

Agricultural advisory expert systemA S Karunananda^{1*}, D M M Dissanayake², T M Karunaratne³^{1,2,3}*Department of Mathematics and Computer Science, Faculty of Natural Sciences, The Open University of Sri Lanka, Nawala, Nugegoda*

Sri Lanka, as an agricultural country; most of our people are farmers. About 75% of the population still live in the rural sector and agriculture, particularly rice farming is, not merely a livelihood but is considered a way of life in Sri Lanka. Farmers in our country face a lot of problems. The inadequate resource for technical assistance is one of the main difficulties faced by farmers in Sri Lanka. This project addresses this significant problem by developing an agricultural expert system. It targets several user groups such as farmers, agricultural extension officers and university students. The requirements and technical skills are generally different from each groups and the system has been developed to reflect this. The user interface has developed without complicated query specifications to the user. Users have just to select the appropriate area that is in need of cultivation from the map displayed in the interface. Once they select the farming area, they will be assisted very shortly with the most suitable rice variety. To arrive at a reasonable conclusion a vast amount of agricultural factors are evaluated inside. That is also depend on the information they give for the system, such as soil type, soil depth, rainfall, elevation, temperature variation etc. Users can ask the system to perform different kind of tasks such as most suitable rice variety for an area or the area for a particular rice variety depending on the selected options. All outputs are explained in terms of how and why they made. Ultimately the cultivation package for the selected rice variety is also generated from the system. If the users are not yet satisfied with the information provided by the system, the system guides them to relevant institutions and people. There is an advanced query system for users with knowledge of expert systems. They can directly ask their questions from the system and receive the satisfiable answers with saving their valuable time. The expert system technology is used to reason on the agricultural data as a human expert does. The agriculture advisory system has been developed to run on windows platform with flex expert system shell. The system has been incrementally tested and now it is ready for the real use.

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