ABSTRACT

AGUS FITRIADI. Evaluation of Regulations in Determining Suitable Areas for Chicken Farming Using Geographic Information System (Case Study in Singkawang West Kalimantan). Under the Supervision of NAHROWI and ADE KOMARA MULYANA

Singkawang, West Kalimantan, has the potential for developing chicken farming. Criteria for establishing chicken farming in Indonesia are regulated by a national regulation issued in 1982. The objective of this study was to evaluate the effectiveness of this regulation in determining suitable location for the development of broiler and layer farm in Singkawang. For comparison purposes, some process was carried out using similar regulation issued by the Australia Authority. Geographic Information System (GIS) equipped by spatial analysis with weighted overlay was used in the data processing. Pairwise comparison method was applied to obtain weight of each criterion based on expert judgment. The criteria used in this study were topography, environment, infrastructure, and social and poultry development plan. New formulation by combining criteria in the Indonesian and Australian regulation was introduced. The weight of theses criteria were adjusted accordingly by emphasizing some factor relevant namely water source, feed source and flood risk area. The amount of land area suitable for the layer and broiler farm development in Singkawang was wider when applying criteria from Australia regulation than criteria from Indonesia regulation (96.10% or 56, 624 ha versus 70.66% or 43, 104 ha). Equal weighting of the criteria produced wider suitable area. Suitable area for chicken farming was 43,359.96 ha or 71.5 % when applying new formulation. It is concluded that the Indonesia regulation has not been effective to apply in Singkawang. Combining and adjusting the criteria of both regulations in the new formulation produced satisfy results in determining the suitable area.

Keyword: chicken farming, gis processing, regulation, singkawang