

Analysis of Organic Farming with a Case in Thailand and Vietnam Agriculture with Productivity Issues

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ABSTRACT

Recently, Organic agriculture entirely depends on organic inputs and can be practiced in a different farming system. Practices organic farming increases food security and food safety of the country and can create better environmental conditions by enhancing the quality of soil, underground water, and biodiversity. The production of organic rice, fruits, and vegetables to supply niche markets in Thailand is becoming increasingly, but for the large scale, organic farming is not widely adopted.

Keywords: Organic Farming, Farm Management Practices, SLM practices, Thailand; Vietnam

I. INTRODUCTION

Rice Department (2015) reported that “planting various types of rotation crops in paddy fields can help reducing weed problems and increase soil fertility when plowing them back into the soil (organic fertilizer) prior to the next crop plantation.” Most rotation crops being used include legumes, i.e., sesbania (*Sesbania rostrata*), sunn hemp (*Crotalaria*

juncea), sword bean (*Canavalia ensiformis*), cowpea (*Vigna unguiculata*), green gram, black gram, and soybean. Short rotation crops and low requirement in water, are interested due to their potential to grow in NE Thailand.

Sweet sorghum and field corn are suggested of rotation crops for NE Thailand. Thai farmers' current use of pesticides is highly inefficient. The inefficiency

has two aspects. First, the utilization of pesticides inflicts a number of adverse externalities on consumers and the environment, whose costs are not borne by farmers and thus not included in the market price. As recently assessed by Jungbluth (1996), the annual social costs associated with the use of pesticides in 1990 may have been as high as 5.5 billion baht, in which case the ratio of pesticide sales to externalities would have been almost one to one, implying that for every baht spent on pesticides society incurs costs of about one baht (Pincus et al. 1997).

Esp., Organic agriculture, synonymous with sustainable agriculture, has been promoted for many decades.

Hence we choose this topic: "ANALYSIS OF ORGANIC FARMING WITH A CASE IN Thailand and Vietnam agriculture with productivity issues".

II. PREVIOUS STUDIES

We look at below analysis:

Agriculture is the main occupation for many households in many countries of Southeast Asia including Thailand. Since the 1960s the agriculture of the country has shifted from subsistence farming to a cash crop farming according to policy development and the socio-economy of the country. This change has led to the conversion of forests to cultivated lands. As a result of this, soil lost fertility, soil erosion and degradation have been perceived as significant issues in arable areas across the country. Thus, these soil issue of crop fields has generally been recognized since many decades (Lorsirirat and Maita, 2006). Despite day by day declining of the role of the agriculture sector of the country, agriculture remains as an essential element of many farmers and of the country's economic and social development. More than half of the population is engaged in agriculture which not only provide food security but also it is an essential source of employment (Sukvibool, 2013).

The role of agriculture for sustaining the livelihood of people is decreased day by day since the income from farming activities is progressively decreasing, and people increasingly get income from non-farming sources (Rigg et al., 2016, 2018). People are becoming more and more independent on land and farming activities since they are engaging with the non-farm sector which can generate them income generally much more than agriculture (Formoso, 2016; Rigg et al., 2018; 2019). A significant change in the farm structure and farm management practices of social structure and of rural communities; younger family members migrate to urban industrial for working. Two major's livelihoods strategies have emerged which are (1) households who continue to do farming for a living and (2) those households who leave the agricultural sector for non-farm income. However, for those who left for non-farm agriculture, they maintain close ties for their rural family and always support help for farming investment (Godecke and Waibe, 2011). Non-farm employment has many effects on agricultural activities and practices of farmers. For example, farmers are farming with less intensity, less enthusiasm, less concern about land quantity and quality. Also, changing in technical efficiency, type of farming activities, the intensity of fertilizer use and use of the labor-saving method are an excellent example of the situation (Shirai, 2017). Thus, the low income of farming which does not match the increasing the price of land.

Generally, the interaction process needs to be facilitated to break barriers. "Innovation arises in a particular socio-economic context and is shaped by the presence or absence of favorable conditions in which it can thrive; therefore, understanding this context is important to facilitate innovation" (GFRAS, 2018).

III. METHODOLOGY

Authors mainly use statistic analysis combined with qualitative analysis (synthesis and inductive methods).

IV. MAIN FINDINGS

4.1 Organic farming practices with a case in Thailand

Organic farming

Organic agriculture, synonymous with sustainable agriculture, has been promoted for many decades. The organic farm generates a lot of benefits on environmental, social and economic.

Organic agriculture entirely depends on organic inputs and can be practiced in a different farming system. Practices organic farming increases food security and food safety of the country and can create better environmental conditions by enhancing the quality of soil, underground water, and biodiversity. The production of organic rice, fruits, and vegetables to supply niche markets in Thailand is becoming increasingly, but for the large scale, organic farming is not widely adopted.

Since the 8th National Economic and Social Development Plan period (1997–2001), Thailand has adopted an organic agriculture policy as a reason for this practice is given benefit for the environment and economic. “This policy gained prominence in 2005 when the government put forward a five-year (2005–2009) organic agriculture promotion program”. One of the important objectives of the policy was to achieve the target of 13.6 million hectares of organic areas by converting conventional farming areas. Due to this, several organic inputs including mainly biofertilizers and bio-pesticides have been promoted. Besides that, the “Department of Agriculture (DOA) particularly offers certification services for organic products through its provincial line agencies.”

Organic agriculture can provide better income than conventional agriculture if farmers have organic certificated which is required in the specific market as the products quality guarantee and to be sold at a reasonable price. The high price of non-chemical products is the primary incentive of farmers through the practice while the complicated of organic farming farm process for getting certificate are the main barriers for adopting the practices. However, the

results of the efforts in promoting organic agriculture in Thailand had not been called successful. Since the adoption rate is lower than expected. These are the reasons why many studies have focused on the reason for organic farming adoption. Moreover, the Thai government lance the new policy of organic farming subsidies in order to increase the adoption rate

4.2 Organic farming practices with a case in Vietnam

According to Bui Thi Thu Trang (2022), Organic agricultural production, improving the quality of agricultural products to ensure food hygiene and safety and environmental friendliness are future goals. In the coming time, organic agriculture needs to exploit all available natural factors of the production area: available soil fertility; Use local genetic resources and plant varieties to promote the adaptability, suitability and stability of sustainable agriculture; Reasonable exploitation of water sources, planting seasons and organic fertilizer sources.

In addition, organic agriculture needs to minimize the use of chemicals that are toxic to plants and the living environment such as chemical fertilizers, pesticides, herbicides, growth and weight gain stimulants, chemicals used for preservation to create organic agricultural products with quality similar to natural products, safe for human health, and delicious in taste.

In addition, there needs to be a training program to educate people about organic vegetable farming techniques and applications to create conditions to help farmers absorb advanced technology and mechanization in agricultural production. . At the same time, it is necessary to strengthen market control and form a linked system to consume clean and safe products. Not only that, there needs to be specific mechanisms and policies to encourage the development of organic agricultural production. Agricultural extension stations and functional units need to continue to support more in building organic

farming demonstration models to increase reliability and spread in society.

V. DISCUSSION AND CONCLUSION

Integrated farming suggestions

Integrated farming generates several benefits on the sustainability concept including mainly food security and poverty alleviation. With limited access to irrigation of several farms in the country especially smallholding, practice integrated farming is recommended for increasing the number of farm activities while reducing production risk. This practice is also making use of waste from one type of production in another type and implies at least two kinds of agricultural production are operating simultaneously and complementing each other in one way or another.

This can help farmers to reduce production costs. In economic terms, “the integration of complementary farm activities is considered an economy of scope, because of cost sharing and recycling of farm inputs.” There are various types of successfully integrated farming systems, for an instant, fish-rice production and pig-fish-vegetable production. The resources needed for the integrated farming system are found throughout Thailand but are especially suitable in the Central region.

New Theory farming is the application of integrated farming systems to poor farmers on small land holdings with scarce water resources, as in the NE region. This farm system was initiated by His Majesty King Rama 9 of Thailand. The main objectives of the practices are to bring food security and self-sufficiency to poor farmers. The highlight of the theory is effective allocation of land to serve the different needs of farm households by dividing farm area as the proportion of 30:30:30:10, including paddy fields for rice, a farm pond for water and fish, and cash crops and trees for farm income, plus a

residential area respectively. The proportion of farmland divided can be flexible according to local resources. This practice is expected to provide food security and improving farmer’s quality of life at a farm level. It is also considered an important step under the royal philosophy of “self-sufficiency economy.”



(source: Phastraporn Salaisook , Thesis 2019)

Fig 1 - Thailand agriculture - harvest season



(source: Phastraporn Salaisook , Thesis 2019)

Fig 2 - Farmer activities

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