

Wisdom of village tank multi-functional roles of irrigation systems

Small village reservoirs were unique feature of the ancient hydraulic civilization in Sri Lanka. These small reservoirs were called tanks and it forms the nucleus of the village hamlet. Some 30,000 of these tanks had been in existence from 500 BC to 1100 A.D. in an area of 38,000 km in extent. Over, 2500 years ago, Sri Lankans found that they could save the short lives, torrential, monsoon water by storing it, in small irrigation tanks. This meant they could continue to grow their staple crop, rice even after meeting the other demands.

From the tanks, the water was conducted to paddy fields through networks of canals and the tanks were arranged in cascades, so that the lower ones collected run-off from those in upstream. There could be over 50 tanks in a single cascade system. Some of the ancient tanks at Anuradhapura are now under the world heritage sites of the UNESCO.

The modern scientists and researchers until recently did not properly understand WISDOM of village tank and its multi functional rolls. Functions of village tanks were conceptualized by Kennedy in 1934 in his presentation to the Engineering Association of Ceylon while presenting his paper titled "Evolution of Scientific Development of Village Irrigation Works of Ceylon". This paper throws some lights to the scientific aspects of these village tanks.

Even in recent Environment Impact Assessment studies indirect positive environmental benefits of the water resources development are not known to many other than the direct benefits deriving from land development. These indirect positive environmentally friendly trends have to be highlighted in the perspective of ecosystem approach. In this approach, evaporation and seepage are not losses as identified in traditional engineering approach, but there is positive indirect contribution to the environment for which monitoring value has to be attached.