**REMOTE SENSING TECHNOLOGY FOR FOOD SECURITY ASSESSMENT:**

**An Early Warning System Campaign Model**

Dewayany Sutrisno 1)

I.N.G Ustriyana 2)

1) Geospatial Information Agency, Jalan Raya Jakarta Bogor Km 46 Cibinong 16911, T/F: +6221 87906041, e-mail: [dewayany@gmail.com](mailto:dewayany@gmail.com)

2)Udayana University, Jalan Jendral Sudirman, Denpasar, e-mail: [komingbudi@gmail.com](mailto:komingbudi@gmail.com)

***Abstract***

Agriculture plays an important role in providing food security in developing countries, such as Indonesia. Therefore, the monitoring of product and yield production should be well managed by the best technology, such as remote sensing. Apart from its use to observe and map crop growth and crop losses, the remote sensing data can also be calibrated to make yield predictions up to the economic lost prediction. This can eventually help governments to make informed policy decisions to improve the equitable supply of rice, thereby reducing poverty through improved or diversified rice-based systems. For this need, a study using remote sensing technique was being employed to assess the land conversion of Bali’s agriculture land due to the booming of tourism destination and the population growth. A model of change detection of agricultural-field to predict its growing stage and *in situ* statistical data was being developed in this study to predict the economic impact of land conversion to the regional food security system. The result may indicate the economic lost of Bali’s natural resources caused by land conversion. Besides that, the model will become the tool for food security early warning system for Balinese due to the threatened of food shortage and optional policy wisdom for Balinese government, such as sustainable spatial planning and diversified rice-based systems.

***Keywords****: agriculture, food security, early warning*