



Lake Rukwa Basin Water Board

Lwiche Catchment Sheet 1-2018

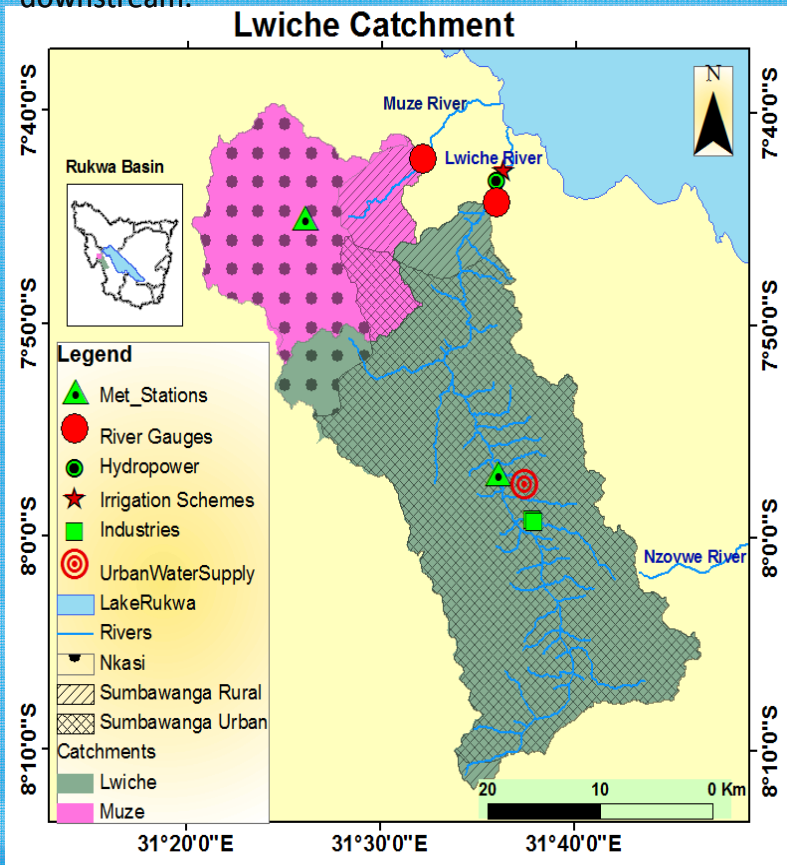


Lwiche Catchment

Quarterly news of the Water Resources

1. Water Availability

Water resources in Lwiche catchment are rivers and groundwater aquifers. Many rivers are seasonal, flowing from December to July. Lwiche River as the main river is flowing throughout the year. During dry season, Lwiche River has an average water flow upstream and low to none water flow downstream.



River	Draining to	Kind
Lwiche	Lake Rukwa	Perennial
Manzitiswe	Lwiche River	Seasonal
Ndua	Lwiche River	Seasonal
Momoka	Lwiche River	Seasonal
Lukangao	Lwiche River	Seasonal
Kanantumbi	Lwiche River	Seasonal
Mamba	Lwiche River	Seasonal
Muva	Lwiche River	Seasonal
Kaswepepe	Lwiche River	Seasonal
Mwimbi	Lwiche River	Seasonal
Maria	Lwiche River	Seasonal
Nzovwe	Lake Rukwa	Perennial
Muze	Lake Rukwa	Seasonal
Nkomolo	Muze River	Seasonal

2. Rainfall

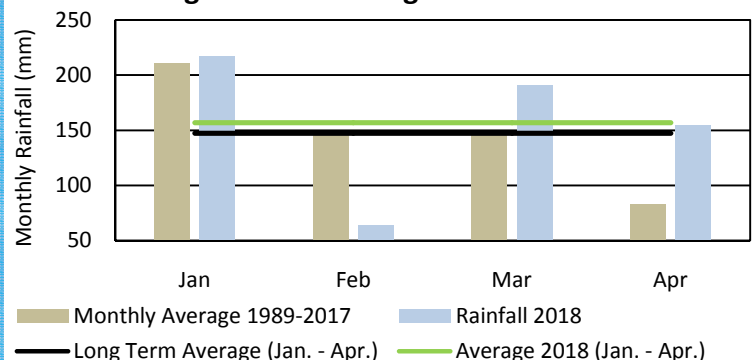
Observations:

- Rainfall amount at Upper Lwiche was above long term average.
- Strong rains in March and April.
- Unusual low rainfall in February.

Conclusion:

Unusual rainfall pattern complicated agricultural activities. Losses in production due to rainfall in February are expected.

Rainfall status in 2018 compared with longterm average at Sumbawanga Weather station





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3. Climate Change

Climate Change is the process of our whole planet heating up. Causes for this process are the burning of fossil fuels, farming and pastoralist activities as well as deforestation worldwide. The results will be more extreme and unpredictable weather and seasons in many regions. Farming communities are most affected by higher temperatures, increased rainfall, floods and droughts.

Changes of Climate in Lake Rukwa Basin

According to a climate risk assessment, weather events will change much more during the year and will not be easy to predict anymore. The amount of rain will be the same, but the start of the rain season and its pattern is unknown. Most likely the dry season will extend and the rain season will shorten. That means the dry season will be drier, hence less water will be available in the rivers. The rain season will have higher amounts of rain in a shorter time, hence floods will be more likely.



Dry river bed
Lakeshore, near Lwiche river estuary

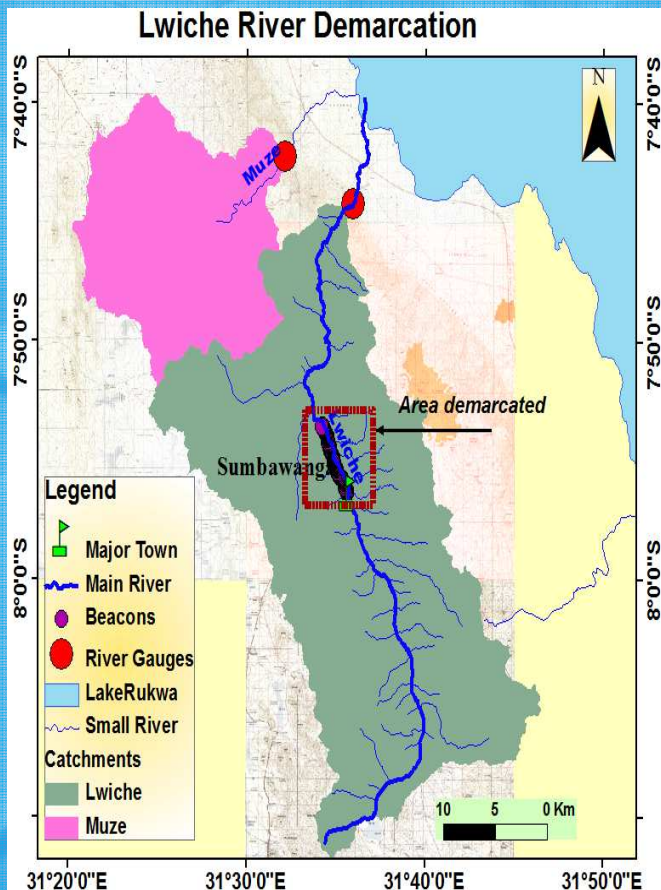
Advised adaptation for Lwiche

Crop related measures

- Capacity building: rainwater harvesting
 - Farmer Field Schools
 - Demonstration Plots

Livestock related measures

- Watering points for livestock



4. Water Sources Protection

Surface Water Protection

Lwiche River

- Partly demarcated
- By law limitations
- Riparian Strips
- 60m

Mbizi Forest

- Partly demarcated
- By law limitations
- Surveyed Areas
- Identified extend

Borehole Protection

Zone I

- Not demarcated
- Proposed limitations
- Prohibition
- 10 – 20m

Zone II

- Not demarcated
- Proposed limitations
- Some restrictions
- 100 – 120m

Limitations in protected areas

- Excavations or deposits
- Buildings (except well installations)
- Agricultural Land Use
- Any storage tanks
- Hazardous substances
- Low rooting vegetation



Beacon



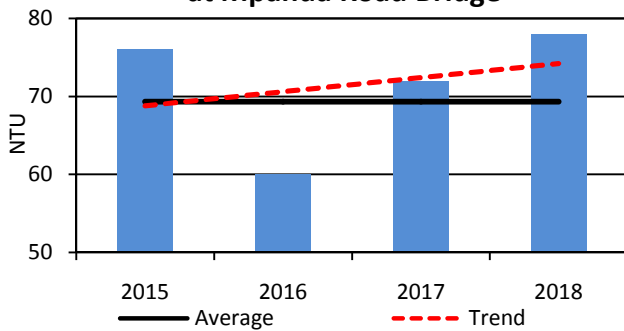
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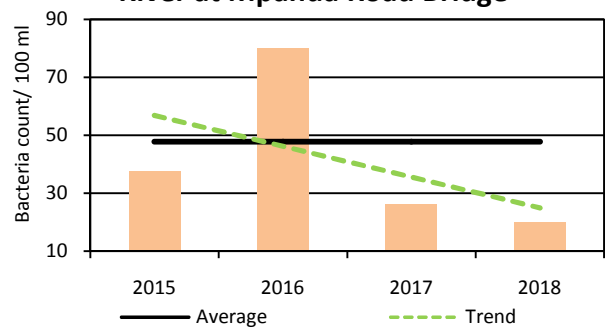
5. Water Quality of water sources

Annual Turbidity of Lwiche River at Mpanda Road Bridge



Turbidity is the measure of relative clarity of the water. High turbidity levels indicate increased runoff and soil erosion upstream. Turbidity standard is supposed to be not more than 15 NTU. To reduce turbidity levels deforestation, overgrazing and agricultural activities near river banks are to avoid.

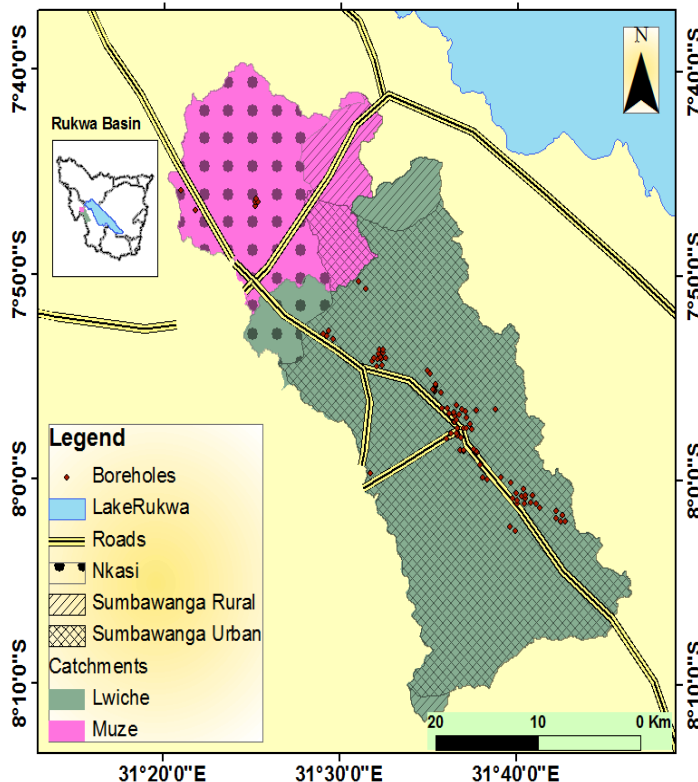
Annual Fecal Coliform Bacteria in Lwiche River at Mpanda Road Bridge



Fecal coliforms are bacteria found in the fecal material of humans and animals. Typhoid fever, hepatitis, gastroenteritis and dysentery infections can be contracted from waters with a high fecal-coliform count. The standard count is supposed to be 0 in 100 ml. Before usage, treat water with disinfectant or boiling to reduce bacteria level.

6. Water Abstraction

Lwiche Catchment



Source of Abstraction	Abstraction (m ³ /day)	Major use
Surface water		
Lwiche River	16,191.00	Domestic, Irrigation
Nzovwe River	40,296.96	Hydropower
Mbizi Forest	4,877.28	Water Supply
Groundwater		
Lwiche Catchment	9,338.21	Industry, domestic

Major Water Use Permits

User	Type	Use (m ³ /day)
Sumbawanga UWASA	Water supply	9,879.27
Ulaya Hydropower	Hydropower generation	55,987.00
Dew Drop	Bottling	148.06



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7. Implementation of Lwiche action Plan

Water Resource Management

Awareness raising

- Sumbawanga DC and Municipal held five meetings on water source protection.
- Announcements via Mbingala Radio “Bodaboda Drive” on protection of water sources.

Law enforcement

- Urban areas at middle Lwiche were demarcated.
- A list of illegal settlements for Lwiche catchment is available at LRBWB office for commenting.

Planting environmentally-friendly trees

- New tree nurseries at Sumbawanga DC and Municipal supported by REYO.
- Planting of trees in Climate Smart Agriculture

Effective use of water resources

- Classification study conducted by LRBWB & SNV to assess status of water resources.
- Twenty new applications for Water Use Permits.



Lwiche River
Mpanda Road Bridge



Lwiche River
Middle Section, Urban Amrea

Livestock

Capacity building and awareness raising

- Value adding trainings carried out by livestock officers from Sumbawanga DC in lower catchment and lake zone.

Land use planning

- Pre-preparation meetings conducted by SNV, Sumbawanga DC and Sumbawanga Municipal. Further clarification needed on protected areas.
- Mkamba village & SNV established land use plan.

Improvement of livestock infrastructures

- Cattle dip construction in progress down stream.

Instating and enforcement of laws and regulations

- Meetings on environmental conservation were carried out in Sumbawanga Municipal.
- Forty five law cases on violation of water regulations were opened in courts and councils.
- Livestock labeling continuing in lake zone.

Agriculture

Technologies and improved practices

- Trainings and application of SRI in Ngongo, Manengwe & Sakalilo schemes by SNV and MIKO.
- Kipeta, Mpona & Kaoze villages identified for introduction of new resistant crop varieties.
- Trainings to improve processing of maize, beans, sunflower & rice conducted in lower Lwiche.

Climate Smart Agriculture

- Tree planting activities implemented at water sources by REYO and KAESO.

Research on appropriate seed varieties

- Five farmer field schools have been established in Sakalilo, Ngongo and Manengwe.

Contact

Lake Rukwa Basin Water board (LRBWB)

Address: P.O BOX 762, MBEYA

SUB-OFFICE

Address: P.O BOX 192 SUMBAWANGA