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Identification of Candlenut Plant Distribution Based on Agroforestry Patterns in Maros Regency, South Sulawesi Province, Indonesia)

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Abstract

The combination of forestry components and agricultural components in one intensive management is known as Agroforestry which can benefit environmental sustainability and increase productivity with diverse harvests. Candlenut is an agroforestry plant that is a useful spice plant. Maros Regency has been a candlenut producing area in South Sulawesi since the 1960s. Candlenut plants in Maros district are spread over several subdistricts. The lack of information related to the area and distribution of candlenut plants in Maros Regency indicates many differences in data related to candlenut production, so information is needed to support the distribution and extent of candlenut plants. This study uses Image Interpretation with a manual visual delinease method on sentinel-2A images by observing similar features combined with the ground checkpoint method to obtain information accuracy in image interpretation of candlenut plants. Qualitative descriptive analysis methods are used to describe information on agroforestry components by direct observation of candlenut plant objects in the field. The results of the interpretation of Sentinel-2a images and direct observations showed three sub-districts, namely Cenrana, Camba, and Mallawa, as candlenut production centers in Maros Regency. The results showed that Mallawa Subdistrict had a larger candlenut area of 507.08 ha, with 18.10% of agroforestry patterns and 43.16% of monoculture from the candlenut area in 3 sub-districts. The candlenut land area of Camba District was 238.04 ha, with a percentage of 7.61% agroforestry pattern and 21.15% monoculture of the candlenut area in 3 sub-districts, then the candlenut land area in Cenrana District is 82.60 ha with an agroforestry pattern of 5.79% and monoculture 4, 19% of the candlenut area in 3 sub-districts.

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Agroforestry, Candlenut, GIS

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