

## 1.0 OVERVIEW

The Month of October was the most critical in flow regime that has never happened since 1997 whereby the minimum flow trend for both Wami and Ruvu river goes below normal when compared to the year 2021 and Long-Term Average (LTA) of 1950-2020 respectively (**Figure 2 & 3**). This abnormality causes dissatisfaction of water use demand as well as environmental water requirements. Likewise, Groundwater levels was also decreased especially in Makutupora wellfield which supplies water to Dodoma City.

Mindu Reservoir stocks for Morogoro water supply decreased slightly and were below normal compared to log term average (1997-2021), although the reservoir satisfies the demand of Morogoro Municipality. In addition, the river flow prediction for Wami and Ruvu in the next month (November) indicates that the flows will continue to decrease which may lead to more water use deficit to fulfil the demand required (water abstraction) unless there will be rainfall.

## 2.0 RAINFALL TRENDS

Most parts of the Basin received little rainfall (0-1.7mm) except the coastal areas and Ukaguru Mountain which have received rainfall between 5mm to 15mm (**Figure 1**). The amount of rainfall received has less contribution to recharge the surface water and groundwater.

The maximum record in October, 2022 was 15mm while in October, 2021 was 103.5 mm while the minimum record was 0 mm.



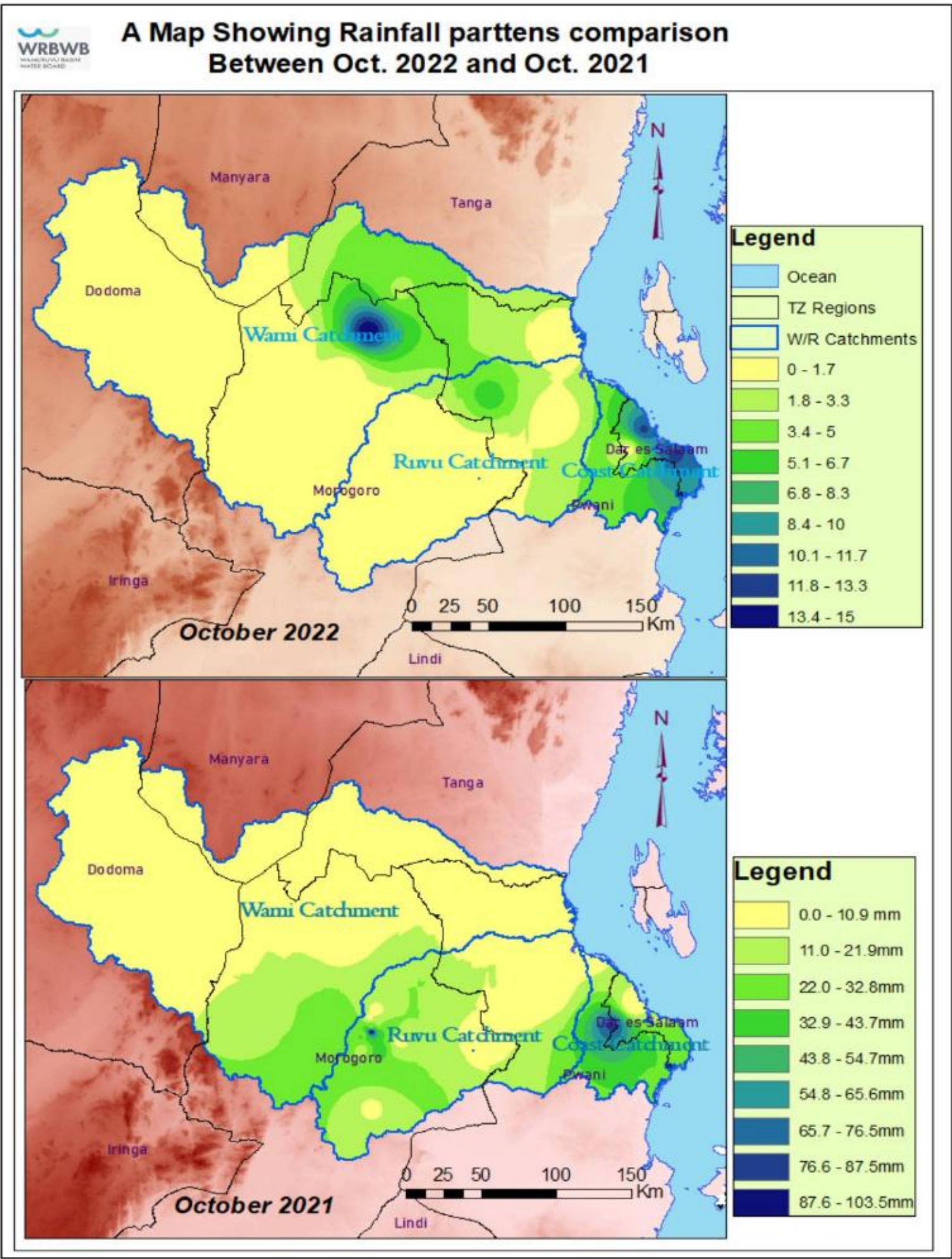


Figure 1: Rainfall Comparison Maps for the month of October, 2022 and October, 2021



3.0 FLOW VARIATION

The monthly mean flow for Wami and Ruvu were Below Normal when compared to the LTA (1950-2020) and 2021 (Figure 2 & 3). It was observed that, in October, 2022, the flow for Wami and Ruvu river was 5.6m<sup>3</sup>/s and 6.8m<sup>3</sup>/s respectively. This indicates that, the available flow was enough to Satisfy the irrigation, Industry and domestic demands expect Environmental requirements.

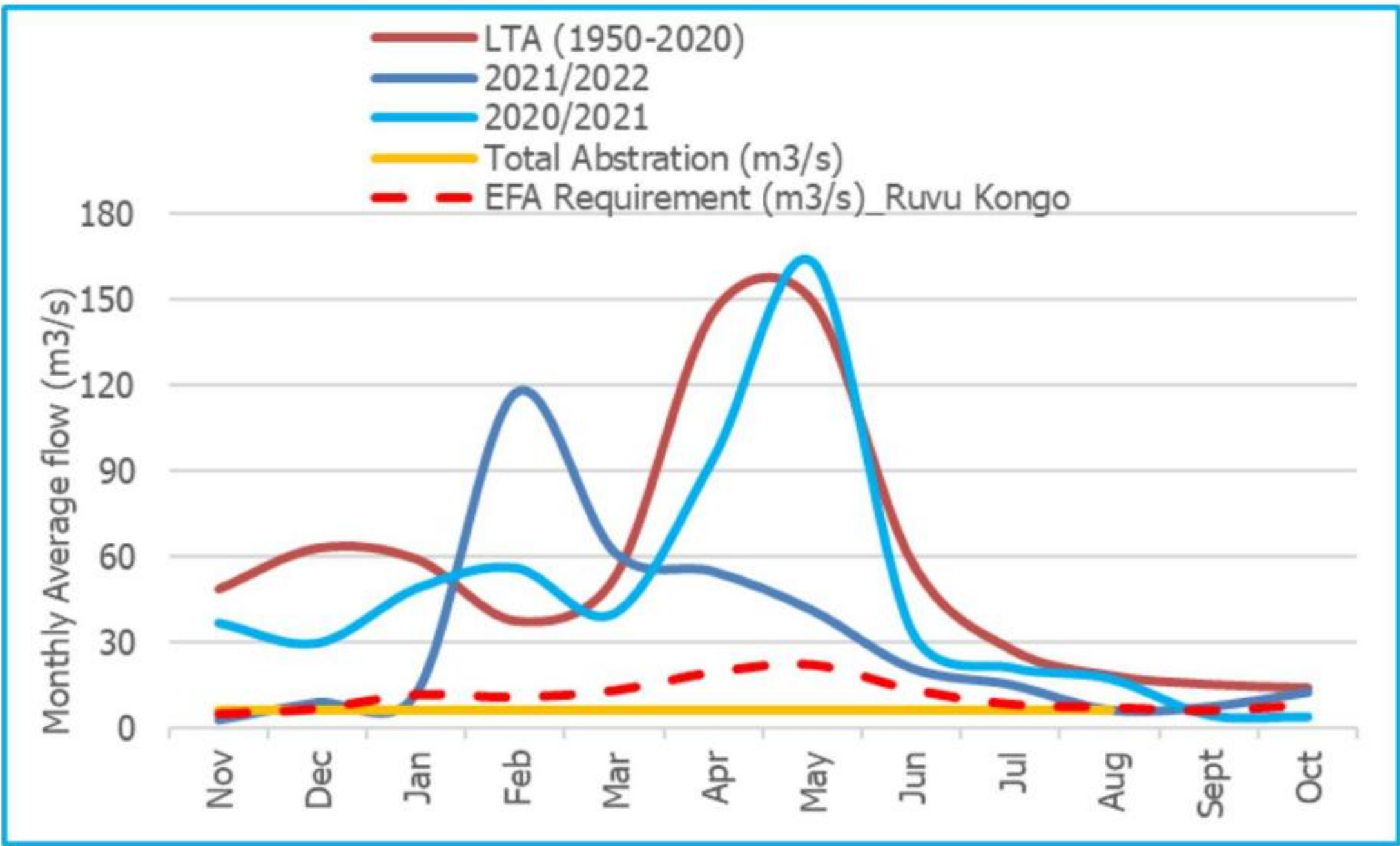
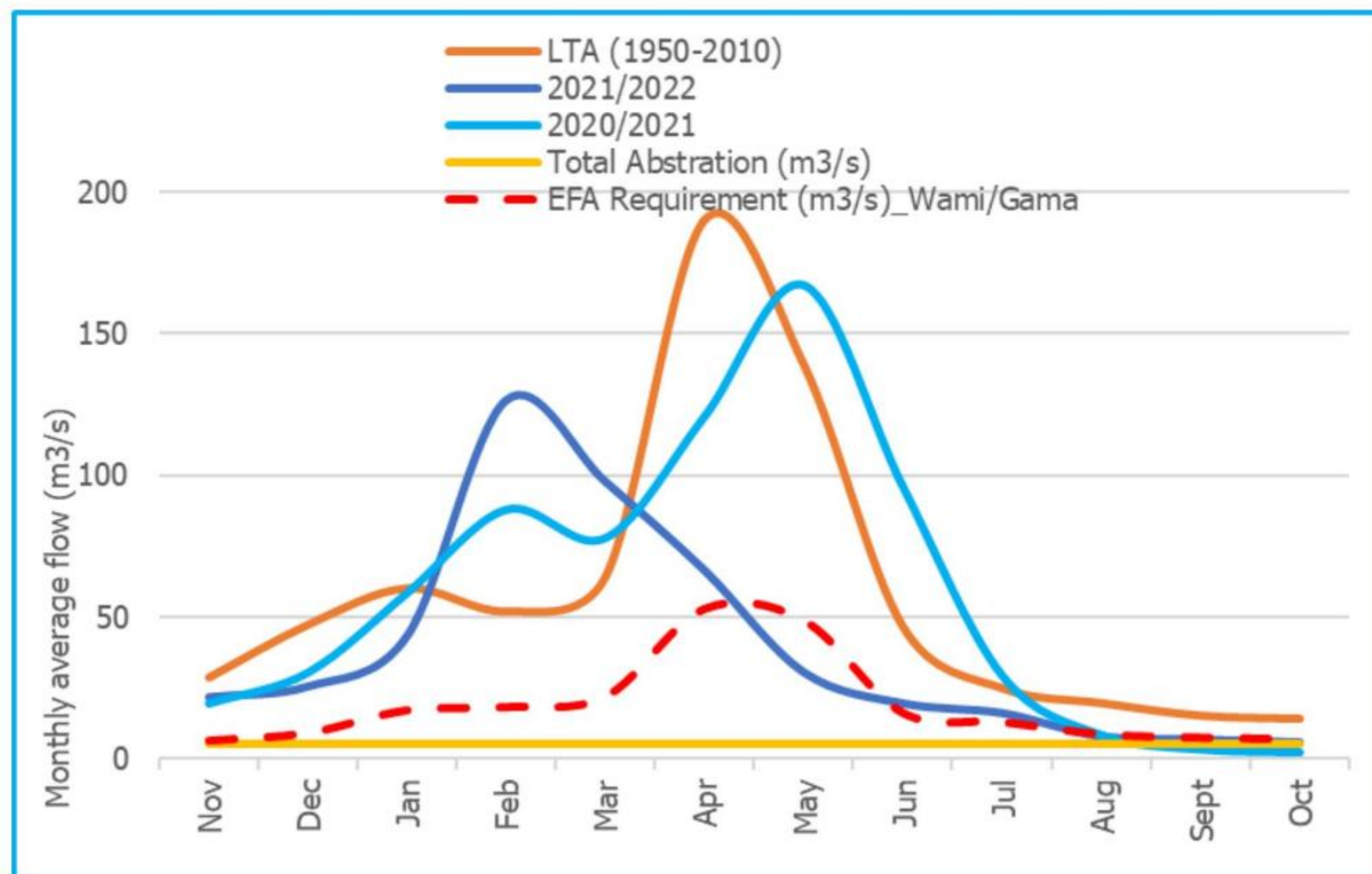


Figure 2: Flow comparison for 2020/21, 2021/22 and LTA in Ruvu river



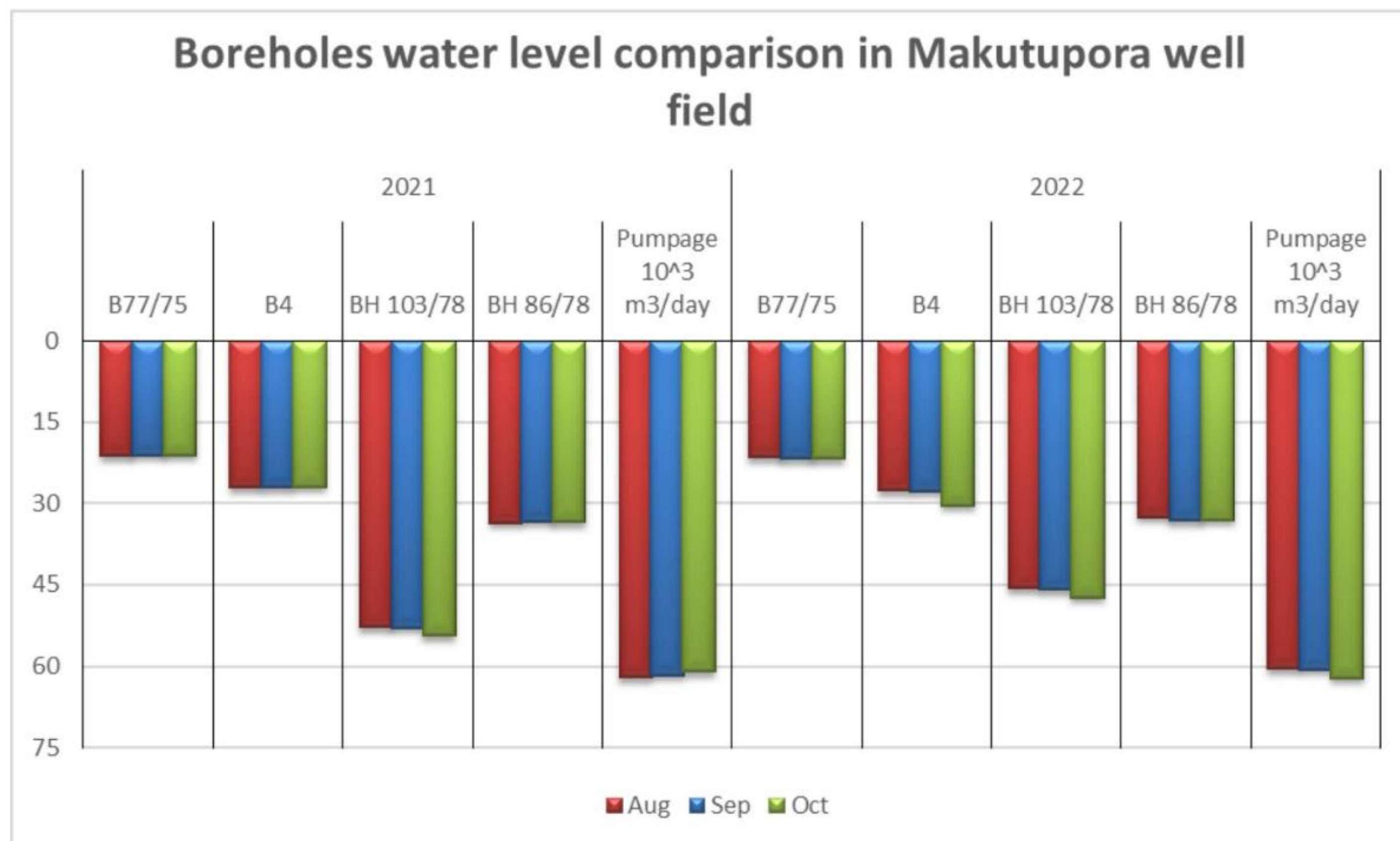


**Figure 3: Flow comparison for 2020/21, 2021/22 and LTA in Wami river.**



#### 4.0 GROUNDWATER LEVELS TRENDS

The water level trend presented in Makutopora wells field monitoring boreholes in October 2022 was decreased (**Figure 4**). The average water production was 62,321 m<sup>3</sup>/day while maximum water production was 63,278 m<sup>3</sup>/day, Usage of water has increased while groundwater decreases.

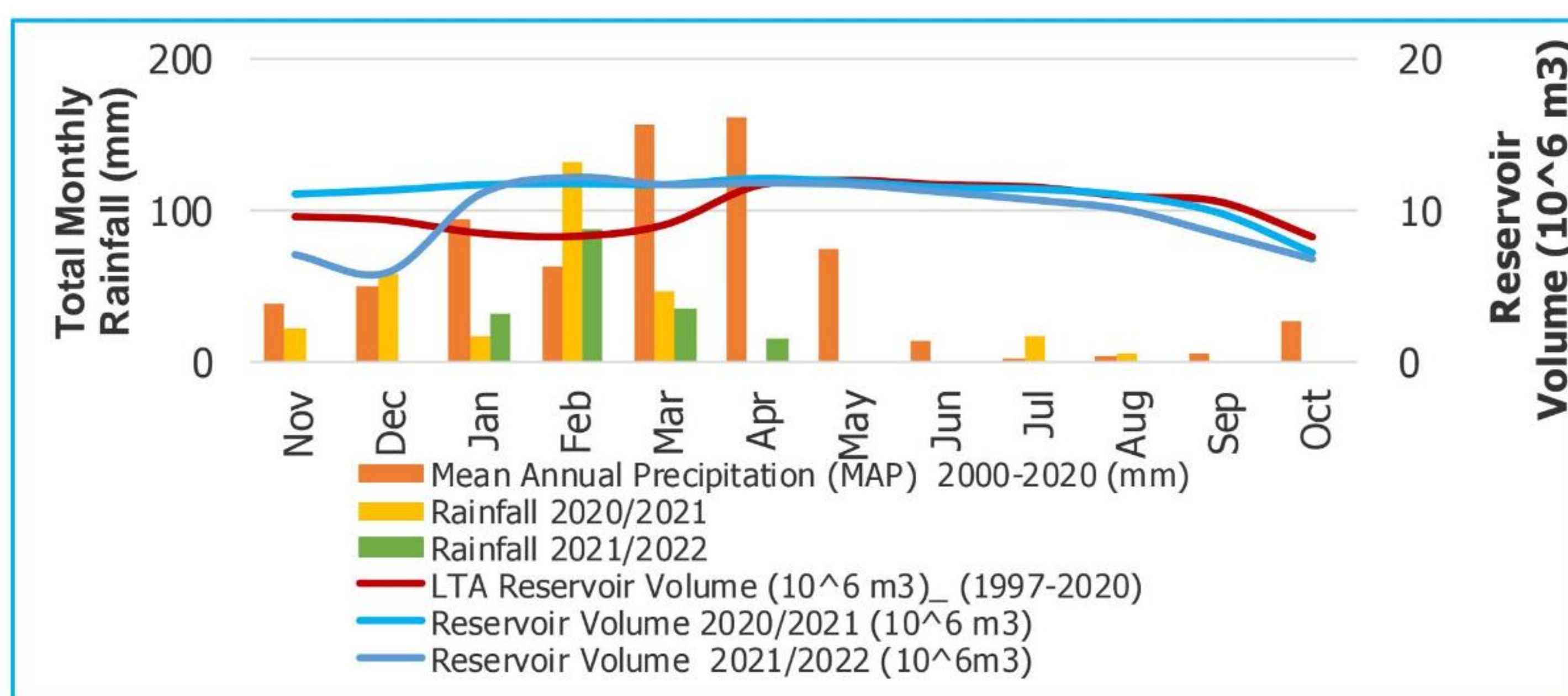


**Figure 4:** Comparison of water level with pump page m<sup>3</sup>/day (abstraction) in Makutopora well field in October).



#### 5.0 VOULUME IN RESERVOIRS

The monthly mean volume observed in Mindu Reservoir October, 2022 was 6,950,995m<sup>3</sup>. This average volume is termed as Below average when compared with LTA (1997-2020) and 2021 (**Figure 5**). This storage satisfies the total demand of Morogoro Municipality which is 34,000m<sup>3</sup> per day



**Figure 5: Comparison of monthly volume in Mindu Reservoir.**



## RECOMMENDATION

The river flow prediction on the next coming month (November) for Wami and Ruvu indicates that the flow will continue to decrease which may lead to more water use deficit to fulfil the demand required (water abstraction) unless there will be rainfall. Therefore, all water users such as Irrigators, Water Supply Authority, Livestock keepers and tourism are alerted to take caution for any water deficit that will happen in the next days to come to full fill their demands.





# Wami/Ruvu Basin Water Board

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