Planning for a water secure city: A case study of Kampala, Uganda

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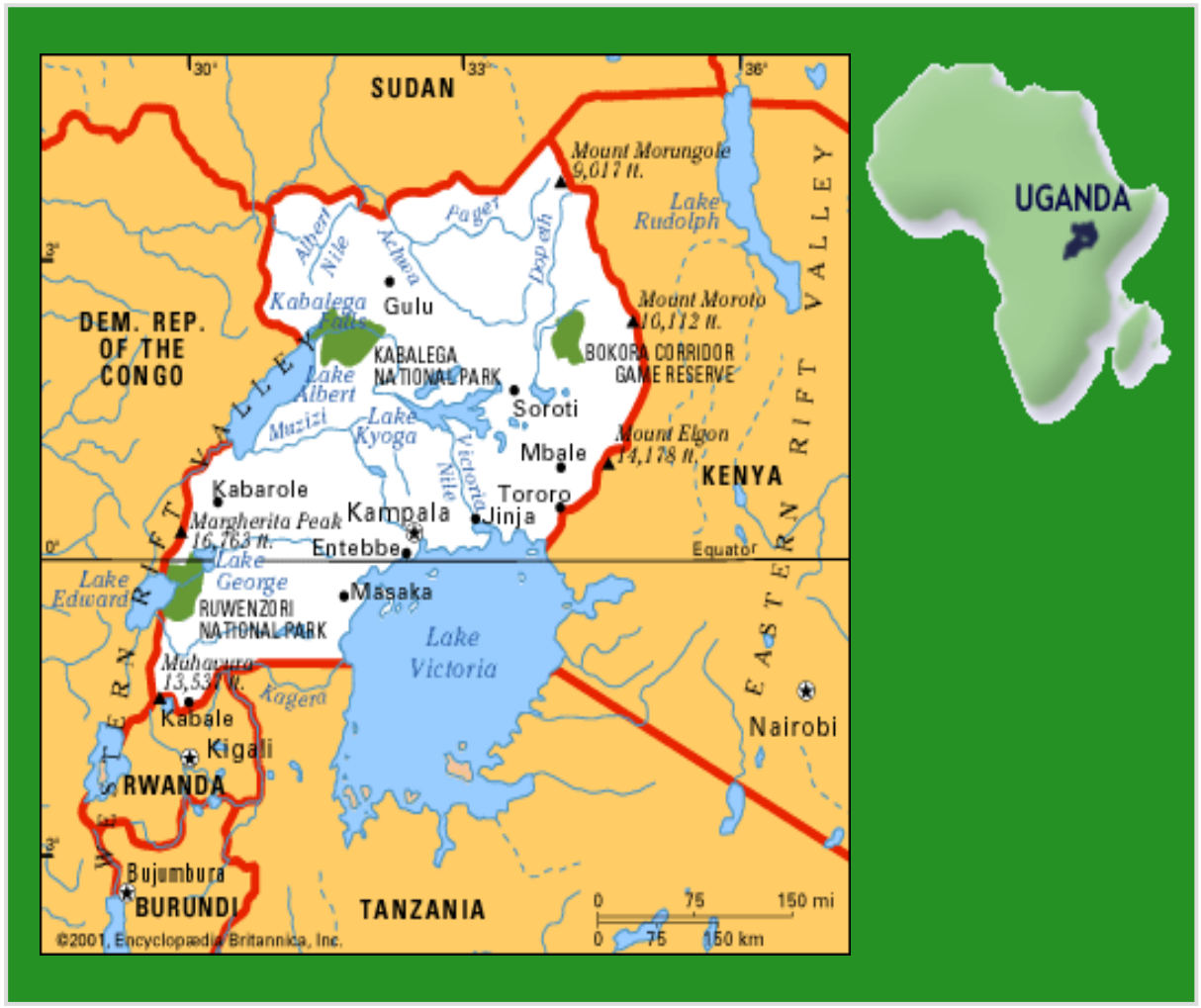
Supported by:

Water resources of Uganda



Renewable water resources

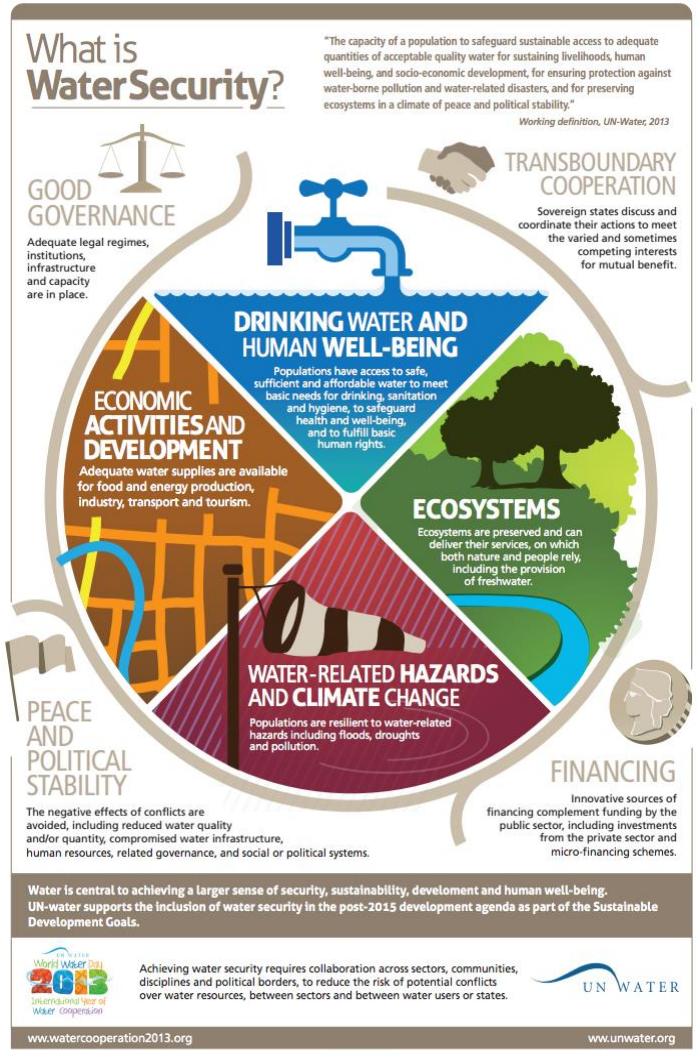
15% of Uganda is open water

3% permanent and 9.4% seasonal wetlands

What is water security?

The UN defines **Water Security** as:

The capacity of a population to sustainably access adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability



Causes of water insecurity in Kampala

Degradation of wetlands

Natural Wetlands have been degraded leading to lake pollution and flooding

Poor solid waste management

Public Health and Environment **have over the years deteriorated due to pollution**

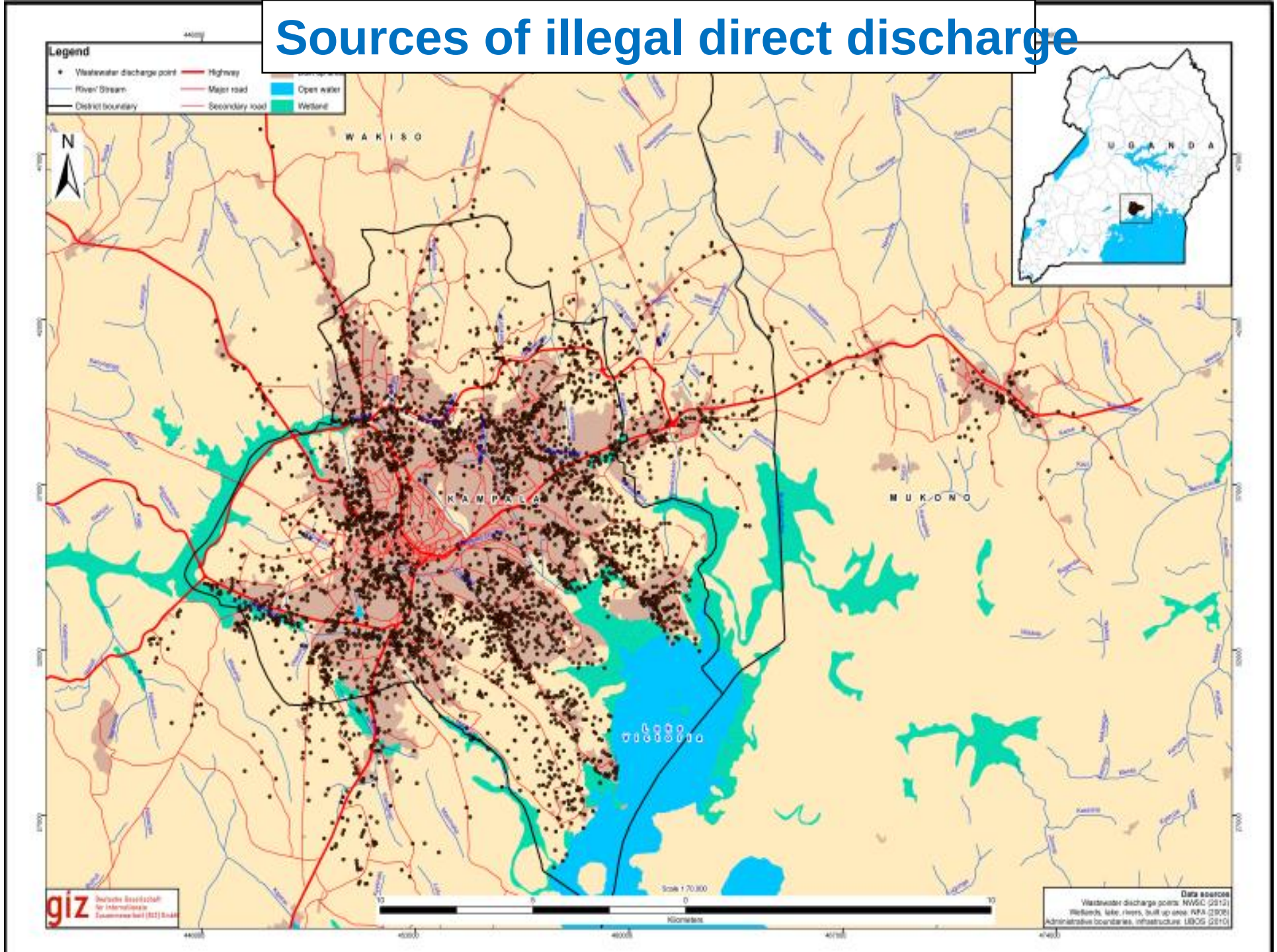
Inadequate sanitation

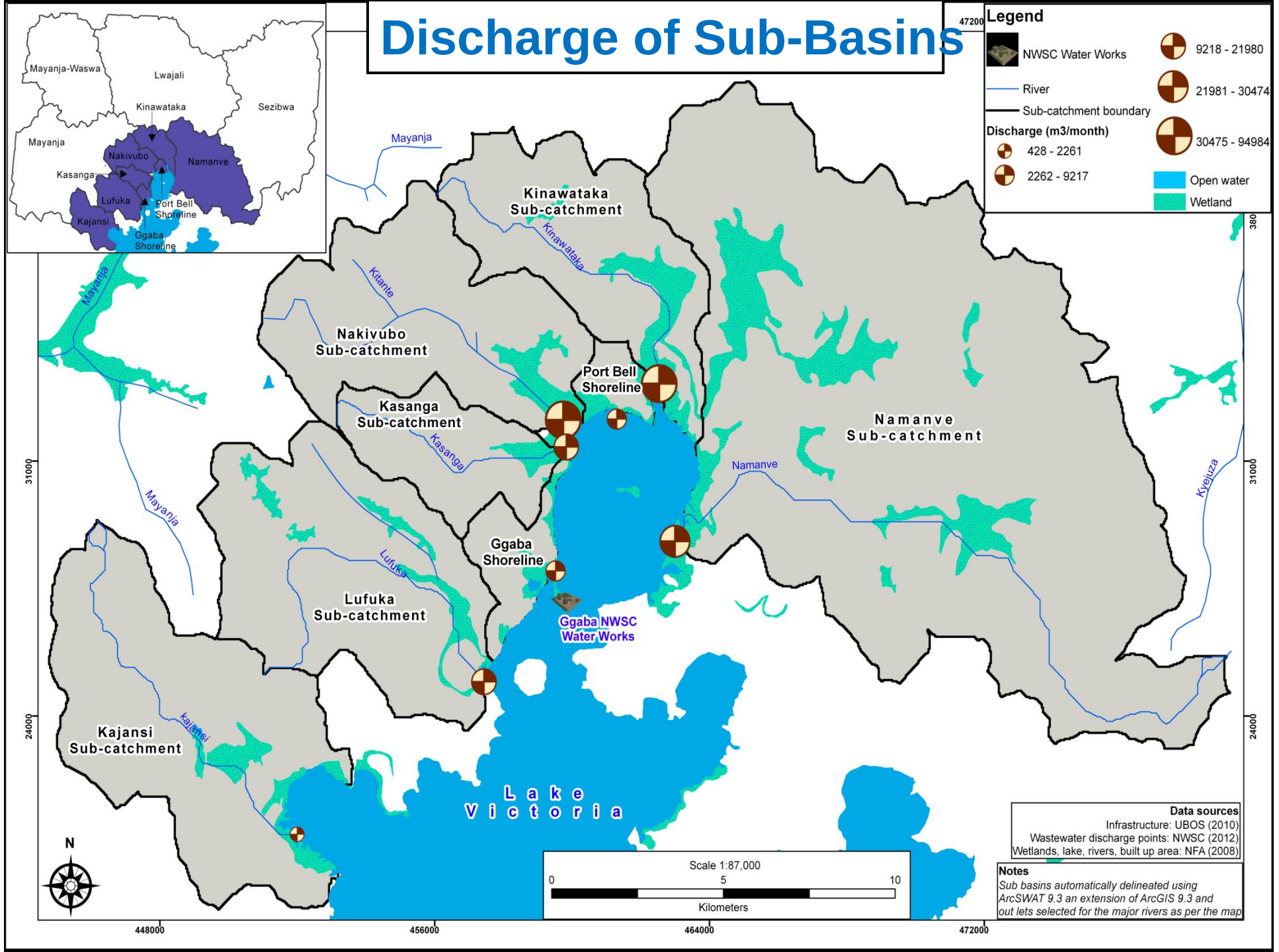
Challenge of *Access, Operation and Maintenance, Transportation and Disposal*

Waste water discharge

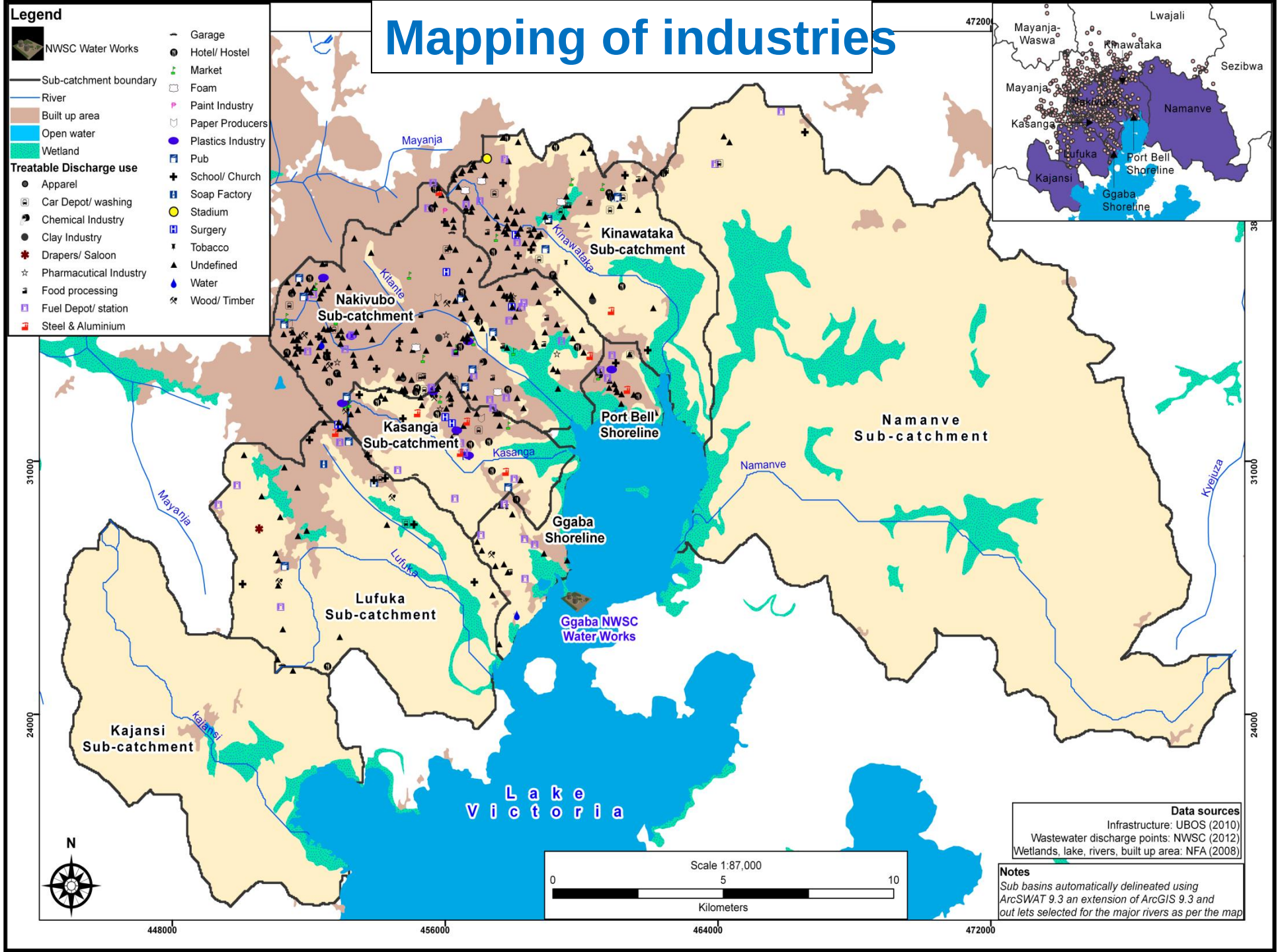
Indiscriminate Wastewater Discharge: *Industrial, Domestic, sewage e.t.c….*

Sources of illegal direct discharge

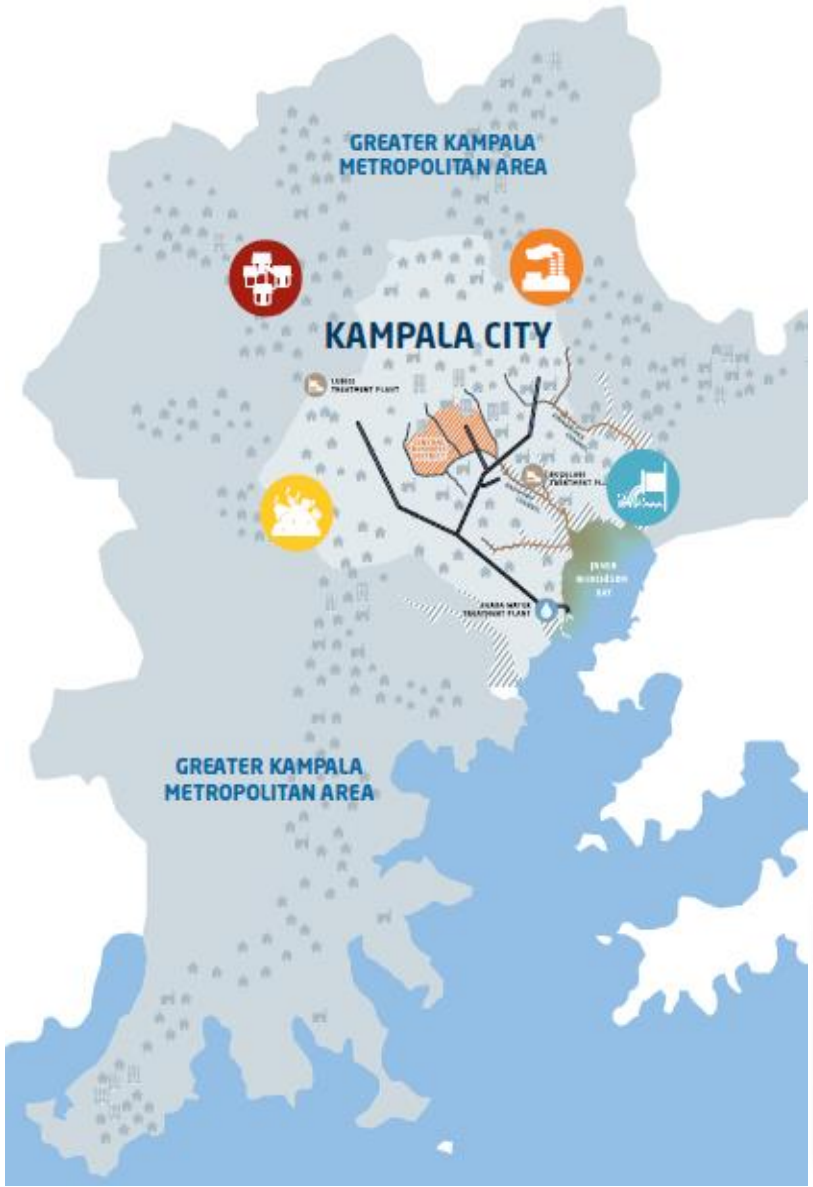



Discharge of Sub-Basins
Legend
NWSC Water Works
River
Sub-catchment boundary
Discharge (m3/month)
428 - 2261
2262 - 9217
9218 - 21980
21981 - 30474
30475 - 94984
Open water
Wetland
Mayanja-Waswa
Lwajali
Kinawataka
Sezibwa
Mayanja
Nakivubo
Namanve
Kasanga
Lufuka
Port Bell Shoreline
Kajansi
Ggaba Shoreline
Kinawataka Sub-catchment
Nakivubo Sub-catchment
Kasanga Sub-catchment
Lufuka Sub-catchment
Kajansi Sub-catchment
Namanve Sub-catchment
Port Bell Shoreline
Ggaba Shoreline
Ggaba NWSC Water Works
Kitante
Kinawataka
Kasanga
Lufuka
Kajansi
Namanve
Kyejjuza
Lake Victoria
N
Scale 1:87,000
0
5
10
Kilometers
Data sources
Infrastructure: UBOS (2010)
Wastewater discharge points: NWSC (2012)
Wetlands, lake, rivers, built up area: NFA (2008)
Notes
Sub basins automatically delineated using ArcSWAT 9.3 an extension of ArcGIS 9.3 and out lets selected for the major rivers as per the map
448000
456000
464000
472000
47200
380
31000
24000

Mapping of industries



Planning for Water Secure and Economic Resilient Greater Kampala Metropolitan Area (GKMA)



Uganda's Economic Engine

- Over 4.5 million people (2020)
- Population growth 3.9% pa (4.8% by 2030)
- Urbanisation rate 5.4%
- Contributes 31.4% of National GDP

<u>Challenge</u>

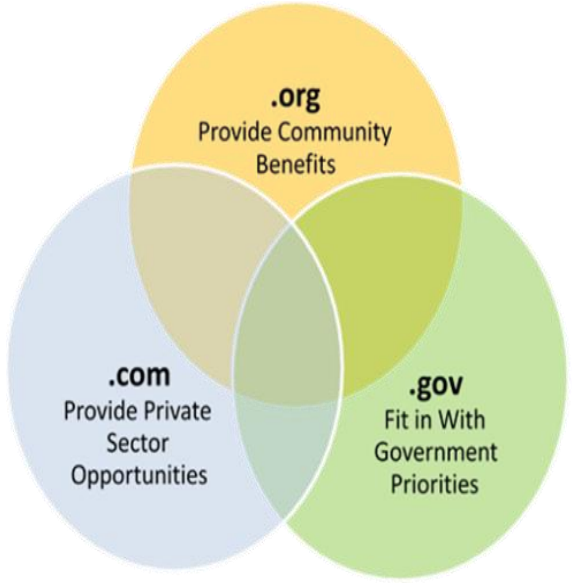
Balancing economic development with environmental assets

- Lack of a coordinated, multi-sectoral approach to address complexity
- Limited evidence base to catalyse a common agenda, action and investment

Water Security Action and Investment Plan Project (WSAIP) for Greater Kampala Metropolitan Area

WSAIP Objectives and Outcomes

- Set the water security agenda for GKMA
- Develop an integrated water security action plan
- Develop a prioritised list of investment actions through projects
- Empower all actors to deliver joint actions and hold each other to account

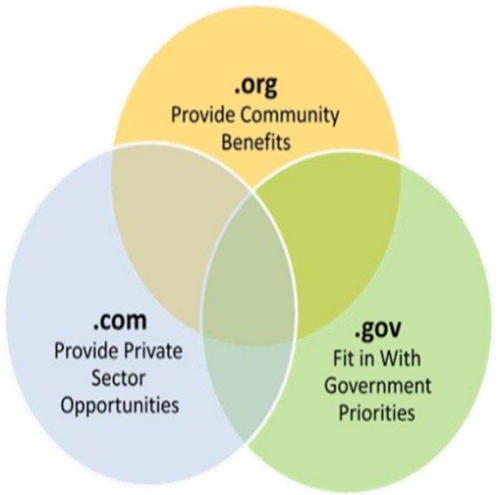


Rationale

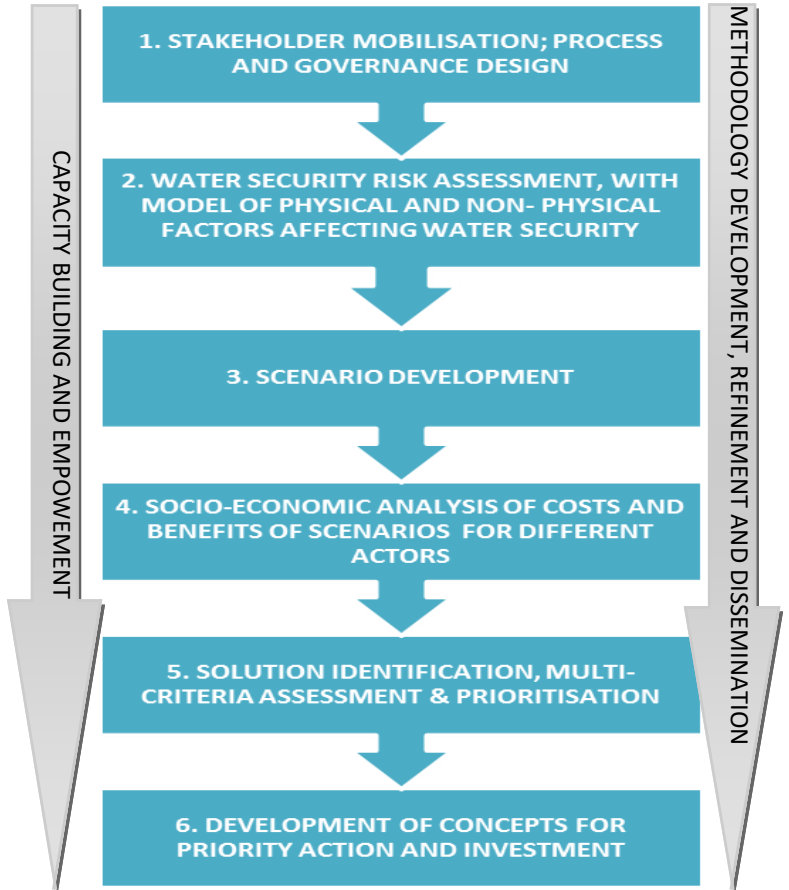
- Build common understanding of water security threats/risks and there impact on different actors
- Break silos and build strong partnerships
- Increase investments to enable sustainable social and economic growth

Dealing with risk at a metropolitan level

Integrated water security action and investment plan (WSAIP) in the Greater Kampala Metropolitan Area (GKMA) to support sustainable social and economic development.



Conceptual Framework

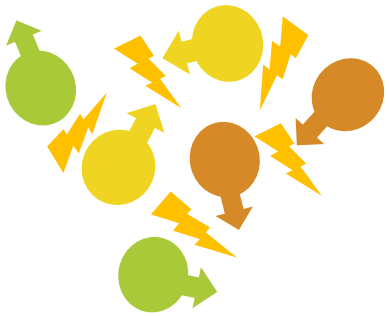


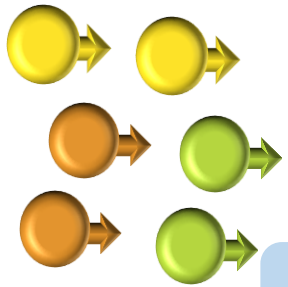
Concept - Value of Water Stewardship Partnerships

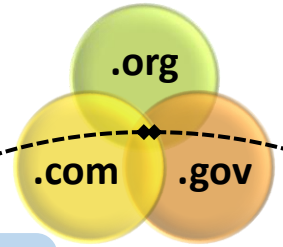
Silo working and non-cooperation; conflict

Common understanding and objectives; collaboration

Working in partnership to deliver joint projects







Physical interventions

Institutional interventions

Water security for social and economic development

ACHIEVEMENTS OF WSAIP: Call for Collective Action To Achieve Water security

- Transformative Institutions: Multi-sectoral collaborative platforms - Government, Private Sector and Civil Society Organisations

  Examples
  - The Kampala Pollution Control Task Force
  - Catchment Organisations

- WSAIP key outputs:

1. Empowered over 1500 stakeholders (**315 private sector actors**)
2. **Stimulated collective action** to address common 'locally' identified risks
3. **Demonstrated how to break silos** at sectoral and institutional level to deliver National Development Agenda – NDP III (2020/2025)
4. **Strengthened evidence-base**
5. **13 Prioritised Projects** **(Land Use, Catchments and Ecosystems Mgt; Water Supply and Sanitation; Solid Waste Management and Effluent Management)**

THE LORD MAYOR

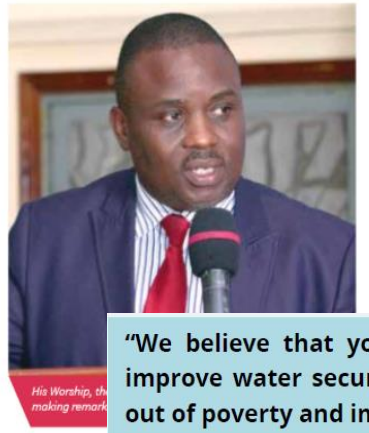
"We have to plan for water security in order to achieve the Sustainable Development Goals"

I take this honor to welcome you all to this very important engagement. The Executive Director of Environmental Alert, representatives from GIZ, the Deputy Lord Mayor, Mayors of the various municipalities, Town Clerks, the technical team from KCCA, ladies and gentlemen.

Allow me in my capacity of Lord Mayor to welcome you all to this important dialogue.

You will agree with me that without a clear plan then there is nothing that you can achieve in terms of sustainable development. I extend my sincere thanks to the development partners and all other stakeholders spearheading this very important project and of course the entire fraternity under the International Water Stewardship Programme.

We appreciate this initiative including the involvement of Ministry of Water and Environment, National Water and Sewerage Corporation and other government agencies. The team at KCCA has done commendable work in this regard. We treasure our partnership with GIZ in the area of sanitation where we have made some remarkable progress.



"We believe that you can protect the natural resources, improve water security and be able to actually get people out of poverty and improve their income and wealth."

What is water security and is it a critical issue in the sector?

Water Security means having the right quantities and quality of water to meet the different needs including industries, domestic, navigation, energy production etc. It means making sure that water becomes an opportunity not a problem.

What are some of the challenges related to water security?

If water is too much, it becomes a problem and if it's too little, it becomes a problem as well. That is why we need to manage this water sustainably so that it becomes an opportunity.

When rain falls in a situation like Kampala where drainage channels are silted and filled with solid waste including buveera and plastic bottles, it becomes a very big

Dr. Callist Tindimugaya, Commissioner, Water Resources Planning and Regulation, Ministry of Water and Environment

ACHIEVEMENTS OF WSAIP: Demonstration of economic Benefits of Investment in water security

By 2040, investment in water security in Greater Kampala Metropolitan Areas results in GDP increases of:

$195

GDP per capita in GKMA annually

This represents a 4.2% increase from the BAU scenario.

About half of the total benefits of investment in GKMA stay in GKMA as GDP benefits.

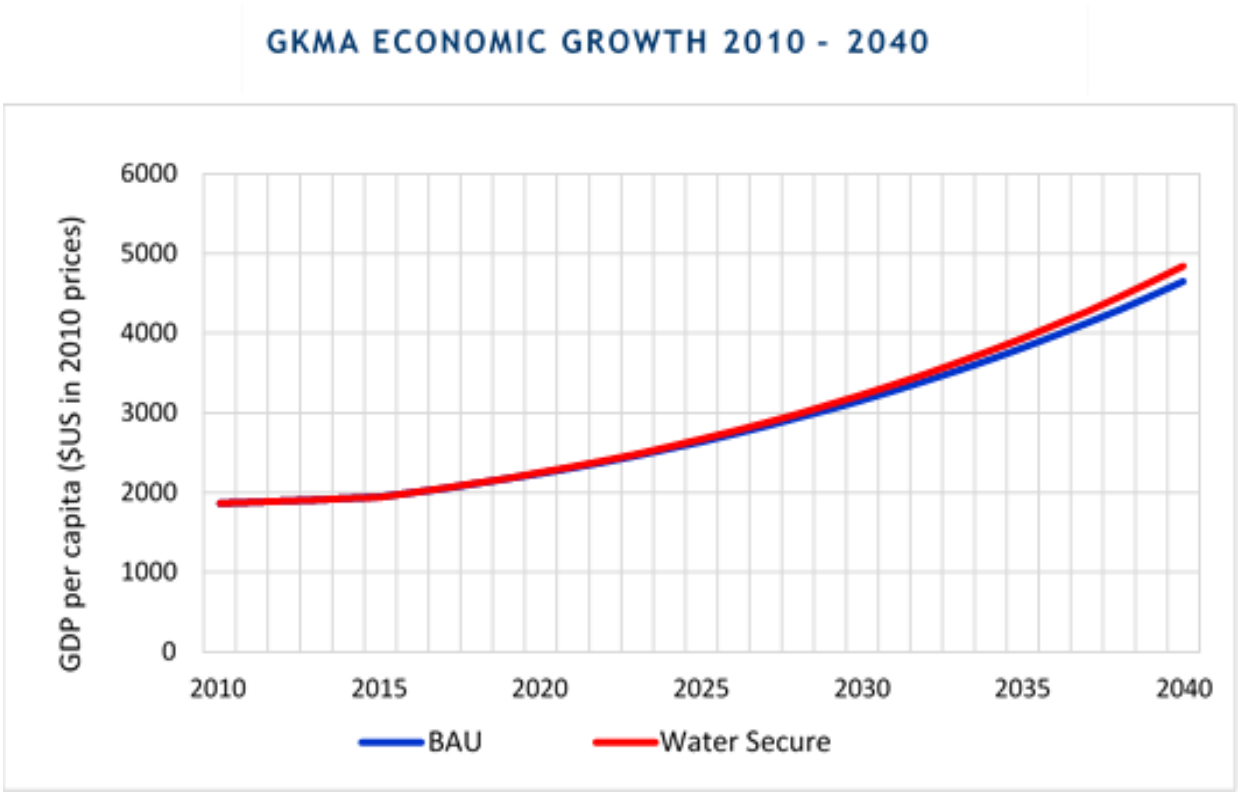
$52

GDP per capita on average nationally each year

This represents a 4.1% increase from the BAU scenario.

The rest of the benefits flow through the economy and lead to GDP growth in other regions.

GDP benefits are eight times higher than investment costs: Cumulative benefits from 2018 to 2040, in terms of **GDP $22 billion (US$ 2018)** compared to cumulative costs of **$4.3 billion**.



Lessons and key Messages

Addressing urban water insecurity lies largely outside of the water sector – integrated urban development, planning control, decentralisation. An area-based approach is critical that cannot focus just on water.

Water security planning requires significant high quality data spanning environment, economy and society. Its absence makes evidence-based decision making and investment justification challenging. Information and stakeholder platforms can improve this over the long term.

Process impacts are at least as important as outcome impacts. **Empowering communities, strengthen stakeholder capacities and foster collective leadership** are all good steps towards more integrated planning and resilience.