

USE OF A COMPUTER BASED DECISION SUPPORT SYSTEM FOR ON-FARM WATER MANAGEMENT IN THE BATTICALOA DISTRICT

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ABSTRACT

Water availability and soil moisture retention have been major factors determining crop production of the dry zone areas, especially in the most soils of Batticaloa, situated in the eastern region of Sri Lanka. Any effort geared to conservation and proper water management practices would lead to increase in both water use efficiency and overall productivity of agriculture. Decision-making is an important process in water management. In view of this fact, a more practical and effective system referred to as BATTI-DROP, computer based Decision Support System, was developed for on-farm water management with special reference and application to the Batticaloa district. The package was developed as an application of Access with Visual Basic interface. The programme contains general information on various irrigation topics as well as diagnostic analysis, which then leads to an analysis of possible solutions. An extensive diagnostic tree has been developed, based on the experience of irrigation experts. BATTI-DROP provides the user with the facility to access diagnostic tree as well as to study information that is stored in the database.

The user can refer basic information relevant to irrigation such as soil properties, rainfall and Crop reference Evapo-transpiration (ET_o). BATTI-DROP also recommends the selection of irrigation methods and soil moisture conservation measures in relation to a particular soil type of the district. Besides, recommendations for the construction of agro-wells are also included in this programme. The facilities provided to calculate Crop Water Requirements (CWR) and irrigated water management practices by linking with CROPWAT Programme would enable the users to experiment the concept of more money per drop.

It is assured that BATTI-DROP would be a readily available and good single source of information to guide irrigation professionals.

Key words : decision support system, irrigation schedule, irrigation methods, moisture conservation, rainwater harvesting, agro-wells.