

# SANITATION IN RAPID GROWING TOWNS WORKSHOP

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# Water resources management in Tanzania

Lake & River Basin Approach

Tanzania is divided into 9 Basins – Lake Tanganyika is among them

Functions of the Basin [ few of them ]

- **To co-ordinate the inter-sectoral water resources management at the basin level and serve as a channel of communication between these sectors and water users in general;**
- **To monitor and enforce water use and discharge permits and pollution prevention measures;**
- **To coordinate and participate in the conservation of the environment and protection of water sources;**
- **Approve, issue and revoke water use and discharge permits**
- **Prepare and report the state of water resources in the Basin**
- **Integrate district plans into basin water resource management plans**

***Ref; Water Resources Management Act 11 of 2009***





# Kigoma/Ujiji's –Topography, Drainage and Geology

- Its land form is largely undulating with several hills, dissecting valleys, drying swampy areas and diminishing springs & and covered by loose and rich sandy soils
- Drainage is towards the Lake through different routes and to the swamps which are now being filled with sediments
- This geomorphology makes the municipality vulnerable to soil erosion and land degradation

# Kigoma/Ujiji's Land Use Paten

The land use in Kigoma/Ujiji municipality is categorized as mainly

- Residential which comprise of planned and unplanned settlements
- Agriculture, Industrial, Institutions, Forest reserve ,Open spaces, Commercial and Recreational areas.
- About 70 to 80 percent of the municipal population is accommodated in unplanned settlements which occupy only 28 percent of the residential areas. **Unplanned settlements are largely located in the urban periphery and are poorly serviced with basic infrastructure some of them are known as “Vamia” a Swahili word for “invading”**

# Water Supply for Kigoma/Ujiji Municipality

Sources include

- A pumping system with a distribution network of which its portion which has been receiving frequent maintenance and expansion but with portions aging over 50 years. Serving 42% of the urban population
- Natural point sources located in various low lands and valleys in the peri-urban serving about 50% of the urban population

# Existing Major Water Sources for Kigoma Ujiji Municipality

1. Pumping from Lake Tanganyika- located within the Kigoma Bay. It is surrounded by domestic and non-domestic settlements which include; Lake Tanganyika Hotel, TANESCO power plant, Kigoma Port and Government & Private residences within 200 meters

**Water quality problem at the source is water hardness and bacteriological contamination. More pollution is expected as the urban grew**





Lutale spring, Gungu/Kahabwa  
Katubuka dug wells and  
several dug wells in the  
backyard of many households  
in peri-urban areas are among  
supplementary source to the  
urban water supply. The  
sources serve most of the peri-  
urban centers, they serve over  
**50%** of the urban population.  
Most of the dug wells being  
unprotected and poorly  
located are definitely polluted  
from neighboring latrines or  
several human activities and  
from surface runoff

## 2. Springs and mostly open shallow wells sources

Lutale spring →



← Katubuka dug wells



Kahabwa dug well →

# Sanitation situation in Kigoma/Ujiji

Sanitation in Kigoma/Ujiji is really complicated

- **Solid & garbage waste management**

In **residential areas** people excavates pits and use them to dispose both solid and liquid waste.

In **commercial areas** wastes are collected and delivered to waste reception spots were they are meant to be removed by the **Municipal service**. However The Municipal has only 3 waste collecting trucks which do not manage the whole lot of 120 tons of solid produced per day

- Despite this fact the Municipal does not have a specific area to dump both solid and Liquid waste. Waste collected is disposed in un-surveyed area at the outskirts of the Municipality or used to fill up gulley within the urban area
- At some Waste receptor spots waste is left to rot, This pose more danger to children and the entire Community. At some other places long awaited waste is fueled Both actions contribute to accumulation of Green House Gases
- For waste disposed in gulley they normally overflow to the lake posing more danger to the Lake Biodiversity



# Wastewater Management

**The town does not have a sewerage system.**

- Septic tanks are found in residences in Low and Medium density part of the town & at Institutions, Government buildings and commercial areas, when full an emptying truck can be hired from the Municipal.
- Few people running small pubs in the busy business centre discharges waste water freely in a drainage
- In some of the peri-urban the waste water is onsite disposed through pit latrine or soakaway pits , garbage pits or in nearby road drainages



# Storm water Management

There is no means to control storm water, During rainfall surface runoff erodes; the loose sands, soil, solid wastes found within the different places in town and through a long route to the Lake where

- 1. They pollute the lake- endangering the lake eco-system diversity**
- 2. Cause sedimentation affecting the operations of the port**



# Health problems related to both inadequate Sanitation water supply Kigoma /Ujiji

The major epidemic diseases in Kigoma/Ujiji are Cholera, Dysentery and and the main cause of this epidemic are poor sanitation, lack of clean and safe water. The tables below show the prevalence of diseases in the council:

Disease	2008	2009	Total
Cholera	426	219	645
Dysentery	117	98	215
Typhoid	84	108	192
Diarrhea	5261	18959	24220

Source: Kigoma/Ujiji Municipal Council,  
Health Department



## Who does what on water supply and sanitation related activities and the legislation

Responsibility	[KUMC]	[KUWASA]	[LTBWO]	Empowering Legislation
Supply of Water in the Urban Area				Water Supply & Sanitation Act 12 of 2009
Construct & Manage waste water systems				
Disposition of solid waste in urban area				Land Act 4 of 1999
Supply of water in peripheral areas				WRMA/WSSA of 2009 ,Local Government [Urban Authority]Act
Allocation of urban Land Use & Approval of Infrastructure development in the urban area				Land Act 4 of 1999
Enforcement of the environmental Laws in Urban areas i.e. protection of water sources, monitoring of water quality				By Laws, by KUMC, WSSA 12 , WRMA 11 OF 2009 & EMA Act of 2009
Allocation of water and waste water discharge Permit And Monitoring of compliance of projects /activities likely to pollute the environment				1. WRMA 11 of 2009, 2. EMA Act of 2004

1. Regional Administrative Authority provisional of expertise advice and guidance on WSSS matters monitoring and evaluating projects of local government

2. Ministries of Health, PMLGA Education are also responsible for sanitation development.

### KEY

**KUMC-Kigoma /Ujiji Municipal Council, KUWASA – Kigoma /Ujiji Urban Water Supply & Sewerage Authority**

**LTBWO-Lake Tanganyika Basin Water Office, EMA-Environmental Management Act of 2004**

**WRMA-Water Resource Management Act 11 of 2009, WSSA 12 of 2009- Water Supply and Sanitation Act of 2009**

# Contributing factors to inadequate sanitation in Kigoma/Ujiji

- Sectoral approach planning basis which do/did not consider developmental and environmental factors
- Inadequate coordination among members implementing tasks which have environmental impacts
- Lack of public awareness and solidarity on communal efforts towards solid waste & wastewater management
- Low prestige recognition of wastewater compared to water supply
- Low coverage of storm drains in most parts of the town
- Inadequate institutional arrangement for liquid waste management
- No designated site/area for disposing wastewater generated and approved landfill
- Lack of collection infrastructures including vehicles, collection points or transfer stations, staffs and working tools
- Inadequate water supply aging of the water supply system
- Low understanding of newly enacted legislations and inadequate enforcement by responsible organs

# Challenges ahead in meeting Sanitation Goals in Kigoma/Ujiji

- Compensation of owners' of areas or projects identified to be environmentally vulnerable i.e. water resources reserves to be protected, geological and geo-morphological factors of which use were once approved by the Municipal Government.
- Making ; local Politicians, Communities, Government Leaders & staff understand the significance of adopting and practicing and respect multi-sectoral planning approach
- Shifting peoples idea that sanitation is a Government responsibility to the idea that everybody needs to participate in maintaining a sound sanitation.
- Managing future development prospects, urban migration and population growth of 4.5 %/year which by far exceeds the National average of 2.9%/year in terms of sanitation
- Securing own source financial sustainability
- Achieve sanitation as stipulated by; Policies, MKUKUTA [National Strategy for economical growth poverty reduction], Land Law, Water Management Act 11, EMA of 2004 and Millennium Development Goals,

**About 70 percent of urban residents in most cities in Tanzania live in unplanned settlements as slums or squatters areas. A special program to upgrade these unplanned urban settlements is being implemented**



# Current Efforts

- Enacting The WRMA 11 & WSSA of 2009 **These are new legislations they have been made to cope with the current situation**
- Findings and recommendations made in the final report for Upgrading of Water Supply & Sanitation status for Kigoma /Ujiji urban *by:*

Pöyry Environment Gmbh Augustaanlage Germany & Don Consult Ltd. funded by UNION & KWF funding .

***The document; discusses the Existing Water Supply & Sanitation, Establishes key problems to sanitation and recommends measure to be taken which include, staff training, waste management water system expansion etc.***

- GEF/UNDP organizing several coordination meeting among water and sanitation actors & improving access to clean water for communities in 3 peripheral areas of Kigoma Ujiji

# Increasing advocacy on sanitation improvement

1. Through Lake Tanganyika Environmental Management Project—UNDP/GEF have provided waste receptors with a message – “SAIDIA KUWEKA MANISPAA YAKO SAF” meaning “Help in keeping your Municipal clean”
2. On 31<sup>st</sup> October 2011 at the inauguration of the anniversary of 50 years of Tanzania’s independence The Regional Commissioner for Kigoma Initiated a Municipal cleaning campaign which involved Government workers , student businessmen and Local community. The campaign was successful as seen on the two pictures ahead at one the spot- the Mwanga Market in Kigoma Ujiji
3. Lake Tanganyika Basin Water Office has conducted a number of training to different groups who include; Kigoma/ Ujiji Municipal Councilors, KUWASA staff on Integrated Water Resources Management [IWRM], WRMA and pollution and sedimentation impact on Water Resource Development in Kigoma.



# References

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4. WATER RESOURCES MANAGEMENT ACT 11 OF 2009
5. WATER SUPPLUY AND SANITATION ACT 12 OF 2009
6. ENVIRONMENTAL MANAGE MENT ACT OF 2004
7. GEF/UNDP TRAINING NEED ASSESSMENT BY KHAMIS MWINYIMBEGU T/WWM/2010

# INFORMATION SHARING

- The World Bank's *World Development Report 1993* estimated that feasible interventions to improve household environments (especially water provision, **sanitation** and indoor air quality) could avert the annual loss of almost 80 million years of "disability free" life. This is far more than the feasible improvement attributed to all other environmental interventions combined. Associated economic costs include health care expenditures, lost wages and lowered productivity.

Ref; UNDERSTANDING ENVIRONMENTAL PROBLEMS IN  
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THANK YOU  
FOR LISTENING