An agricultural investment map based on geographic information system and multi-criteria method.

ABSTRACT

The study aimed to produce an investment classification map, which shows the potential areas of investment in agriculture in Sinnar, Sudan. The spatial multi-criteria analysis was used to rank and display potential locations, while the analytical hierarchy process method was used to compute the priority weights of each criterion. The study attempted to explore the utilization of Geographic Information System (GIS) to map the potential investment areas, therefore, it did not cover a comprehensive analysis of all factors that influence investment in agriculture. In addition, the analysis was limited to criteria that had spatial reference. The investment criteria for spatial analysis were defined from the guidelines provided by the Ministry of Investment, Sudan. Even with the shortcomings of the data, it was found that the results obtained were very encouraging and provided clear indicative areas for agricultural investment in Sinnar. Government agencies can use GIS to access information regarding the potential areas of investment, and minimize investment risks. On the other hand, the economic development organizations will now have the ability to benefit from the Geographic Information System (GIS) solutions by leveraging on this technology to attract and retain business from worldwide sources. Thus, the model will serve as a decision support tool for investors and decision makers at various levels.

Keyword: GIS; Multi-criteria; Spatial analysis; Agriculture; Investment.