Expert System of Land Suitability Analysis for Coffee Plants in the District of Jember

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ABSTRACT

The coffee plant consists of three types of coffee namely arabica coffee, robusta coffee and liberika coffee. Each type of coffee has a height suitable for optimal growth. In addition to height, coffee also has provisions for air temperature and rainfall in order to grow optimally. Jember Regency is the third largest coffee producer in East Java after Malang City and Lumajang Regency. The largest coffee producer is managed by smallholders. To get optimal coffee production results, land suitability analysis is needed. To find out whether the land owned is suitable or not with the conditions for growing coffee. So we need a system to be able to analyze the suitability of land for coffee plants, one of which is to make a system of land suitability analysis for coffee plants.

This study aims to create a system to determine the suitability of the land to be planted with the provisions of coffee in accordance with the conditions for planting coffee plants. Expert system of land suitability analysis for coffee plants in Jember Regency was made using the Web-based Fuzzy Mamdani Logic method with 3 parameters namely air temperature, rainfall and height which resulted in an accuracy rate of 90%. The benefit gained after conducting this research is that the user gets information about coffee plants that are suitable for planting in accordance with the conditions of altitude, air temperature and rainfall in the region and can produce good production, especially in Jember Regency.

Keyword : *Expert System*, Land Suitability Analysis, Coffee Plants