STUDY OF LAND USE CHANGE IN 2013-2021 AND PADDY FIELD AVAILABILITY IN GODEAN SUB-DISTRICT D.I. YOGYAKARTA

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ABSTRACT

The increased population growth and development have caused massive land conversion activities to occur. Paddy field is the most vulnerable land to change in function. The reduction in agricultural land caused a decrease in rice productivity. This research was conducted to determine changes in the use of paddy fields to non-paddy fields land from 2013-2021 and forecast the availability of paddy fields area and rice production in 2024-2033 in Godean Sub-District, Sleman Regency. The research is descriptive in nature with a survey method. Spatial analysis was carried out by delineating satellite images using Geographic Information System (GIS) with ArcGIS 10.8 software. Prediction analysis of paddy fields availability was conducted using a simple linear regression method through forecasting analysis. Determination of point location was carried out purposively in the rice field area that experienced the largest land conversion and represented every land conversion that occurred. The land conversion mapping was conducted in the 2013-2021 period by taking imagery from Google Earth Pro software. The result of this study shows that in 2013-2021 period 232,09 ha of paddy fields have been converted into non-paddy fields. If preventive measures are not implemented, it is predicted that in 2033 there will be a deficit in the demand for paddy fields for rice production in Godean Sub-District.

Keywords: Conversion, Forecasting analysis, Mapping, Paddy fields, Prediction, Survey