

# Land Use Change Identification Using SPOT 6 Imagery for Food Security Analysis of Denpasar City, Bali Province, Indonesia

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**Key words:** Access to land; Land management; Remote sensing; Spatial planning

## SUMMARY

Land use change or known as partially or totally land conversion of the original function to another function, is common in Indonesia, including Bali, especially land conversion from paddy field to another uses. This phenomena cause serious problems in the future so government awareness is needed immediately. Based on statistical data of Bali 2015, rice field area continued to decline every year, both irrigated rice field and rainfed. This condition can understand, because Bali Island, especially Denpasar city is one of the world tourist destination, so many reasons to change agricultural land into other functions such as residential, hotel and other uses. This paper will discuss about land use change and the impact on food security in Denpasar area. The research used topographic map 1: 25,000 based on data 2002 and SPOT satellite imagery 6 acquired 2015. By comparing the different data acquisition, it can be seen the changes of land cover in research area. The results of this analysis showed that the residential and built area in Denpasar increased amounted 1,736 hectares and the rice field area decreased amounted 1,695 hectares during 13 years, or the increasing rate of settlement area was 133.5 ha / year and declining rate of rice field area was 130 ha/year. There were declining of rice field area in Denpasar, but at the same time the population increasing rapidly, it is necessary to analysis its impact on food security in Denpasar area. This phenomena will be analyzed based on statistical data and refer to the existing spatial planning. The result of this research can be used as input for planning and formulating policy local as well as national in Indonesia.

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