

# Characteristic of Farm Structures, Farmer Activities and the role of farming With a Case in Thailand and Vietnam

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## ABSTRACT

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The result section mentioned many factors affecting farmers willing to adopt SLM practices. There are mix of (1) physical (land, water, climate), (2) social (culture, family, labor, trend, etc.), (3) economic (cost and benefit of SLM) and (4) extension systems. All these reasons have not the same weight for each SLM practices. Moreover, Our result confirms these studies above and in line with the study of Mariano et al. (2012), that positive factors influencing farmers' adoption of modern rice technologies and good management practices, and profit-oriented behavior while soil and nutrient deficiencies are impediments to their adoption. Extension-related variables have the biggest impact on technology adoption.

Keywords : Farmers, Farming Structure, Farm Management Practices, SLM Practices, Thailand, Vietnam

## I. INTRODUCTION

Our finding is in line with the study of Stuart et al. (2018), the major's key challenges faced by rice farmers are labor shortage, increased input cost, reduced availability of water, and a degrading environment. In Southern of Thailand, determinants of adoption of crop diversification by smallholder rubber producers were depended on the quantity of water, attendance at agricultural training, price fluctuations, savings, and schooling period.

(Longpichai, 2013). Moreover, Kersting and Wollni (2012) found that farmers are more likely to adopt if they are better educated and more experienced, and if they have access to female family labor, improved farming technology, and information and extension services support by organization and institution are vital to enable small-scale farmers to adopt the standard.

Our result confirms these studies above and in line with the study of Mariano et al. (2012), that positive

factors influencing farmers' adoption of modern rice technologies and good management practices in the Philippines are education, machinery ownership, irrigation water supply, capacity-enhancement activities, and profit-oriented behavior while soil and nutrient deficiencies are impediments to their adoption. Extension-related variables have the biggest impact on technology adoption.

Hence we choose this topic: "Characteristic of farm structures, FARMER ACTIVITIES and the role of farming WITH A CASE IN Thailand and Vietnam".

## II. PREVIOUS STUDIES

We look at below analysis:

Srisopaporn et al. (2015), stressed that household labor constraints, land ownership, and market opportunities of productivity are highly influencing on the adoption of good innovation practices. The study of Boulay et al. (2012) confirms that the perception of land tenure security with suitable land available matters in the adoption of tree planting. Likewise, land tenure security has positive effects on manure use. In addition, manure use is also influenced by the number of cattle and pigs, the education level and ethnicity of household heads, farmland size and non-farm income (Nguyen et al., 2016).

Pornpratansombat et al. (2011) highlight the access of water resource, farm-gate price and attitude to conventional production problems as the critical positive significant factors on the decision of adoption of organic farming. This implies that the organic adopter may have better access to water, the ability to seek and find higher prices, and have stronger attitudes toward conventional farming problems. While Chouichom and Yamao (2010), compared opinions and attitudes of organic and non-organic farmers towards organic rice farming system in northeastern Thailand and found that educational level, farm holding, and extension worker contact affected opinions and attitudes of organic farmers

interviewees. Among non-organic farmers interviewees, their farming experiences affected their attitude towards organic farming.

The findings of Thapa and Rattanasuteerakul (2011), indicated that the extent of adoption of organic vegetable farming, in Mahasarakham province of Thailand, depends on several factors including women's leading role, motivation by GOs and NGOs, motivation by community members and farmers' groups, training participation, the satisfaction of the price. Moreover, this study stressed that many farmers would surely be interested in practice only if the required amount of organic fertilizer is accessible and that the available bio-pesticides can effectively control pests. Many farmers were not able to grow organic vegetables due to the shortage of farmyard manure and compost, and the ineffectiveness of bio-pesticides in controlling pests.

## III. METHODOLOGY

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

## IV. MAIN FINDINGS

### 4.1 Farming with a case in Thailand

Farming has been influenced on NE farmers' livelihoods for many decades. Farmers keep the agriculture land for transferring it to their children from generation to generation. Farming becomes not only culture and norm of the community but also wealth and a part of their life. Even though the farming society in NE has been changed by many economic, social and environmental factors, NE farmers keep doing farming and conserve their parents' occupation and agricultural land. Farmers keep doing farming event though they are getting old and have no labors. Agriculture is a social safety net in the NE region, in terms of food security and as a source of employment. Our finding confirmed the

study of Rigg et al. (2019) that average age of farmers is continually increasing and farmers continuing to do farming for a mix of reasons from security and quality of life to historical inertia and the sheer shame of not cultivating their land. First, in term of security, selling land is like “cutting off hands and feet.” Second, quality of life, rice farming is their own business and more comfortable than a routine job because of no boss and freedom. Third, historical inertia, their ancestor is farmers. Thus they must continue doing farming. Finally, shame village gossips, if farmers not farm, they would watch and criticize why they left their land unfarmed. Even though they aware that buying rice from the market might have been cheaper and easier, they still keep doing farming. Farmers, on average, are getting older while the young generation is leaving rural areas and farming activities. Moreover, land holdings of farmers are mostly too small for sustaining a livelihood and land is often not used to its full productive potential (Rigg et al.; 2016; 2018; 2019). These are similar to our findings that the young generation does not interested in adopting farming as a career; farming becomes an occupation for mostly the old people. This lead to the low adoption rate of innovation. Generally, younger farmers are more productive than elderly farmers since they are more likely to embrace modern technology and more yearly of education, undermining the sustainability of the farm sector. In the other hand, agriculture with aging-in-place is preventing the emergence of larger, more efficient and productive farms by inhibiting the entry of younger farmers into the sector and thereby stymieing generational renewal in agriculture (Rigg et al., 2019; cited from Hamilton, Bosworth, and Ruto 2015; and Zagata and Sutherland 2015). However, our finding showed the significant positive of farming experience in adopting SLMs. The finding in term of farmers with off-farm income and of young generation leaving the agricultural sector, some of these farmers are land owners who reside away from their rural property (absentee owners). This trend is rising worldwide according to the study of Petrzelka

and Armstrong (2015). In addition, absentee can include retired farmers and ranchers, farmers who inherit land but live elsewhere, and those who buy land for recreational or investment purposes. Absentee landholders usually are not interested in good practices of land management compared with resident owners (Petrzelka et al., 2013; Petrzelka and Armstrong, 2015; Sorice et al., 2018) Moreover, our study showed that some farmers adapt and adjust the way they farm in orders to save time and labor by skipping some farm process (such as rice transplantation and soil quality improvement after plantation), by using the machine as much as possible, and by hiring labors to farm for them. We found three mains characteristic of farm structure presenting in the study areas and trendy in farm management practices in the region including 1) Poo Jad Kan, 2) mix family labors with hire labors, and 3) not hire labors. These farm structures and management practices influence on adoption of SLM practices of farmers especially Poo Jad Kan which is becoming the popular trend of the region as a result of average age of farmers increasing, farmers get opportunity in second job income and want to save time in farming combine with lacking of farm labors, and lacking of young generation adopting agriculture as a life project. The young generation is leaving the agricultural sector; this leads to less interest in investing in farm activities including SLM.

#### 4.2 Farming practices with a case in Vietnam

Vietnam has advantages in agricultural development. Our Party and State are always interested and have many guidelines and policies to promote agricultural and rural development. Implement and institutionalize Resolution No. 26-NQ/TW, dated August 5, 2008, of the 7th Plenum of the 10th Central Committee, "On agriculture, farmers, and rural areas" and Resolution No. 19-NQ/ Central, June 16, 2022, of the 5th Central Conference, term XIII, "On agriculture, farmers, and rural areas to 2030, vision to 2045", the Government issued and directed ministries,

Sectors and localities synchronously implement programs, projects, mechanisms and policies, with the focus and highlights being the National Target Program on building new rural areas and the Project on restructuring the agricultural sector. agriculture towards increasing added value and sustainable development and the Sustainable Agriculture and Rural Development Strategy. The rural economy develops in the direction of increasing added value, integrating multi-value, developing industry and rural services; Rural infrastructure has been strengthened; The material and spiritual lives of rural people are increasingly improved... Thereby, contributing greatly to macroeconomic stability, political and social stability, ensuring people's welfare and well-being. and develop the country. Specifically:

Agriculture has grown rapidly and stably over a long period of time, diversifying and restructuring in a positive, modern direction, moving strongly in the direction of promoting advantages, producing goods at a scale appropriate to demand. markets and adaptation to climate change; Food safety is respected and guaranteed. Productivity, quality, and added value of many agricultural products have been improved, are competitive and are gradually dominating domestic and world markets. Agricultural, forestry and fishery exports increased rapidly, continuing to play an important role in promoting the development of commodity agriculture, creating an important source of foreign exchange revenue, and contributing to reducing the trade deficit for the whole country. The industry's GDP growth rate in the period 2011 - 2020 reached 2.93%/year; Of which, in 2021 it will reach 3.27% and in 2022 it will reach 3.36%, and in the first 6 months of 2023 it will reach 3.07%. Total export turnover in the period 2011 - 2020 reached 341.7 billion USD, an average of 34.17 billion USD/year, growing 5.38%/year. In 2022 alone, agricultural exports will achieve a record high result of 53.53 billion USD, an increase of 9.9% compared to 2021, with 12 product groups achieving export turnover of

over 1 billion USD. Even when the economy faces difficulties and challenges due to the impact of cross-border epidemics (such as the COVID-19 epidemic) or geo-political conflicts and military conflicts between countries, agriculture continues to affirm its determines its role as a "pillar" of the economy, through firmly ensuring national food security, creating livelihoods, jobs and stable income for rural people.

New rural construction has met the aspirations of rural people, becoming a strong movement, spreading throughout the country, increasingly attracting the participation of social communities; The achievements of the National Target Program to build new rural areas are considered great, comprehensive and historic, achieving a breakthrough that changes the face of Vietnam's rural areas. The rural economic structure is shifting towards modernity, strongly developing industry and services in rural areas. The agricultural and rural infrastructure system is invested in upgrading and gradually modernizing, serving better and better for production, people's lives, preventing and combating natural disasters, and adapting to climate change. Queen. Accumulated until the end of August 2023, the whole country has 6,031/8,167 communes (accounting for 73.85%) meeting new rural standards; There are 1,521 communes meeting advanced new rural standards; 225 communes meet model new rural standards; The national average reaches 16.9 criteria/commune; There are 264 district-level units in 58 provinces and cities completing tasks/meeting new rural standards (reaching 41% of districts nationwide). The whole country has 20 provinces and cities with 100% of communes meeting new rural standards; recognized 10,322 OCOP products with 3 stars or higher with 5,361 participating entities.

Farmers better promote their role as subjects according to the motto "people know, people discuss, people check". Develop production models, support

the poor and poor localities to promote structural transformation of crops and livestock; Transfer science and technology, apply new technology to production. The average income per capita in rural areas in 2022 will reach 47.2 million VND, an increase of 1.12 times compared to 2020 and 5.13 times compared to 2008. The income gap between urban and rural areas narrowed from 2.1 times (in 2008) and less than 1.8 times (in 2017). The rate of poor households in rural areas decreased rapidly, on average by 1 - 1.5%/year, reaching the target 10 years before implementing the Millennium Goals on hunger eradication and poverty reduction. The material and spiritual life of rural residents has been improved; Social welfare and farmers' lives are improved. (source: tapchiconsan.org.vn)

## V. DISCUSSION AND CONCLUSION

Factors affecting farmers' willingness to adopt SLM practices

The result section mentioned many factors affecting farmers willing to adopt SLM practices.

There are mix of (1) physical (land, water, climate), (2) social (culture, family, labor, trend, etc.), (3) economic (cost and benefit of SLM) and (4) extension systems. All these reasons have not the same weight for each SLM practices. These influence more or less on a different level of adoption of each practice. Our finding is in line with the study of Nguyen et al. (2017), that various factors including the livelihood platforms, weather shock experience and expectation, and physical-economic conditions of the living localities, and weather shock-coping strategy of households, determined farmers' land use decision-making while Wossen et al. (2013), stressed that social network size plays a significant role in enhancing the adoption of natural resource management practices.

Our finding confirmed the finding of Srisopaporn et al. (2015) and Boulay et al. (2012) that household labor constraints, land ownership, suitable land available, and market

opportunities of productivity are highly influencing on the adoption of good innovation practices. Likewise, the study of Nguyen et al., (2016) that highlight number of cattle and pigs on manure application, Kabir & Rainis (2015); vegetable cultivation area, age, household size, land ownership status and perception toward practices significantly influenced the adoption variation. Adoption innovation has a strong link with the education, ethnicity of household heads, farmland size and non-farm income (Nguyen et al., 2016; Chouichom and Yamao, 2010). Pornpratansombat et al., (2011) highlight the adoption innovation is better if adopters access to water, have the ability to seek and find higher prices and have stronger attitudes toward conventional farming problems. The findings of Thapa and Rattanasuteerakul (2011) that the extent of adoption of organic vegetable farming depends on women's leading role, motivation by GOs, NGOs, community members, and farmers' groups, training participation, Moreover, this study stressed that shortage of farmyard manure and compost, and the ineffectiveness of innovation which were in line with our finding that the access of raw materials and efficiency of practices are important influencers in SLMs adoption.

However, our result showed different result from the studies mentioned above that in gender effect on SLM practices that men are more interesting to adopt innovation than women. Also, farm size is non-significant on SLM adoption.

Our results confirmed that, if farmers see the benefit of SLM adoption in term of reducing the cost of input, increase crop yield, and bring them a reasonable price, farmers tend to adopt the practices. However, the adoption depends on the farm structure, farm management practices and perception/ knowledge/ understanding of head of household or households' members of the family who are taking care of farm activity. For all practices, the Tobit result showed that education, experience, the number of plot land, vegetable producing, farm pond, livestock

and having a future farming plan are positive increased percentage of SLM adoption while Poo Jad Kan is mainly negative significant factor decrease adoption percentage of SLM. Since there are only few studies related to SLM in the country, our finding is important for policymakers in order to increase the SLM adoption rate of the country.



(source: Phastraporn Salaisook , Thesis 2019)  
Fig 1 - Thailand agriculture - harvest season

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