

WATER MANAGEMENT ANALYSIS FOR DIFFERENT CULTIVATION BASED ON UDAWALAWE RESERVOIR – SRI LANKA

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Sri Lankan economy mainly based on the agriculture. Water is the main factor for cultivation. Management of water supplies for irrigation is one of the most critical problems. In this project, how stored water of reservoir is optimally used for the different types of cultivation with their needs is considered.

The objective is efficient and sustainable water management in an irrigated cropland to ensure optimum linkage between water availability and water demand. This is done by matching demand for water in terms of crop water requirements and available water supplies in time and in the required quantity.

This study has been performed in the irrigated area by Udawalawe reservoir. Different cultivations, their extents, needs of water and time were considered. Then the amount of water should release for getting maximum yield was estimated. The dominant land use types are Paddy and other field crops (OFCs) in the study area.

By using model builder, water demand of the each crop was calculated with the time and the results were compared with the actual data. The curves related to actual and calculated have same shapes in seasonal and off-seasonal periods. But there are gap between them. Gap between the actual and calculated curves can be reduce by minimizing the water wastage, by proper maintain of irrigation canals and non-irrigational and industrial water uses are taken in to an account.

Decision making related to water releases is a complex process because of uncertainty of availability of water. Therefore, proper management is required.