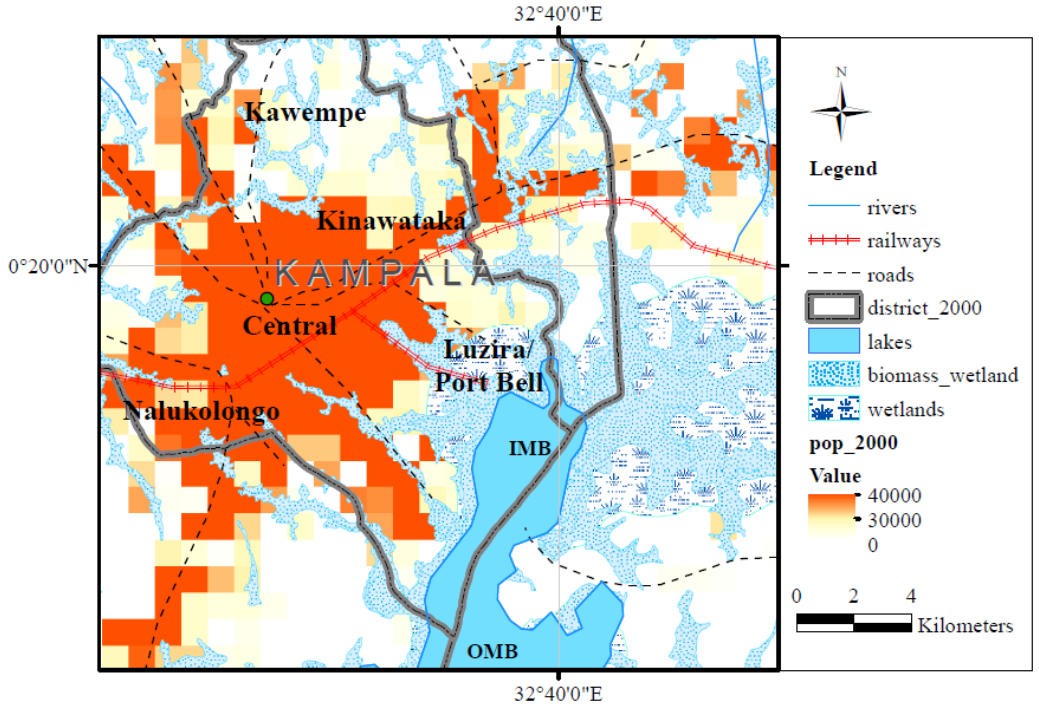
NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL

Urban Pollution, the case of Kampala

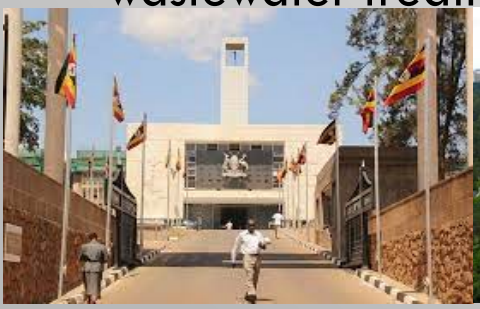
Idrakua Lillian
Commissioner, WQM
Ministry of Water and Environment, Uganda

INTRODUCTION

- Kampala is the capital city of Uganda
- Is located at the shore of L. Victoria
- Kampala has a population of 1.5m people (2014 census)
- Sewerage connection in the city is less than 10%
- Most homes use onsite septic tanks
- Informal settlements use pit latrines
- There is a central municipal wastewater treatment plant run by NWSC
- A few industries have their own wastewater treatment facilities




Kasubi tombs



THREATS TO WATER QUALITY IN URBAN AREAS

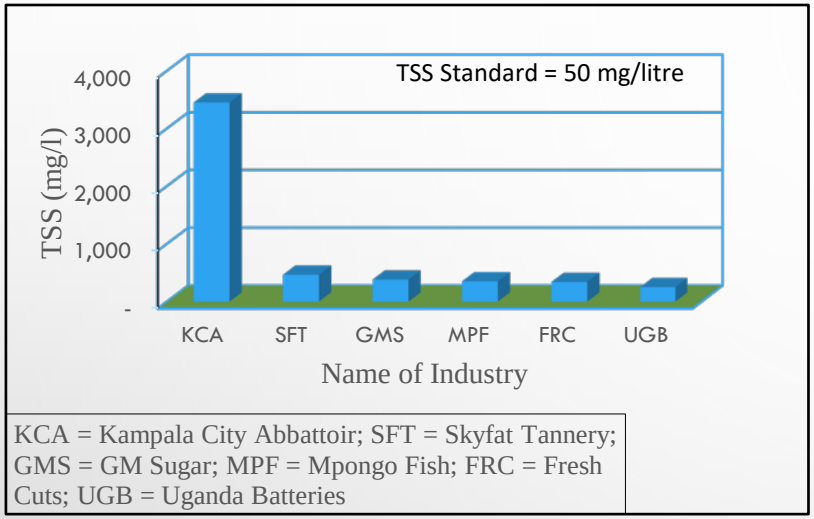
MINISTRY OF WATER & ENVIRONMENT, DIRECTORATE OF WATER RESOURCES MANAGEMENT
DEPARTMENT OF WATER QUALITY MANAGEMENT: P.O BOX 19, ENTEBBE
TEL: (+256) (0) 414 322 440, Fax (+256) (0) 414 321 368, www.mwe.go.ug

POLLUTION CHALLENGES

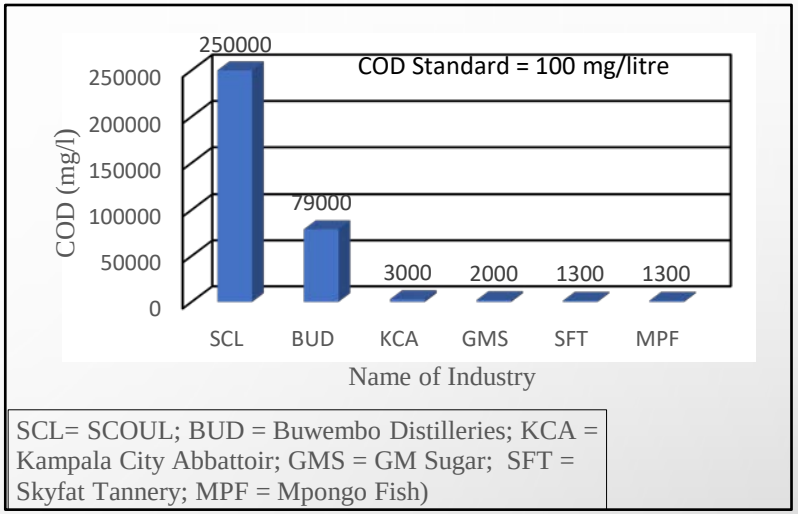
- There is a complex mix of pollution types from Kampala city
- Nutrient pollution
  - Municipal & industrial waste
  - Atmospheric depositions
- Organic pollution from agricultural activities
- Toxic metal pollution from industries
- Pharmaceutical/medical residues
- Plastic waste
- Sediments from storm run-off

INDUSTRIAL POLLUTION CHALLENGE

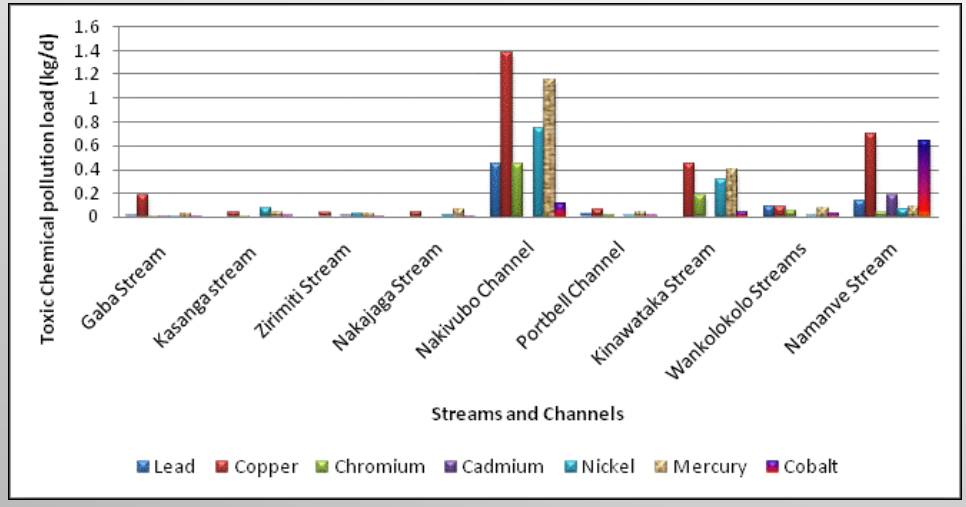
- Industrial wastewater compliance level is very low (MWE, SPR 2019/20)



KCA = Kampala City Abbattoir; SFT = Skyfat Tannery; GMS = GM Sugar; MPF = Mpongo Fish; FRC = Fresh Cuts; UGB = Uganda Batteries

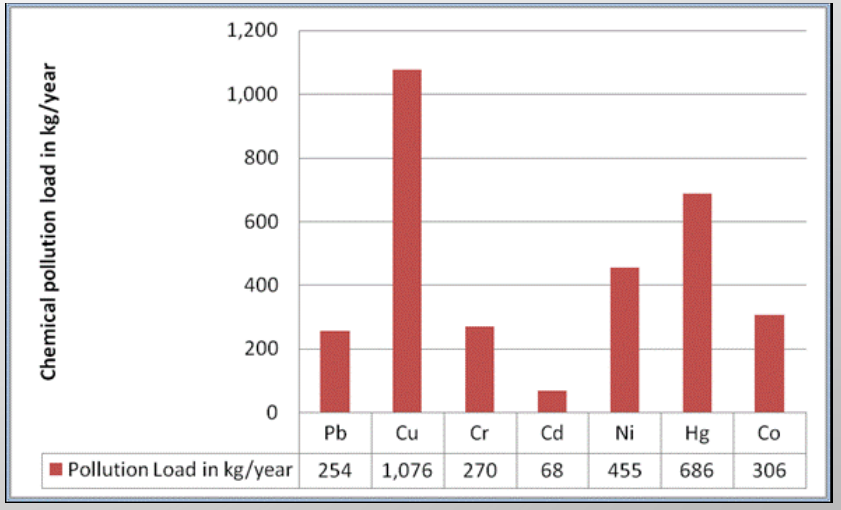


SCL= SCOUL; BUD = Buwembo Distilleries; KCA = Kampala City Abbattoir; GMS = GM Sugar; SFT = Skyfat Tannery; MPF = Mpongo Fish)



Chemical load into into IMB from Streams

Source: Adongo, 2013

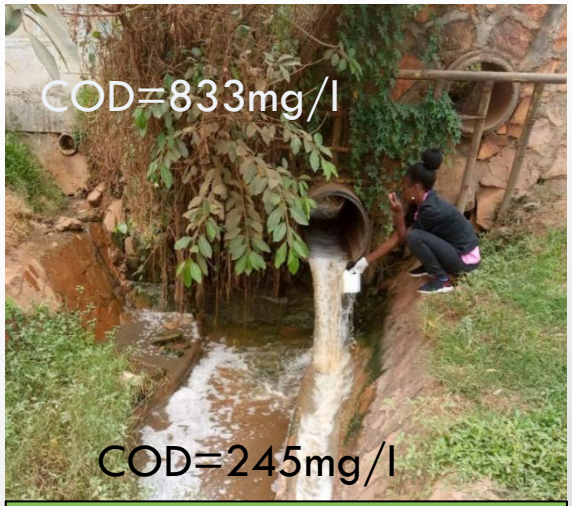


Total annual chemical pollution load into L.Victoria from Kampala city

INDUSTRIAL POLLUTION CHALLENGE

Raw milk discharge

Abattoir discharge



Effluent from a Brewery

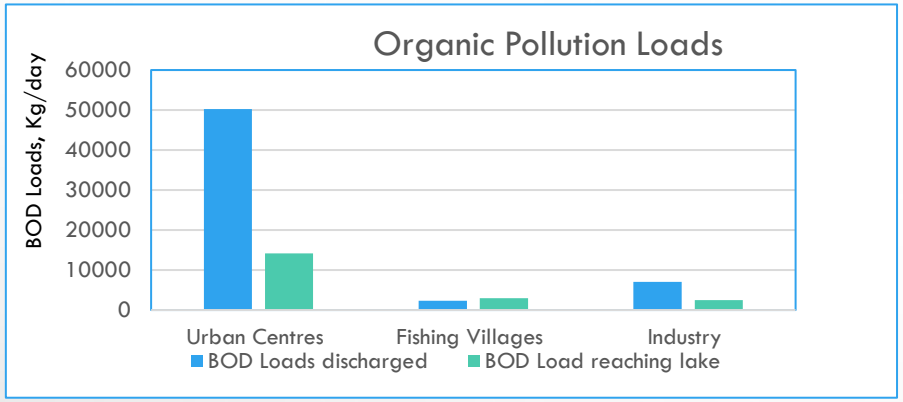
Sugar factory effluent

Nakivubo Channel

Leachate' Kitezi Landfill

Photo courtesy: Department of Water Quality Management

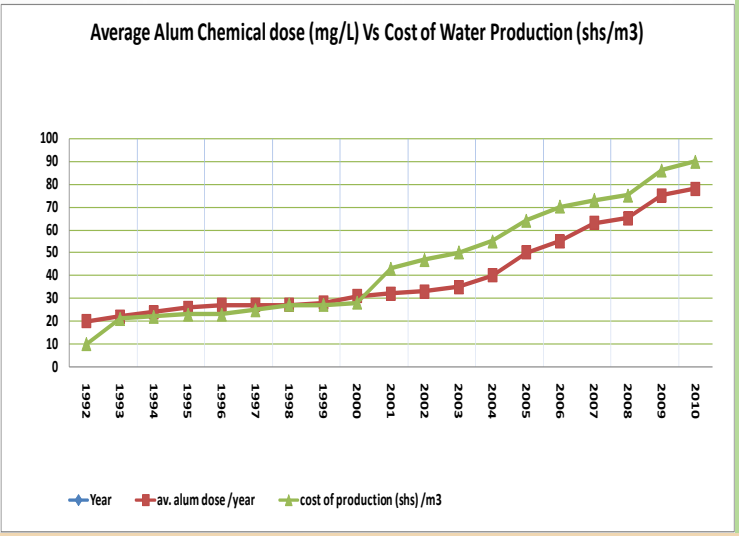
MUNICIPAL POLLUTION CHALLENGE



Source: LVEMP 1

- The Nakivubo Swamp in Kampala is degraded and encroached: Its water purification function is grossly reduced (Mbabazi *et al*, 2010).
- Active wetland vegetation left was 0.57 sq.km in 2014 (Isunju & Kemp, 2016)
- Further reduced to 0.44 sq.Km in 2017 (Odota, 2017)

POLLUTION IMPACTS



- Impairment of beneficial uses of lake water
- Increased cost of treating drinking water
- Loss of biodiversity; >300 fish species have disappeared (Wasaf, 2021)
- Sedimentation affecting lake morphology, hydraulics
- Water pollution related diseases, algal toxins etc

Eutrophication and associated consequences

- Invasive water weeds such as the water hyacinth
- algal blooms dominated by cyano bacteria
- Fish kills

GOVERNMENT INTERVENTIONS

- Adequate Policy, Laws and Regulations for pollution management
- Relevant Institutions for enforcement of laws and regulations exist
- Several industries establishing wastewater treatment facilities
- Support for industries to implement Resource Efficient and Cleaner Production techniques to minimize waste from industries
- Several ongoing government projects and programs to improve sanitation and reduce environmental pollution

NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL

GOVERNMENT INTERVENTIONS

Capacity Development for pollution monitoring

GOVERNMENT INTERVENTIONS

- The New wastewater treatment plant at Bugolobi, 2020
- Design capacity of 45,000 m3/day
- Fully automated units for sludge separation, clarification, biofiltration and biogas production

Uganda Breweries, Kampala

Bidco Uganda, Jinja

Wastewater Treatment Facilities


NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL
THANK YOU!