

COMMUNITY PERCEPTION ON ECOSYSTEM SERVICES OF TANK CASCADE SYSTEMS: CASE STUDY IN *SIWALAKULAMA* CASCADE, *GALENBIDUNUWEWA*, SRI LANKA

D.S.D.L. Karunarathne, G.A.S. Ginigaddara, A.N. Kodithuwakku

*Department of Agricultural Systems and Management, Faculty of
Agriculture, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.*

Recent human interventions on minor tank ecosystems (MTE) in Sri Lanka have led to deterioration of their ecology. Therefore, the present study aimed at assessing the community perception of eco-system services in *Siwalakulama* tank cascade ecosystem in *Galenbidunuwewa* Divisional Secretariat area. A questionnaire survey was carried out using a sample of hundred (100) residents selecting from upper, middle, and lower areas of the cascade. The questionnaire included socio-economic information and ecosystem services under the subcategories of provisioning, regulating, supporting, and cultural services provided by the MTE. Data were analyzed descriptively. Results showed that 45% and 11% of the respondents had secondary and tertiary education levels respectively. About 70% of the respondents had permanent income with an average amount of Rs.25, 000. More than half of the respondents (55%) were not aware of the ecosystem services provided by MTE. The magnitude of awareness levels of the subcategories varied in the descending order of provisioning, supporting, regulating and cultural services. All the respondents were well-aware of the ability of water supply and retention under provisioning service (100%); water conservation ability (37%) under regulating services: support for farming-livestock-fishing (66%) and creation of leisure environment (23%) under the cultural category. About 78% of the respondents were unaware of spiritual and therapeutic supplement ability under the category of cultural service while, 77% of respondents did not realize the importance of ecosystem processes maintenance under the supporting category. Around 69% were unknown about the ability of eliminating pathogens under the regulation. The study concludes that the majority of residents in the surrounding community are not adequately aware of the ecosystem services offered by the minor tank ecosystem. This study suggests awareness programs for the community on ecosystem services, developing a proper planning and monitoring mechanism to regulate the minor tank ecosystems with the participation of community, government, and non-government organizations.

Keywords: Awareness level, Ecosystems, Ecosystem services, Minor irrigation, Minor tank