



Thesis Abstract

Sustainability of Semi Organic Rice Farming System In Sragen, Central Java, Indonesia

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Organic farming system including semi organic farming system (low external input) as one alternative for sustainable agriculture. That needs a transition (conversion) period to achieve pure organic farming; it was called semi organic farming. Semi organic rice farming in this research is the rice farming system using not only organic fertilizer but also chemical fertilizer with the lower dosage and without chemical pesticide.

This research in general aims to study the sustainability of the semi organic rice farming system compared to non organic rice farming system on irrigated low land (sawah) in Sragen District through (1) analyzing the farmers attitude toward the impact of chemical and organic fertilizer use and farmers behavior on fertilizing and pest control (socially aspect), (2) seeing the environment quality (as farmer assessment), seeing the correlation between semi organic rice farming system and the environment quality, and estimating the influence of semi organic farming to rice productivity (biophysics aspect), (3) calculating the financial and economic (social) benefit cost ratio including the environment factor (economic aspect).

Purposive sampling method was used in this study. The sample size is 188 semi organic and non organic farmers in Sambung Macan Sub District and Sambirejo Sub District in 3 crops season year 2003/2004. The samples of farmers in Sambung Macan Sub District are taken from Gringging Village with flat topography at about 85 meters above sea level (asl) and Sambirejo Sub District in Sukorejo Village with moderate slope high land topography at about 400 meters asl. The valuating of the environment benefit of semi organic rice farming was done by measuring the consumers willingness to pay (WTP) for semi organic rice (no pesticides rice) with contingent valuation method (CVM) by interviewing 35 rice consumers.

The result of this study shows that : (1) the proportion of semi organic rice farmers who acknowledge the negative impact for chemical input use and positive impact for organic fertilizer is greater than non organic rice farmers; and the proportion of semi organic rice farmers who have the behavior tend to be more sustainable are greater than non organic rice farmers; (2) the proportion of semi organic rice farmers having better environment quality of irrigated low land is greater than non organic rice farmers; there is positive correlation between the semi organic rice farming and the environment quality;

the semi organic farming increase rice productivity ; and (3) the semi organic rice farming has higher BCR (benefit cost ratio) and SBCR (social benefit cost ratio) than non organic rice farming system; the organic rice farming has SBCR higher than the BCR, it means that the society receives greater benefit than farmers, and the non organic rice farming system has BCR higher than the SBCR. However, the BCR and SBCR of both semi organic and non organic rice farming system are greater than one; it means both are economically viable or sustainable. Nevertheless, these indicate that semi organic rice farming is more sustainable than non organic rice farming system.

Key words: sustainability, semi organic rice farming system, non organic farming system.