Small tank cascading systems (STCS) are an ancient irrigation system in South Asia developed to support agriculture and population expansion to dry/arid areas by collecting rainwater during the wet season for use in the dry season. The system, which has parallels to the Japanese land use system of Satoyama, uses landscape level best management practices to ensure sustainability.

The STCS in Sri Lanka are over 2,000 years old and consist of approximately 14,200 small tanks that currently feed about 246,000 hectares (39% of the current irrigable area). Over the last few centuries the hydrologic and socio-ecological system connecting the tanks have slowly deteriorated due to lack of maintenance and the disappearance of traditional community institutions. Cascade tank restoration contributes to 14 of the 17 SDGs and has the potential to be a driver of sustainable development in the face of climate change.

There is a growing global interest in restoring STCS. The STCS were recently declared as a Globally Important Agricultural Heritage Systems (GIAHS) by the FAO. The UNDP/GCF funded a USD 38 million dollar effort to restore 300 tanks and the government is launching a 1000 tank/1000 village restoration effort to improve rural livelihoods.

At the same time there is a lack of information and scientific studies on the preferences of rural households for tank restoration and on the welfare impacts of tank restoration. In this research we (1) use a choice experiment survey, conducted in a cascade tank system in Anuradhapura, Sri Lanka, to understand rural villagers’ preferences and the willingness to pay/contribute to restore cascading tanks systems (2) conduct a cost-benefit analysis of cascade restoration. We also contribute to the literature on the applications of choice experiments in developing countries by comparing the use of monetary payments and labor participation.

We find that respondents value multiple tank restoration attributes and that residents are more willing to contribute labor (compared to an equivalent monetary payment). The cost benefit analysis shows that restoring tanks improve welfare (B/C Ratio between 1.47 – 3.43). The results directly contributes to conference themes on “Agriculture for Development”, and “Development and Climate Change”.