

Development of an Intelligence System for Decision Making Process in Natural Resource Management

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Expert systems are part of a general category of computer applications known as artificial intelligence. An intelligence system is a computer program that simulates the judgment and behavior of a human or an organization that has expert knowledge and experience in a particular field. Typically, such a system contains a knowledge base containing accumulated experience and a set of rules for applying the knowledge base to each particular situation that is described to the program. It attempts to provide an answer to a problem. Everywhere in every domain relevant expertise is needed. The major problems in accessing a human expert in a particular field are unavailability and scarcity of real experts. Consultation may be very expensive and human expert may feel the repetitive job uninteresting. This paper describes the role of intelligence systems in the natural resource management and present the utility of prolog based intelligence system in the development of such a system. It is based on logic programming approach. Efficient natural resource management involves appropriate application of production and conservation practices for development of land and water resources. The technique of remote sensing has been applied to bring more land under cultivation, flood monitoring, etc. Development of an Intelligence system for natural resource management has been explored through presenting in details development of knowledge base for the visual image interpretation of standard false colour composite (FCC) image. Remote Sensing, Geographical Information System (GIS), Global Positioning System (GPS) and the information technology together provide the essential support for decision makers. Obviously, Expert systems have large impact and scope for the application of remote sensing techniques in the monitoring and management of natural resources.

Key words: Intelligence System, Human Expert, Logic Programming, Land Use, Artificial Intelligence, Remote Sensing

