



THE REPUBLIC OF UGANDA
MINISTRY OF WATER
AND ENVIRONMENT



2020 // 2040

THE WATER SECURITY ACTION & INVESTMENT PLAN FOR GREATER KAMPALA METROPOLITAN AREA

Ensuring Water Security For Inclusive Urban Growth

POPULAR VERSION





THE REPUBLIC OF UGANDA
MINISTRY OF WATER
AND ENVIRONMENT

2020 // 2040

THE WATER SECURITY ACTION & INVESTMENT PLAN FOR GREATER KAMPALA METROPOLITAN AREA

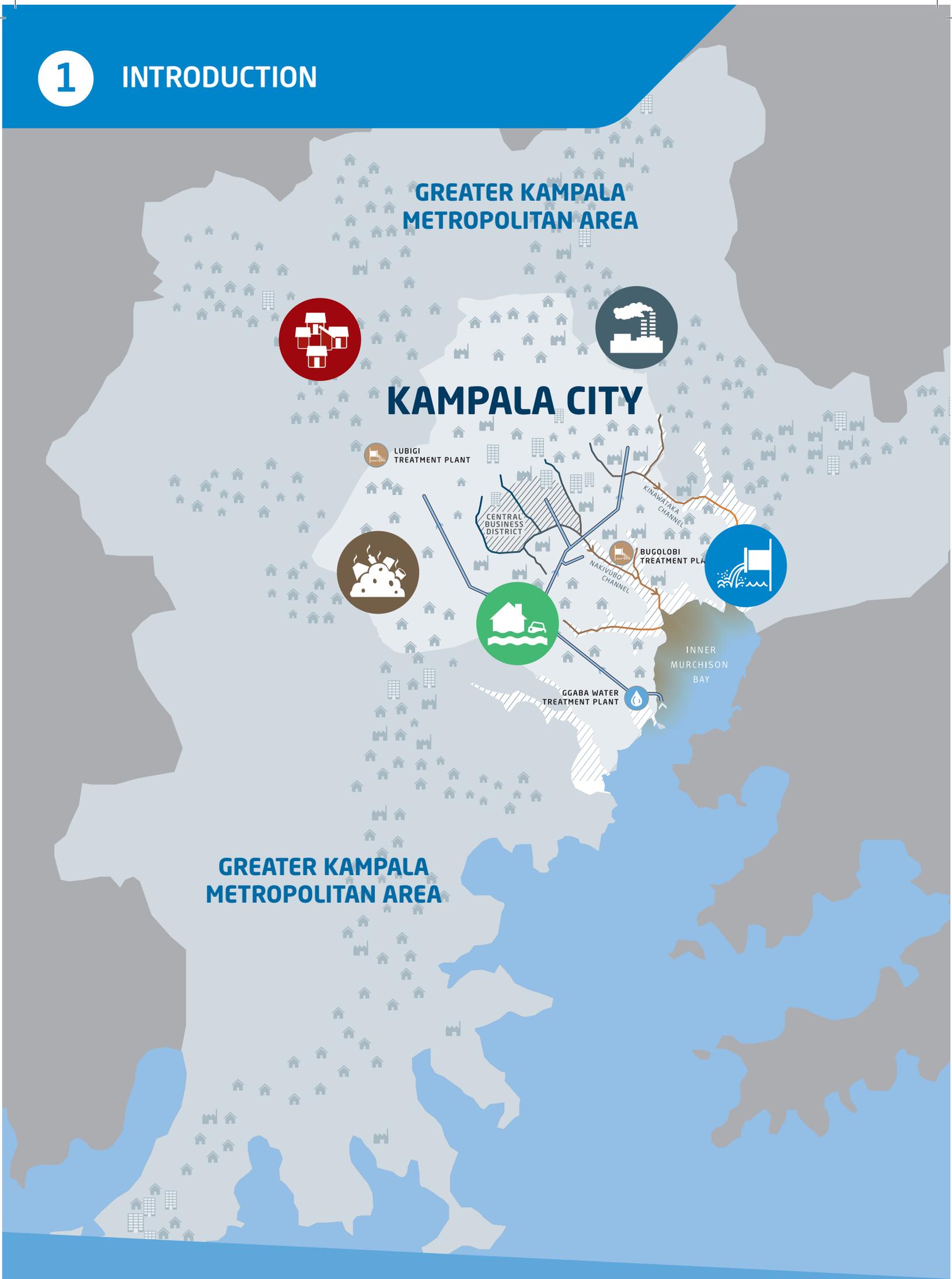
Ensuring Water Security For Inclusive Urban Growth

POPULAR VERSION

TABLE OF CONTENTS

1	INTRODUCTION	2
1.1	Background	3
1.2	Preparation of the Plan	4
2	THE STATUS OF WATER SECURITY	6
2.1	The Water Security Concept	7
2.2	Rapid Situation Assessment	8
3	THE ECONOMIC BENEFITS OF IMPROVED WATER SECURITY	10
3.1	Comparison of Water Security Investments to other Government Investments	11
4	PLANNING FOR A WATER-SECURE FUTURE	12
4.1	Legal and Institutional Gaps	14
4.2	Transformative Institutions for a Water-Secure Future	15
4.3	Multi-sectoral Collaboration for a Water-Secure Future	15
4.4	Drivers of Future Water Security Threats	16
4.5	Evidence-based Decision Support Framework	16
5	INVESTMENT OPTIONS FOR A WATER-SECURE FUTURE	18
5.1	Strategic Goals and Objectives	20
6	IMPLEMENTATION	22
6.1	Pipeline of Investment Opportunities	22
6.2	Governance Structure for WSAIP Implementation	23
6.3	Resource Needs and Financing Mechanisms	23
7	CONCLUSION AND RECOMMENDATIONS	24





1.1 Background

Water is critical for economic growth. Over the last decade, Uganda has made great strides in providing water to its population with nearly 79% of its urban population having access to safe water. Nevertheless, clean drinking water is increasingly unavailable as the quality of natural water continues to deteriorate, making water production and supply more costly.

Rapid urbanisation and industrialisation have contributed to the degradation of the natural support systems as settlements and industrial parks expand into productive ecosystem areas. Most industries discharge raw or partially treated effluent directly into storm water channels; 50% of generated waste winds up in drainage channels, wetlands and waterbodies; and more than 90% of the population continues to rely on local sanitation solutions with limited capacity and infrastructure to manage faecal sludge, resulting in widespread contamination of the environment and water resource systems. Additionally, flooding has become a major risk to livelihoods with a rise in cases of widespread disruption of economic activities, destruction of property, loss of lives, and outbreak of waterborne diseases following each flooding event.

As such, for Uganda to ensure availability of adequate and reliable quality freshwater resources for the population, investments in water security must be specifically targeted to maximise impact.

Thus, the need for a **Water Security Action and Investment Plan (WSAIP)** with the objective to:



Empower stakeholders through the use of decision support tools, to understand, prioritise, and monitor environmental threats and the changing landscape of water security.

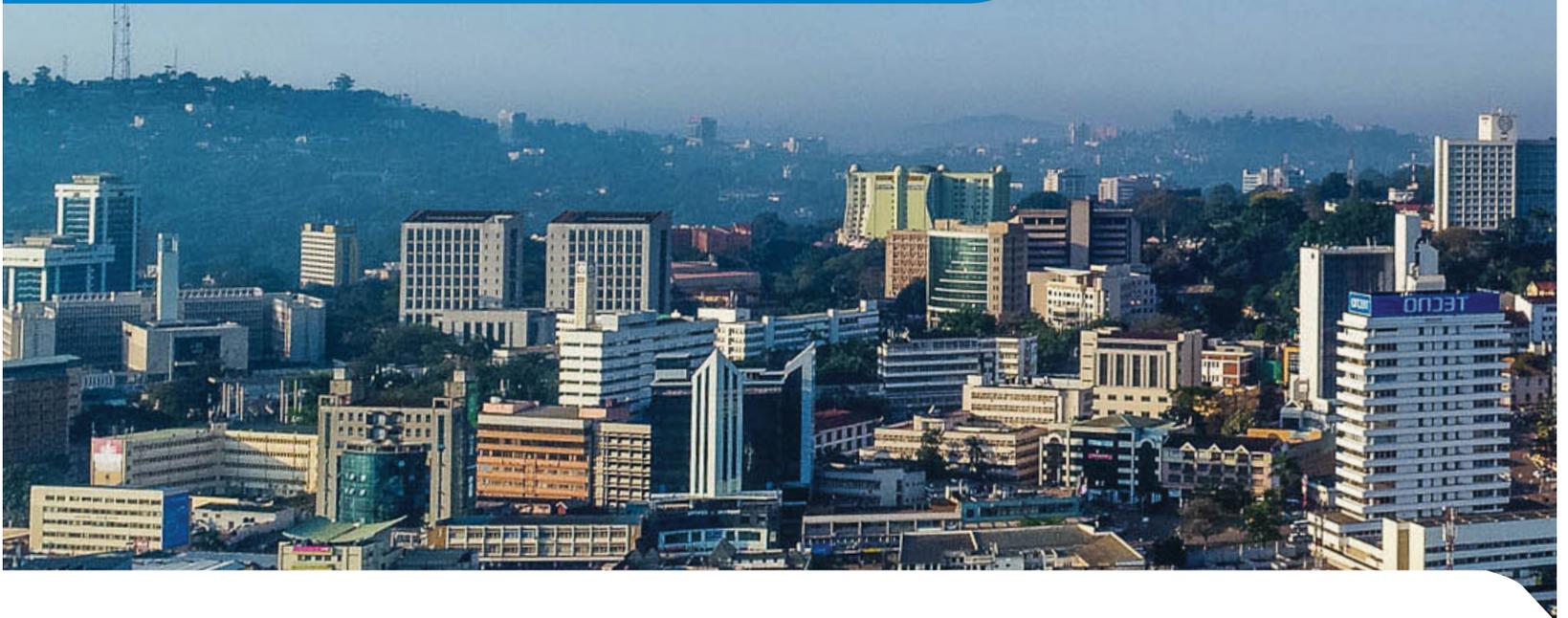


Provide evidence to catalyse actions and investments that systematically reduce water security risks and increase resilience to water security threats.



Set the agenda for water security to inform environment and water resource goals, actions and strategies at local and metropolitan level.

1 INTRODUCTION



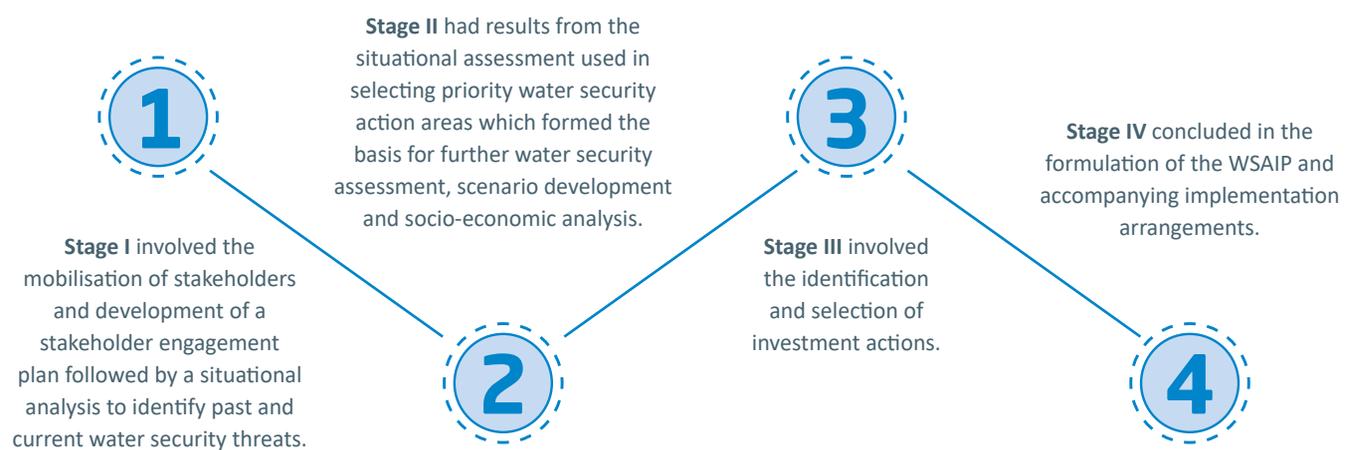
1.2 Preparation of the Plan

Successful water security programmes provide for an integrated set of solutions that are a result of dialogue between local communities in need of water and environment services, individuals/institutions contributing to water security threats, government, the private sector, and financial institutions that provide the much-needed investments.

The development of the WSAIP took on a collaborative approach involving over 1,500 stakeholders representing the public sphere, private sector, and civil society. This process was funded by DFID's Cities and Infrastructure for Growth (CIG) Programme, and the German Federal Ministry for Economic Cooperation and Development (BMZ) through GIZ's International Water Stewardship Program (GIZ IWaSP).



There were four key stages:





Public Sector



- Ministry of Water and Environment
- National Water and Sewerage Corporation
- Kampala Capital City Authority
- Ministry of Lands, Housing and Urban Development
- National Environment Management Authority
- National Forest Authority
- Office of the Prime Minister (Disaster Preparedness and Management)
- National Planning Authority
- Uganda Investment Authority
- Uganda National Meteorological Authority
- Uganda Cleaner Production Centre
- Uganda Industrial Research Institute
- Local Governments (Town Councils and Municipalities)
- Politicians (Mayors and Chief Administrative Officers)
- Uganda Bureau of Statistics
- Ministry of Agriculture, Animal Industry and Fisheries
- Ministry of Trade, Industry and Cooperatives
- Ministry of Tourism, Wildlife and Antiquities
- Ministry of Finance, Planning and Economic Development

Private Sector



- Private sector associations e.g. UMA, UHOA
- Private sector companies (manufacturing industries, hotels, trading enterprises)
- Small and Medium Enterprises

Civil Society



- Non Governmental Organisations
- Community Based Organisations
- Networks e.g. UWASNET and ENR CSO

Other

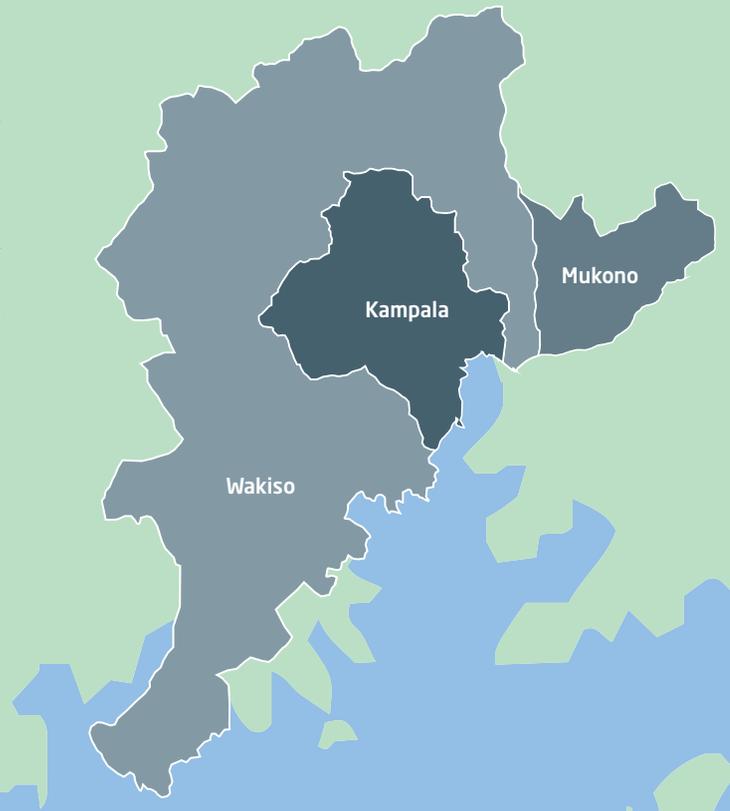


- Development partners
- Academia (Makerere University)
- Research organisations

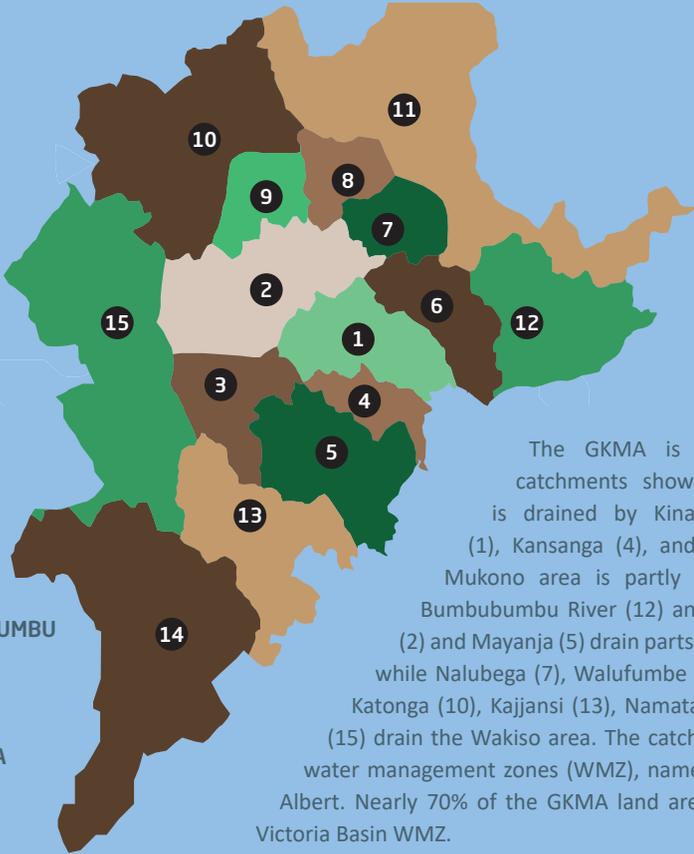
2

THE STATUS OF WATER SECURITY IN GREATER KAMPALA

The WSAIP covers the Greater Kampala Metropolitan Area (GKMA) which includes the whole of Kampala district, along with parts of Mukono and Wakiso as shown here. The area is earmarked as Uganda's industrial centre and economic engine as it contributes to 65% of Uganda's non-agricultural GDP and accounts for 10% of the country's population by day. Targeting GKMA as a key investment area is envisaged to bring about high positive multiplier effects on the economy and contribute to overall poverty reduction.



- 1 NAKIVUBO
- 2 LUBIGI
- 3 NALUKOLONGO
- 4 KANSANGA
- 5 MAYANJA
- 6 KINAWATAKA
- 7 NALUBEGA
- 8 WALUFUMBE
- 9 MAYANJA NORTH
- 10 KATONGA
- 11 NAKALERE
- 12 NAMANVE / BUMBUBUMBU
- 13 KAJJANSI
- 14 NAMATAMBALA
- 15 NAKATI / KANYOGOGA



The GKMA is drained by 15 sub-catchments shown here. Kampala City is drained by Kinawataka (6), Nakivubo (1), Kansanga (4), and Nalukolongo (3). The Mukono area is partly drained by Namanve/Bumbubumbu River (12) and Nakalere (11). Lubigi (2) and Mayanja (5) drain parts of Kampala and Wakiso while Nalubega (7), Walufumbe (8), Mayanja North (9), Katonga (10), Kajjansi (13), Namatambala (14) and Nakati (15) drain the Wakiso area. The catchments fall under three water management zones (WMZ), namely; Victoria, Kyoga and Albert. Nearly 70% of the GKMA land area falls within the Lake Victoria Basin WMZ.

2.1 The Water Security Concept

There are four core elements to water security



Access to safe adequate quantities of acceptable quality drinking water for sustaining livelihoods, human well-being, and socio-economic development.



Availability of adequate amounts of water for economic activities and development, energy production, industry and transport.



Preservation of ecosystems to deliver water-related ecosystem services. This includes protection of freshwater resources, and the aesthetic and recreational opportunities associated with aquatic ecosystems and human-made reservoirs.



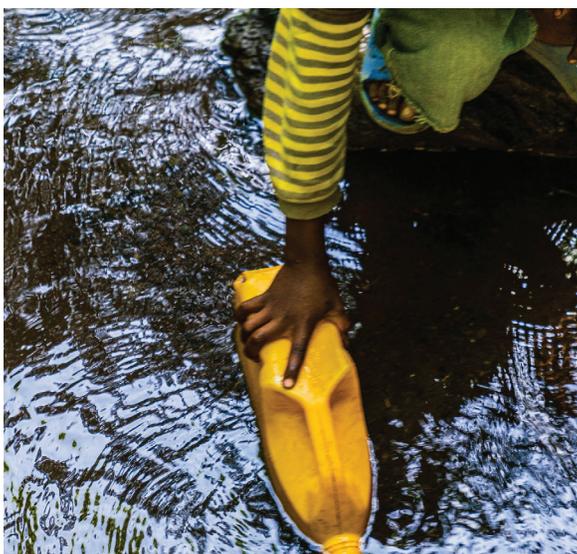
Effective management of climate-related water hazards such as floods and droughts, and associated risks.



2.3 Rapid Situation Assessment

Water supply and Sanitation

Although there is enough water to supply peri-urban and rural households within GKMA, cases of insufficient water supply as a result of inadequate infrastructure exist across the metropolitan area, with Mukono and Wakiso being the most affected. Over 92% of the population have access to basic sanitation – a toilet. However, safe handling and treatment of faecal sludge remains a challenge particularly in low-income areas. Limited access to safe water and sanitation impacts household health care expenditure with households spending about US\$ 5 million on the treatment of diarrhoeal diseases per annum.



Water Quality Management

Only about 10% of the population in Kampala is served by the public sewer system. The rest of the population within the GKMA rely on on-site sanitation facilities with limited capacity and infrastructure to manage faecal sludge which subsequently winds up in the drainage and water channels. Limited industrial compliance to wastewater discharge standards further exacerbates the problem as untreated or partially treated effluent is released directly into surface water bodies and wetlands. The Inner Murchison Bay (IMB), the main source of drinking water for Kampala City, is currently classified as eutrophic with very low levels of oxygen.



Ecosystems and Land Use Change

Land use change is largely driven by rapid urbanisation; developed land has more than doubled in the last 20 years, predominantly in productive wetland areas. Wetland coverage has reduced by 48% from 194 square kilometres in 1996, to just over 100 square kilometres. Lowland forest coverage in Kampala has reduced from 7.6% to 0.4% of the total land area as informal settlements continue to be established in low lying areas.

Climate-related Hazards

In GKMA the key climate-related hazard is flooding which is as a result of intensive rainfall, high rates of surface runoff influenced by Kampala’s topography, and inadequate stormwater drainage infrastructure. Flood risk is highest in catchments facing severe wetland loss, rendering natural ecosystem buffers ineffective.

Flood risk is exacerbated by urbanisation which creates impervious surfaces, and poor solid waste management practices. Per capita and total waste generation have increased over the past several years as shown in Figure 2-3, a trend that is likely to continue. At present only about 50% the generated waste is collected and disposed of properly. The rest is openly dumped and washed into drainage channels, streams, lakes, rivers and wetlands, threatening natural water ecosystem functions, flood control and public health.

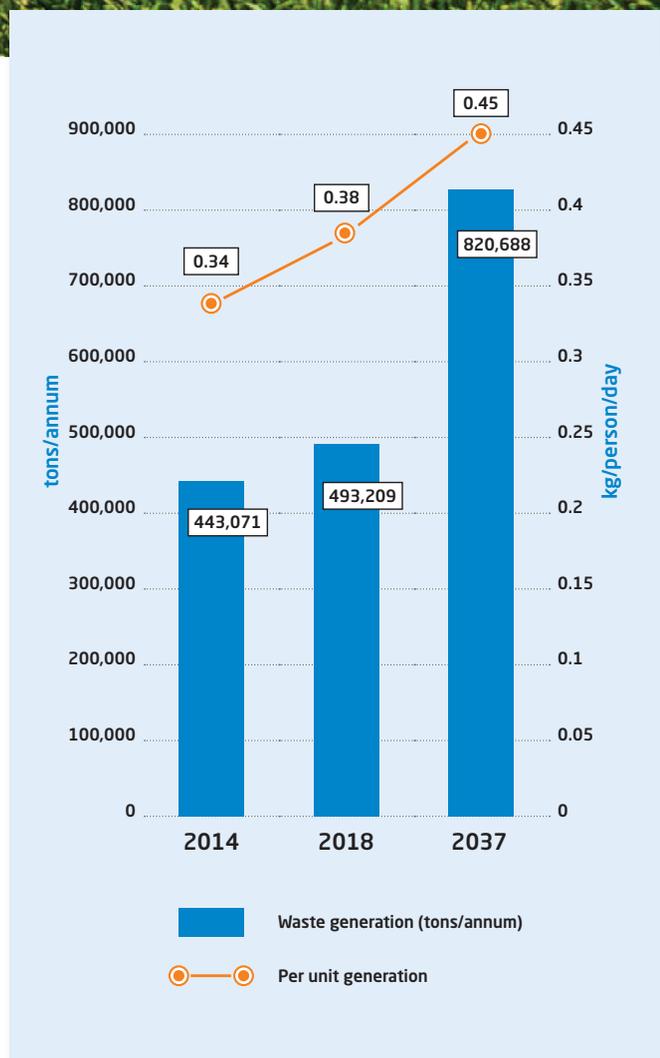


Figure 2-9: KCCA Waste Generation Forecast

3

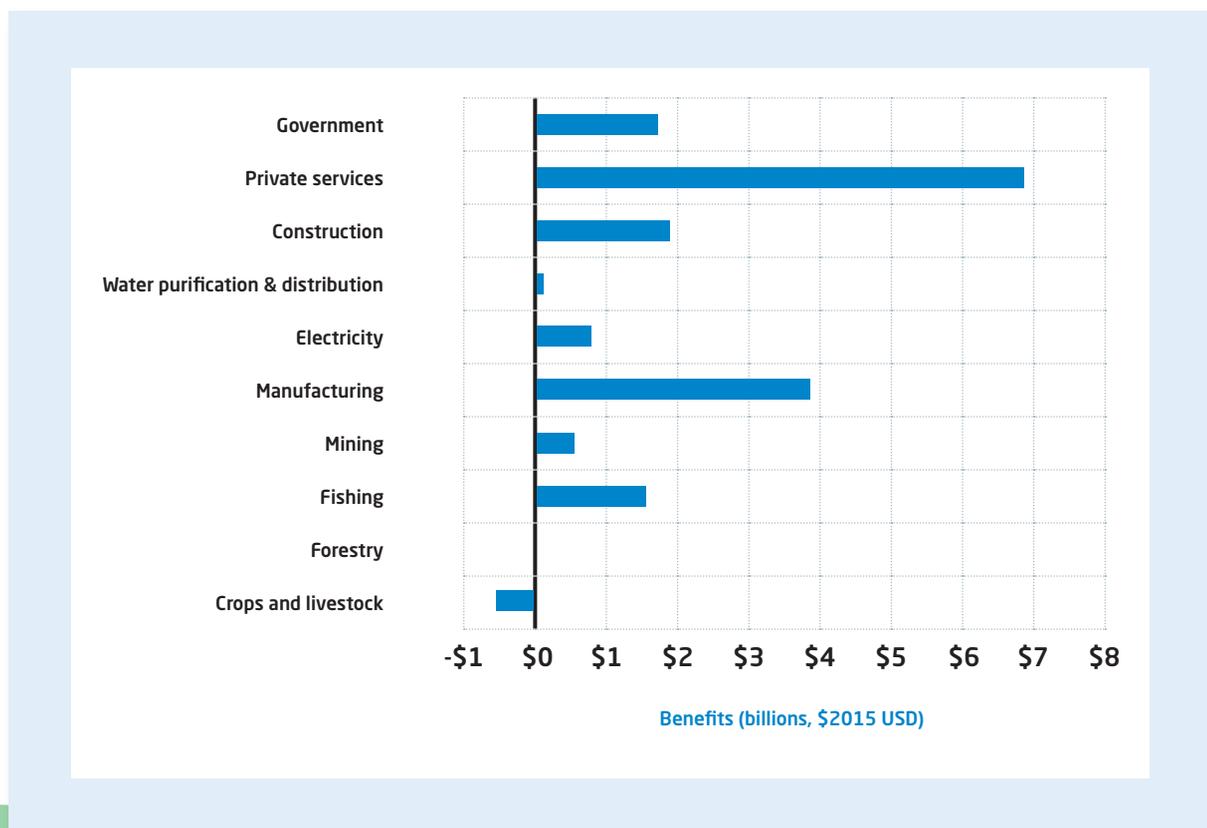
THE ECONOMIC BENEFITS OF IMPROVED WATER SECURITY



As water-related risk decreases, investment in economic activity increases and economies grow. The benefits of a GKMA investment programme extend to Uganda as a whole.

Figure 3-1 shows that investment in safe water and sanitation in GKMA mostly benefits the private services sector, manufacturing and government. GDP from crops and livestock drops in a water-secure future as the GKMA regional economy moves to a service industry base.

Figure 3-3: GDP Impact of Water Secure Investments in GKMA





3.1 Comparison of Water Security Investments to other Government Investments

Investments in water security in Greater Kampala Metropolitan Area not only provide significant local environmental, social, financial and micro-economic benefits; but also, positive macro-economic benefits (GDP) that are on par with investments in oil production and superior to climate change adaptation and malaria prevention.

PROJECT	PHASE	IMPACT ON GDP PER ANNUM
 OIL PRODUCTION	Construction phase – 2018	1.6%
	Operational phase – peak by 2028	7.2%
	Operational phase – end by 2044	1%
 CLIMATE CHANGE ADAPTATION	National Benefits by 2047	1.9%
 MALARIA PREVENTION	National Benefits by 2020	0.8%
 WATER SECURITY	National Benefit by 2040	4.2%

Table 3-2: Impact of Other Government Investments on National GDP



This is an adaptive process that requires stakeholders to continuously monitor the changing water security landscape and make decisions based on the magnitude of risks present at a given time. Similarly, investing in water security is not a one-off expenditure but rather an ongoing commitment to identify and prioritise investments based on the scale of water security risks. The key components of the planning process include:

Legal and Institutional Setting

Preparation of the WSAIP is guided by a wide-ranging policy and legal framework. The constitution of the Republic of Uganda (1995) provides fundamental principles that align with the water security concept and set the scene for government to implement water security actions. The Constitution obligates the State:

1. To ensure that all Ugandans enjoy access to safe water.
2. To protect important natural resources, including land, water and wetlands on behalf of the people of Uganda.
3. To take all practical measures to promote a good water management system at all levels.
4. Take all possible measures to prevent or minimise damage and destruction to land, air and water resources resulting from pollution or other causes.
5. To promote sustainable development and public awareness of the need to manage water resources in a balanced and sustainable manner for the present and future generations.

Institutional Setting

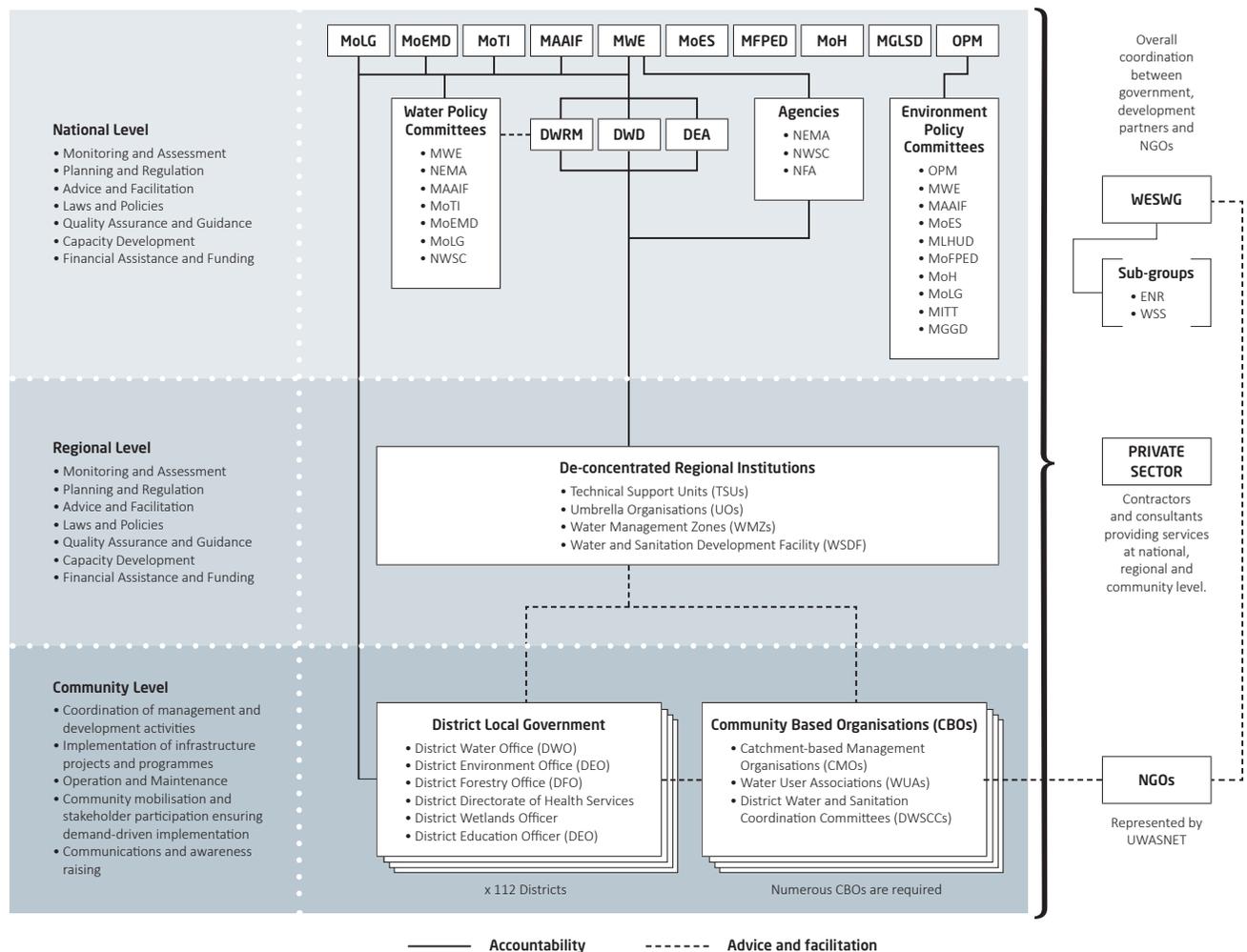
The institutional landscape governing the management of water security in Greater Kampala Metropolitan Area constitutes of collaborations between various ministries, district local governments, municipal authorities, civil society organisations and the private sector. This follows the national institutional set up of the Uganda water sector presented in Figure 4-1 which demonstrates that the realisation of urban water security requires collaboration across multiple fields (including natural resources management, water supply and sanitation, and urban planning), sectors and actors.

National Ambitions and Strategic Goals

The third National Development Plan emphasises the need to break silos within government actors and have coordinated planning and implementation to achieve national goals. This aligns with the need for collaboration for a water-secure GKMA. NDP III also supports investment in water security for the economic development of Uganda through its programmes on: climate change; natural resources; environment; water management; sustainable urbanisation and housing; private sector development; and community mobilisation and mindset change.



Figure 4-1: Institutional Set-Up of the Ugandan Water Sector



4.1 Legal and Institutional Gaps

The delivery of water and environment resources is decentralised to local governments with support and guidance from central government agencies. The management of water resources has shifted to a catchment-based system, with Uganda being divided into water management zones.

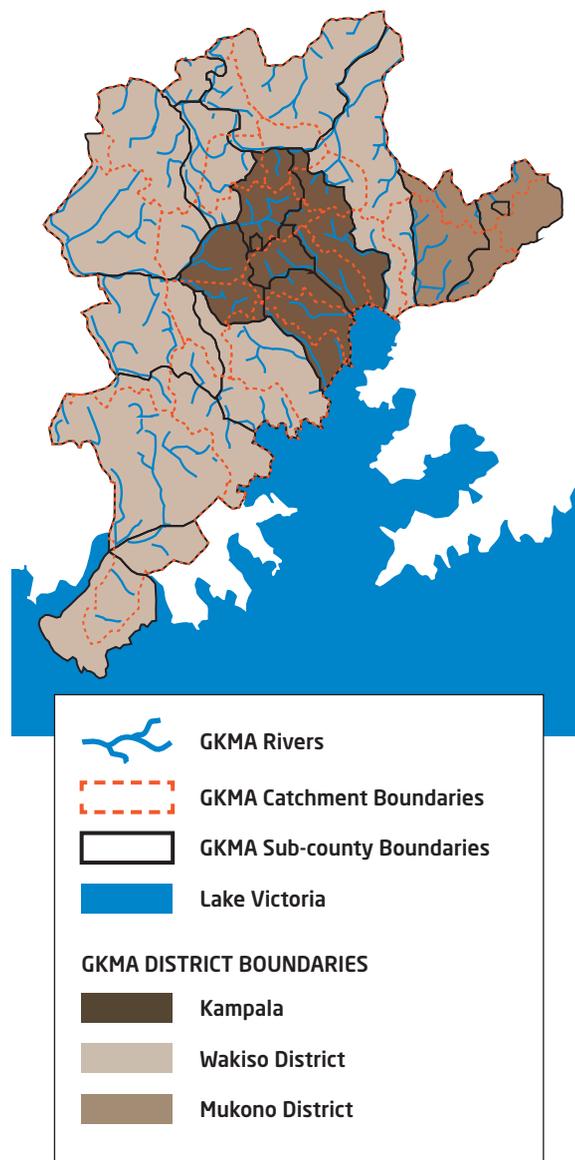
The institutional setting has also shifted, enabling involvement of a wider set of stakeholders through initiatives such as the Public Private Partnerships (PPP) Act of 2015 which backs private sector participation in key service delivery sectors of government. Nevertheless, several gaps still exist, for example:

- (a) The concept of water security is not recognised in any of the existing water and environment legislative and policy frameworks. Specific components of water security are construed under various laws and regulations.
- (b) The existing legal framework does not mandate any one actor to oversee sanitation management. This has created overlaps in institutional mandates and roles, making vertical and horizontal coordination across these various actors a challenge.
- (c) Social inclusiveness and attraction of private sector in water and sanitation service delivery remain a challenge, as does the monitoring and enforcement of environmental regulations.
- (d) There is no coordinated strategic planning and investment across the Greater Kampala Metropolitan Area despite the gazettement of the GKMA as a special planning area by the government of Uganda in 2013. The inadequate and ineffective silo approach to planning and overlapping mandates complicates natural resource planning, and management in GKMA.

Ongoing efforts to address these gaps include:

- (a) Updating the National Water Act (1997) and the National Water Policy (1999) to highlight water security as a key issue, reflect the water stewardship approach, and provide legal backing for enhanced private sector participation.

(b) Development of the Greater Kampala Economic Development Strategy (2017/2025) to provide a roadmap for investment to strengthen GKMA's position as the economic powerhouse to steer Uganda towards middle income status. The strategy has prioritised five programme areas namely; investment in competitive economic infrastructure; conservation and protection of environmental assets; transformation of the informal business sector; boosting tourism; and strengthening city and local government service delivery.



4.2 Transformative Institutions for a Water-Secure Future

These are organisations created to support the effective planning for and management of water and environment risks at the lowest appropriate hydrological unit – catchment. Operationalisation of catchment organisations is a prerequisite for ensuring a water-secure future given the geopolitical nature of water security threats facing the Greater Kampala Metropolitan Area. Figure 4-2 illustrates the spatial inconsistency between administrative (political) boundaries and the geographical nature of the water and environmental systems at risk in the GKMA.

This disconnect provides a very difficult regulatory environment to make major improvements in water security. In many cases administrative units have no authority to address water security threats such as pollution at a source outside their areas of jurisdiction.

To realise a water-secure future, it is necessary to institute and empower a set of catchment management organisations with the authority to implement change on the hydrological and environmental system scale.

4.3 Multi-sectoral Collaboration for a Water-Secure Future

Water security threats are interconnected yet they prevail in a complex urban system where individual actors have different goals and interests. Confronting these threats effectively requires collective action from all actors. Therefore, development of the WSAIP followed a multi-stakeholder process to deliver a jointly owned plan that all stakeholders could commit to implementing.

Over 1500 stakeholders participated in the plan development process following the stewardship approach which fosters dialogue between the private sector, the public and civil society with a goal to:

- (a) Encourage multi-stakeholder and inter-institutional working relations while aligning individual strategic goals, mandates and responsibilities under one overarching umbrella – water security.
- (b) Foster better appreciation of the water security concept and the need for collective planning and action.
- (c) Stimulate collective action to address common locally identified water risks and threats.
- (d) Facilitate greater commitment and buy-in from all stakeholders at local, metropolitan and national levels.

Public entities such as Ministry of Water and the Environment (MWE), National Water and Sewerage Corporation (NWSC) and Kampala Capital City Authority (KCCA) supported the institutionalisation of WSAIP approaches in addition to mainstreaming water security and the stewardship approach into policies, strategies and action plans. Civil Society Organisations (ENR-CSO and UWASNET) created

awareness amongst local communities, enabling them to identify household-level water security risks to ensure investment actions suit local needs; and engaged political leaders to garner legislative commitment to the plan. Identification of water security risks facing the industrial and business sectors was spearheaded by the Uganda Manufacturers Association (UMA) who also empowered industrialists and business owners to address water security threats at their level.



4.4 Multi-sectoral Collaboration for a Water-Secure Future

Water security threats are driven by several external factors that require careful consideration in management decisions to ensure policies developed address these growing pressures. They include:

Population growth and urbanisation

The population of GKMA is projected to grow from 4 million people in 2019 to 13 million people by 2040. Ecosystems are equally threatened by encroachment to accommodate growing towns and other land use changes. Current development patterns suggest both formal and informal settlements will continue to encroach on valuable natural systems, particularly wetlands. Higher levels of investment in water supply and sanitation are needed to keep up with this population growth.

Climate change

This exacerbates water security threats by adding to the variability in natural systems. Uganda's climate is predicted to be hotter on average in the next 20 years with more uncertain precipitation. In Greater Kampala Metropolitan Area, temperatures are projected to increase between 0.5 and 3°C, and projected changes in precipitation range from -11% to +34%. This indicates that any investment planning needs to be prepared for a hotter and wetter future.

The combination of projected changes (more heat, more rain) and anticipated increased frequency of severe floods and droughts, generates a range of likely impacts, namely:

(a) Flooding: more severe and frequent flood events will negatively affect the poorer populations that live in floodplains and reclaimed wetlands. Increased flood risk will threaten infrastructure throughout Kampala, leading to both repair and disruption costs, and financial losses to industries and businesses located in floodplains.

Economic growth

Increased industrial activity, increased waste production and increased water demand will put pressure on water security. The negative impacts of this growth can be mitigated if households and industries invest their increased wealth in water security measures. For example, wealthier households should be able to pay fees and connect to a sewer system, and industries should invest in onsite secondary water treatment facilities.

(b) Sanitation: shallow pit latrines placed in floodplains become inaccessible during flood events – if these occur more regularly, further contamination of water sources will occur.

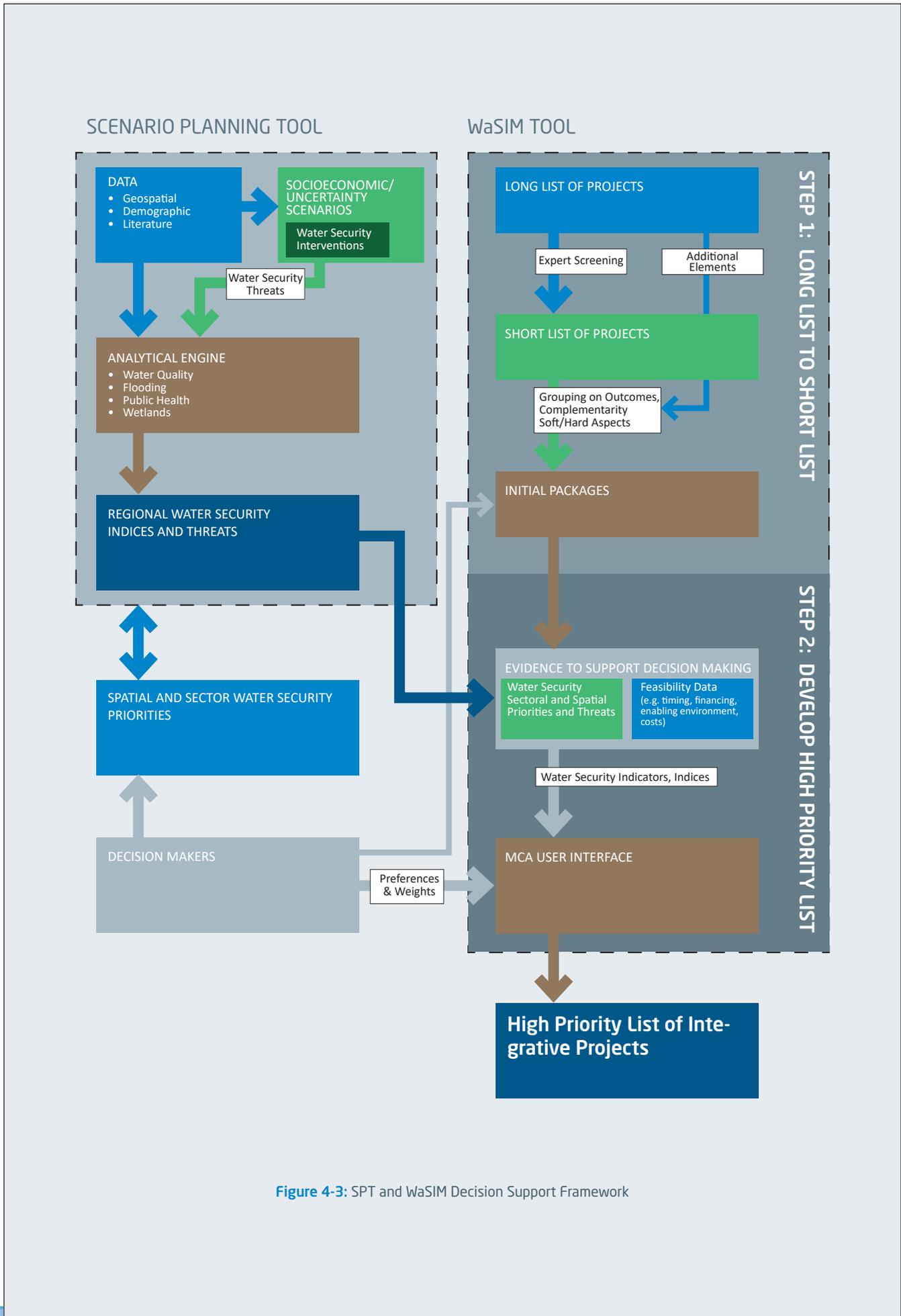
(c) Water quality: increasing temperatures will cause more rapid growth of bacteria in water sources, leading to harmful algal blooms and other water quality challenges as certain pollutants thrive in warmer waters.

(d) Health: waterborne diseases like cholera will occur with more frequency due to increase in occurrence and severity of floods.

(e) Water supply – in northern regions of Greater Kampala Metropolitan Area that already have water availability challenges, increasingly frequent droughts will place greater stress on groundwater pumping.

4.5 Evidence-based Decision Support Framework

An evidence-based decision support framework was developed to help stakeholders make informed decisions regarding investments in water security. It consists of two tools: The Scenario Planning Tool (SPT) and the Water Security Investment Model (WaSIM) Multi-criteria Decision Analysis Screening Tool shown in Figure 4-3. The outputs of this framework are not only the list of high priority integrative projects, but also a set of tools that facilitate inter-stakeholder, inter-institutional, and cross-spatial evidence-based integrated investment decisions on water security.



5

INVESTMENT OPTIONS FOR A WATER SECURE FUTURE



Investing in water supply and sanitation; urban drainage and flood management; wetland and forest rehabilitation; and institutional strengthening, will have the following short to medium-term benefits:



Improved public health due to better sanitation and reduced water pollution.



Increased productivity because of reduced flood risk and/or reliable supply of water to households and businesses.



Reduced cost of water supply owing to reduced pollution of raw water quality.



Improved supply of ecosystem services as a result of restoring and securing the health of aquatic ecosystems.



Improved governance of water and environment resources.

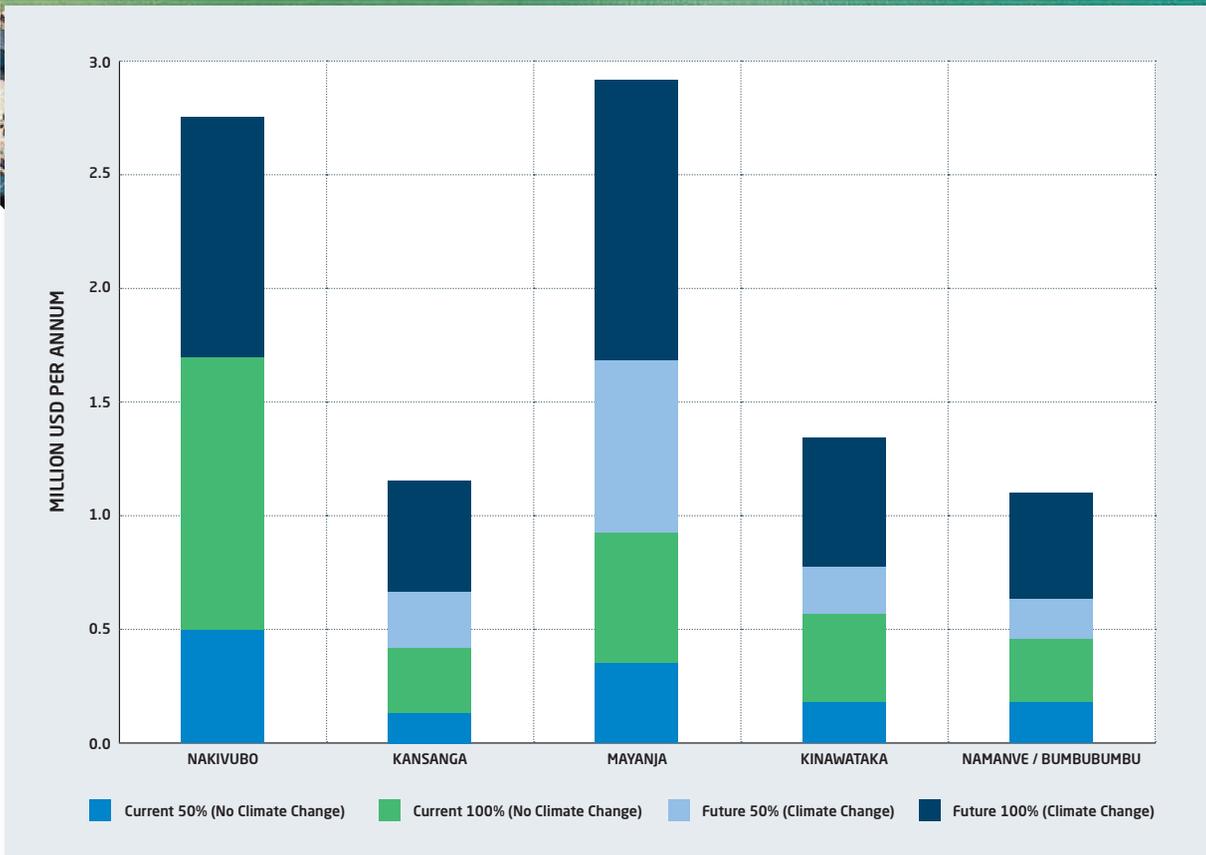


Figure 5-1: Economic Benefits of Reducing Domestic and Industrial Loadings into Inner Murchison Bay

5.1 Strategic Goals and Objectives

The WSAIP sets six (6) strategic goals to support the realisation of a water-secure future in the short (2030) to medium (2040) term. These six goals should be included in national and sector development plans, and inform subsequent financing and budget allocation. The goals are based on stakeholder consensus aligned to sector, institutional and political goals, and backed by evidence generated in the scenario planning tool.

GOAL 1

INSTITUTIONALISE WATER SECURITY AND ITS DECISION SUPPORT TOOLS

OBJECTIVE: Transform water security from a concept into practice

Specific actions:

- (a) Formulate a Water Security Task Force to oversee the formation of an inter-governmental structure to support implementation of the WSAIP.
- (b) Establish an ad hoc inter-institutional Water Security Technical Unit (WSTU) to coordinate implementation of WASIP at institutional level and develop proficiency in application of the decision support tools.
- (c) Build capacity of the WSTU and local analysts through a six-month training on water security its decision-support tools.
- (d) Establish a bi-annual Water Security Forum to foster dialogue among GKMA stakeholders, decision-makers, and development partners.
- (e) Establish a multi-stakeholder Water Security Investment Committee (WSIC), to work with the WSTU, and supported by the Water Security Investment Model (WaSIM) to facilitate the design, funding and implementation of priority projects.
- (f) Empower stakeholders to collect data and information on water security risks as well as the application and utilisation of decision support tools to inform investment decisions.

GOAL 2

REDUCE POLLUTION LOADINGS ENTERING INNER MURCHISON BAY

OBJECTIVE: Increase Dissolved Oxygen concentrations in the bay by 85% by 2040.

Specific actions:

- (a) 30% reduction in domestic pollution loadings into IMB.
- (b) 80% reduction in industrial pollution loadings into IMB.
- (c) 20% increase in wetland extent in the IMB catchment.

GOAL 3

INCREASE SOLID WASTE DISPOSAL AND RECYCLING BY 50% BY 2030

OBJECTIVE: Reduce the volume of unsafe solid waste entering the environment.

Specific actions:

- (a) 50% increase in solid waste collection and disposal services in the metropolitan area.
- (b) Doubling existing solid waste recycling efforts.

GOAL 4

DAMPEN FLOOD PEAK FLOWS IN HOTSPOT AREAS BY 40% BY 2040 THROUGH SUSTAINED INVESTMENT IN BLUE-GREEN INFRASTRUCTURE

OBJECTIVE: Reduce the frequency and impact of urban flooding across the metropolitan area.

Specific actions:

- (a) Conservation of existing wetland ecosystems and rehabilitation of 70% of degraded wetland hotspots.
- (b) Conversion of 12% of urban land into forest land.
- (c) Investment in blue-green infrastructure to increase storm water capture and retention.
- (d) Promotion of integrated urban planning and development to control growth of informal settlements.

GOAL 5

INCREASE WATER SUPPLY AND SANITATION COVERAGE IN POORLY SERVED AREAS BY 50% BY 2030

OBJECTIVE: Improve the quality of public health by providing adequate supply of safe water and access to essential sanitation services particularly in poorly served areas.

Specific actions:

- (a) 50% increase in sanitation coverage to enable access to over 142,048 and 394,702 un-served urban dwellers in 2019 and 2040 respectively.
- (b) 50% increase in water supply services across the metropolitan to provide access to about 580,501 and 709,021 un-served urban dwellers in 2019 and 2040 respectively.

GOAL 6

STRENGTHEN THE INSTITUTIONAL FRAMEWORK TO ENABLE MULTI-SECTORAL INTER-INSTITUTIONAL COLLABORATION TO ADDRESS WATER SECURITY RISKS AT THE HYDROLOGIC/ ENVIRONMENTAL SYSTEMS SCALE

OBJECTIVE: Promote the integrated management of land, water and ecosystems across the metropolitan area.

Specific actions:

- (a) Establish and operationalise the Inner Murchison Bay Catchment Water Quality Management Organisation by 2025.
- (b) Establish at least one multi-stakeholder partnership each year to address water security threats.

6 IMPLEMENTATION



The implementation of the WSAIP includes a pipeline of investment actions, proposed governance structure, financing, monitoring and evaluation strategies.

6.1 Pipeline of Investment Opportunities

To realise a water-secure future in the GKMA requires investment estimated to amount to US\$ 4.3 billion. The WSAIP adopts a project-based approach to investment planning using the Water Security Action and Investment Framework.

To select high priority projects that are holistic, socially acceptable, economically viable and with impactful solutions that address multiple threats to water security, a systematic process was followed. This involved formulation of a long list of project ideas, screening of the long list to form a short list using multi-criteria analysis, and consolidation of the short

list through multiple stakeholder ideation meetings and review of institutional plans and strategies. Project ideas were rated by stakeholders and independent experts using four main criteria: environmental quality improvement, socio-economic benefits, public health improvement, and project characteristics and sustainability.

Table 6-1 presents the final list of 13 consolidated projects, how long their implementation is estimated to take and projected costs.

Table 6-1: Prioritised Pipeline of Investment Opportunities

CORE PROJECTS	Years	US\$ Million
Greater Kampala integrated urban catchment management	5	23.20
Scaling up solid waste management options in Greater Kampala	5	70.23
Accelerating access to adequate and equitable water supply	10	151.8
Greater Kampala urban forest ecosystem management	5	12.43
Public private partnerships for faecal sludge management	10	98.77
Greater Kampala wastewater management project	5	50.00
Sustainable management of urban wetland systems	5	81.96
Strengthening industrial compliance to laws, regulations and standards	5	8.51
Retrofitting informal settlements to enhance water security	5	30.14
Integrated urban flood risk management	5	84.12
ENABLING PROJECTS		
Greater Kampala water security observatory	5	12.40
Citizens environmental monitoring and reporting app – Spot it? Say it!	5	6.23
Operationalising payment for ecosystem services in urban setting	5	15.61

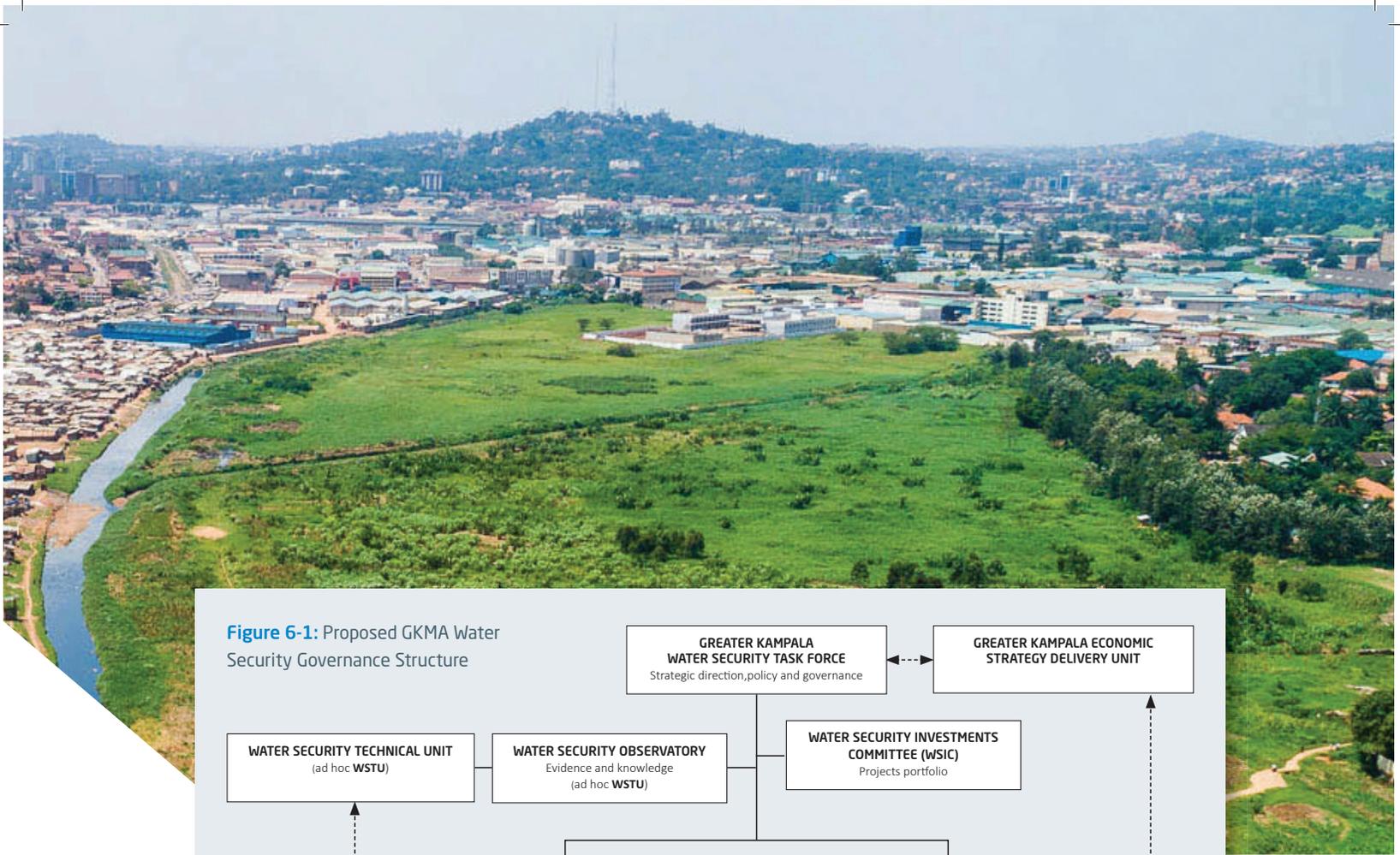
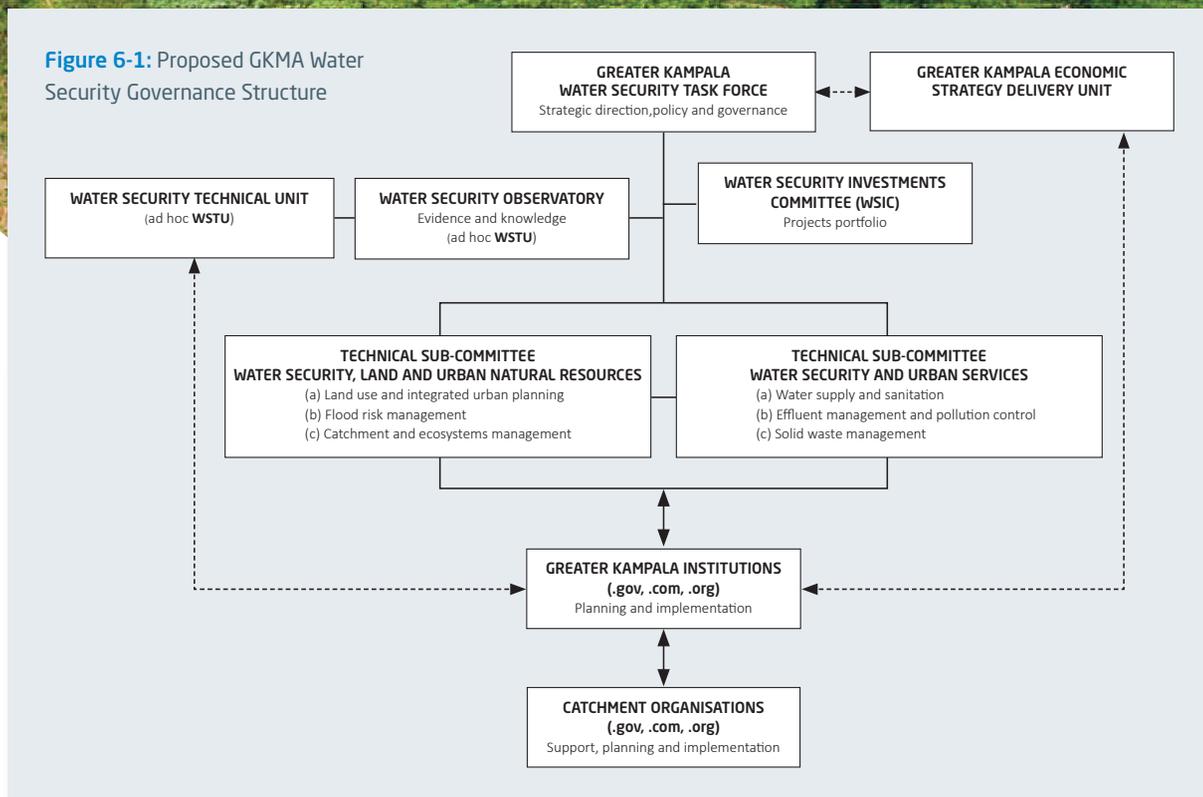


Figure 6-1: Proposed GKMA Water Security Governance Structure



6.2 Governance Structure for WSAIP Implementation

Figure 6-1 provides a structural overview of the proposed governance and coordination structure. A WSAIP action document to operationalise the proposed governance structure and the WSAIP including terms of reference for each committee, shall be developed by WSTF upon launching of the plan.

6.3 Resource Needs and Financing Mechanisms

Operationalising the WSAIP requires approximately US\$ 3 million; while implementation of the selected investment actions necessitates about US\$ 645.3 million. The WSAIP seeks to optimise limited financial, physical and human resource available in the GKMA to achieve water security alongside more sustainable and resilient development. Funding of projects will rely primarily on public sector financing although stimulating private sector investment will be a crucial component in realising water security in GKMA. International funding will also be an important source of finance, especially with regards to pilots and scaling the targeted actions identified in the WSAIP.

7

CONCLUSION AND RECOMMENDATIONS

Urbanisation, economic development and industrialisation do not have to result in a decline of water security in the Greater Kampala Metropolitan Area if policymakers can implement appropriate policies and suitable strategies to prevent any undesirable consequences. The blueprint for GKMA's response to water security threats, is the Water Security Action and Investment Plan.

A set of recommendations and immediate next steps have been developed based on the findings of the WSAIP along with the knowledge gained during the comprehensive WSAIP process:



Explore the formation of a permanent inter-governmental governance secretariat dedicated to ensuring a water-secure Greater Kampala Metropolitan Area.



Establish a Water Security Observatory to serve as a data centre and analysis unit to provide open-access to information related to water security; provide guidance for monitoring and data collection; as well as develop the infrastructure and human capital resources to function as a centre of excellence to support evidence-based water security planning.



Invest in research and data acquisition to understand the rate of change of and demand for urban natural resources and services, and effects of urbanisation on water security beyond 2040, to support evidence-based planning.

The implementation of these recommendations will require extensive dialogue among stakeholders and potential changes in institutional and policy frameworks. Five actionable steps to act as starting points in operationalising the WSAIP include:



Operationalise the proposed multi-sectoral water security governance structure consisting of the following committees: Water Security Task Force, Water Security Investment Committee, ad hoc Water Security Technical Unit, ad hoc Water Security Data Centre that will later become a Water Security Observatory, and two multi-sectoral multi-disciplinary technical expert committees on Water Security and Urban Natural Resources and Water Security and Urban Services.



Establish a framework for the funding and implementation of multi-stakeholder water security investment actions and projects.



Invest in the enhancement and expansion of the Water Security Decision Support Tools under the coordination of the Water Security Technical Unit.



Invest in capacity building for the Water Security Technical Unit and local analysts in an intensive six-month training on Water security and Water Security Decision Support Tools.



Establish a bi-annual Water Security Forum which seeks to foster dialogue among GKMA stakeholders, decision-makers, and development partners.





THE REPUBLIC OF UGANDA
**MINISTRY OF WATER
AND ENVIRONMENT**

CONTACT INFORMATION

Ministry of Water and Environment
Directorate of Water Resources Management
P.O. BOX 20026
Kampala-Uganda

National Water and Sewerage Corporation
Directorate of Business and Scientific Services
P.O. BOX 7053
Kampala-Uganda

Kampala Capital City Authority
Directorate of Public Health Services and Environment
PO BOX 7010
Kampala-Uganda

