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Analysis of Water Management towards Achieving Sustainable Development Goal 6 (Clean Water and Sanitation for All); Case Study of WilpitaWewa (Hali-Ella), Kamburupitiya, Sri Lanka

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Abstract

Sustainable Development Goals (SDG) or 2030 Agenda for Sustainable Development is an ambitious plan on achieving social, environmental and economic sustainability at global level. SDG6 is the dedicated goal on water and sanitation among 17 goals of SDGs. It sets out to ensure availability and sustainable management of water and sanitation for all. Goal contains 8 targets and 11 global indicators. SDG6 is targeting on managing global water resource though collaborative actions on improved water quality, increased water-use efficiency, implemented integrated water resources management, protected and restored water-related ecosystems, expanded international cooperation and capacity-building support on water and sanitation management. The main objective of this study is to assess the user values of water and status of water management in Wilpitawewa (Hali-Ella); small scale irrigation tank in Kamburupitiya, Matara to determine the status of the targets of SDG6. A household survey was conducted with a pre-tested questionnaire among the tank water user community of the area. Stratified random sampling was carried out and 75 households from four distances were selected (350 m, 2120 m, 2816 m and 3000 m) where the water gates are located along the tank irrigation channel. The respondents were asked to indicate usages of water, obtained output and associated monetary values. Collected data was analyzed quantitatively using Minitab 16. According to the results, total economic values of water of the sample indicate that 54% is for paddy cultivation, and 31%, 12% and 2% of economic values were represented by vegetable and fruit cultivation, fishery and domestic consumption respectively. Provision of tank water for paddy cultivation had decreased with the distance and caused for the reduction of the productivity of paddy fields. Supply and withdrawals of tank water for paddy cultivation had mismatches and mismanagement which led to water stress and reduction of water use efficiency of the tank. The quantity of tank water shows gradual fluctuation with prevailing weather variations, especially in recent years and this caused impact in domestic water consumption of the community. Waste dumping into the tank and surrounding area has increased and local community does not practice any water conservation method in their household levels. Therefore, majority of indicators of the SDG6 targets do not fulfill with existing conditions of the Wilpitawewa tank and its water users. The study emphasizes for responsible actions on improvements in water and sanitation management on achieving SDG6

Keywords: Sustainable Development Goals, Water management, Water user values