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Construction of an inverted syphon in the L.B. canal of Mau Ara/ Malala Oya project and its performance

One of the main objectives of the Mau Ara-Malala Ara diversion project is to augment six major/ medium tanks and 22 small tanks in the malala oya basin. Water from the Mau Ara reservoir is fed through a 15 km long feeder canal to Meegahajandura. A Right bank canal of 8 km length beginning from Meegahajandura reservoir and feeding several tanks ends at Kuda IndiWewa. A left bank canal, which is 19 km long starting from the end of the feeder canal will feed other tanks up to Palle-mathala tank. The total command area under the project is 1885 ha and 1700 families to be benefit.

The Left bank canal has to pass through access roads, cross Malala Ara, a natural stream and a stretch of paddy lands within the first km. There were several alternatives considered to minimize the acquisition problems and the environmental impact problems.

Pick up anicut and syphon will cause additional head losses compared with the bench flume. But, Pick up anicut needs to be located far away in the U/S of the malala Ara which makes and additional length of canal section. In analysing structural stability, the flume passing across the malala Ara is to be Constructed over piers to be located on the hard rock foundation which is 10 m below the river bed. The other two proposals qualify as for structural stability. Environmental impact assessment for all three alternative proposals were analysed and construction of syphon has been found to be environmentally more sound and friendly when compared with other alternatives. Consequently and inverted syphon of 610 m length was adopted.