

The Study of Water Supply and Traditional Water Purification Knowledge in Selected Rural Villages in Tanzania

Nancy Jotham Marobhe¹, Gunno Renman² and Gunnar Jacks²

¹*University College of Lands and Architectural Studies (UCLAS), P.O Box 35176, Dar Es Salaam, Tanzania*

²*Department of Land and Water Resources Engineering, Brinellvagen 28, Royal Institute of Technology (KTH), SE-100 44 Stockholm, Sweden*

KEYWORDS Charco dams; purification; local seeds; sustainability; turbidity; villagers; water

ABSTRACT This paper explores the link between water supply problems and traditional water purification knowledge and how this information could be applied to improve water supply situation and enhance sustainable development in rural communities. Questionnaires, focus group discussions and participatory approaches were used to capture information on the water supply situation in Singida rural district. The findings show that potable water supply coverage in the study area is less than 20% due to malfunctioning water schemes. About 95 to 100% of households in the study area obtain domestic water supply from rainwater reservoirs, 10–22% from boreholes and windmills and 20 to 60% use traditional wells. Up to 70% of women walk a distance of 6-7 kilometres to various water sources. Turbidity and bacteriological content of water from rainwater reservoirs range from 2250 to 5250 NTU and 900 to 1500 faecal coliforms per 100 millilitres respectively. Prevalence of water borne diseases is due to consumption of polluted water. The performance of seeds from different local plant species on turbidity removal was analysed. About 20 to 50 grams of seed powder were used to clarify 20 litres of turbid waters. Turbidity removal efficiency after mixing and sedimentation ranged from 83% to 90%. Local coagulants can enhance sustainability of rural life by improving access to potable water supply and fuel wood, land productivity and afforestation. The paper recommends that traditional knowledge can provide a holistic framework for water sector reforms and the planning and implementation of development projects to enhance sustainable economic, social and ecological development.