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Does Farm Labour Organisation Affect the Adoption of Integrated Pest Management (IPM)?

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Abstract

Integrated Pest Management (IPM) is an important component of sustainable agriculture. Farmers who switch from a more capital-intensive pesticide-based pest management strategy to IPM have to substitute capital with labour. The adoption of IPM will therefore depend, among other things, on the opportunity costs of labour. Labour in agriculture is often divided between the owner-operator, his family members, and hired permanent or seasonal workers. Whether a certain task is carried out by the owner or somebody else depends mainly on differences in the opportunity costs and transaction costs of labour. Although the adoption of IPM has been studied frequently, the importance of labour organisation has been overlooked so far.

This paper is an attempt to examine an empirical evidence of a theoretical economic model of the effect of labour organisation on IPM adoption developed by Beckmann and Wesseler in 2003. We use cross section data collected from the participatory farming system survey of 150 durian growers in Chanthaburi, Thailand, between March – April 2005. Durian growers have been selected using stratified random sampling according to the number of labour organisation form commonly found in Chanthaburi province. In contrast to many studies of IPM adoption, this work uses the form of farm labour organisation as endogenous factor for identifying the rate of IPM adoption of durian growers. Instrumental variables method was employed to relate econometrically the opportunity cost and a set of suspected variables as instruments of labour organisation to the rate of IPM adoption of durian growers.

In this ongoing empirical research, we expected that, *ceteris paribus*, the rate of IPM adoption is lower in farms where the decision maker faces higher opportunity costs of labour (e.g. work off-farm).

Keywords: IPM adoption, labour organisation