

## Chapter 27

# Analyzing Farmers' Learning Process in Sustainable Development: The Case of Organic Paddy Farmers in North Sumatra, Indonesia

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### ABSTRACT

*Rice is the staple food grain for Indonesians. With the increasing population, Indonesia has tried to improve its rice production by using high yielding varieties (HYV) and more chemical fertilizers and pesticides. Initially the program was quite successful, but later production began to stagnate with subsequent environmental and health issues. As an alternative, Indonesia embarked on wide scale promotion of organic rice farming. However, success seems unlikely. One of the first barriers to successful implementation was that not many rice crop (paddy) farmers converted their farms to the organic system. In fact, this chapter relates that the early stages of farmers' learning process actually went smoothly but did not continue in the final stages. Lack of time, labor, and funds to cover extra activities of the first years of the conversion mainly explain the barriers for farmers to complete the learning process. The barriers need to be understood and addressed in order to improve the sustainable integration of organic rice farming into Indonesian cultural practices.*

DOI: 10.4018/978-1-4666-5856-1.ch027

*Figure 1. Location semi-organic rice and organic rice contiguous*



## ORGANIZATION BACKGROUND

Indonesia is the 3<sup>rd</sup> largest rice producer in the world. During the 1980s Indonesia was successfully self-sufficient in rice production. These results were achieved by utilizing HYV in conjunction with increasing quantities of chemical fertilizers and pesticides. Also almost all rice farmers adapted that rice production model. However, with a continued increase in population, the production cannot keep pace with the needs of the domestic rice consumption. In 2008-2012, Indonesia was recorded as the world's 7<sup>th</sup> largest rice importer—requiring on average over 1.1 million tons of imports per year.

Rice farmers in Indonesia are accounted for approximately 77% of all farmers in the country. One of the paddy production centers is Desa Lubuk Bayas. Farmer groups in this village can be seen as one of the more developed and received the best group award in 2003. The average farm size is very small at less than 1 hectare, with the majority of farmers cultivating landholdings

between 0.1-0.5 hectares in size (USDA, 2012). Most of these farmers are engaged in groups that were formed by the government. Each group has three administrators: the leader, the secretary and the treasurer. At first, the group division was based on the farmers' house location, but eventually they were divided based on their paddy field locations. Decisions and coordination are made through group discussions and include routine activities such as schedules and cropping patterns, pest and diseases crop prevention, and water conservation (Nuryanti and Swastika, 2011). In Lubuk Bayas, farmer groups conduct meetings at least twice a year for discussing the planting schedule. There are a number of villages that conduct meetings once every 2-3 months, even every week. Farmers know the importance of planting crops simultaneously, but this can be complicated when one "paving" contains both organic and conventional paddy (Figure 1).

Farmer groups are often used as means to disseminate new technology. In the 1970s and 1980s the farming intensification program that used

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