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## Development of information system for the appraisal of watershed management

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MALLIKARJUN REDDY Central Research Institute for Dryland Agriculture (ICAR), Santoshnagar, HYDERABAD (A.P.) INDIA Email : mahareddy1076@ gmail.com ■ ABSTRACT : The information system (IS) is windows based interactive software developed in visual studio. The software components are watershed concept, watershed planning, watershed conservation, watershed development, watershed management and hydrological numerical solver. The watershed concept, planning, conservation, development and management comprises with quality information in text, photos, videos, animations etc. hyperlinked with each other. The hydrological numerical solver deals with execution of hydrological parameters namely precipitation and runoff. The special features of IS are quality information with photos, videos, standard tables; charts etc were hyperlinked with each other. The software is meant for agricultural engineers/water resource engineers in the line departments and planners, the IS will also find its use with officials of the state agriculture/watershed departments, NGO's and as a teaching aid in educational institutions etc.

- **KEY WORDS :** Watershed planning, Conservation, Development, Management, Hydrological numerical solver.
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While the promotion of reforms in systems of agricultural science and engineering, agricultural research institutions are in urgent need to construct efficient information systems in order to continuously increase their own competitiveness in dissemination of quality education, research prioritisation and extension. However, the process of reaching the end users with needed data and information in the agriculture domain could be made possible through the present state of art technology gadgets including computer programming, optical fiber and satellite communication technology and television net work. The basic features of such systems are to help in decision making processes by facilitating required data and information preferably under single platform.

Information and communication technologies (ICTs) as applied to the agriculture sector, in the context of its present growth and complexity are essential for effective implementation and transfer of agricultural technologies. Even though, in the last six decades, many agricultural technologies and practices have been developed by the scientists, farmers and other practitioners involved to improve watershed productivity, a fewer attempts have been made to put the information together in a way that it could provide practical guidelines rather than location specific technologies. Further, there is also a need for transfer of such technologies which are applicable spatially under similar conditions elsewhere to sustain rainfed agriculture and at the same time for utilisation of research findings fully. The overall objective of the study is to develop information system on watershed and to use the developed information system for a few applications in watershed studies.

## ■ METHODOLOGY

The information system has been developed as a platform of large data sets and information collection using suitable computer architecture and interlinking them suitably to generate meaningful information system. It consists of the data types in text format, images, videos, photos, figures, graphs, monographs, with which the users can easily comprehend the aspects of "watershed". The photos and videos pertaining to relevant aspects of watershed would make user more informative. Further, the data types namely, graphs, maps, tables, charts, nomographs, internet links are used to develop a good network of specific information in a form of system. The sources from which the data are collected also include the reputed books, periodicals, seminars, course