

HYDROLOGICAL BULLETIN - NOVEMBER, 2019



WAMI/RUVU BASIN WATER BOARD

1. INTRODUCTION

Wami/Ruvu Basin covers an area of 66,820 square kilometers. The Basin is located in the Eastern side of Tanzania which lies between Longitudes $35^{\circ} 30' 00''$ to $40^{\circ} 00' 00''$ E and Latitudes $05^{\circ} 00' 00''$ to $07^{\circ} 30' 00''$. The basin is sub divided into three catchments known as Ruvu (18,078 km²), Wami (43,046 km²) and Coast (4,796 km²).

The hydrological flow situation in the basin for the month of November was observed to be above average in major rivers of Wami and Ruvu and water levels within Mindu Dam.

The flow analysis situation is carried out based on rainfall trends and flow variations in rivers and water level in reservoir (Mindu Dam).



2. RAINFALL TRENDS AT SELECTED STATIONS

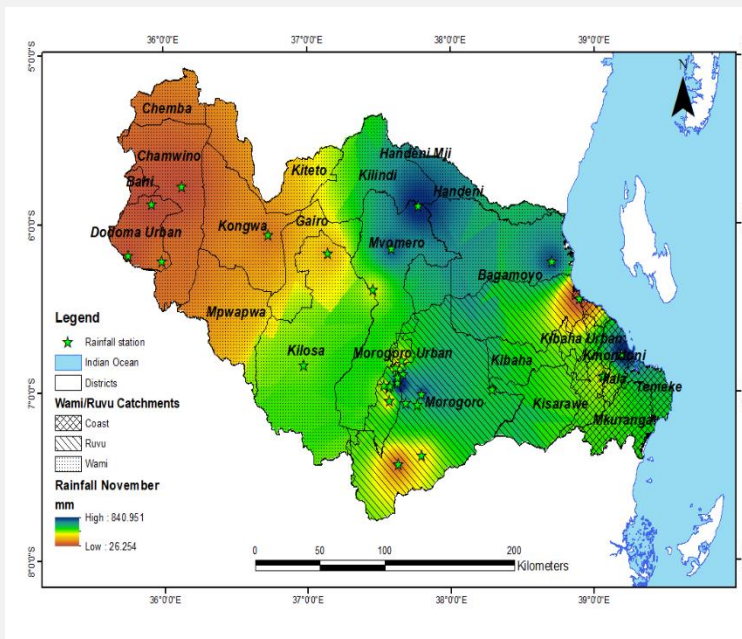


Fig 2.1: Rainfall distribution in the basin

Rainfall recorded from selected stations within the basin for November 2019 was above average in comparison to Long term average (LTA). This might result to high flows in streams and rivers as well as recharge of the groundwater aquifer within the basin.

Fig 2.1 shows distribution of rainfall in the basin for the month of November 2019 and **Fig 2.2** shows trends of rainfall at selected stations in the basin for the month of November 2019

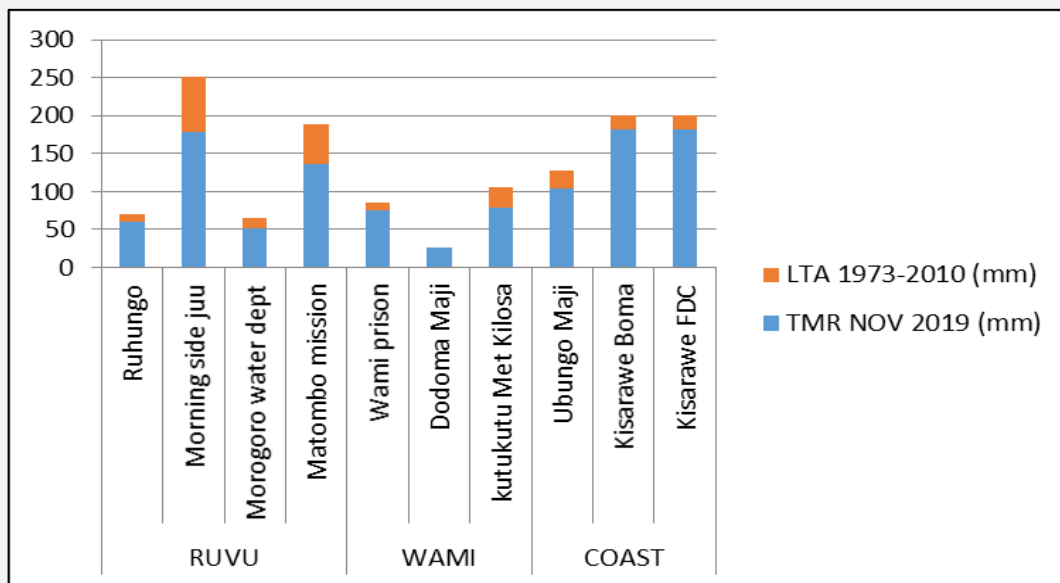


Fig. 2.2: Monthly Rainfall trends at selected stations in the basin

3. FLOW VARIATIONS IN RIVERS

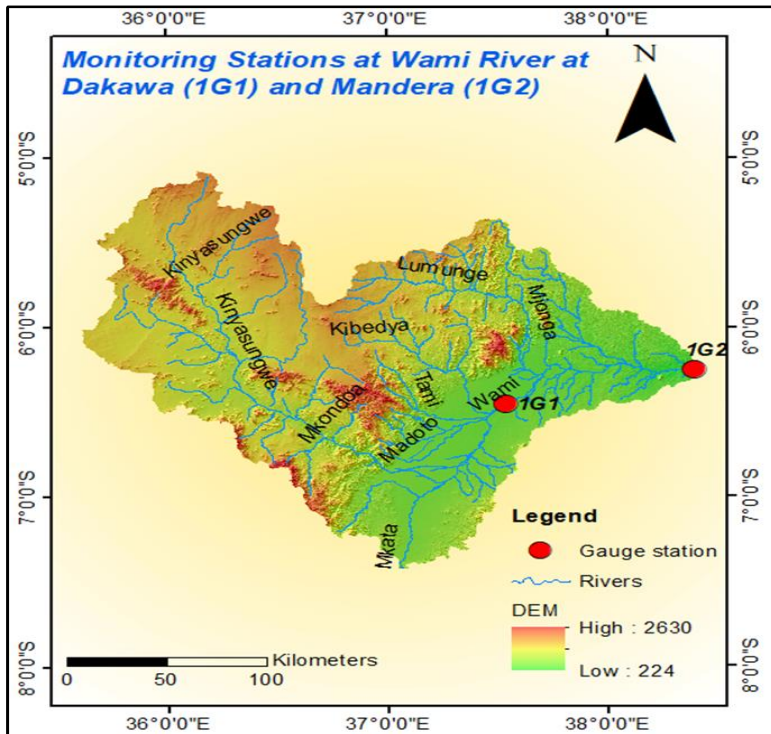


Fig. 3.1: Representative stations within Wami catchment

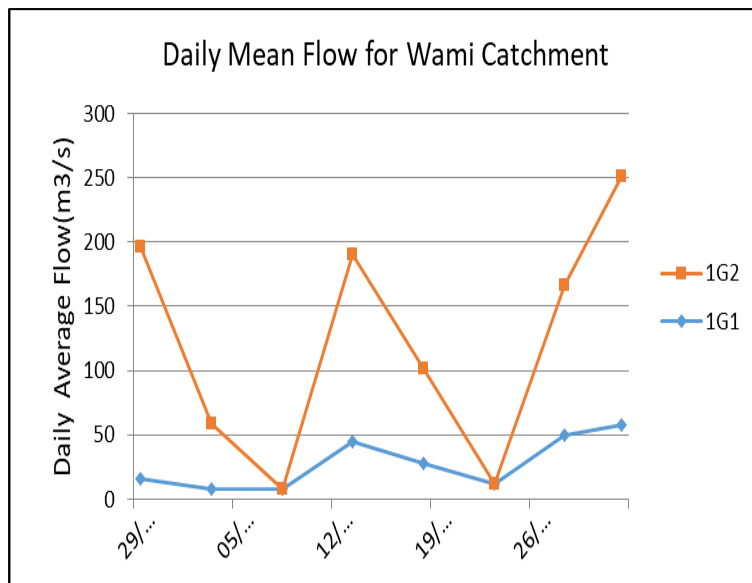


Fig. 3.2: Flow variations recorded at representative stations within Wami Catchment

WAMI CATCHMNET

Wami at Dakawa (1G1) and Wami at Mander (1G2) stations represent the Wami Catchment (Fig. 3.1). The flow observed in November 2019 was above average compared to the long-term average values.

Wami/Dakawa Station:

The average flow value recorded was **26.985m³/s** which is equivalent to **365.65%** of the long-term average (1950-2010) of **7.380m³/s**. The maximum flow value observed was **57.9m³/s** on 30th of November 2019 and Minimum flow value was **6.279m³/s** on 6th of November 2019.

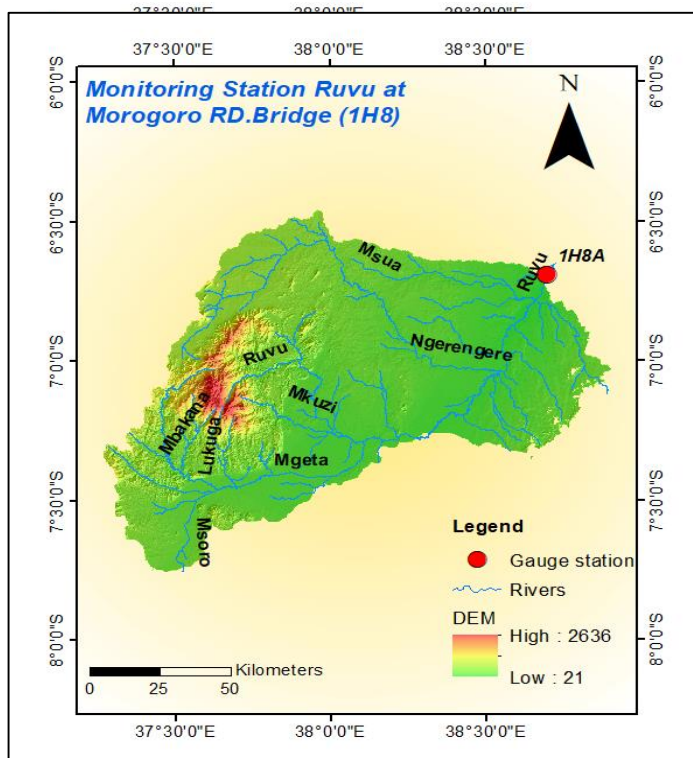


FIG. 3.3: Representative stations within Ruvu catchment

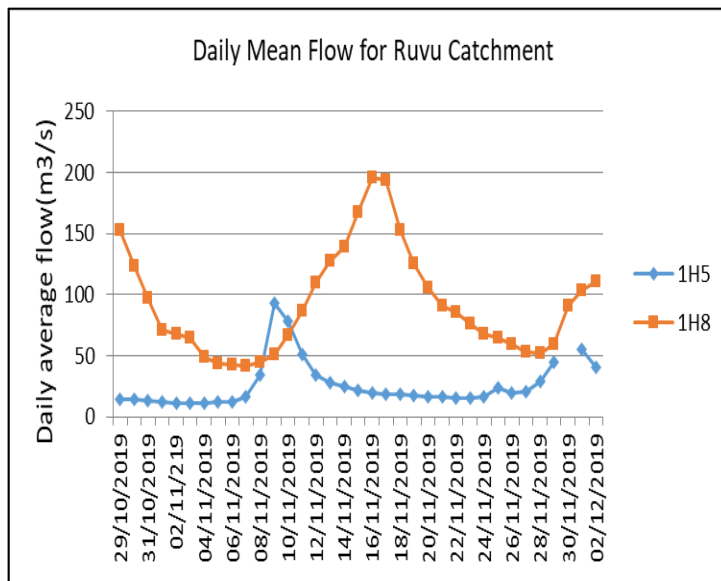


Fig 3.4: Flow variations recorded at representative stations within Ruvu Catchment

RUVU CATCHMNET

Ruvu at Morogoro road bridge (1H8) and Ruvu at Kibungo (1H5) stations represent Ruvu Catchment (Fig. 3.3), 1H8A is the outlet station and therefore gives the whole picture of the Catchment.

Generally, the flow situation of Ruvu river for November 2019 was above average compared to the long-term average values. The monthly mean flow which passes across the station (1H8) was **88.399m³/s** which is equivalent to **180.95%** of the long-term average (1950-2010) of **48.852m³/s**. The maximum flow observed was **195.766m³/s** on 16th of November, 2019 and the minimum value observed was **41.86m³/s** on 7th of November 2019.

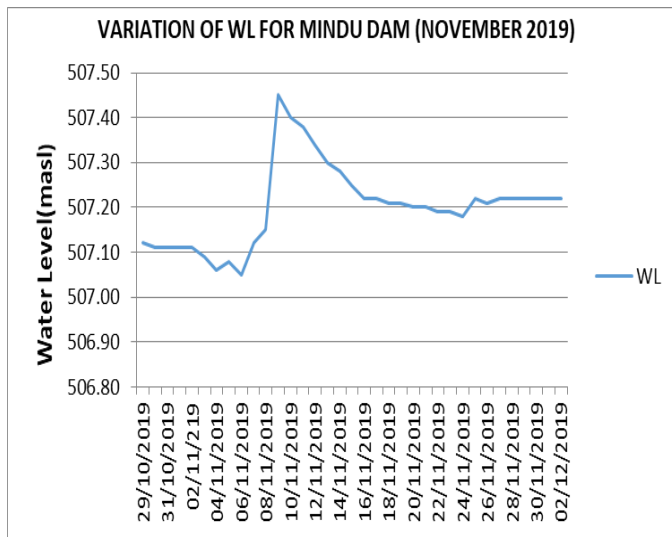
4. WATER LEVEL IN RESERVOIR



MINDU RESERVOIR

In general, the water levels observed in Mindu reservoir fall above average compared to the long-term average (1997 – 2013). In addition, the decreasing trend was also recorded (**Fig. 4.1**). The dam experiences the spilling during the whole month which is not a normal behavior in comparison to the past years on the same month.

The maximum water level recorded this month was **507.45masl** on the 09th of November 2019 and the minimum level was **507.05masl** on the 06th of November 2019 as well as monthly mean water level was **507.21masl** which corresponds to **11.51** million cubic meters.



Prepared by

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P.O.BOX 826

MOROGORO

MITO YETU, MAENDELEO YETU, TUITUNZE