

**MULTITEMPORAL VEGETATION INDEX OF LANDSAT IMAGE ANALYSIS  
FOR PADDY FIELD (RICE CROP) QUICK MAPPING  
CASE STUDY TANGGAMUS, LAMPUNG**

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**ABSTRACT**

*Paddy field has unique characteristics that distinguish it from other land use. Before planting, rice field always flooded so the appearance of water in the image will be dominant. Along with the growth of rice field conditions will be increasingly dominated by greenish plants, while at the end of the growth of rice plants will turn yellow as an indication of rice ready for harvest. At the flooding time, the NDVI value will be negative, NDVI value lower at initial growth and will further increase over vegetative growth until the maximum vegetative. In the generative phase NDVI value will decrease until the harvest period and after harvest (bare land). NDVI value will be close to zero. The growth stage of rice plants can be grouped into four categories, namely water phase, the vegetative growth phase, generative growth phase and fallow phase (bare land). Based on the study of spectral characteristics at each phase of rice growth, we can map the growth pattern of plants using multitemporal satellite imagery for mapping of planting area, the age of rice and the pattern of spatial distribution during the planting season. Landsat data with 30 meters spatial resolution can be used for land resources mapping including paddy fields on a 1:100,000 scale level, while the temporal resolution is 16 days are suitable for land resources monitoring especially rice fields because it can observe the development / growth of rice in each planting season using multitemporal imagery.*

*Based on the description above, we analyzed the vegetation index value (NDVI) of multitemporal Landsat images from 2000 to 2009. The analysis showed that paddy fields have a difference value between maximum and minimum NDVI higher than a difference of maximum and minimum vegetation index value of other land uses. These differences can be used for mapping of paddy field areas. The results of the test with reference data showed that the mapping accuracy reaches 80 percent.*

Keywords: *multitemporal ndvi, maximum, minimum and mean vegetation index*