

MANAGEMENT INFORMATION SYSTEM (MIS) FOR ON-FARM IRRIGATION MANAGEMENT IN SRI LANKA

S. PATHMARAJAH AND P. JEYAKUMAR*

*Department of Agricultural Engineering, Faculty of Agriculture, University of Peradeniya,
Department of Agronomy, Eastern University, Vantharumoolai, Chenkalladi

Focus of irrigation water management in Sri Lanka is shifting from major irrigation systems to minor and lift irrigation systems. Management of minor-tank command areas receive increasingly high priority due to their potentiality in contributing to the social betterment of the farmers and to the national agricultural production. Conjunctive use of ground water through shallow-wells and the adoption of micro-irrigation systems, in the traditional surface irrigation system areas make irrigation water management more and more challenging. The recent changes in the global and local climate complicate the task of water management further. Therefore, there is a need exists for up-to-date information related to irrigation water management.

On-farm irrigation planning and management require information on soil properties, climatic conditions, quality and quantity of irrigation water, market information on irrigation equipments, etc. All these together with socio-economic factors determine the selection of crop, which then influences the water management itself.

Many individuals and institutions have been involved in gathering the above data in Sri Lanka for more than five decades. Certain data like mean monthly rainfall is available for more than even hundred years. However, the information gathered is mostly confined to progress reports, feasibility studies and to hand written documents. Furthermore, they are widely scattered and not available in the required form. The main reason is that there is no co-ordination and data-sharing mechanism exist among the scientists or the agencies involved in data gathering.

This necessitates development of a quick, reliable and easy data sharing mechanism, which could support management decisions. With this objective, a personal computer based Management Information System (MIS) is developed using the Microsoft Access Database in combination with Microsoft Visual Basic programming language. The system require Windows 95 or above platform.

The MIS also attempted to support decision-making on on-farm water management to certain extent, and it possesses a link to the CROPWAT program developed by the FAO for irrigation scheduling. By this, it is hoped that the access, analysis and synthesis of information on on-farm water management will not be confined to a group of specialists.