WAMI/RUVU BASIN WATER BOARD

MONTHLY HYDROLOGICAL BULLETIN:

APRIL, 2020

1. INTRODUCTION

Wami/Ruvu Basin **(Fig. 1)** covers an area of about 66,820 square kilometres. The Basin is located in the Eastern side of Tanzania which lies between longitudes 35^0 30′ 00″ to 40^0 00′ 00″ E and latitudes 05^0 00′ 00″ to 07^0 30′ 00″. The Basin is sub divided into three catchments known as Ruvu, Wami and Coast.

Hydrological flow situation in the Basin during the month of April was characterized by a continued increase of surface runoff due to high rainfall observed in most parts of the Basin. The flow analysis situation was carried out based on rainfall trends, flow variations in rivers and water level in reservoir.

2. RAINFALL TRENDS AT SELECTED STATIONS

In general, the rainfalls recorded in most of the stations within the basin for the month of April, 2020 were above average **(Fig. 2)** 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.

Spatial distribution of rainfall in April 2020 is shown in **Fig. 1**. The Coast Catchment which covers areas of Kibaha, Dar es Salaam, Kisarawe and Mkuranga have received high amount of rainfall compared to the other part of the basin. Actually, the trends decreased towards the north-western direction, with an upper part of Wami Catchment experienced low amount of rainfall.

RAINFALL TRENDS AT SELECTED STATIONS IN WAMI/RUVU BASIN

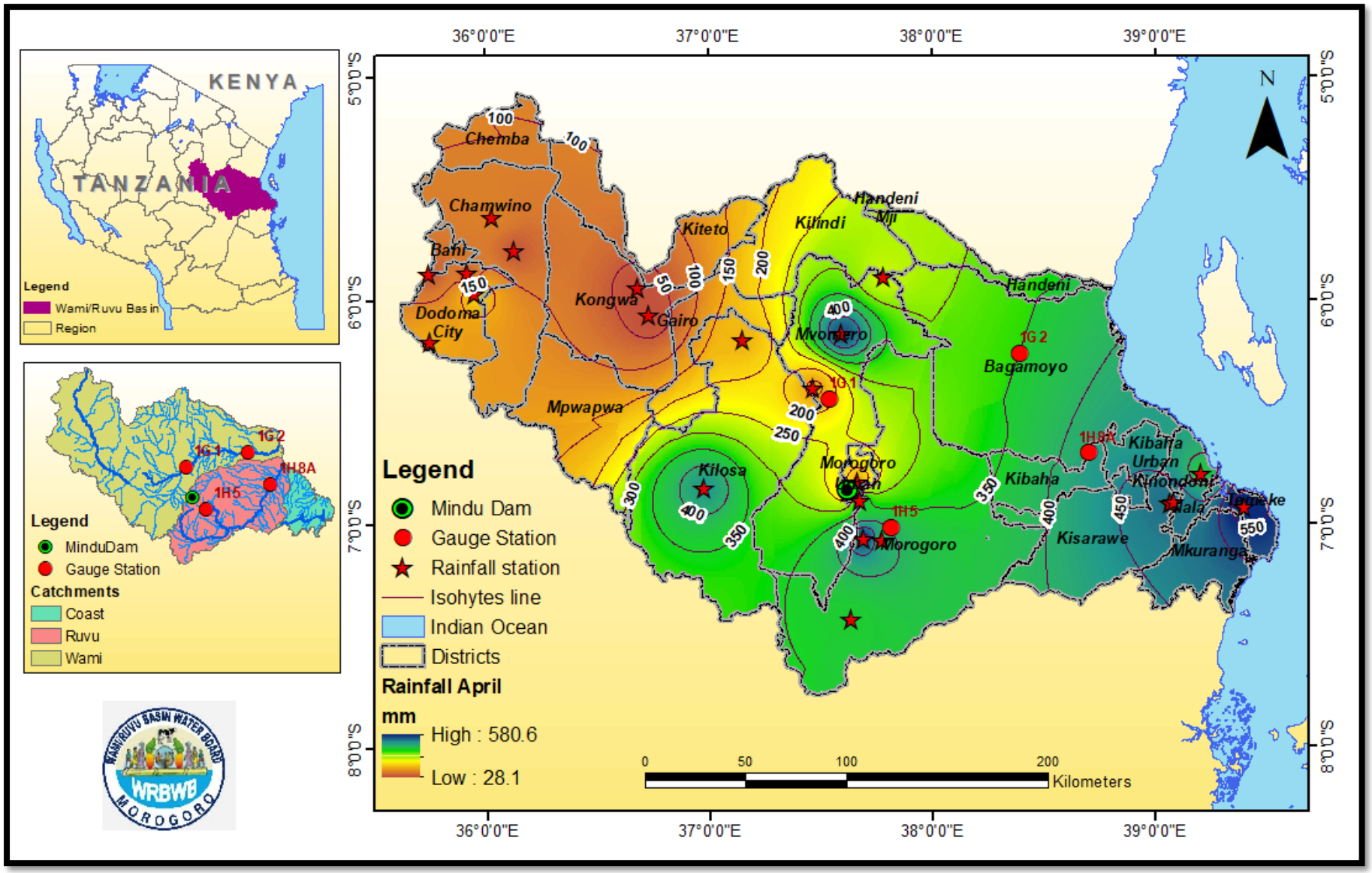

Figure 1: Basin location in Tanzania, and spatial distribution of rainfall in the basin for the month of April, 2020

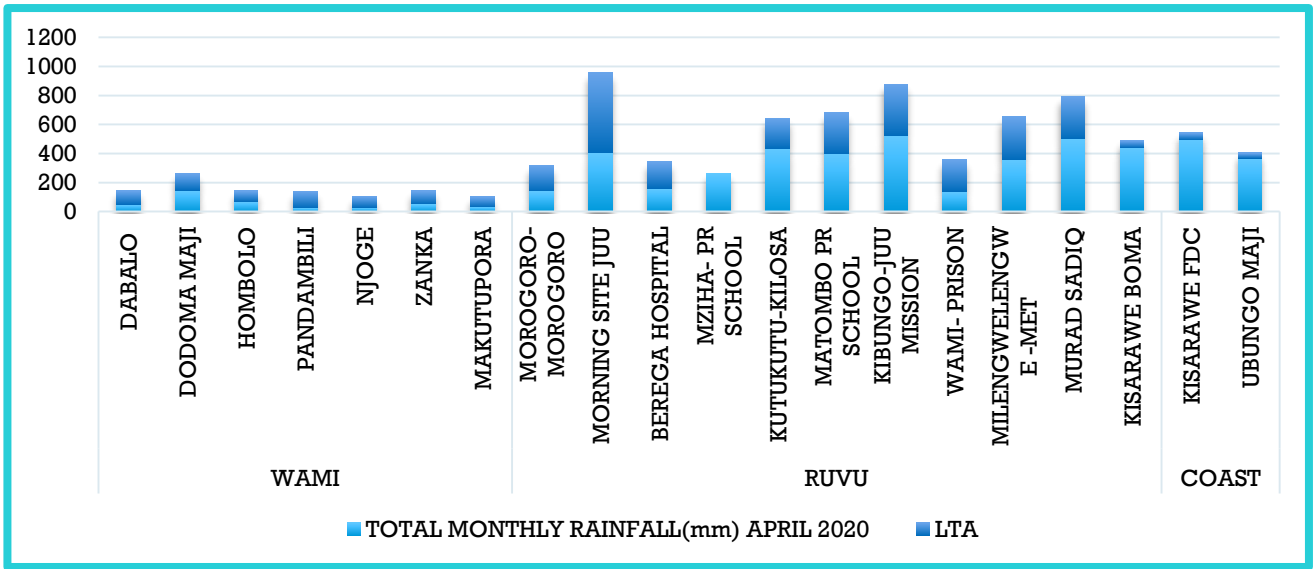

Figure 2: Distribution of rainfall based on the catchments

3. FLOW VARIATIONS IN RIVERS

3.1. WAMI CATCHMENT

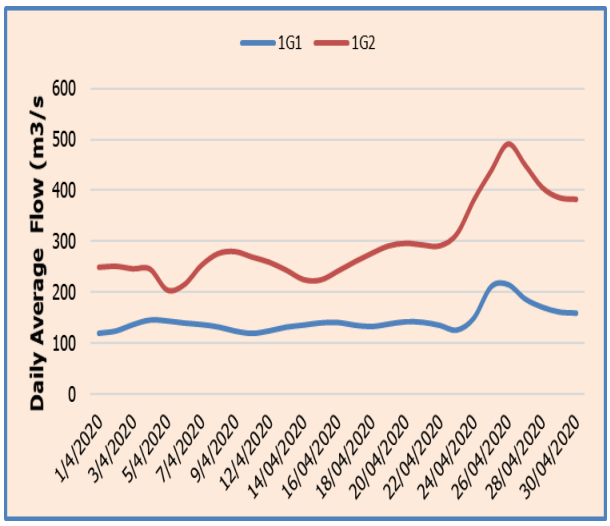

Figure 3: Flow variation recorded at representative's station Wami Catchment

Wami River at Dakawa **(1G1)** and Wami at Mandera **(1G2)** stations represent the Wami Catchment (**Fig. 1**). The catchment flow observed in the month of April 2020 were above average compared to long term average values.

The average flow value recorded at **1G1** was 145.351m^3/s while the long term monthly mean flow (1950-2010) is 35.00m^3/s. The maximum flow observed was 215.434 m^3/s on 25th of April, 2020 and Minimum value was 120.204m^3/s on 10th April 2020.

Also, monthly mean flow for **1G2** Station was 298.086m^3/s and its monthly long-term average is 190.177m^3/s. The maximum flow observed was 492.29m^3/s on 25th April, 2020 and Minimum value was 205.033m^3/s on 5th April, 2020 **(Fig. 3).**

3.2. RUVU CATCHMENT

Ruvu River at Morogoro road bridge station **(1H8A)** and Ruvu River at Kibungo **(1H5)** station represent Ruvu catchment **(Fig. 1).** 1H8A is the last station in the lower reach of the Basin and it is used for Catchment Surface Water Monitoring such as both DAWASA intakes (lower and upper Ruvu intakes); the station gives the whole picture of the Catchment.

The maximum flow observed was 114.828 m3/s on 27th April, 2020 and the minimum value was 36.78 m3/s on 10th April, 2020 at **1H5 (Fig 4).** The same situation was observed downstream at **1H8A** station whereby the maximum flow observed was 326.845 m3/s on 29th of April, 2020 and the minimum value was 164.307m3/s on 9th April 2020.

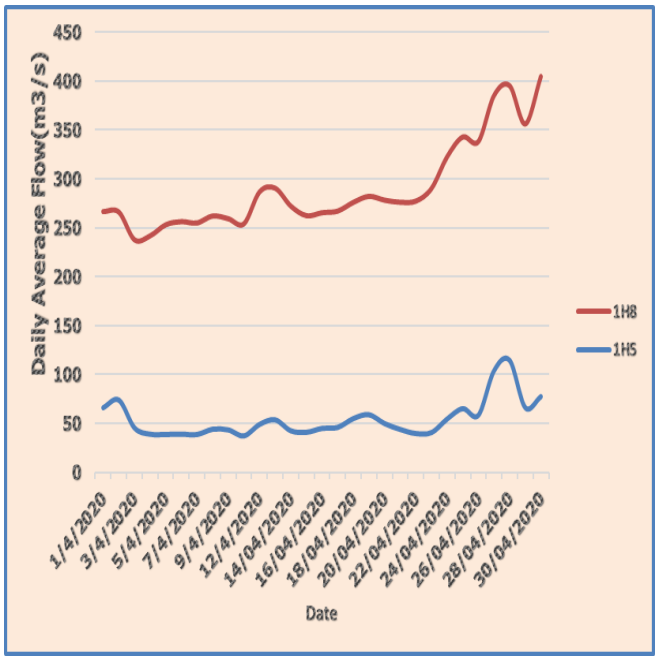

Figure 4: Average Flow at 1H5 and 1H8

The monthly mean Water levels observed in Mindu reservoir was 507.238 masl which is above average compared to long term average (1998-2010) of 507.090 masl for the month of April, 2020 **(Fig.5).** The maximum Water level recorded on 30th April, 2020 was 507.4 masl and the minimum level was 507.18 masl on 5th April, 2020.

Generally, the monthly mean flow for Ruvu river at Kibungo and Ruvu river at Morogoro road bridge was ***53.874m³/s*** *and* ***232.952m³/s*** *respectively.*

4. MINDU RESERVOIR

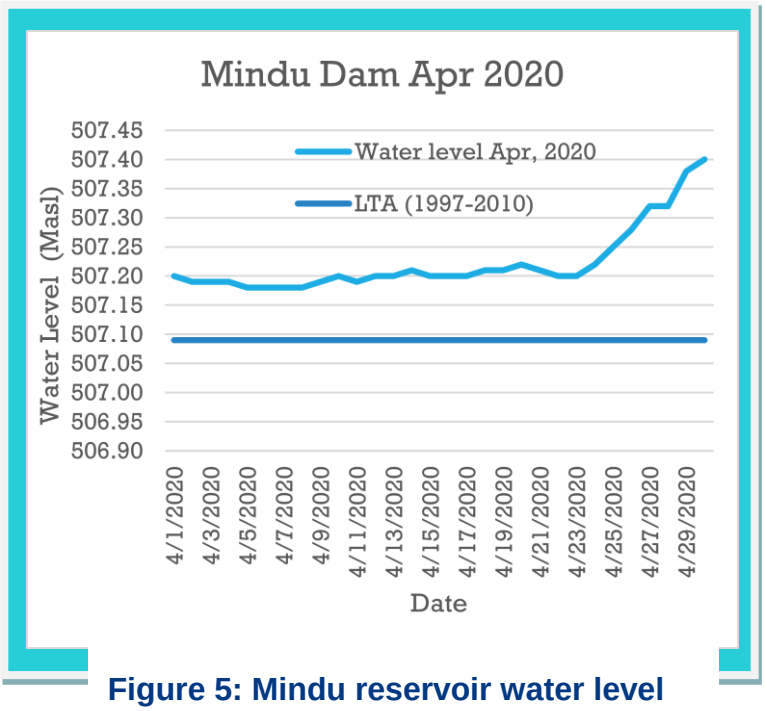

Figure 5: Mindu reservoir water level

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