

Monthly Hydrological Bulletin

April 2022

SUMMARY

The month of April is the continuation of wet season that usually starts from March to May each year in the Basin. April is commonly characterized by rainfall whereby catchments were fully saturated with enough water storage as a result of increase river flow, reservoirs and groundwater table across the Basin.

However, this year 2022 is different. The Basin experienced below average rainfall in most parts in which there is a slight increase of river flow, groundwater level and reservoirs compared to the year 2021 and Long-Term Average (LTA) of 1950-2021. Furthermore, the available water still sanctify the customer need (abstraction) by 100% for both Wami and Ruvu Catchment

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1. Rainfall trends
2. Flow Variations
3. Mindu dam
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1. RAINFALL TRENDS

In April, most parts of the basin were considerably received below average rainfall compared to the same month last year (**Figure 1**). The total rainfall records across the Basin were below 47% of the Mean Annual Precipitation from 2000-2021 [mm]. Although the highest rainfall record was 341 mm at Mondo station located at Uluguru Mountains in Ruvu Catchment, more rainfalls were received in Coast catchment. Also, as presented in **Figure 1**, less rainfall was recorded in the upper part of Wami catchment with no rains record in the large area of Dodoma region in April, 2022.



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Rainfall Trends

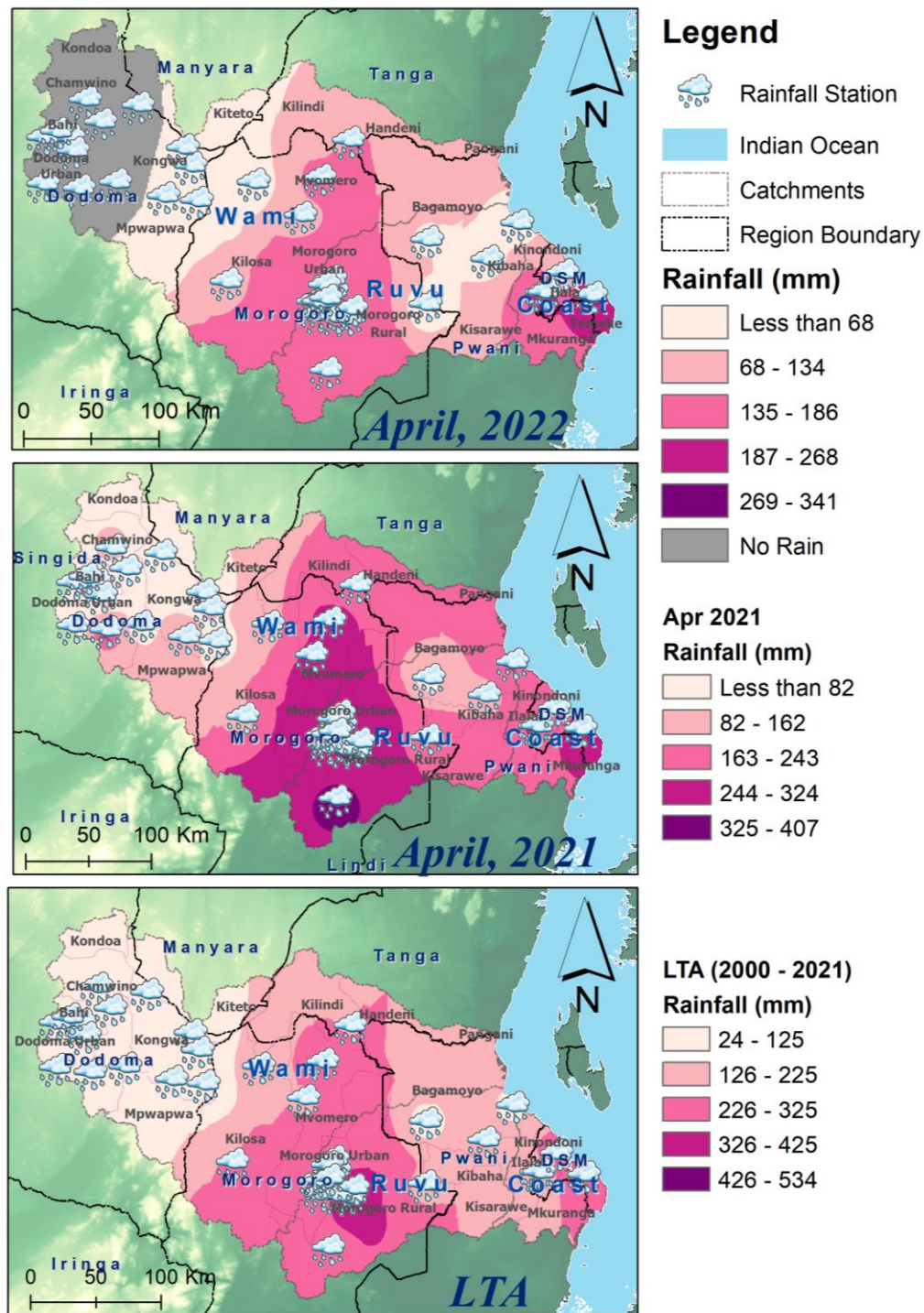


Figure 1: Comparison of Rainfall Maps for the month of April 2022, 2021 and LTA (2000-2021)

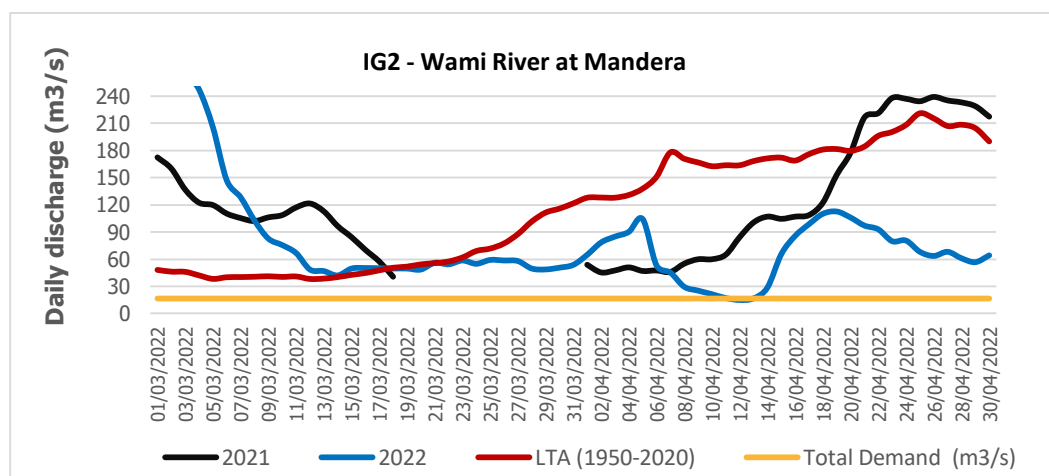
2. FLOW VARIATIONS

The monthly mean flow for Wami river was $66.4 \text{ m}^3/\text{s}$ and Ruvu was $54.9 \text{ m}^3/\text{s}$ for the month of April, 2022. This indicates that the flow situations were Below Normal in both rivers and their tributaries when compared to LTA (1950 -2021) and a year of 2021 (**Figure2**). Despite of this observation, the available water is enough to supplement the total demand for two catchments.

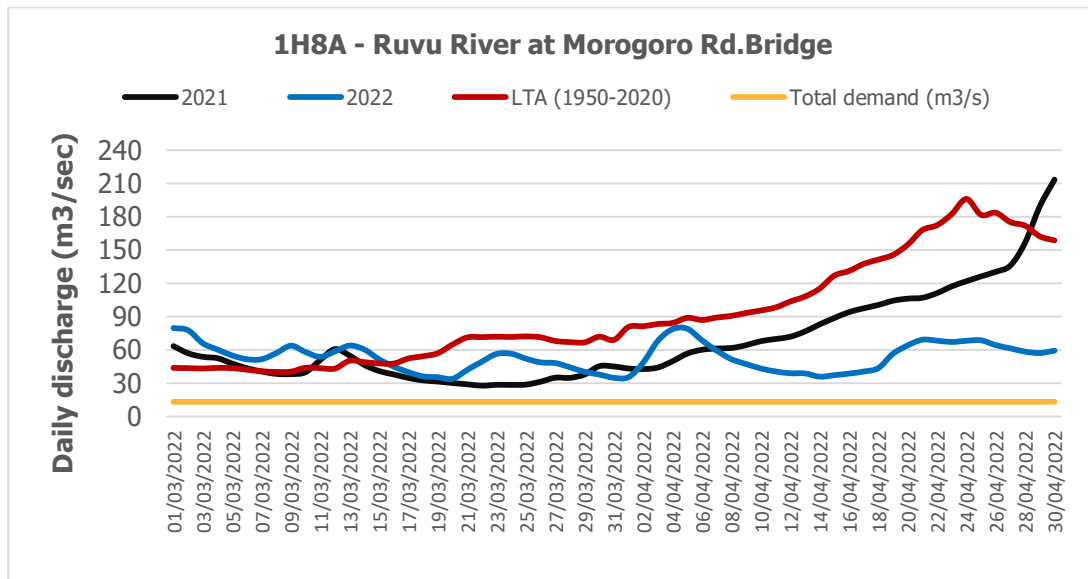
Flow variations...



Figure2: Rivers Flow Analysis Map for the month of April, 2022



Flow variations...



3. MINDU RESERVOIR

The monthly mean volume observed in Mindu Reservoir in April, 2022 was 11.82 MCM. This average volume is termed as Normal when compared with LTA (1997-2019) and 2021 (**Figure 3**).

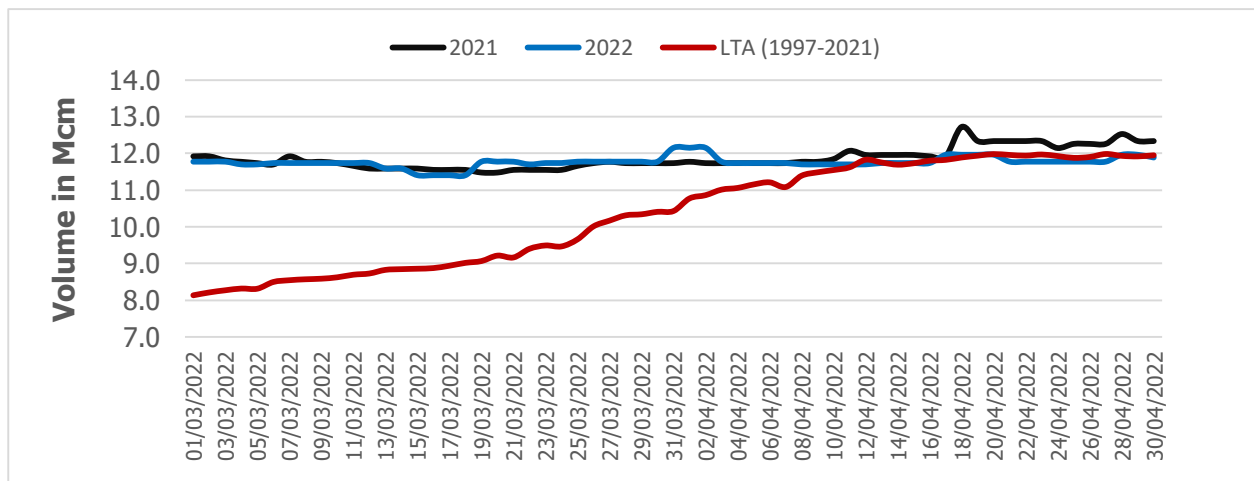


Figure 3: Comparison of monthly volume in Mindu Reservoir.

4. GROUNDWATER LEVEL TRENDS

The water level presented in Makutupora well field monitoring boreholes were higher compared to two months ago (February and March, 2022) and year of 2021, the average water level in April, 2022 was increased by 3 m compared to April, 2021 (**Figure 4**). Similarly, as indicated on **Figure 4**, the average pumpage for the same month was increased by 7% than 2021 due to increase demand.

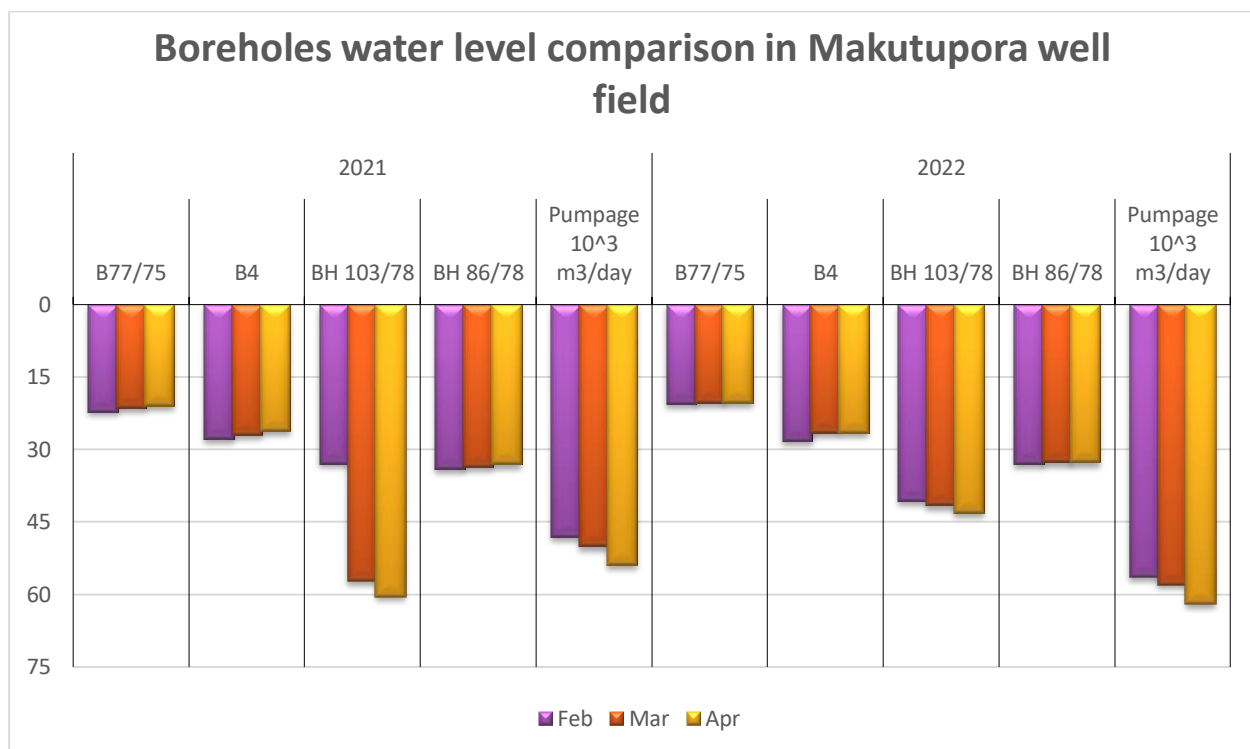


Figure 4: Comparison of water level in Makutupora well field



RECOMMENDATION:

The available water is enough to meet total demand within the Basin, although the all stake-holders are alerted to take a caution for any water deficit that will happen for the next days to come to full fill their demands

