

Spatial Analysis the Suitability Area for *Jatropha curcas* L. as an Alternative to Biodiesel in Central Kalimantan, Indonesia

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Abstract : Human depends on fossil fuels as the bigger sources of considerable energy in all sectors. Based on that cases, we are needed alternative energy to supplies needed for fuel, one of them by using energy fuel from the biodiesel. The raw materials that can be used for producing the biodiesel energy are *Jatropha curcas* L. In Indonesia, the availability of land for the development of the *Jatropha curcas* L which has very appropriate Indonesia reached 14.2 million hectares, with an area of suitable in Kalimantan around 10 million hectares. In Central Kalimantan, as one of the provinces of Kalimantan, has considerable potential planting *Jatropha curcas* L because of the physical condition and have a largest of the agricultural land. To support the potential of *Jatropha curcas* L in Central Kalimantan, spatial analysis is needed to find out the appropriate areas for *Jatropha curcas* L growing land. The suitability of region is influenced by several variables i.e., rainfall, the slope of the land, the surface temperature and the altitude of a region. The compliance of criteria are divided into four criteria: high suitable (S1), moderately suitable (S2), marginally suitable (S3), not suitable (N). The suitability of the region is based on these variables and made an overlay analysis of these variables by using Geographic Information System. Based on this overlay analysis will results a map of the suitability area for planting *Jatropha curcas* L, which is distribution criteria is high suitable (S1) of 213,245 ha, moderately suitable (S2) of 14,389,353 ha, marginally suitable (S3) 360,357 ha, not suitable (N) 0.020 ha.

Keywords : geographic information system, *Jatropha curcas* L., overlay, the suitable area

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