmental Impact Assessment Regulations 1998 reinforce the EIA

requirement. Parts I-V describe the procedures to be followed in conducting EIA of projects and the issues to be considered. The regulations also charge the developer with the responsibility of ensuring that the recommendations and mitigation measures outlined in the environmental impact statement are complied with. In this regard, developers in the GKMA have to conduct the EIA in line with national requirements and are supposed to ensure that the recommendations therein are implemented. The guidelines for Environmental Impact Assessment in Uganda, 1997, give detailed processes and procedures for the conduct of ESIA's.

#### b) National Environment (Waste Management) Regulations, 1999

These regulations require waste disposal to be done in a way that would not contaminate water, soil and air or impact on public health. This is in relation to onsite storage, haulage and final disposal of waste in the GKMA developments. According to regulation 14, waste haulage and disposal should be done by licenced entities. Regulation 15 requires that a waste treatment plant or disposal site carries out an EIA before a licence is issued. It further requires that an operator of a waste treatment plant or disposal site carry out an annual audit of the environmental performance of the site/plant and submit a report to NEMA. Regulation 17 makes it mandatory for every person who operates a waste treatment plant disposal site to take all necessary steps to prevent pollution from the site or plant, which includes, among other things, instituting mitigation measures.

The relevance of these regulations is to ensure that the waste generated at development sites are managed by a NEMA licensed waste handler and are in compliance with the EIA requirement.

#### c) National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations, 1999

The standards prescribe the parameters for effluents or waste waters before discharge into water or on land.

Regulation 4 (1) provides the general obligation for every industry or establishment to install, at its premises, anti-pollution equipment for the treatment of effluent chemical discharges emanating from the industry or establishment. All discharges from development activities in the GKMA are required to comply with the standards set out in the schedule of these regulations.

#### d) National Environment (Wetlands, River Banks, and Lakeshores Management) Regulations, 2000

Regulation 34 provides that a developer of a project which may have a significant impact on a wetland, river bank or lake shore will be required to carry out an EIA in accordance with sections 20, 21 and 22 of the National Environment Act.

The regulations are relevant in as far as the management and protection of the

fragile ecosystems in the GKMA is concerned. Developers or contractors are expected to strictly observe that material stockpiles or the disposal of cut-to-spoil materials are not carried out at stream banks or ancillary facilities constructed in wetlands without the necessary statutory approvals and/or environmental studies.

#### **e) National Environment (Noise Standards and Control) Regulations, 2003**

These regulations provide for, among other things, the control of noise and for mitigating measures for the reduction of noise. It provides for the maximum permissible noise levels from a facility or activity to which a person may be exposed. Regulation 6 establishes permissible noise levels and in regulation 8, a facility, premises or machinery owner is obliged to ensure that noise generated does not exceed regulatory limits unless permitted by a licence issued under these regulations.

Most developments such as road works, construction and industrial development, can generate noise beyond permissible levels and need to be controlled. The regulations are critical in establishing the maximum permissible noise levels.

#### **f) National Environment (Audit) Regulations, 2006**

The regulations reinforce the requirement to undertake self-environmental audits as contained in the EIA regulations. Normally, under the conditions of approval of NEMA, it is a requirement to undertake audits for projects which comply with the EIA requirement as part of the conditions of EIA approval. Regulation 8 provides that the owner or operator of a facility whose activities are likely to have a significant impact on the environment shall establish an environment management system (EMS). Project implementation should comply with audit and EMS requirements. The Environmental Audit Guidelines for Uganda, 1999, spell out the processes and procedures for the conduct of an environmental audit.

#### **g) National Environment (conduct and certification of environmental practitioners) Regulations (2003)**

The regulations set minimum standards and criteria for qualification of EIA practitioners.

The regulations also establish an independent committee of environmental practitioners whose roles includes, among other things, to regulate the certification, registration, practice and conduct of all environmental impact assessors and environmental auditors. The committee also has powers to take disciplinary action as it finds necessary for ensuring the maintenance of high professional standards, ethics and integrity of environmental practitioners in the conduct of EIA and environmental audits

#### **h) National Environment (Management of Ozone**

#### **Depleting Substances and Products) Regulations 63/2001.**

One of the objectives of these regulations is to promote the use of ozone friendly substances, products, equipment and technology.

#### **i) Water Resources Regulations, 1998**

The regulations define procedures of application and regulation of water abstraction permits, which include surface water permits; groundwater permits; drilling permits; construction permits. Under regulation 6, application for a permit may be granted on conditions of projected availability of water in the area, existing and projected quality of water in the area, and any adverse effect which the facility may cause, among other considerations. Most urban development projects require use of water and the developers have to ensure that their activities do not violate this law.

#### **j) Water (waste discharge) Regulations, 1998**

These regulations provide for the establishment of standards for effluent or waste before it is discharged into water or on land, prohibitions on the discharge of effluent or waste, and the requirement for waste discharge permits. The permit systems implement the polluter pays principle. Regulation 10 (2) provides for an EIA or restrictions on the use of wetlands prior to the grant of a discharge permit.

#### **k) Water Sewerage Regulations, 1998**

The regulations empower the National Water and Sewerage Corporation (NWSC) to issue notices to a landowner requiring him/her to connect land to the sewerage authority's works or to carry out repairs or such other work on any sewer connection, building sewer, or connected fittings that the authority considers necessary. They also require a person erecting any building in a sewerage area to install a building sewer and other connected fittings with the prior consent of the NWSC.

#### **l) Land Regulations, 2004**

Regulation 24(1) of the Land Regulations, 2004, states that the District Land Board shall, when compiling and maintaining a list of rates of compensation, take into consideration the following:

- a) Compensation shall not be payable in respect of any crop which is illegally grown;
- b) As much time as possible shall be allowed for the harvest of seasonal crops;
- c) The current market value of the crop and trees in their locality will form the basis of determining compensation;

- d) For buildings of non-permanent nature, replacement cost less depreciation will form the basis of compensation.
- m) Employment of Children Regulations of 2012

The regulations emphasize that a child under the age of 14 years shall not be employed in any business undertaking or workplace, except for light work carried out under the supervision of an adult and where the work does not exceed 14 hours per week.

The regulations also prohibit the employment of a child to do work which is injurious, dangerous, and hazardous or in the worst forms of child labour. Children should not be employed in the development projects as a safeguard of the future and the different authorities in the GKMA should ensure compliance by the developers/contractors.

## 4.5 Ordinances

The district councils are the highest political authorities and have power under section 38 of the Local Government Act Cap 243 to enact district laws (ordinances) while urban, sub-county division or village councils may in relation to its specified powers and functions make by-laws. Section 8 of the KCCA Act 2010 empowers the KCCA to make ordinances of the authority not inconsistent with the Constitution or any other law made by parliament.

### a) Local Governments (Kampala Capital City) (Solid Waste Management) Ordinance 2000

The KCC (Solid Waste Management) Ordinance provides for control, storage, collection, treatment, processing and disposal of solid waste generated within Kampala city; to regulate the development construction, maintenance and operation of such facilities and for connected matters. Paragraph 5 of the ordinance says no person shall place, deposit or allow any solid waste to be placed or deposited on his or her premises or on private property, on a public street, roadside or in gulch, ravine, excavation, or other place where it may be or become a public nuisance. The KCCA ordinance is, however, outdated and should be amended to incorporate sustainability of waste landfills. Developers within the city are required to abide by this ordinance in the deposition of waste associated with their operation.

### b) Local Governments (Kampala City Council) (Urban Agriculture) Ordinance, 2006

The ordinance provide for the licensing, control and regulation of urban agriculture and other connected matters. Paragraph 4 prohibits any person from engaging in urban agriculture without an urban agricultural permit issued by the council. Under paragraph 11, the ordinance further prohibits agriculture under certain areas without prior permission obtained from the council. Among such areas are road reserves, wetlands, gazette green belts and parks, and abandoned landfills.

## 4.6 ESIA guidelines

Some sector specific guidelines have been made to guide the ESIA process in Uganda and relevant to the GKMA developments. These include:

- a) EIA guidelines of 1997: These establish three major phases through which the EIA should be conducted namely; the screening phase, the environmental impact study phase and thirdly, the decision-making phase.
- b) Environmental impact assessment public hearing guidelines of 1999: The guidelines provide the procedure of conducting the hearings in the environmental impact assessment process, especially in seeking questions and answers concerning a project under review; providing for public input in the environmental impact assessment review process and receive submissions and comments from any interested party; finding out the validity of the predictions made in an environmental impact study; and seeking information to assist the executive director to arrive at a fair and just decision, and promote good governance in the environmental impact assessment process.
- c) Environmental impact assessment guidelines for the energy sector 2014: These are in line with the National Environment Act and provide general guidance on how to address environmental management issues in most projects in Uganda's energy sector, including oil and gas. These guidelines emphasize that it is the duty of the developer to conduct an ESIA for a project and further state what should be contained in an ESIA report.
- d) Environmental impact assessment guidelines for water resources-related projects, 2011: These are intended to assist planners, developers, and EIA practitioners on how to play their role in safeguarding water resources through the ESIA process.
- e) Environmental impact assessment guidelines for road projects 2004: The guidelines present procedures for conducting EIAs on road projects where the purpose of each step in the EIA process is clearly described. These procedures basically follow the NEMA guidelines, but some modifications have been introduced which intend to streamline the ESIA process to accommodate the normal road project cycle.
- f) Guidelines for occupational safety and health, including HIV in the health services sector 2008: The overall goal of these guidelines is to provide a framework for the attainment of workplace safety and health for all workers within the health sector. The guidelines seek to provide and maintain a healthy working environment, institutionalize OHS in the work places and contribute towards safeguarding the physical environment.
- g) National physical planning standards and guidelines 2011: The overall aim of physical planning is to achieve orderly, coordinated,

efficient and environmentally sound social and economic development, and to secure the proper use of land and. Its objective is the optimum use of land for agriculture, forestry, industry, human settlements, infrastructure and other competing land uses. They make the following recommendations for buffer zones: buffer distances for lakeshores 200m, for major river banks 100 m, for forests 100m, or the use of physical barriers such as a road is recommended, for minor rivers 30m and for swamps minimum 50m depending on the function. Further regulates in gazetted wetlands and provide projects that require the preparation of EIA to be conducted before implementation as required under NEA.

- h) Environmental audit guidelines for Uganda, 1999  
The guidelines reiterate the National Environment Act's requirement for all on-going activities that have or are likely to have a significant impact on the environment to be subjected to an environmental audit. A developer is expected to submit the first environmental audit report to the executive director, NEMA within a period of not less than 12 months and not more than 36 months after the completion of the project or commencement of its operations, whichever is earlier, provided that an

audit may be required sooner if the life of the project is shorter than the aforementioned period. Based on the provisions of the guidelines, KCCA or urban authorities are required to undertake environmental audits for the focus developments for which an environmental study may be undertaken.

- i) EIA guidelines for road sub-sector, 2008  
These EIA guidelines outline specific EIA requirements on road projects. They categorize the various road projects and the levels of EIA to be undertaken on road projects. The guidelines therefore provide ESIA requirements for development of road projects in the GKMA.

4.7 International agreements Uganda is a signatory to a number of international agreements which are relevant to supporting the national efforts in environmental management, including the social and economic welfare of communities. Table 4 below outlines some of these agreements/conventions.

*Table 4: International and regional conventions that Uganda has signed and ratified and are relevant to the implementation of ESIA*

Treaty, Convention, Agreement	Obligations/ key requirements	Year Signed/ Ratified	Implications for Uganda as a party and GKMA developments
The RAMSAR Convention 1971	Requires contracting parties to formulate and implement their planning so as to promote the conservation of the wetlands included in the list, and as far as possible the wise use of wetlands in their territory (article 3.1).  Requires parties to arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the list (or wetlands of international importance) if it has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference (article 3.2).	4/3/1988	Ensure the integrity of all the RAMSAR sites that will be affected whether directly or indirectly by development projects.  One of the RAMSAR sites in the GKMA is the Lutembe Bay Wetland System in Wakiso District. The system plays an important hydrological role, with the swamps surrounding the Murchison Bay acting as natural filters of wastewaters from industries, and sewage from Kampala city.
The World Heritage Convention, 1972	Parties are required to ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory, each state party to this convention shall endeavour, in so far as possible, and as appropriate for each country (art. 5).  Effective measures to be taken include an assessment of the feasible project alternatives to prevent or minimize or compensate for adverse impacts and assess the nature and extent of potential impacts on these resources, and designing and implementing mitigation plans.	20/11/1987	Ensure comprehensive protection of heritage sites in the urban development undertakings.  Some of the world heritage sites in GKMA include the Kasubi Tombs, Namugongo Martyrs' Shrine, and Bahai Temple.
The Montreal Protocol, 1987	The Montreal Protocol on Substances that Deplete the Ozone Layer requires parties to:  (a) comply with the ozone-depleting substances (ODS) freeze and phase-out;  (b) Ban ODS trade with non-parties to the protocol	15/9/1988	Ensure that emissions are minimized during urban development.

The Basel Convention, 1989	The objective is to protect human health and the environment against the adverse effects of hazardous wastes.  Its scope of application covers a wide range of waste defined as "hazardous waste" based on their origin and/or composition and their characteristics (article 1 and annexes I, III, VIII and IX).	11/3/1999  (Date of accession)	Ensure that the waste generated during the project development is categorized into hazardous and non-hazardous waste and disposed of in the most appropriate manner.
The Convention on Biological Diversity 1992	Its objectives are to conserve biological diversity, promote the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, and by appropriate funding (Article 1).  Requires state parties to introduce procedures that require impact assessments of proposed projects likely to have significant adverse impacts on biodiversity (art. 14 (1) (a)).	12/6/1992 & 8/9/1993	Parties to this convention are required to undertake an EIA for projects likely to have significant adverse effects on biodiversity and develop national plans and programmes for conservation and sustainable use of biodiversity.
The United Nations Framework Convention on Climate Change, 1992	Requires parties to avoid adverse effects on the environment and adopt measures and policies to control carbon dioxide emissions in technologies (article 4 f).	13/6/1992 & 8/9/1993	Implementation of the proposed developments should ensure reduction of greenhouse emissions via regular servicing of equipment.
The United Nations Convention to Combat Desertification, 1992	Requires parties to take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change (article 4).	15/6/1997	ESIA should minimize all negative impacts of climate change.
The Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade 1998	The convention promotes shared responsibility between exporting and importing countries in protecting human health and the environments from the harmful effects of certain chemicals and provides for the exchange of information about potentially hazardous chemicals that may be exported and imported.	18/8/2008	Promote shared responsibility and cooperative efforts among parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm.
The Stockholm Convention, 2004	The Stockholm Convention is a global treaty to protect human health and the environment from persistent organic pollutants (POPs).  It focuses on eliminating or reducing releases of 12 POPs including: Aldrin, Chlordane, DDT, Dieldrin, Dioxins, Endrin, Furans, Hexachlorobenzene, Heptachlor, Mirex, PCBs and Toxaphene.	18/10/2004	With respect to the GKMA, developments such as roadworks, POPs would arise from open air combustion of waste and should therefore be avoided.
The Convention for the Safeguarding of the Intangible Cultural Heritage, 2003	The objectives include: to safeguard the intangible cultural heritage; ensure respect for the intangible cultural heritage of the communities, groups and individuals concerned and raise awareness at the local, national and international levels of the importance of the intangible cultural heritage, and of ensuring mutual appreciation thereof.	13/05/2009	The proposed developments should ensure greater respect and awareness of the intangible values through consultation with community and taking into account their views.

### Regional Agreements

Treaty, Convention, Agreement	Obligations/key requirements	Year Signed/Ratified	Implications for Uganda as a party and GKMA developments
The African Convention on the Conservation of Nature and Natural Resources, 1968	The contracting states to this convention are required to undertake and to adopt measures to ensure conservation, utilization and development of soil, water, flora and fauna resources in accordance with scientific principles and with due regard to the best interests of the people. The contracting states to this convention are also required to ensure that conservation and management of natural resources are treated as an integral part of national and/or regional development plans.	1968	During the formulation of all development plans, by KCCA and urban authorities, full consideration should be given to ecological, as well as economic and social factors.

The Agreement on the Conservation of African-Eurasian Migratory Water Birds (AEWA), 1995	<p>The agreement provides for coordinated and concerted actions to be taken by the range states throughout the migration systems of the water birds to which it applies.</p> <p>It also requires them to investigate problems that are posed or are likely to be posed by human activities and endeavour to implement remedial measures, including habitat rehabilitation and restoration, and compensatory measures for loss of habitat.</p>	12/2000	<p>Ensure that any impacts on migratory birds are mitigated.</p> <p>Lutembe Bay, an 8 km<sup>2</sup> site between Kampala and Entebbe alongside Murchison Bay, is an internationally recognized Birdlife International Important Bird Area and RAMSAR Convention wetland.</p>
The Bamako Convention 1990	<p>Requires party states to use legal, administrative and other measures to prevent the import of hazardous waste into Africa from non-contracting parties. Import of hazardous waste from non-contracting parties is an illegal and criminal act (art 4.1).</p> <p>Each party is required to ensure that environmentally sound treatment and disposal facilities for hazardous wastes are located, to the extent possible, within its jurisdiction.</p> <p>Each Party is required to ensure that persons managing hazardous wastes take all actions necessary to prevent pollution arising from the management of such wastes and to minimize the impacts of such waste in the event of pollution occurring (Art 4.3)</p>	1/10/1998	Ensure that all the hazardous waste generated from the project activities are managed in line with the requirements of the convention.
EAC Treaty 1999	Article 112(2a) commits partner states to develop capabilities and measures to undertake EIA of all development project activities and programmes.		Ensure that EIA is undertaken for all development projects activities and programmes in the GKMA in line with the NEA and EIA regulations.
The Protocol on Environment and Natural Resources Management, 2006	Art. 31 requires the partner states shall at an early stage plan for trans-boundary activities and projects that may have significant adverse environmental impacts, the partner states shall, at an early stage, undertake a comprehensive assessment of the impacts with regard to their own territories and the territories of other partner states.	2010	Effective communication should be made to partner states prior to commencement of development projects that may have impact on the Lake Victoria which is a transboundary resource.

### Soft Law Principles

Soft Law Instrument	Obligations/Key Requirements	Implications for Uganda and GKMA developments
The Stockholm Declaration 1972	Requires that the discharge of toxic substances or of other substances and the release of heat in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted.	The requirement is incorporated into the NEA and regulations and developers/authorities are bound to abide and enforce
The UNEP Principle on Shared Natural Resources, 1978	Principle 4 requires states to undertake EIA for projects or activities that have trans-boundary impacts.	This is not yet incorporated in the legal framework, however prior notice should be made to the riparian states
The Rio Declaration 1992	Principle 17 requires states to undertake an EIA for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.	The requirement exists in the NEA and EIA regulations and the procedures in the EIA guidelines should be followed.
Sustainable Development Goals 2015	Requires ensuring availability and sustainable management of water and sanitation for all, conserving and sustainably using the oceans, seas and marine resources for sustainable development and protecting, restoring and promoting sustainable use of terrestrial ecosystems sustainably managing forests, combating desertification, and halting and reversing land degradation and halting biodiversity loss.	This is contained in National Water Policy & Water Act, National Environment Policy & NEA. need to be observed by the developers.

## 5. INSTITUTIONAL AND ADMINISTRATIVE FRAMEWORK FOR ESIA IMPLEMENTATION IN THE GKMA URBAN DEVELOPMENT

### 5.1 Introduction

There are key institutional actors in both the national- and urban-level agencies with a mandate to implement the process of ESIA in GKMA urban development. They are assessed below:

#### a) Ministry of Water & Environment (MWE)

MWE is responsible for setting national policies and standards, managing and regulating water resources and determining priorities for water development and management. It also monitors and evaluates sector development programmes to keep track of their performance, efficiency and effectiveness in service delivery. The ministry has three directorates: water resources management, water development and environmental affairs.

The Directorate of Water Resources Management processes permits to regulate the abstraction of water using motorized pumps and canals; discharging wastewater in the environment; drilling for water; construction of dams and also reviews EIAs reports related to water resources. The Directorate of Environmental Affairs through the Wetland Management Department is mandated to manage wetlands and ensure wise use and handling of wetlands for the projects in GKMA.

#### b) Ministry of Lands, Housing & Urban Development (MLHUD)

MLHUD is responsible for providing policy direction, national standards and the coordination of all matters concerning lands, housing and urban development for the country. It guides and directs policy, legal aspects and sets the regulatory agenda on land, housing and urban development to ensure sustainable land management promotes sustainable housing for all and fosters orderly urban development in the country. Within the ministry, there are three directorates and multiple departments. The Directorate of Land Management has three departments: the Department of Land Registration, Department of Land Administration, Department of Surveys and Mapping. It also has a Land Sector Reform Coordination Unit.

The Directorate of Physical Planning and Urban Development comprises of the Department of Physical Planning, the Department of Urban Development and the Department of Land Use Regulations and Compliance.

The Directorate of Housing is responsible for ensuring that there is orderly,

progressive and sustainable urban and rural development in the country.

The Land Act, Cap 227, mandates the district land boards (DLBs) to review the lists of rates of valuation of properties and or compensation annually. The chief government valuer is responsible for approving district compensation rates.

The CGV also approves the valuation methodology and the final valuation report usually contained in resettlement action plans (RAP). The Department of Urban Planning is responsible for structure plans in cities and towns hence the mandate over the GKMA and the RAPs of projects should be approved by the CGV before implementation/ payment of project-affected persons (PAPs).

#### c) Ministry of Works, and Transport

This is the lead ministry under which UNRA falls and operates through its environment liaison unit which is responsible for conducting and monitoring ESIA in road-related projects in the GKMA.

#### d) Ministry of Gender Labour & Social Development

The ministry is enjoined to operationalize Chapter 4 of the Constitution (Articles 31-42), which focuses on affirmative action and the promotion of fundamental human rights of the people of Uganda. The Department of Occupational Safety and Health in this ministry is responsible for the inspection of the quality of the workplace environment to safeguard occupational safety, rights of workers and gender equity.

Developers/contractors should ensure safe working environment for the workers, through provision of PPE, adequately equipped first-aid kits, fire safety apparatus, training on the use of equipment as well as other emergency response mechanism and health schemes as required.

#### e) Ministry of Tourism, Wildlife and Antiquities

Where cultural or heritage sites are to be affected by proposed urban developments, this institution is responsible for any chance finds that could be encountered by project activities. The Department of Museums and Monuments under this ministry is directly responsible as a lead agency for artefacts, antiquities and monuments encountered within the project areas. The department should always give a technical input in ESIA studies for the management of PCRs.

#### f) National Environmental Management Authority (NEMA)

NEMA is the principal agency in Uganda on matters of environment management. It is empowered by the National Environment Act to manage, coordinate and supervise all activities in the field of environment. NEMA is responsible for undertaking enforcement, compliance, review, approval and monitoring of the ESIA through

its Department of Environment Monitoring and Compliance. The department is also responsible for recommending the preparation and issuance of ESIA certificates and also implements a follow up programme to ensure that mitigation measures as contained in the EIAs and approval conditions stated in the certificates of approval are implemented.

NEMA and the District Environment Offices ensure environmental compliance and regulate activities that affect the environment for the GKMA projects during and after the works.

### **g) National Forestry Authority (NFA)**

NFA is responsible for sustainable management of central forest reserves (CFRs), supply of seed and seedlings, and provision of technical support to stakeholders in the forestry sub-sector on contract. NFA is required to co-operate and co-ordinate with NEMA and other lead agencies in the management of Uganda's forest resources. NFA, in conjunction with KCCA, UIA, UWA and other regulatory authorities, should control and monitor industrial, infrastructural, mining developments and tourist facilities in CFRs in the GKMA.

### **h) Uganda Wildlife Authority (UWA)**

UWA is mandated under the Uganda wildlife Act Cap 200 to ensure sustainable management of wildlife resources and supervise wildlife activities in Uganda both within and outside the protected areas. UWA should ensure developers desiring to undertake any project, which may have a significant effect on any wildlife species, or community in the GKMA, to undertake an ESIA in accordance with the National Environment Act. UWA in conjunction with should also carry out audits and monitoring of the projects in accordance with the NEA.

### **i) Uganda National Roads Authority (UNRA)**

UNRA is established by the Uganda National Roads Authority Act, 2006. Its functions include management, maintenance and development of the national roads network and maintenance. It is a key institution for conducting the ESIA for major road projects in the GKMA, ensuring the implementation of mitigation measures and undertaking monitoring of the roadworks during construction and post construction.

### **j) Uganda Investment Authority**

The Uganda Investment Authority (UIA) has the mandate to promote, facilitate and supervise investments in Uganda. UIA issues investment licences and provides aftercare services to all domestic and foreign investors. Where an investor is in breach of any environmental terms or condition of his or her investment licence, the UIA with approval of the Minister of Trade, Industry and Cooperatives can revoke the licence.

### **k) Local governments**

Local governments are governed by the Local Government Act Cap 243 and have powers to oversee the implementation of development activities through respective technical and political offices, such as those responsible for water, production, engineering, natural resources and physical planning, environment, health and community development. They are responsible for ensuring that an ESIA is done for development activities under their jurisdiction, as well as carrying out a review for EIAs of such projects. This responsibility also includes carrying out inspections related to the environment and implementation of the ESIA requirements.

Local governments have under them district/local environment committees, district land boards (DLBs) and physical planning committees (PPCs). The local environment committees are the implementing organs in conservation and management of wetland and environment resource. The DLBs are responsible for land allocation at local government level and they set compensation rates for crops and structures. The PPCs plan, approve and oversee orderly progressive development of land in district.

The divisions of Kampala (Nakawa, Makindye), Kawempe, Lubaga and the Central Division, Entebbe Municipal, Wakiso, Mukono, Mpigi should be in position to ensure ESIA compliance and implementation for projects within their jurisdiction.

### **l) Kampala Capital City Authority (KCCA)**

KCCA is established under the KCCA Act, 2010 and it is specifically obliged to plan, implement and monitor the delivery of public services, and guide city development. The KCCA Directorate of Engineering and Technical Services (DE&TS) is responsible for the planning, design and construction of all physical infrastructures. The Public Health and Environment Directorate (PH&ED) guides the authority on the efficient management of public health and the environment. The PH&ED has a department of environmental management headed by a manager under whom are five environmental management supervisors and five environmental officers. KCCA plays a key role in supervision and monitoring of project implementation processes at the authority and division levels. The Director of Gender and Community Services has a RAP team comprising of a social development/RAP specialist, and two sociologists. The environmental and social specialists and the community development officers at the divisions are the main actors for ESIA implementation in the authority.

### **m) Developers/development partners**

According to the Uganda EIA legislation and guidelines, an EIA shall be undertaken by the developer, and the costs associated with the conduct of the assessment shall be borne by the developer. Such costs shall include, among other things, costs for the conduct of environmental impact studies, preparation and production of the EIS. There are several development partners in Uganda and Kampala in particular that should be engaged in the ESIA reviews: the African Development Bank (AfDB), Agency Française de Développement (AFD), Canadian International Development Agency, GIZ, Japan International Cooperation Agency (JICA), United States Agency

for International Development (USAID), International Finance Corporation (IFC), the Norwegian Agency for Development Cooperation (Norad) among others, that fund GMKA developments.

## n) Lead agencies

The role of NEMA in the implementation of an EIA as stated earlier does not relieve the relevant line ministries, sectoral departments and other public and private institutions from the primary duty of ensuring that an EIA is done for projects and development activities under their jurisdiction, in accordance with their respective sectoral policies, and within the framework of cross-sectoral participation required for environmental impact assessments.

Each lead agency is primarily responsible for ensuring that an EIA is done for development activities under their jurisdiction, as well as carrying out reviews for EIAs of such projects. This responsibility also includes carrying out inspections related to the environment and implementation of the EIA requirements. Where the review of any one EIA requires the holding of a public hearing, the responsible lead agency shall take the lead in co-coordinating and executing a hearing in accordance with the guidelines that have been prepared by NEMA.

## o) Public and civil society

The role of the public and civil society is recognized in the Uganda EIA process and includes advocacy and the provision of relevant information during the various stages of the EIA process, including EIA study and review stages. The Environment Act also provides for possible public intervention in cases where development is carried out without fulfilling the EIA requirement. Organizations like USAID have been active in EIA and funded Uganda conserve biodiversity for sustainable development (COBS) Support Project (completed in 2002) that resulted in the production of an EIA manual for public officials, and an EIA guideline for the wildlife sector. The NGO Greenwatch produced a guide to EIAs in Uganda in 2001.

## p) Professional bodies

- Uganda Association for Impact Assessment: professionals involved in EIA need to be a member of this association. Administration and certification of EIA consultants is provided by an independent committee on registration of environmental practitioners. This committee has its secretariat within NEMA.
- Eastern Africa Association of Impact Assessment (EAAIA) was formed to enable the region to establish a well-managed database that acts as: a source of EA information, a mechanism for exchange and sharing of

knowledge, information and experience on EA policies and practice; and support maximization on the use of available resources in the region. Uganda is a member.

- East African Network for Environmental Compliance and Enforcement (EANECE): Regional network of governmental agencies which have in their mandate environmental management, compliance and enforcement responsibilities in the East African nations of Kenya, Uganda, Tanzania, Rwanda and Burundi.

## 6. ESIA EXPERIENCE IN URBAN DEVELOPMENT PROJECTS IN THE GKMA

### 6.1 Introduction

Section 19 of the National Environment Act requires that an environmental impact assessment shall be undertaken by the developer where the lead agency, in consultation with the executive director, is of the view that the project may have an impact on the environment or is likely to have a significant impact on the environment or will have a significant impact on the environment. The third schedule of the act requires that the following projects in urban areas shall be considered for environmental impact assessment. The general projects include an activity out of character with its surroundings, any structure of a scale not in keeping with its surroundings and major changes in land use. Urban development projects include the designation of new townships; establishment of industrial estates; establishment or expansion of recreational areas; establishment or expansion of recreational townships in mountain areas, national parks and game reserves, and shopping centres and complexes. The transport projects include all major roads, all roads in scenic, wooded or mountainous areas; railway lines; airports and airfields; pipelines and water transport, waste disposal, including sites for solid waste disposal, sites for hazardous waste disposal, sewage disposal works, major atmospheric emissions and offensive odours.

There are several projects that have been developed in the GKMA that have undergone ESIA.<sup>3</sup> Some selected ones are reviewed below:

### 6.2 Projects that impact on land resources

Developments on land lead to loss of plant species and communities. Direct impacts result from disturbances that cause changes in temperature, light, moisture and nutrient levels; removal activities (e.g. clear cutting, bulldozing); impacts resulting from air and water pollution (e.g. turbidity, eutrophication). Indirect impacts result from changes in natural community processes (e.g. fire) or invasion of non-native

<sup>3</sup> The details of the projects are provided in Annex 1.

plant species. Loss of plant communities also results in decreased water quality (e.g. loss of filter function associated with plant communities), increased erosion as a result of unstable soil, nutrient imbalances in the soil, and/or compaction of soil.

Construction activities also cause soil erosion. Soil erosion is a problem both at its source and downstream of the development site. Lost soil will be deposited somewhere and the location of the deposition could alter downstream hydrology and increase flooding. It may also pose a water quality issue directly as a result of siltation and indirectly from contaminants carried with or attached to soil particles.

Loss of other natural resources affect the quality of water supply, clean air, forests, mineral resources, wetlands, farmland, game species, rare species and recreation opportunities, and can impact a community's ability to sustain itself over the long term.

### **Project I - Extension of Mpererwe Sanitary Landfill Project (2008)**

Under this project, KCC extended the landfill located at Mpererwe, about 15 km north of central Kampala along Kampala-Gayaza Road. The sanitary landfill had been opened in 1996 and required extension for increased efficiency in waste management.

Solid waste disposal projects are third schedule projects under the NEA, paragraph 12, and an ESIA is required to be undertaken by the developer.

KCC conducted an ESIA and identified several long-term project impacts on the land resources. The impacts were on the local planning scheme, surrounding land use, on-site contamination, reduced options for future uses of the site, tenure of the selected site was affected and reduced property value in the surrounding area.

## **6.3 Projects that impact on water resources**

Changes in surface hydrology alter the flow of water through the landscape. Construction of impervious surfaces, such as parking lots, roads and buildings, increase the volume and rate of runoff, resulting in habitat destruction, increased pollutant loads and flooding. Built or paved areas and changes in the shape of the land also influence groundwater hydrology (i.e. recharge rates, flow, conditions). Development activities, such as construction, industrial or residential development, and the spill over effects of development, such as increased demand for drinking water and increased auto use, can impact water quality by contributing sediment, nutrients and other pollutants to limited water supplies, which may increase the temperature of the water and the rate and volume of runoff.

Development projects also affect aquatic species and communities. Changes in surface hydrology and water quality can have adverse impacts on species such as fish, plants, and microbes. Increased turbidity, temperature, velocity of flow and pollutant loads can have direct impacts on the species and their habitat.

### **Project II - Kampala Industrial Business Park (KIBP) at Namanve (2008)**

Approximately 1,006 ha of Namanve CFR were de-gazetted by government in 1996 and placed under UIA for the development of a modern industrial and business park. The industrial park is located 11 km east of Kampala, 4.5 km west of Mukono District administrative headquarters and Mukono town. It straddles both Wakiso and Mukono districts. The Namanve River crosses KIBP from north to south.

Urban development, including industrial estates are third schedule projects under the NEA, paragraph 2, and an ESIA is required to be undertaken by the developer.

UIA conducted an ESIA study through GIBB (East Africa) Ltd and identified several impacts on surface and groundwater. Among the impacts were pollution of the streams in the area and the river by industrial effluent, and contamination of the aquifer by the construction of pit latrines.

## **6.4 Projects that impact on wetlands**

The wetlands provide a habitat for several different species of plants and animals and their depletion greatly affects populations of different species, including animals and plants. Wetlands provide a winter home and a resting-place to many millions of migratory birds. These and many other species of birds migrate to tropical African wetlands during the winter season in Europe. The crested crane, Uganda's national bird, breeds exclusively in seasonal grass wetlands.

### **Project III - Kampala Sanitation Project - NWSC Faecal Sludge Treatment Plant in Lubigi Wetland (2014)**

The project involved the construction of a faecal sludge treatment plant in Lubigi Wetland by NWSC under AfDB funding to achieve a total of 53,000 m<sup>3</sup>/day of sewage treatment and 500 m<sup>3</sup>/day of sludge treatment.

Waste disposal plants, including sewage disposal works, are third schedule projects under the NEA, paragraph 12. For projects listed in this schedule, an ESIA is required to be undertaken by the developer.

An ESIA study was undertaken and among the negative impacts identified was the permanent loss of some part of the wetlands in Kampala totalling approximately 6.5 ha of Lubigi Wetland.

### **Project IV - Golf Course Project: Construction of a Hotel in a Wetland**

Court case of Greenwatch & Advocates Coalition for Development and Environment (ACODE) v Golf Course Holdings Ltd (HC Misc. Application No 390/2001). In this case, the applicant NGOs concerned with environmental protection sought a temporary injunction to restrain the respondent from constructing a hotel on a

wetland. Akiiki Kiiza J, although he declined to issue the injunction, recognized that the interest of the applicants was of a public nature and that section 72 (now section 71) of the National Environment Management Act gave them a right to sue.

## 6.5 Projects that impact on wildlife resources

Development activities may also cause a loss of wildlife and wildlife habitat. Wildlife habitat may be impacted both from direct and indirect activities associated with development. Alteration, fragmentation or destruction of wildlife habitat can result in the direct loss or displacement of species and the ability of the ecosystem to support other biological resources such as the plant communities upon which the wildlife relied for survival.

### Project V - Kampala Industrial Business Park (KIBP) at Namanve (2008)

The industrial park development in the GKMA was established at Namanve CFR that was a habitat to various plant and animal species. It was made up of a swamp and a closed forest with plant species of conservation interest. A total of 20 bird species were regionally threatened, and 14 amphibian species comprising of 3 families were recorded in the project area.

Urban development, including industrial estates, are third schedule projects under the NEA, paragraph 2, and an ESIA is required to be undertaken by the developer.

UIA conducted an ESIA study through GIBB (East Africa) Ltd and identified negative impacts on floral and faunal habitats which were destroyed, and the loss of plant species whose habitat and food chains were destroyed.

## 6.6 Projects that impact on forestry resources

Forestry makes a crucial contribution to the ecology and energy needs of Uganda. Uganda's forest resources are an essential foundation for the country's current and future livelihood and growth. Uganda lost 27 per cent (1,329,570 hectares in total or 88,638 hectares per year) of its original forest cover between 1990 and 2005. The forest loss in the GKMA is due to industrial development, road construction and illegal settlements.

### Project VI - Standard Gauge Railway Project (2017)

The GoU through the Ministry of Works and Transport is spearheading the development of the standard gauge railway (SGR) network. The SGR Project is being implemented over five years as a regional development in partnership with Kenya, Rwanda and South Sudan. The network will provide a modern, fast, reliable, efficient and high capacity railway transport system as a seamless single railway operation.

Transport projects, including railway lines, are third schedule projects under the NEA, paragraph 3, and an ESIA is required to be undertaken by the developer.

The project will affect the Namanve Central forest reserve and the attendant wetlands. To pave way for the SGR Project, in January 2017, the MLHUD cancelled several land titles which it said had been illegally acquired in the forest reserve.<sup>4</sup>

## 6.7 Projects that impact on air resources

Air pollution has direct and potentially hazardous impacts on human health. Air pollution includes two types: gas emissions and particulate emissions, for example from activities of oil exploration and production. Non-hazardous but undesirable air pollution includes odours produced from some manufacturers and restaurants, etc.

Air is also affected by noise pollution which can have a significant impact on both human health and the quality of life of a community. Such pollution is most commonly associated with airports, highway and interstate traffic, large industrial facilities and high volumes of truck and car traffic on city streets.

### Project VII- The Greater Kampala Roads Improvement Project (GKRIP) - March 2014

The GKRIP covered the congested section from off the Clock Tower Roundabout to off the Hotel Africana Roundabout along Queensway (3.2km) as well as the extended section from Kibuye Round about to Jinja Road after the cemetery. It was undertaken to decongest the centre of Kampala city as well as the congested roundabouts located along the congested section of the project road.

Transport projects, including all major roads, are third schedule projects under the NEA, paragraph 3, and an ESIA is required to be undertaken by the developer.

ESIA was undertaken by UNRA and identified a deterioration in air quality due to increased traffic volume and the movement of construction equipment, construction activities (extraction, transport and stockpiling of materials, excavation, compaction etc.), and the generation of dust and air pollution by emissions from equipment and vehicle exhausts.

Table 3: General environmental impacts

ITEM /ENVIRONMENTAL COMPONENT	ENVIRONMENTAL IMPACT
<b>1. Land resources</b>	<ul style="list-style-type: none"> <li>• Soil erosion/damage due to survey activities, vehicle tracks and other excavation and drilling</li> <li>• Soil contamination from drilling, mud, oil and diesel spills from survey vehicles and other equipment.</li> <li>• Soil compaction, loss of soil productivity, dust generation as a result of vehicle movement</li> <li>• Aesthetic and amenity values impact, especially for such a pristine area</li> <li>• At some stages, and depending on the encountered underlying rock, use of explosives and detonators might be necessary; in that case impact related to noise, risk of injury (to both animals and humans).</li> <li>• Disturbance/loss of heritage resources (sites and artefacts). (Impact on or loss of any heritage sites)</li> <li>• Conflict with adopted environmental plans and goals of community where located</li> <li>• Disrupt or divide physical arrangement of an established community</li> <li>• Conflict with established recreational, educational, religious or scientific uses of the area</li> <li>• Conflict with existing land-use policies</li> <li>• Result in a substantial alteration of the present or planned land use of an area</li> <li>• Conflict with local general plans, community plans or zoning</li> <li>• Result in the conversion of open space into urban or sub-urban scale uses</li> <li>• Convert prime agricultural land to non-agricultural use or impair the productivity of prime agricultural land</li> <li>• Expose people, structures or properties to major geological hazards e.g. earthquakes,</li> <li>• Result in unstable conditions or changes in geological sub-structure</li> <li>• Result in changes in deposition or erosion or changes which modify the channel of a river stream or the bed of any bay, inlet or lake</li> <li>• Cause substantial flooding, erosion or siltation</li> <li>• Loss of soil fertility due to improperly planned re-settlement of people from the site</li> </ul>
<b>2. Water Resources</b>	
Surface Water	<ul style="list-style-type: none"> <li>• Stream/surface water flow disruption caused by access roads and drilling areas (changes in surface flow direction, erosion)</li> <li>• Water consumption</li> <li>• Local siltation of surface water due to poorly constructed access tracks</li> <li>• Stream flow disruption caused by access roads and tracks</li> <li>• Local siltation of rivers due to poorly constructed access tracks</li> <li>• Water pollution from fuel spillage and waste disposal</li> <li>• Modification in river flow, especially with water releases affecting: ecology, fishing, water supply, irrigation and livestock watering, channel scouring and erosion etc.</li> <li>• Growth of nuisance algal blooms (including toxic blue-green algae) due to eutrophication (nutrient enrichment)</li> </ul>
Groundwater Resources	<ul style="list-style-type: none"> <li>• The groundwater could become polluted as a result of pit latrines and poor waste disposal practices</li> <li>• Local lowering of water table levels due to abstraction of groundwater for camp use</li> <li>• Modification of groundwater, such as water table levels, which could impact on ground stability, agricultural practices, water logging and salination of soils, ecosystem functioning etc.</li> </ul>

<sup>4</sup> <https://ugandamediacentreblog.wordpress.com/2017/01/20/cancellation-of-land-titles-falling-within-bukasa-and-namanve-central-forest-reserve-and-the-surrounding-wetland-sgr/>

- 3. Forestry
  - Disturbance or loss of protected/endangered plant species or communities (terrestrial, wetland, aquatic) due to survey activities
  - Introduction of problematic invasive/alien plants to site due to ground disturbance
  - Deforestation and climate change
  - Loss of biomass
  - Illegal felling of trees for firewood and the illegal collection of plant specimens

#### 4. Wildlife resources

- Local siltation of surface water due to poorly constructed access tracks, and drilling soil waste could affect key aquatic habitats

#### 5. Air quality

- Dust from vehicle movements, drilling.
- Fumes from drilling equipment, generators, vehicles
- Smoke from burning of cleared vegetation
- General nuisance such as noise and dust
- Violate ambient air quality standards
- Result in substantial air emissions or deterioration of ambient air, e.g. suspended dust
- Create objectionable odours
- Alter air movement, moisture or temperature or result in any change in climate either locally or regional
- Provide toxic air contaminant (TAC) emissions that exceed air pollution control threshold for health risk
- Hamper visibility
- Noise generated by survey activities, especially drilling, geophysical work and vehicles

#### 6. Wetland Resources

- Loss of vegetation and micro-habitats
- Increase in illegal harvesting of wetland resources
- Alteration of riparian lands, wetlands, marshes or other wildlife habitats
- Pollution of wetland ecosystems

## 6.8 Social issues and potential impacts of urban development in the GKMA

Development projects provide new opportunities for socio-economic development to people through the creation of employment opportunities and an increase in the availability of goods and services. There are however, increased levels of deprivation, especially among vulnerable social, economic and political groups. The loss of private assets resulting in loss of income and displacement makes ESIA an important input in project design while initiating and implementing developmental interventions. An understanding of the issues related to social, economic and cultural factors of the affected people is critical in the formulation of an appropriate rehabilitation plan. ESIA also helps in enhancing the project benefits for poor and vulnerable people while minimizing or mitigating concerns, risks and adverse impacts.

### a) Land acquisition and resettlement

There are displacement concerns related to urbanization. Developments cause people to lose their homes and their means of making a living. Large-scale

developments, such as road works, are the main cause of the forced displacement of people in the GKMA. This has resulted in vulnerability, a change in settlement patterns and land conflicts. Developers should prepare resettlement action plans (RAP) in consultation with the affected people and project authorities. Rightful landowners should be adequately compensated. However, compensation has been delayed after land acquisition for several projects.

### Project VII – New Entebbe Express Highway (2016)

The highway starts on Masaka Road at the Busega – Mityana roundabout on the northern bypass and passes through Kabojja, Kasanje, Kinaawa and Kazinga among other villages on its way to join Entebbe Highway at Mpala. Another 14 km spur will connect Munyonyo to the Kampala - Entebbe Highway at Lweza as part of the project. The government earmarked UGX 100 billion to compensate people in 15 villages who will be displaced by the new Entebbe Highway.

## b) Occupational health and safety

Urbanization has created employment opportunities in which the occupational health and safety of labourers is at risk, especially in industrial and construction works. They may either contract occupational diseases or sustain injuries in some work activities. In the GKMA, workers continue to face several hazards in their workplaces, such as not wearing necessary protective equipment, working overtime, work-related pressures and working in multiple facilities. The Occupational Safety and Health Act 2006 is not effectively implemented and interventions should be instituted to mitigate the hazards in the urbanization process.

## c) Gender and marginalized people

Urbanization comes with gender-based inequalities and marginalization which limit livelihood opportunities, and exacerbate poverty and other livelihood limitations disproportionately for some social groups (women) more than others (men). ESIA should consider measures to have equal opportunities for all social groups. The gender element in ESIA during project preparation, execution and operation refers to the identification and analysis of the different ways in which men and women are affected by the proposed project activities, the different ways that men and women are engaged, respond to and cope with project-induced impacts or changes, and the differences in how women and men can meaningfully contribute to the design of mitigation measures such as the RAP and their implementation.

## d) Physical and cultural resources

Physical cultural resources are the items, sites, architecture, architectural complex, natural sceneries and landscapes that have archaeological, historical, religious, cultural and aesthetic values or unique natural values. In the site-selection and design of projects, significant damage to physical cultural resources should be avoided. One part of the ESIA should be to determine whether a project will affect physical cultural resources and the ESIA should comply with relevant provisions. Major stakeholders with heritage interests in the GKMA include the Uganda Museum, Uganda Wildlife Authority, Buganda Kingdom, traditional practitioners, district and local leaders.

### Project IX - Upgrading for the Greater Kampala Roads Improvement Project (GKRIP) – 2014

In the ESIA study, a search for potential PCR was done along the proposed alignment based on documented sources with Department of Museums and Monuments. The clock tower and other important monuments were considered for preservation.

## 7. CHALLENGES OF ESIA REVIEWS IN THE GKMA

### 7.1 Introduction

Environmental and social impacts in the GKMA are linked to dense population patterns, rapid urbanization and infrastructural development which has led to mass solid waste, abattoir waste, sewage, sanitation, drainage, industrial pollution, traffic pollution and atmospheric pollution. As environmentally sensitive areas such as wetlands degrade due to squatter settlements, rich people reclaim them for industrial activity. Poor waste management has resulted in the pollution of water sources. ESIA are reviewed but seem to be ineffective environmental regulations. Legal, institutional and general challenges affect environmental reviews.

### 7.2 Legal, regulatory and institutional challenges

#### Weak regulatory framework

The legal and policy framework provides requirements and standards, but different government agencies may act in way that are contrary to the guidelines and principles. For example, occasionally the Land Commission has leased wetlands or the MLHUD has given land titles to wetlands. This may be, in part, due to the absence of clear demarcation of wetland boundaries (not all wetland areas are surveyed/accurately mapped) and/or a comprehensive wetlands inventory, or the insufficient integration with development-related plans and databases (e.g land-use plans and land titling databases).

#### Overlapping legal and institutional mandates

There is an overlapping legal mandate between institutions. The KCCA also has a function to “enact legislation for the proper management of the capital city” and its Metropolitan Physical Planning Authority has the responsibility and power to “veto physical plans or activities inconsistent with the Metropolitan Authority Development Plan or land-use policy”, and to “ensure that the land use in the city and the metropolitan areas follows designated plans, irrespective of the tenure of land”. With respect to wetlands within Kampala, KCCA thus has the authority to monitor and enforce the requirement that such lands are used in accordance with the designated land-use zone (“Natural Wetland Reserve”). This is in addition to a similar mandate given to both the Wetlands Department and NEMA to regulate the management of wetlands. As a result, there is no clarity on which institution has the legal mandate on implementation, monitoring and enforcement of the urban environment.

As noted in chapter 5, there are the key institutional actors, including both the national and city level agencies and local government institutions. There is institutional fragmentation with overlapping mandates, and weak integration and coordination. As described earlier, both national-level (MLHUD, MWE, NEMA,

Wetlands Department) and city-level agencies (KCCA) are directly involved in different aspects of land and urban environment management and their regulatory scope and responsibilities overlap.

For example, there is multiple institutional fragmentation with regards to the management of wetlands at both the national level and vertically at the local level. At the national level, within MWE, the functions of NEMA and the Wetlands Department with regard to the management of wetlands overlap and the division of work is unclear. While NEMA is clearly the key agency presiding over the EIA process, it is also specifically empowered to manage wetlands as established under the National Environment Act. At the same time, the Wetlands Department is the primary department overseeing wetland matters. In terms of service delivery and the management of urban environment especially wetlands, the regulatory scope and responsibilities of national level agencies also overlap with that of the city-level agency – KCCA.

### **Inadequate coordination**

In some cases, there is inadequate coordination between stakeholders, especially during planning and monitoring of infrastructure development projects.

### **Weak development guidance at city and local government levels**

There are two major weaknesses in the guidance of development in the GKMA. First, there is no detailed physical development plan for GKMA. Currently, around 40 per cent of the population lives in unplanned and densely populated informal settlements which lack basic service provision and the high level of informality contributes to the severe degradation of environmental resources. While an array of political, social and environmental factors is behind the informality, there is no uniform physical planning for the metropolitan area. Currently, Kampala, Entebbe, Mukono, Wakiso and Mpigi have physical development plans but there is no GKMA detailed physical development plan. This means it is difficult to coordinate and implement infrastructure and public amenities, and other economic-socio investments.

Further, environmentally sensitive areas are not adequately demarcated, identified or further protected through the associated regulatory planning tools such as a structured open space plan (often part of detailed physical plan) or zoning. The absence of a uniform detailed plan also means that development decisions are conflicting at times.

### **Loose adherence to development approval process**

Current coordination and integration vertically between the national and city-level agencies are weak, especially with regards to the issuance and enforcement of permits and approvals for development (EIA certification, land title, user permit, planning permit). The instituted due processes may not always be conducted in the proper chronological order or followed in reality. For example, inter-governmental consultation does not work effectively; whenever a development application or EIA permit application involves several government agencies/departments, all of them

should be consulted, but in practice this does not always happen. Agencies do not reinforce each other's mandate throughout the development process; the current observation is that, rather, once a potential development obtains a government issued title/permit/document (be it land title, or EIA or planning permit) this is cause for demanding all the other related government licences, even those undue.

### **Constraints in current capacity and resources**

Limited human and financial capacity poses serious constraints on effective management and especially in ESIA enforcement. Even with all the necessary structure and regulations in place, enforcement can be the greatest challenge. For environmental reviews, enforcement and monitoring is essential. For example, at the EIA permit stage, even when conditional approvals are given, there may not be cross checks between departments for consistency or to ensure that the conditions of conditional permits were eventually met. Further, there is limited training in ESIA report preparing and, as a result, substandard reports are submitted to NEMA.

### **Limited environmental awareness**

Development has proceeded with little awareness or sensitivity of the overall impacts on ecosystems. Along the way, it has reduced the urban forest and open landscape space, degraded the land and soil, and failed to provide essential infrastructure services that are essential to managing the impacts of urban development.

### **Limited environmental resources data**

Data to inform environmental planning and management is limited for the city. The development of baseline environmental data would be an important tool to support the strategic planning approaches being advocated in these findings. The availability of environmental data that is specific to the city is limited; the city does not have programmes or information that address issues related to urban vegetation, open space and landscape, land soil, wildlife, or air quality. Frequently, the environmental data needed to prepare ESIA is not available or is inaccessible, and this has even led to the fabrication of data.

### **Political interference**

In some projects, political interferences determine environmental reviews' outcomes.

### **Professional ethics for EIA consultants**

The EIA process relies heavily on the judgment of the EIA consultants for three reasons. First, the consultant works within a limited timeframe and of necessity can consider only a few impacts seriously. Second, the requisite environmental data are not available or are not readily accessible. Third, the adverse impacts of some of the environmental impacts may not be manifest immediately.

## 8. CONCLUSION AND RECOMMENDATIONS FOR ESIA IN THE GKMA

### 8.1 Conclusion

The report highlights the urban development and ESIA reviews in the GKMA. The region is rapidly growing with mass industrialization, infrastructural development, dense and unplanned informal settlements.

Large scale projects such as the northern bypass, Entebbe express highway, Nakivubo Channel project, NWSC sewage treatment project in Lubigi, Namanve Industrial and Business Park project among others have had significant negative impacts on the environment and its function, as well the social setting for people. (Details of the impacts are in Annex 1). The built environment will continue to expand and there will inevitably be some amount of natural resource and ecosystem loss, as well as social grievances.

ESIA is a process used to predict the environmental consequences of proposed projects, activities or actions of development. ESIA should be conducted before the start of a project to avoid adverse impacts and costs that would mean a project has to be redesigned or to incorporate mitigation measures. ESIA is a legal and policy requirement in Uganda for all proposed developments that are likely to have significant impacts on the environment, and the requirements are contained in various policies, laws and strategies, with the main law being the National Environment Act Cap 153.

Several institutions, including government ministries, GKMA local governments and authorities, are responsible for implementing the ESIA studies and ensuring compliance. However, with different urban contexts, addressing issues of ESIA has been a challenge due to legal and institutional loopholes. Proper consideration of development proposals in the context of the remaining assets can allow GKMA stakeholders to avoid the mistakes of the past.

### 8.2 Recommendations

#### **Survey, mapping of environmental resources and demarcation of boundaries**

The Ministry of Water and Environment needs to commission a study to survey, map environmental resources and the demarcation of boundaries of resources such as wetlands and forests. The data should be integrated with other information systems for development (e.g. land information database) such data bank for relevant data for ESIA studies in the GKMA.

#### **Finalize the National Resettlement and Compensation Policy that is being developed under the Ministry of Lands and Urban Development**

#### **Consolidate and reinforce institutional structure and mandates**

At the national level within the MWE, there is a need to clarify and consolidate the functions and responsibilities of NEMA and other environmental agencies in the management of the environment. Clearer delineation vertically between the national and city-level agencies in terms of the roles and functions, and in correspondence to the development chain of activities, would be beneficial. For example, one model is to have the local authority, KCCA, carry out the day-to-day functions and be the first line of initiation and response; while national-level agencies should have the overall policy and regulation-setting role, provide backstopping support and reinforcements when called upon, and coordinate functions to ensure alignment between agencies/sectors and compatibility for national-level goals. This division of work could apply to the entire chain of activities, from planning to management and enforcement. It is imperative to clarify institutional roles, functions and mandates to empower the various agencies with the necessary authority to plan, implement and enforce their regulatory functions. Enabling this may require the amendment of existing laws, or a commitment to enforce them or establish new ones.

#### **Improve inter-agency integration and coordination across the full chain of development processes**

Related to the consolidation and reinforcement of institutional structures and mandates, the processes around development control and permitted use of environmental resources should be improved. This should start with integrated planning (develop city-wide detailed plans and planning guidelines), sharing of information and aligning database compatibility and information coherence amongst agencies, realizing mandatory consultations, aligning procedures and requirements for the issuance of relevant permits and licences, closing the loop on conditional permits, effective enforcement by conducting joint inspections where necessary, and building in joint reporting at the right forums.

In addition, coordination between all relevant agencies at various steps of the process should be strengthened, potentially by reinforcing standard operating procedures, or setting up regular forums or specific task forces. One possibility is to establish an environmental review control task force that comprises of MLHUD, MWE, NEMA, KCCA, local governments, Wetlands Department and NFA. This will enhance institutional actions to regulate, enforce and protect environmental resources and be consistent with what is already in current policy and law. The development of more sophisticated measures to address ecosystem loss is needed.

#### **Development of a coordinated physical development plans**

It is necessary that KCCA and the local governments of the metropolitan areas develop a detailed, uniform, coordinated physical development plan for the area, starting with priority areas, especially the most environmentally sensitive.

#### **Strengthening Environmental Legislation**

There is need to develop city, district/local level by-laws for the proper management of the environment. This should be in addition to development of guidelines for environment reviews at the city, district/local levels in the GKMA.

### Enforcement of accountability and track performance

Within each institution, it would be useful to devise monitoring and evaluation indicators and a system to track development cases, permits/licences issuing and conditions attached to them, in addition to an associated follow-up plan. This would allow better monitoring and enforcement of the necessary requirements and procedures. Audit mechanisms could also be considered to assess the performance of both national level and local governments on aspects such as environmental regulation enforcement, together with built-in incentives or disincentives related to performance as determined by the audits.

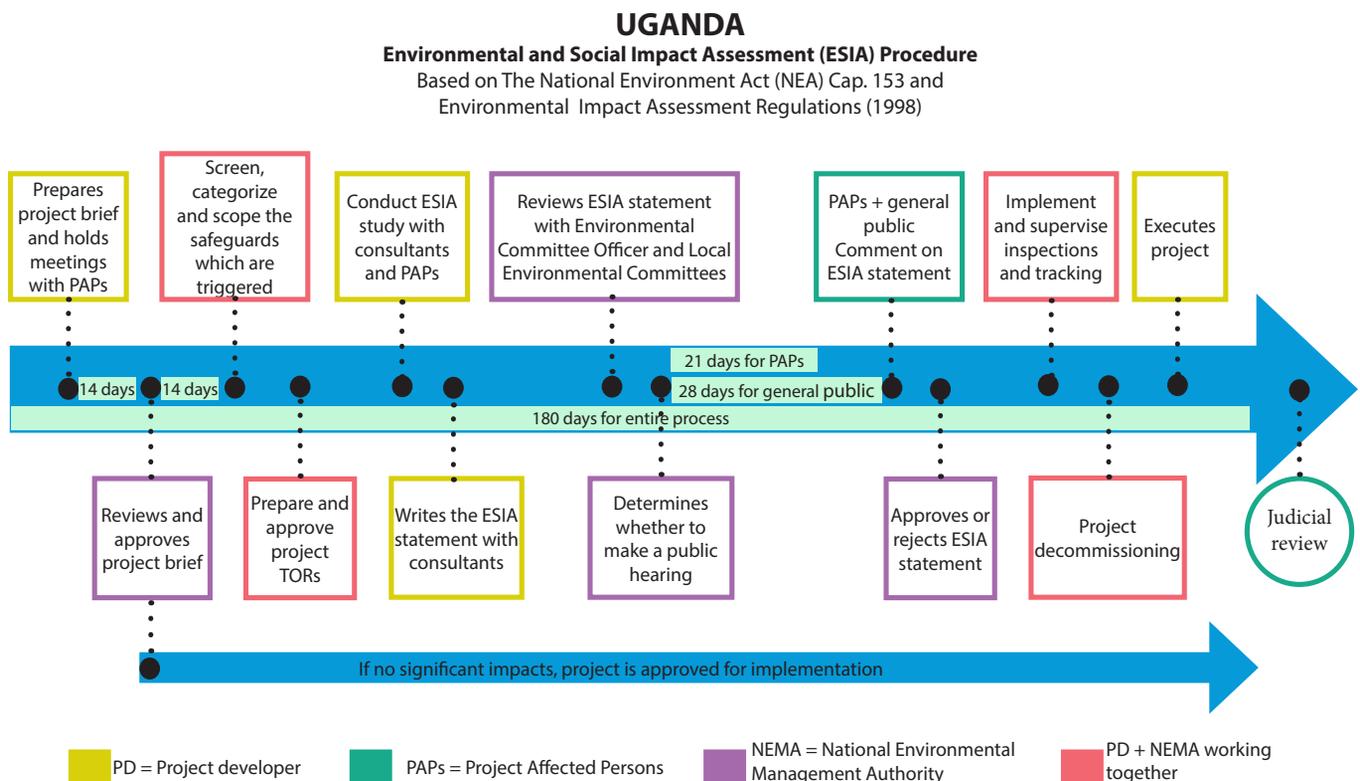
### Environmental public education and communication initiatives

It is necessary to create public awareness on relevant environmental regulations; community/self-policing would be another good way to strengthen them. There are several objectives in conducting public education and communication initiatives: to demonstrate and publicize the benefits of a green urban environment and the direct positive impacts for communities (e.g. improvements to public health, increase in property values etc.); the responsibilities of various government agencies could be clarified to create transparency and build public trust.

The public should be able to direct queries and report any misconduct to the relevant authority, hold it accountable, and see that appropriate actions are taken. Conversely, the relevant authority would have the power to enforce its mandate without unnecessary interference. Each agency could embark on a communication campaign to outline its mandate, responsibilities, assessment methods (e.g. for licensing or permits) and publish public guideline documents through easily accessible channels (illustrations, pamphlets, websites etc.) and with understandable messages (in plain language, free of jargon) for the general public. In addition to the public, the management team in each agency and local leaders should be the first target group to align thinking. Once the leaders are on board, it would be easier to rely on them to disseminate the correct messages and communicate directly with their own constituents to strengthen the cause.

### Assessment of economic value of environmental resources

It is necessary to commission relevant analytical work through the Ministry of Finance, Planning and Economic Development and the MWE to assess the existing environmental resources and their economic value to justify government allocation of resources and funding. In addition, consolidating institutional functions and structures, better planning to align staff numbers and skills with development priorities, or smart use of technology could help to increase efficiency in carrying out the necessary ESIA-related tasks.



## Annex 1: Record of ESIA applications in urban projects in the GKMA

This chapter of the report uses a case study approach to assess and illustrate the outputs and outcomes resulting from the implementation of the ESIA. Recent projects covered include road construction projects, industrial development and waste management in and around Kampala. ESIA reports are prepared in accordance with the guidelines for EIA in Uganda. The guidelines require that any developer seeking to carry out a development of the nature and category described under Schedule 3 of the National Environment Act, Cap 153 carries out an ESIA. The projects under study are of the nature and category described under schedule of the NEA, and therefore undertook ESIA.

### 1.1. ESIA for road projects

#### a) Kampala Infrastructure and Institutional Development Project Phase 2 (KIIDP II) - Roads and Junctions

##### Project description

The Kampala Institutional and Infrastructure Development Project (KIIDP) Phase 2 was sanctioned to improve key road links and junctions for better traffic flow within the city, to improve the overall city appearance and quality of life, and to drive economic development by upgrading the road infrastructure, dilapidated paved roads, pavements, road shoulders and unpaved roads.

The project focused on upgrading of roads and junctions in Kampala city. The junctions include Bwaise, Fairway and Kabira. The proposed roads are Kiira Road (0.8km), Bakuli-Nakulabye-Kasubi-Northern Bypass Road (4.87 km), Makerere Hill Road (1.7km) and Mambule Road (1km). Except for Mambule Road, which will be upgraded to single-paved carriage way, the rest of the roads will become dual-carriageways.

##### Purpose of the project

The project aimed to meet the needs of high levels of traffic by improving the road capacity to cope with potential future increases in traffic. It was to directly improve smooth traffic flow and reduce environmental and economic costs associated with exhaust emissions from increased fuel combustion due to repeated acceleration at low speed and the loss of productivity (from the reduced speed of commercial transport and workers arriving late for work).

##### Project impacts as identified by the ESIA review

###### Positive impacts

- (a) Potential creation of job opportunities during the planning, design and construction phases;
- (b) Creation of business opportunities for small-scale businesses targeting the influx of workers to the project sites;
- (c) Improved traffic flow and mobility;
- (d) Improved drainage systems and hence reduction of flooding events.

###### Negative impacts

- (a) Occupational health and safety; in terms of accidents from careless driving, snake bites, to slips and falls;
- (b) Loss of land/property and resettlement;
- (c) Assault/attack/intimidation/detention of project staff by local people, especially where insecurity of land tenure exists and damage to properties that are yet to be compensated for;
- (d) Damage of property and utilities from construction activities, for example bulldozing may damage underground cable networks and water pipes, leading to supply cut-offs for some areas;
- (e) Destruction of physical cultural resources;
- (f) Ground vibrations and noise emissions from excavation works, road compaction and haulage of construction materials;
- (g) Potential soil erosion as a result of excavation works, such as excavations and increased runoff from paved roadsides;
- (h) Impact on air quality from dust emissions, exhaust fumes and material/chemical odours, for example bitumen;
- (i) Impact on water quality from siltation of streams and swamps, and flooding;
- (j) Impact on vegetation due to clearance of vegetation;
- (k) Waste generation and transport. This will include empty bags, containers, used oil, rubble from demolition, and cut to spoil materials.

##### Stakeholder consultation and public participation

As required by the guidelines for ESIA in Uganda, consultation meetings were held with various stakeholders from different parts of Kampala city, which were: KCCA representatives, project affected persons, Lubaga Division, Nakawa Division, Kampala Central Division, Kawempe Division and NWSC.

## b) The Greater Kampala Roads Improvement Project (GKRIP) - March 2014

### Project description

The GKRIP covered the congested section from off the Clock Tower Roundabout to off the Hotel Africana Roundabout along Queensway (3.2 km) as well as the extended section from Kibuye Round about to Jinja Road after the cemetery. The road project was within the central business district (CBD) of Kampala city comprising parts of Queensway, Nsambya Road, Mukwano Road, all the way to Jinja Road off Hotel Africana Roundabout.

This road project was consistent with the description of the projects under section 3 of the Third Schedule of the NEA that requires a full ESIA. JICA (the funders) classified this project as a category B project in line with their own environmental

safeguards.

### Purpose of the project

The main purpose of the project was to decongest the centre of Kampala city as well as the congested roundabouts located along the section of the project road. The construction of the flyovers along the Mukwano-Nsambya roads would significantly decongest the traffic to and from the city centre.

### Project impacts and mitigation measure as identified by the ESIA review

The project was considered to have the minimum of social/ environmental impacts since there would be no properties taken due to the development.

No	Impact	Mitigation Measures
<b>During Construction</b>		
1	Soil Erosion	<ul style="list-style-type: none"> <li>Degraded sites, including construction material storage points, will be restored to as close to their previous condition as possible after road construction.</li> <li>All embankments, especially where the underpass will be created, trenches and outfalls after construction will be strengthened to limit erosion.</li> <li>Sediment basins/traps will also be used to trap sediments before they enter the Nakivubo Channel and other storm water drains / watercourses</li> </ul>
2	Soil Degradation and Pollution	<ul style="list-style-type: none"> <li>Construction materials to be stored in approved containers and washing areas for site equipment servicing and repair will be carried out in a defined area with a concrete pad draining to oil traps.</li> <li>Provide secure stores for hazardous materials and refuse pits that will be demolished on completion.</li> <li>Abandoned equipment such as tyres, batteries, filters, sparkplugs etc to be removed and carefully disposed of as required by law.</li> <li>Routine, systematic sprinkling of the road, work area and crushing site to reduce dust emissions.</li> </ul>
3	Increased Storm Water	<ul style="list-style-type: none"> <li>Road drainage to discharge into existing natural water courses.</li> <li>Collector systems for cut slopes to be provided to drain to the road drainage system.</li> <li>Culvert outlets to be protected with reno-mattresses or similar.</li> <li>Embankment slopes to be planted with Bahia grass or similar approved to control erosion.</li> <li>Burrow pits and quarries to be free draining.</li> </ul>
4	Nakivubo Channel Water quality	<ul style="list-style-type: none"> <li>Block the soil from entering the channel.</li> <li>Sedimentation basins should be created between the channel banks and areas where excavation and pitting are taking place; these to be regularly checked.</li> <li>Continue to monitor the channel from both up and downstream points during construction.</li> <li>One sample per month during times when there is no rainfall.</li> </ul>
5	Reduction in Air quality	<ul style="list-style-type: none"> <li>Exposed parts of the service roads should be paved.</li> <li>Regular monitoring of air quality in the construction area.</li> <li>Parameters to be monitored: Dust (PM), CO, NO2, SO2, Oxygen.</li> <li>Use low sulphur fuels including diesel fuel with a sulphur content, 15ppm and propane with negligible sulphur content.</li> <li>Meet applicable criteria with respect to emission quality on all combustion-related equipment and provide maintenance according to manufactures specifications.</li> </ul>

6	Increased Noise levels	<ul style="list-style-type: none"> <li>• The construction fleet to be kept in good condition and fitted with efficient silencers. Speed controls (speed humps) at specified intervals (specific to each haul road) will be installed and maintained.</li> <li>• House the generators, if required, on sites in a soundproof structure to reduce noise levels.</li> <li>• Workers to use ear muffs to reduce exposure to noise, particularly those working at the quarry and crusher areas to reduce injury to the ears due to prolonged noise pollution.</li> <li>• Self-audits to check on noise level.</li> <li>• Apply dust suppressant such as water-spray trucks for dust suppression on unconsolidated working surfaces will mitigate dust generation from construction traffic.</li> </ul>
7	Loss of vegetation and other trees	<ul style="list-style-type: none"> <li>• Clearance of vegetation will be confined to those areas where it is inevitable (within the road corridor).</li> <li>• Landscape and replant disturbed areas using Bahia grass or approved similar and plant trees where suitable.</li> <li>• All removed tree species have been marked and will be replanted alongside the new road or in other equivalent places as will be advised by the KCCA landscape expert.</li> </ul>
8	Disturbance to fauna and avi-fauna	<ul style="list-style-type: none"> <li>• Clearance of vegetation will be confined to those areas where it is inevitable (within the road corridor).</li> <li>• The flyovers should be painted with easily visible colours so that they can be more visible to flying birds.</li> <li>• Employ a delayed approach to removing of trees to enable birds which might be laying eggs in those trees to hatch them.</li> </ul>
9	Loss of flower gardens and agricultural crops	<ul style="list-style-type: none"> <li>• All flowers to be valued and compensated for.</li> <li>• Ornamental trees will be valued and compensated for, while their number will be included in the trees to be replanted along the road to intensify the planted area and enhance the scenery.</li> <li>• Where there is some additional space, flower gardens will be encouraged to shift a step backwards to allow for road construction.</li> </ul>
10	Land take	<ul style="list-style-type: none"> <li>• Land acquired will be fully compensated for in accordance with the law.</li> <li>• In cases of land away from the FO project (say for Burrow pits etc), agreements for land compensation or land take between the land lord and the contractor will be made and “copies of all land agreements are to be submitted to UNRA”.</li> <li>• For land take for the purposes of BPs, all removed topsoil will be used to restore the BPs after construction. The BPs will be reshaped and re-vegetated by the contractor.</li> <li>• The contractor will negotiate with the landlord at BP or quarry areas, and will pay him directly for the materials acquired.</li> <li>• Vegetation will be done using indigenous existing grasses whose seed are naturally occurring in the stockpiled top soil. Otherwise other suitable species, including Cynodon dactylon, Panicum fulgens, Panicum repens etc.).</li> </ul>
11	Disruption of services and Utilities	<ul style="list-style-type: none"> <li>• When working with utilities (communications, power lines, water mains, sewerage lines), it will be done in collaboration with the service provider and due notice of at least one month is to be given. The same will be done for the relocation of major sign posts and road furniture where they exist.</li> <li>• The contractor will design ways of working around the utilities so that relocation is minimized.</li> <li>• Light equipment will be used (as well as manual methods) in the initial stages of excavations, taking care to see that utilities underground are not disrupted without warning as is always the practice within cities and urban centres.</li> <li>• Due notice to the community will be given (by the service provider) to the public in case short disruptions are envisaged.</li> </ul>
12	W a s t e management	<ul style="list-style-type: none"> <li>• Demolished road structures to be carefully removed and recycled where possible.</li> <li>• Contractor to balance cut and fill if possible.</li> <li>• Workshop storage facilities to be licensed by NEMA.</li> <li>• Bitumen tanks to be placed away from any drainage, placed on an impermeable surface and surrounded with a bund made from impermeable materials.</li> <li>• Hazardous waste to be disposed of in accordance with the manufactures' specifications and stored in sealed drums before transporting to designated disposal points.</li> <li>• Separate bins to be provided for recyclable materials and arrangements for recycling made.</li> <li>• Mobile toilets will be provided at site and garbage bins to be provided at strategic locations.</li> <li>• Separate male and female toilets and washrooms facilities to be provided.</li> </ul>
13	Relocation of people	<ul style="list-style-type: none"> <li>• The design has tried to avoid structures and buildings so as to minimize relocation of PAPs.</li> <li>• A resettlement action plan has been commissioned to provide resettlement assistance to any others who might be impacted.</li> <li>• Should the RAP identify any vulnerable people, then they will be treated separately (in line with their vulnerability) from those who are not vulnerable.</li> </ul>

14	Relocation of Clock Tower	<ul style="list-style-type: none"> <li>• The first priority is that the clock tower should not be relocated but can be lifted so as not to be dwarfed by the FO.</li> <li>• Alternatively, it may be located at a site where it will be seen from afar such as at the Shoprite pedestrian bridge, and such relocation must be done with the cooperation with officials from the Department of Museums and Monuments.</li> </ul>
15	Other PCRs	<ul style="list-style-type: none"> <li>• No ancillary works, burrow areas within 2 km of an identified cultural site of importance.</li> <li>• The Cemetery off Jinja Road and other worship places will not be touched by the road project.</li> <li>• Awareness of contractors and workers/staff on identification of archaeological/paleontological resource materials must be promoted.</li> <li>• In line with the General Specification for Road and Bridge and WB Physical Cultural Resource Safeguard Policy Guidebook, the contractor must stop work immediately on discovery of evidence of possible scientific, historical, prehistoric, or archaeological data and notify the resident engineer, giving the location and nature of the finds.</li> <li>• The resident engineer must notify DMM of such finds for verification and salvage. In line with the Historical Monument Act 1967, Section 11(1 &amp;4) and section 12b).</li> </ul>
16	Occupational Safety and health	<ul style="list-style-type: none"> <li>• The contractor must prepare and make available at site on request, a Safety and Health Policy Document.</li> <li>• The contractor must have in place a risk assessment and safety &amp; health management plan.</li> <li>• Prior to commencement of work, the contractor must register with the Department of Occupational Health and Safety.</li> <li>• The contractor must make an inspection requisition of the commissioner for site plant and equipment to be certified.</li> <li>• There should be a PPE programme in place such that the following should be recorded: <ul style="list-style-type: none"> <li>– Type of equipment</li> <li>– The date and time supplied</li> <li>– The person to whom it is given (he/she will sign for it)</li> <li>– Date of next PPE inspection</li> <li>– Replacement schedule for plant and components.</li> <li>– First-aid kits to be provided at every active working site, in offices in site camps and any other location determined by the project manager. A clinic supplied and staffed by the contractor in accordance with UNRA guidelines, to be provided at the contractor's camp. A list of supplies must be kept and displayed at all times in the clinic.</li> </ul> </li> <li>• Working areas should be contained to limit access by unauthorized persons and children.</li> <li>• Explosives will be handled by a qualified person, transported under police escort in accordance with the Explosives Act, and stored at a designated place.</li> <li>• Contractor not to use community water sources for road use.</li> <li>• Trucks transporting any granular material to be covered.</li> <li>• To protect the contractor and local communities in case of disease outbreaks among the workforce, a premedical examination for workers should be conducted, followed by routine medical examination during the works and a final post medical examination.</li> <li>• Put a project-specific HIV/AIDS awareness/prevention programme in place as specified in the contract documents.</li> <li>• Adequate sanitation facilities to be provided at site.</li> </ul>
17	Public health	<ul style="list-style-type: none"> <li>• To protect the contractor and local communities in case of disease outbreaks among the workforce, a premedical examination for workers should be conducted, followed by routine medical examination during the works and a final post medical examination.</li> <li>• Put a project-specific HIV/AIDS awareness/prevention programme in place as specified in the contract documents.</li> <li>• Adequate sanitation facilities to be provided at site.</li> </ul>
18	Land scape	<ul style="list-style-type: none"> <li>• To improve aesthetics and reduce noise pollution, it is recommended that trees are planted along the road project at places along the FO and, visibility permitting, on road islands.</li> <li>• The colour of the bridges and flyovers will be chosen in such a way as to blend in with the environment or the sky to enhance aesthetics.</li> <li>• In this case, the colours of light blue have been recommended as it is easy to harmonize with the landscape and trees. Sky blue is also recommended as it gives a more urban image. A combination of these two colours is therefore recommended.</li> <li>• The steel and concrete joints of the FO, especially at Kitgum House, will be blended in such a way as to provide a continuous joint from the outside.</li> <li>• Walkovers or pedestrian bridges to be constructed following an appealing shape which will first attract pedestrians and at the same time be pleasing to the eye.</li> <li>• Quarries and burrow areas must be restored in accordance with an approved restoration plan as provided for in the appropriate management plan/project brief approved by NEMA.</li> <li>• The contractor will work closely with the KCCA landscape expert so as to embrace the overall design concept for the KCCA.</li> </ul>

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| 19 | Sanitation | <ul style="list-style-type: none"> <li>• Gender considerations in allocation of sanitation facilities (toilets and bathrooms) will be observed providing adequate privacy for each gender.</li> <li>• Bins for solid waste collection to be placed at the contractor's camp and worksites to ensure that any hazardous waste (torch and radio batteries, oils and polythene papers and plastic bottles etc.) are separately collected and disposed of in accordance with the law; take note that there are recycling plants for plastics and polyethene.</li> <li>• Separate bins to be provided for recyclable materials and arrangements for recycling done with a suitable recycling facility to be identified.</li> <li>• Mobile / portable plastic toilets will be provided for workers along the project road (FO) and other working areas that are not permanent.</li> </ul> |
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### Operational Phase

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| 20 | Soil Erosion             | <ul style="list-style-type: none"> <li>• Regular and frequent inspection and maintenance is required to ensure roadsides soils are not exposed or removed and that any repairs required are carried out promptly. The following are essential.</li> <li>• Cleaning of drainage channels.</li> <li>• Replanting exposed soils (in case of roadside works) with approved grass seed must be carried out as soon as possible.</li> </ul>  |
| 21 | Storm Water              | <ul style="list-style-type: none"> <li>• Exposed areas to be replanted with appropriate grass.</li> <li>• Drain storm water to natural drainage channels to reduce erosion during road side maintenance or related works.</li> <li>• Ensure self-drainage of burrow areas and quarries used for road maintenance.</li> </ul>   |
| 22 | Climatic change Impacts  | <ul style="list-style-type: none"> <li>• Ensure that roadside drains continue to discharge into existing natural water courses or existing culverts.</li> <li>• Make use of the seasonal forecast that is produced by the Department of Meteorology to know when to clear the drains and prepare for severe weather events.</li> <li>• Drains to be cleaned regularly, especially before the onset of the rains.</li> </ul>  |
| 23 | Air pollution and Noise  | <ul style="list-style-type: none"> <li>• Provide noise barriers along flyovers.</li> <li>• Regular inspection of noise barriers to ensure functionality.</li> <li>• Ensuring use of approved fuels in motor vehicles.</li> <li>• Plant road side trees to reduce both pollution and noise due to motor vehicles.</li> </ul>  |
| 24 | Flora and fauna          | <ul style="list-style-type: none"> <li>• Care to be taken during maintenance to ensure that asphalt/bitumen is not spilled into Nakivubo Channel and other sensitive areas.</li> <li>• The flyovers should be painted with attractive colours so that they can be more visible to flying birds.</li> <li>• All burrow areas and quarries used for road maintenance to be self-draining.</li> </ul>   |
| 25 | Urban waste              | <ul style="list-style-type: none"> <li>• Provide awareness rising to inform the community about keeping drainage channels clear and protecting road infrastructure.</li> <li>• Use radio broadcasts and public meetings to conduct sensitization.</li> <li>• KCCA should reduce waste at source and encourage reuse and recycling of waste.</li> <li>• Drains should be regularly cleaned and inspected before rain seasons.</li> </ul>  |
| 26 | Safety                   | <ul style="list-style-type: none"> <li>• Road furniture must be cleaned and inspected regularly to check its condition.</li> <li>• The traffic code must be enforced by the police.</li> <li>• It is recommended that the FO and the entire road is well lit throughout including in the bypass.</li> <li>• There should be measures to enforce the use of NMT and pedestrian lanes by those supposed to use them.</li> </ul>  |
| 27 | A e s t h e t i c beauty | <ul style="list-style-type: none"> <li>• Noise barriers should be maintained along the flyover to reduce noise to the surrounding community. This will be in addition to the existing trees on the roadsides.</li> <li>• Paint the FO as well as the underpass as often as it fades to maintain the beauty of the structures.</li> <li>• The tunnel and the entire road structure will be well lit to enhance the aesthetic values.</li> <li>• Measures to discourage people from writing graffiti on the pillars or in the underpass will be put in place.</li> </ul> |

### Cumulative Impacts

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| 28 | <ul style="list-style-type: none"> <li>• Most of the planned projects will commence after the FO project, apart from the BRT which is expected to commence before. The BRT will coincide with the FO project along Queensway and at the Hotel Africana Junction along Jinja Road where the impacts could be increased. Fortunately, the BRT is much smaller in width and passes through the middle of the road project, hence minimizing the cumulative impacts. Mitigation measures taken in this FO project will also address the resultant cumulative impacts due to the BRT.</li> <li>• Meanwhile future proposed projects will be required to take into account existing activities while conducting their specific project environmental assessment.</li> </ul> |
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## Resettlement Action Plan (RAP)

The number of impacted people in this project was less than 200. A RAP was conducted which shows that a few properties would be expropriated and some land would be acquired. The people most affected are the Uganda Railways, Kampala Capital City Authority and Uganda Police.

### c) Kampala Northern Bypass, Uganda (KNB) Project (2011)

#### Project description

The GoU, through UNRA, embarked on widening the existing Northern Bypass to dual carriage for 17.5 km length that was still single carriage from the Kireka Jinja Road intersection up to Busega Roundabout. The bypass crosses Kampala and Wakiso, where ESIA was conducted along the adjacent areas of the Northern Bypass conforming with NEMA requirements and regulations, and EU EIA directives.

#### Purpose of the project

The purpose of upgrading the Kampala Northern Bypass to a dual carriageway was to ensure that it has adequate capacity to quickly evacuate present and future traffic volumes away from the city. The bypass provides an alternative route for the heavy traffic heading to the western parts of the country. It is anticipated it will stimulate and uplift economic conditions and increase demand for infrastructure services along areas it traverses.

#### Project impacts as identified by the ESIA review

##### Positive impacts

- (a) Employment opportunity for skilled and unskilled labour;
- (b) Improved traffic capacity of the bypass, which will have the capacity to divert large volumes from the city and reduce traffic congestion in Kampala city;
- (c) Sourcing of road construction materials will provide income for quarry land owners and construction materials;
- (d) Increased road safety with design of the bypass having vandal-proof road safety signage, safe motorcyclist and pedestrian walkways and crossings, gender sensitive foot bridges and provision of lighting; the pass will attract more commercial and residential developments along the route;
- (e) Climate change impact as a result of reduction in vehicle emissions from the existing situation;

##### Negative impacts

- (a) Loss of wetland will reduce eco-system services from the destroyed wetland, for example temporal storage of storm water, small-scale

harvesting of papyrus, growing of tree and flower nurseries, siltation of wetlands and associated health risks;

- (b) Improper management of cut to spoil during construction, large volumes will bring about disposal challenge, for example illegal dumping within the wetland and undesignated dump sites;
- (c) Improper construction waste management, where waste bitumen and overburden may be dumped in undesignated places, which would cause aesthetic and or environmental contamination;
- (d) Contamination of roadside spring wells, by dumping waste and overburdening in and around roadside springs poses great health risks to the communities, and has potential for causing water scarcity in communities without other water sources;
- (e) Dust plumes from construction operations like excavations, grading, shaping, hauling of materials and equipment, and dumping of soil generate dust plumes and lead to air pollution;
- (f) Contamination at the equipment yard, where daily activities will generate domestic and hazardous waste, for example fuel and oil spillages, derelict equipment, exhaust fumes;
- (g) Occupational health and safety impacts, with risk of burns, electrocution, noise and body vibration from equipment to the workers;
- (h) Impacts related to material sourcing, associated risks and impacts of opening and use of quarries and borrow sites, haulage of road construction materials, improper storage of construction materials;
- (i) Influx of people seeking jobs may generate the risk of personal injury;
- (j) Traffic flow impacts during construction as a result of diversions or detours;
- (k) Social ills of construction labour & HIV/AIDS with increase in social pathologies such as alcoholism, drug abuse and prostitution as a result of influx of youth with ready cash compared to the locals;
- (l) Soil erosion and drainage impacts are most likely to occur due to excavation, dredging, cutting and filling works, removal of vegetation and storage of gravel and overburden on the road sides. Placing of culverts and diversion of surface water may lead to localized floods and ponding;
- (m) Excessive water demand, large volumes of water will be used during road construction which may lead to water stress supplies in Kampala;
- (n) Damage to roadside water sources as a result of construction activities poses social impact on communities that use these water sources;
- (o) Construction and operation noise impact beyond ambient construction

noise, as a result of widening the Northern Bypass;

- (p) Impact on local air quality during bypass operation as a result of higher traffic volumes might lead to a deterioration of the local airshed with high levels of exhaust emissions
- (q) Climate change impact due to increased traffic volumes on the Northern Bypass.

## 1.2. ESIA for industrial park projects

### a) Kampala Industrial Business Park (KIBP) at Namanve (2008)

#### Project description

The Uganda Investment Authority (UIA) proposed to construct an industrial and business park at Namanve which was to be financed by government and the United Nations International Development Organization (UNIDO). Approximately 1,006 ha of Namanve CFR were degazetted for the development under the management of UIA. The industrial park is located 11 km east of Kampala and lies north and south of Jinja Highway and the Kampala-Mombasa railway. The site is 4.5 km west of Mukono District administrative headquarters and Mukono Town. It straddles both Wakiso and Mukono districts. The Namanve River crosses KIBP from north to south.

#### Purpose of the project

The project was intended to diversify exports and enhance economic competitiveness, and to develop an infrastructure network for manufacturing industries to lower production and operational costs. The project was also intended to increase the growth of the private sector, the level of exports of the country, and the performance of micro, small and medium enterprises (MSMEs). Project objectives were to improve: (i) the efficiency of trade-related services; (ii) the investment climate; (iii) output and employment in firms, in particular MSMEs; (iv) financial markets for MSMEs; and (v) project implementation and coordination.

#### Project impacts as identified by the ESIA review

##### Positive impacts

- (a) Enhancement of Kayobe swamp drainage when lined drainage system is passed through the swamp;
- (b) Employment opportunities during construction work for unskilled workers in the communities living around the project area;
- (c) Increased investment conducive to the environment, and the associated

benefits of increasing production and the economy.

##### Negative impacts

- (a) Increased development costs for low-gradient sites for drainage and sewage treatment works;
- (b) Exposure and erosion of topsoil due to vegetation removal;
- (c) Increased sand and murram exploitation for construction;
- (d) Loss of flora and fauna as vegetation removal will encroach on wetland areas;
- (e) Wetland degradation as a result of pollution by the discharge of unprocessed effluent/ runoff from the industries;
- (f) Increased air pollution emissions, with increased motorized traffic, industrial processes, and dust pollution from trucks' daily use of unpaved roads;
- (g) Noise pollution with increased noise from machinery, traffic from noise construction and transport vehicles;
- (h) Water pollution, where industrial effluent may pollute springs, streams and rivers, increased pollution in the Inner Murchison Bay and Lake Victoria;
- (i) Social impact of unplanned influx of population and settlement, increased health problems, and an increase in HIV/AIDS and STDs in the project area.

## 1.3 ESIA waste management projects

Solid waste disposal are third schedule projects under the NEA, paragraph 12. For projects listed this under this schedule, an ESIA is required to be undertaken by the developer.

### a) Kampala Sanitation Project - NWSC Faecal Sludge Treatment Plant in Lubigi Wetland

#### Project description (2014)

NWSC on behalf of the GoU mobilized the necessary funds to address water and sanitation problems arising from increasing development in Kampala and higher demands for water supply and sanitation problems. Funding of approximately UGX 64 million was to achieve 53,000 m<sup>3</sup>/day of sewage treatment and 500 m<sup>3</sup>/day of sludge treatment. The project involved the construction of a Faecal Sludge

Treatment Plant in Lubigi Wetland. Since the project involved major construction work, development in the wetland and the displacement of informal settlements, an ESIA was carried out as required by NEMA and AfDB.

## Purpose of the project

The project objective is the sustainable management and protection of Lake Victoria from pollution to preserve its water quality for the production of drinking water. The focus was on the protection of the Inner Murchison Bay of Lake Victoria through improved sanitation and sewerage in the city of Kampala.

## Project impacts as identified by the ESIA review

### Positive impacts

- (a) The wastewater collection system will provide an immediate benefit to the human health by improving sanitation in the Kampala area and consequently reducing the risk of disease caused by micro-organisms in the wastewater;
- (b) The proposed Kampala sanitation programme will improve water quality in Lake Victoria which would, in turn, have a positive impact on fishing;
- (c) The enlargement of the sewer catchment area using adequate sewerage materials will have a positive impact on groundwater quality. Benefits are accrued particularly where wastewater collection takes waste to suitable wastewater treatment systems prior to disposal;
- (d) A decrease in the total pollutant load due to sewerage network improvements which decrease the potential for untreated effluent to spill onto surface water courses from overflows in the sewerage system or from emergency overflows at pumping stations;
- (e) There will be improved health due to better sanitation and industrial connection that is likely to be enforced because of better accessibility to the sewerage system;
- (f) Creation of new employment opportunities (200-300 workers) during construction and operation of the system.

### Negative impacts

- (a) The permanent loss of an area of the wetlands in the Lubigi area of Kampala of approximately 6.5 ha as a result of the land requirements of the proposed sewerage treatment works;
- (b) Modification of the ecological wetland due to land clearing for the treatment works and associated infrastructure e.g. access, sewer line roads, excavating of peat etc;

- (c) Construction of ponds, sewers, buildings or infrastructures will create noise, dust and the removal of existing sewerage will need to be carried out carefully;
- (d) Contamination of soil, surface water and groundwater with oil, grease and solid waste by construction activities. For instance, water contamination comes from the dumping of soil from land levelling into watercourses and runoff from on-site machine maintenance (oil change, refuelling, washing) affecting surface and groundwater supplies;
- (e) Lack of adequate sanitary facilities for construction workers;
- (f) Erosion from construction of buildings for offices and access roads, resulting in destruction of wetland sedimentation of watercourses, etc.
- (g) Creation of an environment favouring disease vectors. For example, construction debris may serve as a breeding ground for rats; standing water may serve as a breeding ground for insect vectors and harbour water-borne diseases;
- (h) Marring of aesthetic qualities by the failure to properly dispose of construction waste (including rubbish produced by workers)

## b) Extension of Mpererwe Sanitary Landfill Project (2008)

### Project description

KCC intended to extend the existing landfill located at Mpererwe, about 15 km north of central Kampala along Kampala-Gayaza Road. The sanitary landfill was opened in 1996 and required an extension for increased efficiency in waste management. It was the only disposal site for managing Kampala's waste disposal.

### Purpose of the project

The project was meant to increase the capacity of the existing Mpererwe sanitary landfill that had become inadequate due to increase in times of waste generated by Kampala. It would thus improve the waste management service offered to citizens.

## Project impacts as identified by the ESIA review

### Construction phase

- i. During the excavation of the landfill extension, all the vegetation in the project area will be destroyed together with fauna habitats. This activity is likely to have a temporal negative impact on the fauna of the area.

- ii. For vegetation, the medium negative impact resulting from the excavation activities would be mitigated by the availability of similar vegetation composition in the vicinity of the site

### Operation phase

- i. Scavenging birds such as the marabou stork and hooded vulture will have a wider forage site. This is a medium positive impact.
- ii. The rubbish heaps may provide temporal breeding, feeding and hiding sites for some mammals, such as rodents. This is a medium positive impact.

### Negative impacts

Total displacement of fauna which are slow to run away from danger and have small ranges, and total destruction of flora.

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