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

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ABSTRACT

Since ancient times, Sri Lankan irrigation system has been developed for efficient use of water for food production. Conveyance efficiency is one of the major indicators used to assess the performance of an irrigation system. Unnichchai irrigation system is the major irrigation systems in Batticoloa district. Even though a large flow of water diverted at the head end, farmers in the downstream receive very less amount of water. It has great impact on crop production. Detail study on irrigation system efficiency is necessary to formulate appropriate management strategies to ensure efficient use of usable water. However, efficiency of this system has not yet been studied. In the above context, the present study was aimed to assess the conveyance efficiency of RB canal of this irrigation system. Conveyance efficiency was estimated by measuring flows at different sections including sub branches. Flow was measured by adapting velocity-area method.

There was high variation in water loss along the RB canal. Water loss per meter length of the canal ranged from $0.3m^3$/day - $1.45m^3$/day. The lowest efficiency was recorded at the tail end mainly due to low flow rate. The overall conveyance efficiency of the RB canal system was found to be 55.35%. It is comparatively good figure in the dry zone of Sri Lanka. However, a substantial part of usable water loss observed in this system. Nearly, 24788 m^3 of water loss occurs per day. Water loss per cultivation season is nearly 2.6 MCM. Hence, empowering the farmers' organizations to maintain the canal by cleaning and repairing canal banks, proper maintenance of sluices, and spills by the responsible officials at proper time and reducing seepage losses and infiltration losses by canal lining are the important management interventions to increase the water use efficiency in this system.

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