

KNOWLEDGE AND PERCEPTIONS ON MANAGEMENT AND ECOSYSTEM SERVICES OF TANK CASCADE SYSTEMS: A CASE STUDY IN ANURADHAPURA DISTRICT, SRI LANKA

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Abstract: The main objective of this study was to assess the present status of knowledge and perceptions of the communities on tank cascade management and ecosystem services provided by tank cascade systems. Aluthhalmilla wewa, Palugaswewa, and Bandarakumbukwewa tank cascade systems situated in the Anuradhapura District were selected for the study. These cascades are under the jurisdiction of the Department of Agrarian Development. Secondary and primary data were collected on the tank cascade's socio-economic, ecological and managerial environment and related areas. Primary data were gathered using key informant interviews. Mixed methods were used to analyse data. According to the findings, most village communities use tanks for farming related activities, bathing and washing, etc. However, none of them use the tank water for drinking as they think water is polluted. A statistically significant relationship ($P < 0.05$) was not observed between the occupation and age of the communities with their knowledge of the ecosystem services of the tanks, while the education level of households showed a positive relationship ($P < 0.05$). However, there was a lack of knowledge on the full range of ecosystem services of the tank cascades, which needed to be enhanced. All the respondents were in view of the tank and associated environment need to be improved, and while they were fairly satisfied with the activities of the farmer organisations and the officials of the Department of Agrarian Development. Farmers agreed that this needed improvement to foster the full potential of the tank cascade systems. All the respondents were willing to contribute to improvement and conservation the tanks' ecosystems. Therefore, it could be recommended that it is required to enhance the knowledge among the stakeholders and follow an inclusive and integrated approach with the participation of farmers and farmer organisations and the officials of the Department of Agrarian Services.

Keywords: Anuradhapura; Climate resilient integrated water management project (CRIWMP); Conservation; Ecosystem development plans