Tanks as Ancient Measurement of Integrated Watershed Managements in the Dry zone of Sri Lanka

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The cultivation of rice in the semi-arid and dry-sub humid zone of Sri Lanka is based on a traditional water harvesting and management system continued nearly 2,000 years. The main component of the system consists of a connected series of manmade tanks constructed in shallow valleys to store, convey and utilize water for paddy cultivation. During two monsoonal periods' rainfall and surface-runoff are stored in these man-made reservoirs, locally called "*wewa"*, and are used for irrigation throughout the year.Up to 10,000 of tanks originated from the heydays of ancient kingdoms are still integrated to the current agricultural landscape. In the hinterland of the ancient capital of Anuradhapura (437 BCE to 1017 CE) these tanks were aligned predominantly along shallow valleys forming a connected series of tanks acronym as tank-cascade systems. In contrast, in the surrounding of the successional capital of Polonnaruwa (1055 to 1215 CE), water storage systems are mainly characterised by single large-scale tanks. In both regions, water harvesting and water management systems are adapted to specific environmental and socio-economic conditions. The implementation of the tanks is studied under a comparative approach in a joint project framework between the Freie Universität Berlin (Germany) and the University of Peradeniya (Sri Lanka). The assessment of the vulnerability and resilience of the natural und social systems linked with the water harvesting systems is in focus of the research project, combining geographical and archaeological studies.

The tank based irrigated agricultural system in the Dry Zone Sri Lanka is one of the oldest historically evolved agricultural system in the World. A remarkable number of written and epigraphic sources report about the development of the ancient water harvesting and management system in Sri Lanka. This research project intended to document the potential of the analyzed source genres for the derivation of information on different aspects related to the spatial, temporal and administrative development of the ancient water harvesting and management system. During last two millennia, this indigenous system has undergone many changes in technological, management and sociocultural norms. This research further aimed to analyze the current management practice and existing indigenous aspects of the Dry Zone irrigated agricultural landscape.