PERFORMANCE EVALUATION OF LEFT BANK CANAL OF THE UNNICHCHAI IRRIGATION SYSTEM IN BATTICALOA DISTRICT

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ABSTRACT

Irrigated agriculture plays a vital role in uplifting the livelihoods of farming community. Unnichchai irrigation system is one of the major irrigation systems in Batticaloa district in the dry zone of Sri Lanka. There is disparity in water distribution among the farmers in this system. Unnichchai tank water is distributed through RB and LB canals. Substantial part of the usable water loss occurs due to seepage through these unlined canals. However, there is no any study assessed the efficiency of this irrigation canal. Assessment of an irrigation system would help water managers and policy makers to formulate appropriate management strategies in order to ensure the sustainable and efficient water resources management. In the above context, the present study was carried out to assess the efficiency of LB canal of Unnichchai irrigation system. Flow at different sections was measured by adopting velocity-area method. Parshall flume was used to measure flow at the diversion points.

The results revealed that there is high spatial variation in canal water loss. Water loss per unit length ranged from 737 m^3/km/day - 28,103 m^3/km/day. The highest water loss per unit length was observed at head end whilst the lowest water loss was observed at tail end. The overall conveyance efficiency of the LB canal was 54.5%. Water loss per day in this LB canal was found to be 155,546 m^3. In addition, the total water loss per cultivation season was estimated as 16.3 MCM. It is significant part of the available water in this system. Water use efficiency of this system could be increased through appropriate management interventions.

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