

‘Status Quo’ of Agriculture in the Tank Cascade Systems of Sri Lanka

Dilanjani H.U.K^{1,2}, Ratnayake R.M.K³, Dharmasena P.B⁴

Abstract

The Tank Cascade System (TCS) found in dry and intermediate climatic zones in Sri Lanka has served as the essential element for sustaining the ecological balance, management of water resources, rural livelihoods, and agriculture. The ancient agricultural system of Sri Lanka became self-sufficient as it consisted of paddy farming, rain-fed farming (locally known as *chena*), and homestead farming. Most of these systems were operational as cascaded tanks and their environs. The main objective of this study was to identify the changes taking place in these ancient agricultural systems and to explore the potential of restoring them under present circumstances. The data for the study mainly depends on the secondary sources which are available in different institutions. The study revealed that the TCS has been prevalent for over two millennia as a sustainable ecosystem, safeguarding the people and enhancing the Sri Lankan food and livelihood security on a sustainable basis. In fact, this system provides answers to the water scarcity problem in paddy farming through traditional crop management methods. Most dry zone villagers met their food needs from the paddy and *Chena* cultivation. The village tank (*wewa*) and its environs played a vital role in the village economy too. There are many cascade systems in the country that have been abandoned or not restored due to environmental, political, historical, or institutional reasons. Although some TCSs are functional at present, a range of human-induced activities such as deforestation, pollution, the spread of invasive alien species, and ongoing climate change has caused severe distortion in the system. The study stresses the importance of developing the tank cascade system and its all sub-sectors and it is believed that the traditional system of agriculture consisting of paddy, *Chena* and home garden could be a sustainable system in the long run.

Keywords: Livelihoods; North Central Dry zone; Tank cascade system; Traditional agriculture; Paddy farming.

¹ M.Phil. Candidate, Faculty of Graduate Studies, University of Sri Jayawardhanapura

² Department of Environmental management, Faculty of Social Sciences & Humanities, Rajarata University of Sri Lanka; dilanjanisameera@gmail.com

³ Department of Geography, University of Sri Jayawardhanapura

⁴ Visiting Lecturer, Rajarata University of Sri Lanka