**REMOTE SENSING BASED INFORMATION AND INSURANCE**

**FOR IRRIGATED RICE CROPS IN INDONESIA**

Wahyunto, Sri Retno Murdiyati, Rizatus Shofiyati, Wahyu Supriatna and Muhrizal Sarwani

Indonesian Center for Agricultural Land Resources Research and Development

Wahyunto2010@gmail.com

**ABSTRACT**

 The Remote sensing‐based Information and Insurance for irrigated rice crops implemented in Indonesia starting in the late of 2012, aims to reduce vulnerability of smallholders engaged in rice production through the use of remote sensing technology, particularly the use of high resolution synthetic aperture radar (SAR) data combined with optical satellite data. For running the programme, Indonesian Agency for Agriculture Research and Development (IAARD) cq Center for Agricultural Land Resources Research and Development (ICALRD) in collaboration with International Rice Research (IRRI) Philippine has conducted rice crops mapping and monitoring on rice crops growth performance. The goal of this project is to increase rice production in the long run by allowing better access to information about the actual growth status of rice crops and the forecasted yields; thus, leading to better land resources management by farmers. In line with this programme Directorate General of Infrastructure Ministry of Agriculture as a leading sector on running “Good management of rice cultivation”, (including support of the availability of input production) and rice crops insurance arrangement. Good management of rice cultivation will be able to save the cost of rice production, so it can indirectly increase the market value of rice. Production cost savings can be obtained primarily from the reduction of the use of seed and fertilizer through intensive cultivation. In addition to reducing the production cost, at the same time this pattern can also increase the productivity so that ultimately it can improve the welfare of farmers. Efficient use of irrigation water (up to 40%) can be used for the expansion of planting area, saving subsidized chemical fertilizers and pesticides. Thus, good management of rice cultivation model has the advantage on reducing the negative environment impact, efficient use of irrigation water, saving seeds."Remote sensing based Information for rice crop monitoring", including the following activities: (1) how to monitor the growth of rice crops using "satellite remote sensing" and how is the precision level on monitoring? (2) What parameters of rice crop growth are identifiable by remote sensing data analysis to find out spatial information on existing rice crops planting areas, and existing rice crop ready to be harvested (3) How to validate the ground truth? (4) Developing rice yield estimation model for rice crops to be harvested within a planting season. Furthermore ”nearly real time” on remote sensing based rice monitoring system could be used as an early warning system to detect indicating areas attacked by pest/desease, flood and drought phenomena. Likewise, the information generated from remote sensing technology will be used for crop insurance. Therefore, farming rice crops insurance are given to farmers who are willing to follow “good management of rice cultivation”. Rice crop insurance policy covers physical damage and/ or loss of the insured rice crop farming directly caused by flood, drought, plant pest and crop disease. First Trial rice crops farming insurance during planting season of October 2012 to March 2013 covered 623.12 ha of irrigated rice crop conducted at Banyuasin distirct South Sumatra and Gresik district East Java. This rice crop insurance was implemented in cooperation with the Indonesian Fertilizer Holding Company and PT Asuransi Jasindo.