



The Future of Ruvu Water Pump Station



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Introduction

The Ruvu water pumping station is located in Ruvu River as one of the major East African Rivers that drain the Eastern Arc Mountains, with a basin area of approximately 18,000 km². This basin is typically sub-divided into smaller catchments: the Mgeta, Ngerengere, Upper Ruvu of the Morogogo region, and the Middle and Lower Ruvu in the Coast Region.

The Ruvu River and its tributaries are one of the systems that form part of the Wami/Ruvu Basin in which largest city of Tanzania, Dar-es-Salaam (DSM) and a number of smaller towns in Morogoro, Kibaha and Bagamoyo depends for water to meet domestic, industrial, and irrigation needs. Due to its wide needs a common concern about meeting the present and future

demand for water quality and quantity should be carefully researched to foresee its sustainability.

The aim of the project is to find out the effectiveness of Ruvu water pumping station found in River Ruvu basin for feeding Coast region and Dar es salaam city in all categories in need.

Our projects will try to find out two main things:

- What are present and future factors which may hinder sustainable supply of the estimated optimum water supply capacity of the basin for ensuring sustainable supply?
- Will the basin meet the future water demand with rising projected population and economic growth?

Method

Different methods have been used in conducting this research where by several questions (questionnaires) have been asked to different individuals including workers in pumping station, communities near the basin and officials in agriculture, demographic, and DAWASA found in Dar es salaam and Kibaha town council.

Note:

The site visits and questionnaire were given to our fellow students from kibaha girls and Ruvu girl's students who distributed themselves along the basin asking questions as shown in the questionnaire so as we can cover a large number of people and avoiding bias among us during data collection.

To visit DAWASA head office in Dar es Salaam for collecting total water annual production and supply for consecutive five years for making comparison with the annual demand and supply within the region.

Also different areas along the basin and nearby economic activities have been visited and some data have been found in different government websites as identified in my research.

Arranging Group discussion with our fellow students from KIBAHA GIRLS and RUVU GIRLS secondary school including those who involved in data collection and others after data gathering for more analysis of the data.

To achieve our researching goals, the project will concentrate on the following indicators for future sustainability of the basin:

- Human Population within the basin.
- Human Water demand from the basin.
- Main Economic activities within the basin and the amount of water required to sustain them.
- Main sources of energy for cooking within the basin.
- Annual projected collective water demand from the basin.
- Annual Ruvu pumping stations production and supply.

Results

The population trends above shows the pressure of growing populations of regions depending on Ruvu water pumping station over the next years to come.

The estimates approximate the population of the regions supported by the Ruvu pumping station was 4,002,259 in 2011 and suggest that by 2025, the total population dependent on the Ruvu sub basin will total 6, 270, 4088, which represents a 63.8% population increase by 2025.

Conclusion

By 2020 water demand in all sectors table 7 above it was 410,568,487m³ per year and DAWASA the water supplier depending on ruvu basin was 155,515,724m³ per year from all its sources equals to a water shortage of 255,052,763m³ per year equivalent to 62.1% shortage.

This findings reveals that water demand is highly increasing in all regions depending on ruvu basin overriding its production and supply capacity.

By the time water demand is increasing by 43.4% to 2025 table 7 above ranging from 284,453,463m³ 2011 to 502,213,380m³ by 2025, DAWASA water production and supply is increasing by 7.3% to 11.6% respectively at the constant average production of 156,286,031.3m³ per annum. These huge differences in demand and supply is highly dangerous to both social and economic sectors in all regions depending on Ruvu basin as source of water and the basin itself

Acknowledgments

We thank Mr. Paul Balibate(YST mentor), MS Fillister Mathias (our headmistress), Ruvu girls headmistress, Eng. Razaro from DAWASA, Coast Region RAS office, Kibaha girls and Ruvu girls students for their support and advice to accomplish this project, also many thanks to Ruvu basin communities for their cooperation during data collection and visual visiting.

