

The water regulation technology of ancient Sri Lankan reservoirs: The Bisokotuwa sluice

B. H. M. W. Bohingamuwa

Dept. of History
University of Ruhuna, Matara, Sri Lanka.

The dry zone civilization of ancient Sri Lanka has been characterized as a hydraulic civilization. This hydraulic system, this paper focuses on the water regulation devices of the reservoirs - the sluices. A sluice is a device where by the water of the reservoir is released to the paddy fields or the flow of water is controlled or completely stopped. It was believed that the bunds of the smaller tanks were cut for releasing water to the fields. Sometimes balling devices or water wheels were used for this purpose. Cutting of the bunds of small tanks was noted in the fields by the author, he also records a simple but efficient water regulation practice hitherto unknown: taking the water through a hollow palm trunk laid under the bund.

In the Sri Lankan context, The Sinhala term Sorowwa/Horowwa may be taken as an equivalents to the sluice. Three types of sluices have been identified as, Ketasorowwa (Pie/Junction Box sluice), Rajamohol Sorowwa (Piston Sluice) and the Bisokotuwa Sluice (Cistern/Valve Tower Sluice). This paper focuses on the Bisokotuwa Sluice type. While different functions have been assigned to the Bisokotuwa, this study uses this term in the sense of the enclosure whereby the water levels lowers, it generally, functioned similar to valve pit, though not identical. The invention of the Bisokotuwa has been dated to a period between the 4th century B.C. to the 1st century AD, the author tends to place it to a time period of 1st B.C. century to the 1st century AD.

No specific information on the construction technology of Bisokotuwa Sluice is found in literature. This paper is based on the field studies conducted on irrigation remains particularly at the Buwewa in Plolonnaruwa, the only scientifically excavated Bisokotuwa sluice in the island and the ancient Pande wewa in Panduwasnuwara. On the basis of above studies this paper attempt to understand the technology and the materials used in the construction of Bisokotuwa sluice. The findings of other village tanks reject the popular misnomer that the Bisokotuwa sluices were built only in large reservoirs.

Key words: Sri Lanka: Hydraulic civilization; Archeology; Irrigation sluices; Bisokotuwa; Irrigation technology