ABSTRACT

Scientific study result is the primary information on coral reef condition and a decision-making management tool. Performance evaluation of coral reef management needs to be based on an update (actual) and open access information in order to help decision maker to provide appropriate programs. Management of coral reef is implemented with several evaluation criteria formulated with parameters and variables in management activity aspects. DSS is one of the tools and methods for management decision. In conjunction with the coastal space, the tools can use Spatial Decision Support System (SDSS) as a comprehensive decision support integrated with Geographical Information System (GIS). This SDSS provided effective decision making process that can handle spatial and non-spatial database. Using the internet will make it easier for all components in coral reef management in monitoring the condition of coral reefs. Within decision support system, all variables in coral reef management will be managed through data processing methods to produce several recommendations that perform and help decision maker to find the state of management performance. The objective of the research are; to develop database system for inventorying coral reef and socio-economic aspect; to develop a web GIS that can be used by decision makers to identify the state of reef management through the internet access; to develop prototype decision support system tool called Coral Reef Management Evaluation System (CRES). A prototype of database system has been developed to be able to visualize monitoring of coral reef data. Prototype of Web GIS has been implemented to be able to utilize coral reef management become important input for decision maker for monitoring coral reef. Prototype of the DSS tool is capable to provide recommendation for monitoring coral reef management.

**Keywords:** Web GIS, Decision Support System, Database, Coral Reef Monitoring, Management, CRES