GIS BASED DECISION MAKING SYSTEM FOR AGRICULTURE

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ABSTRACT

Sri Lanka is an agriculture based country which has the population of 19.4 million people and around 38% of the county's population is employed directly or indirectly in the agricultural sector. Therefore agriculture information is a vital need of among them. The Extension and Training division of the Department of Agriculture (DOA) play a vital role for dissemination of the agriculture technologies and information to the community to facilitate increased agriculture production. It implements an effective agriculture extension programs in collaboration with other units of the DOA and the provincial agriculture administration. Agriculture Instructors are therefore directly involved with the community to share information in their regions.

The 1920 Toll-free Agriculture Advisory Service is one of the major services provided to the farmers. This is an information service through telephone, which is helpful in solving various problems faced by farmers, such as agriculture related technical matters, inputs and marketing problems. As problem solving process done through telecommunication systems, decision making ability of the advisory staff should be very fast and accurate. Designing approach for this system is to provide GIS based Agriculture information for decision making of operators in Agriculture Advisory Service.

A decision-making tool is needed to more accurately identify the type of information needed and identify the right locations. This can be accomplished with an information system with the aid of a Geographic Information System (GIS).

This is a cost-effective agricultural information dissemination system, to disseminate all kind of expert agricultural knowledge to the farming community in order to improve the crop productivity.

This tool is used in GIS environment to combine technical expertise and resource information including soil, water, agro ecological regions according to the administrative boundaries and provincial agricultural data that advisory staff can use to make decisions regarding agricultural development.

The system was developed using PHP, HTML programming languages and MySQL database integrated with GIS technology. It comprises three modules DOA staff, farmers and web interface for everyone.