

# Optimization of Group Decision Support System in Updated Pranata Mangsa System Using Fuzzy Multi Criteria Decision Making (FMCDM) Method

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## *Abstract*

*Farmers have used a natural phenomenon as an indicator of planting pattern arrangement in the form of local knowledge of pranata mangsa, however, the accuracy level of traditional prediction is frequently biased nowadays, hence requiring a model to assist agriculture department, agricultural extension workers and farmers in decision making of an effective planting pattern determination. In order to respond this matter, Fuzzy Multi Criteria Decision Making (FMCDM) and triangular fuzzy number methods with 19 sub-districts in Boyolali as land alternatives, 3 climate criteria and 3 decision makers would be applied. The alternative commodities consist of rice, corn and soybeans.*

*The result shows that rice is compatible in Banyudono, Mojosongo, Ngemplak and Boyolali with value of 0.3; while corn is compatible in Sambu, Teras, Sawit and Banyudono with value of 0.55; and soybean is compatible in Teras, Sawit and Sambidengan with value of 0.36. The advantage of this study is as an innovation of soft computing technology in agriculture and used as a decision making proponent.*

*Keywords : fuzzy multi criteria decision making, gdss, planting pattern, pranatamangsa*