



Tropentag, October 11-13, 2006, Bonn

“Prosperity and Poverty in a Globalised World—
Challenges for Agricultural Research”

Interactions of Shrimp and Rice Farming Systems in Southern Thailand: How Can We Internalise the Unidirectional Externalities?

SIRIRAT KIATPATHOMCHAI, MICHAEL. P SCHMITZ, T. S. AMJATH BABU

Justus-Liebig University Giessen, Institute of Agricultural Policy and Market Research, Germany

Abstract

Rice farming, a dominant economic as well as culturally important activity in Thailand is affected by the prevailing low prices of the rice grain in domestic and international markets as well as the raising cost of cultivation and opportunity costs. The current bleak scenario is exacerbated in southern Thailand especially in the Songkha Lake Basin due to prevailing low productivity of rice crop. Further deteriorating the situation, an increasing trend of myopic conversion of rice fields to shrimp farms for short term gains are gaining momentum especially from the late 1980s. Even though the initial gains were substantial for rice field turned shrimp farms, this is proved to be unsustainable. Here we are looking at the unidirectional externalities originating from the conversion which brings the productivity of rice fields further down. It can be observed that the fields in the coastal areas were converted initially but were extended to the inland making more area be saline which is essential for shrimp cultivation but deleterious for rice farming. The external effects originate from the saline effluences discharged to common irrigation canals which may 1) destroy the soil structure and 2) retard the growth of rice and hence 3) decrease the efficiency and productivity of farming. In the present study, a quantification of external effects on rice farming using the primary survey data supported by data from secondary sources is attempted. The fiscal and non-fiscal measures of internalising this externality is sought after but we would like to concentrate on non-fiscal solutions especially by allocating property rights to farmers. The importance of the work lies in the fact that rice farming which is proved to be a sustainable agricultural activity in southern Thailand may lose its existing area share to unsustainable farming systems if the market failures are not corrected as soon as possible and one has to consider the fact that the re-conversion of shrimp farms back to rice fields are prohibitively costly and hence the change is economically almost irreversible.

Keywords: Externality, Rice Farming, Shrimp Farming, Southern Thailand, sustainability