

Trans-basin Canal Systems in the Nuvarakalaviya of Ancient Sri Lanka with Special Reference to the Jaya Ganga Yoda Ela System

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The trans-basin canal system was the construction pattern of a the storage reservoirs of highly advanced technical process in the ancient Sri Lankan irrigation network. With the advancement of technology and culture within Sri Lankan civilization, there emerged an irrigation system that connected through the valleys and trans-basins by a network of canals and thereby displaying a whole group of reservoirs in the Nuvarakalaviya. This irrigation system resulted in creating a scattered settlement area in the Northern plain as additional water supplies fed the reservoirs by linking the tributaries and the main rivers. Archaeological and historical evidence indicate that the main river and the trans-basin canal systems had already developed by the 1st century AC. By the 5th century AC, this irrigation system seems to have reached its maximum expansion and had spread around the main cities, regional centres, main ports and monastic sites.

In this technique, the canals followed the natural contour lines from higher elevations. The best example for the above is the Jaya Ganga which carried water from the Kalavava (in Kala Oya basin) to the Tissavava (in Malvatu Oya basin). This canal naturally became an artificially constructed watershed. The trans-basin canal system in the island may have been under the scrutiny of hydraulic engineers who improved on the frame work of the system from time to time. It can be seen that the great

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watersheds draining from the western and eastern slopes of the island are open to the Dry Zone from central hills. The artificially constructed canals from these watersheds were utilized for feeding the major, medium and village tanks in the dry zone of ancient Sri Lanka.

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