

EFFECTIVENESS OF VILLAGE TANK CASCADE SYSTEMS (VTCSs) FOR RURAL SUSTAINABILITY: A CASE STUDY OF OVILANA TANK IN HAMBANTOTA

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Abstract: Village Tank Cascade Systems (VTCSs) evolved as interconnected ecologically compatible hydraulic systems in the dry and intermediate zones in Sri Lanka. These VTCSs are vital to enhancing climate-resilient livelihood and food security for rural peasant communities. Water scarcity has had a detrimental effect on irrigation-based paddy cultivation in dry zone areas and currently, it has become a global scenario. Sustainable Development Goals (SDG) 2 and 6 are highly concentrated on overcoming water-related issues and providing equal opportunities for the community in the next couple of years, especially in developing countries. VTCSs are playing a dominant role at the micro level in enhancing the coping capacity of rural peasant communities in dry and intermediate zones in Sri Lanka. Therefore, the effectiveness of the Ovilana village tank to achieve SDG at the rural level through VTCS Sri Lanka was studied in this research. Ovilana Tank is fed by the Murutawela Reservoir, and it provides irrigation facilities for 48 paddy farmers to continue paddy cultivation and animal husbandry. Questionnaire survey and interview methods were followed for the primary data collection in Madagama GND in Weeraketiya DSD. Data were analyzed by using descriptive statistics and thematic analysis. Based on the Ovilana tank 32 acres of paddy lands were cultivated by 48 traditional farmers during the Yala and Maha seasons without any interruptions. Drought resilient “AT 362” paddy variety, the systematic role of farming society, incorporation with traditional knowledge and rituals during all stages of cultivation, water and tank conservation strategies, animal husbandry, crop rotation, equality, and accountability caused accelerated socioeconomic and ecological sustainability of the Ovilana tank. Moreover, this case study proved the suitability of VTCSs for achieving sustainable development and empowering the rural communities in Sri Lanka.

Keywords: Effectiveness; Farmers; Sustainable development goals; Village tank cascade systems