

NATURE OF COMMUNITY AWARENESS ON ECOSYSTEM SERVICES OFFERED BY SIWALAKULAMA TANK CASCADE SYSTEM, SRI LANKA

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Abstract: Tank cascade systems play a pivotal role in maintaining ecological dynamics. However, persistent mishandling of these tanks has led to an unsustainable future. Community awareness of various ecosystem services provided by the cascade system is important to formulate an effective strategy for environmental conservation through community involvement. Hence, a study was conducted to evaluate the community awareness levels on ecosystem services of minor tank ecosystems in Siwalakulama cascade, Galenbidunuwewa Divisional Secretariat Division, Sri Lanka. Primary data were collected through a questionnaire survey using randomly selected hundred (100) farmers. The questionnaire tested the awareness of ecosystem services under the subcategories of provisioning, regulating, supporting, and cultural services provided by the tank cascades. The findings indicated that the community possesses substantial awareness (>50%) solely in relation to provisioning services, except for the conservation of genetic resources (15%). None of the tested regulatory services and cultural services had more than 50% awareness. As for supportive services, the capacity to secure livelihood is the sole service known to the majority (66%). Results elicited that the community has very poor awareness of mandatory regulatory services such as carbon sequestration ability (15%), climate regulation ability, pollination, and natural disaster mitigation (11%). A similar trend was observed for supportive services like the maintenance of the local ecosystem (19%), nutrient recycling (18%), and water cycle management (11%), where awareness was notably low. Cultural services were reported as the most unknown component of the ecosystem services of the tank cascade system. For instance, cultural services of spiritual value (11%), (11%) opportunity for recreation and tourism (11%) therapeutic value (11%) are the least known services. In conclusion, community awareness is more focused only on provisioning services though the other components also play a crucial role in sustaining the stability and productivity of agroecosystems. Therefore, it is essential to deliver well-structured awareness programs aiming at conveying the significance of all aspects of ecosystem services provided by the tank and their interconnection with the village tanks to promote the sustainable utilization of these services.

Keywords: Community awareness; Ecosystem services; Heterogeneity; Tank cascade