

Current Changes in the Role of Agriculture and Agri-Farming Structures in Thailand and Vietnam with SLM practices

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Abstract— *The objective of this study is to present Current Changes in the Role of Agriculture and Agri-Farming Structures in Thailand and Vietnam with SLM practices. Farmer's adoption and investment in SLM is a key for controlling land degradation, enhancing the well-being of society, and ensuring the optimal use of land resources for the benefit of present and future generations (World Bank, 2006; FAO, 2018). And agriculture remains an essential element of lives of many farmers in term of the strong cultural and symbolic values that attach current working generation to do and to spend time for it but not intern of income generating.*

Keywords— *Agri-farming structure, Farm management practices, SLM practices; Thailand*

I. INTRODUCTION

First, According to data from the General Statistics Office, in the past 20 years (2000-2020), Vietnam's agricultural sector has had a structural shift from agriculture to forestry and fisheries in the direction of gradually reducing the proportion of agriculture, Gradually increase the proportion of forestry and fisheries.

Next, in case of Thailand, Identifying the determinants of SLM practices adoption is a step towards addressing them.

However, there are only few studies conducted in searching for factor influencing and

limiting the adoption of SLM practices by Thai farmers. Moreover, standard information of factors that influence the adoption of SLM practices by farmers is crucial contributed to improving farming policy related to the sustainable development of the country. Since there have been limited studies on the lack of implementation and assessment of the efficient of Agricultural Innovation Systems (AIS), it is not clear about what farm structure and farm management practices that engage farmers to adopt SLM practices. Therefore, the investigation on the factors that influence farmer's willing to implement certain SLM practices is needed to be done.

Hence we choose this topic:

“Current Changes in the Role of Agriculture and Farm Structures in Thailand and Vietnam”.

II. PREVIOUS STUDIES

SLM practices have been promoted mainly by the departments under the Ministry of Agriculture and Cooperative (MOAC) for helping farmer to manage their land sustainably.

(Sukvibool, 2013, Limtong 2012). Various types of sustainable practices (green manuring, crop rotation, integrated farming, organic farming, compost, bio-fertilizer producing, etc.) are promoted in every province over the country in order to provide farmers with knowledge of soil quality and crop yield improvement, water management through integrated model of land management (MOAC, Office of Agricultural Economics, 2017).

The country has set up soil and water conservation stations and units in every part, especially in the NE part. Even though some farmers believed in the benefits and accepted to implement a number of soil and water conservation measures in their farmland, many obstacles have been prevented the accomplishment of the objectives of these policies. Several constraints of adoption may be due to (i) the lack of standard of data and information for appropriate establishment soil and water conservation measures for the specific area, (ii) lack of contact and communication between the staff and farmers because limited number of extension workers with the responsibility and working schedule standard do not allow for sufficient communication and information, (iii) top-down approach which is usually one direction and inappropriate project to farmers, and (iv) farmers are not interesting to adopt of soil and water conservation (Budhaka and Srikajorn, 2001).

III. METHODOLOGY

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

IV. MAIN FINDINGS

4.1 Current Changes in the Role of Agriculture and Farm Structures in Thailand

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 Waibel, 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.

However, agriculture remains an essential element of lives of many farmers in term of the strong cultural and symbolic values that attach current working generation

to do and to spend time for it but not intern of income generating. In other words, farmers keep their land to secure their subsistence and because they have inherited it from their ancestors and they want to pass it to their children. Understanding the persistence of smallholders in the face of social and economic transformation is crucial for future development direction (Rigg et al., 2018; 2019). Biophysical, economic, and institutional aspects of land such as land tenure security systems, land quality, and land fragmentation have a significant impact on the use of land (Teshome et al., 2016).

To enhance and ensure food security, and improve the standard of living of smallholder farmers, SLM practices/technologies adoption are required, but adoption rate remains very low with no clear and understanding of the issues of lack of implementation SLM of farmers (Saguye, 2017) In Thailand, an increasingly significant proportion of the elderly population is obviously seen in rural areas where the majority of people practices agriculture for a living.

According to the National Statistical Office (2017), the proportion of older adults in the rural space was up to approximately 59% while in urban areas was approximately 41% in the year 2016 As many people know, most of the rural population engage mainly in the agricultural activity, the rapid rise in the proportion of elderly people has changed significantly on the agriculture sector by changing farm structure and farm management practices of the country. Due to the lack of farm labor, most of the farmers are aging, and this brings about the interest less for farming. Old farmers are adopting less technology on the farming process since they are lack of power and education than the young (Rigg et al., 2018; 2019). The rapidly rose of farm labor of aged 60 years and over from approximately 4.33 % to 18.82 % from the year 1986 to 2016 has led to significant changing in the agricultural sector of the country

The majority of the farm in Thailand is owned and operated by family members and traditional farm inherited from one generation to the next with the "small-scale" as the main characteristic of Thai agriculture. More than 30% of the country's population is engaging in the farm sector.

However, the statistic reaffirmed by the fact that the agricultural GDP of the country was only 12%. Statistically report that arable land of the country is only

23.9 million hectares which divided in 68% and 23% for field crops and perennial trees respectively, and most of the farmland have the limitation of irrigation. The state currently. The average size of farmland per household is about 4 hectares with about four members per household. There is approximately 16.2 million agricultural labor, and in one family, the level of cash income is as low as 0.24 million Baht per year with about 60% come from farm income. (MOAC, Office of Agricultural Economics, 2017).

4.2 Current changes in Vietnam agriculture

The overall goal of the Strategy is to build commodity-producing agriculture and develop agriculture based on local advantages in a modern direction with productivity, quality, efficiency, sustainability and high competitiveness. Belonging to the leading group in the region and the world, firmly ensuring national food security, making an important contribution to socio-economic stability, preventing and combating natural disasters and epidemics, and protecting the environment. , respond to climate change, effectively implement international commitments on reducing greenhouse gas emissions; Improve income, quality of life, role and position of people participating in agricultural production; create non-agricultural jobs to develop diverse livelihoods, reduce poverty sustainably for rural people, and ensure equitable development opportunities among regions and regions; Comprehensive and modern rural development associated with the urbanization process, with synchronous infrastructure and social services and close proximity to urban areas; Preserve and promote national cultural identity; building green, clean, beautiful rural areas, ensuring security and order; Developing agriculture and rural economy associated with building new rural areas in the direction of highly effective ecological agriculture, modern rural areas and civilized farmers.

The specific goal is that by 2030, the average growth rate of agricultural, forestry and fishery GDP will be 2.5 - 3%/year, and the average growth rate of agricultural, forestry and fishery labor productivity will be 5.5 - 6% per year. %/year; Expand and develop markets, especially export markets. The growth rate of agricultural, forestry and fishery export value reaches an average of 5 - 6%/year.

Increase people's income, reduce poverty sustainably. The income of rural residents is 2.5 - 3 times higher than

in 2020. The rate of multidimensional poor households in rural areas decreased by an average of 1 - 1.5%/year. The proportion of agricultural labor in total social labor decreased to less than 20%, the proportion of trained agricultural labor reached over 70%.

Develop green, environmentally friendly agriculture. The whole country has at least 90% of communes meeting new rural standards, of which 50% of communes meet advanced new rural standards; Developing green, environmentally friendly agriculture, adapting to climate change, reducing rural environmental pollution, striving to reduce greenhouse gas emissions by 10% compared to 2020.

(source: dangcongsan.vn)

Reality has proven that the agricultural sector always plays a role as a pedestal for the economy, a foundation for stabilizing social life in difficult times. Along with economic development, within the agriculture, forestry and fisheries sector there has been a structural shift from agriculture to forestry and fisheries and an internal shift in agricultural production activities according to direction to increase productivity and quality and reduce quantity. This is an inevitable reality, ensuring the adaptation and integration of the economy, and it is from that structural shift that has helped the Agriculture sector develop more and more, and is the driving force for the development of the entire economic sector.

According to data from the General Statistics Office, in the past 20 years (2000-2020), Vietnam's agricultural sector has had a structural shift from agriculture to forestry and fisheries in the direction of gradually reducing the proportion of agriculture, Gradually increase the proportion of forestry and fisheries. If in 2000, agriculture accounted for 80.79% of the added value of the agriculture, forestry and fisheries sector, aquaculture accounted for 13.76%, forestry accounted for only 5.45%, then in 2010, agriculture accounted for 78.27%, down 2.52 percentage points compared to 2000; Forestry accounted for 3.55%, down 1.9 percentage points; seafood accounted for 18.18%, an increase of 4.42 percentage points. By 2020, agriculture accounts for 72.84%, down 5.43 percentage points compared to 2010 and down 7.95 percentage points compared to 2000; Forestry accounted for 4.82%, an increase of 1.27 percentage points and a decrease of 0.63 percentage points; seafood accounted for 22.34%, an increase of

4.16 percentage points and an increase of 8.59 percentage points.

It can be said that in the past period, the Agriculture sector has continued to focus on removing bottlenecks and bottlenecks to promote development and restructuring of the Industry. Strongly promote the restructuring of industries and fields, closely associated with the application of scientific and technical advances to create clear changes in productivity, quality and efficiency, competitiveness, and promote growth and sustainable development. The industry converts crops, livestock, and aquatic products to suit the direction of modern, commodity production, on the basis of promoting the advantages of each region, adapting to climate change and market needs on the basis of ensuring solid national food security in all situations.

Cultivation is a key sector of the agricultural industry. The production value of farming accounts for 64-68% of the production value of the entire industry. Currently, the entire Agriculture sector is implementing agricultural restructuring, diversifying products, improving the value of exported agricultural products and transferring advanced technology, plant varieties and animal breeds with high productivity and quality. High quality meets international standards, the crop sector focuses on converting crop structure towards improving quality and efficiency.

(source: consosukien.vn)

V. CONCLUSION

A. Conclusion

Agriculture remains an essential element of lives of many farmers in term of the strong cultural and symbolic values.

Agriculture sector is implementing agricultural restructuring, diversifying products, improving the value of exported agricultural products and transferring advanced technology, plant varieties and animal breeds with high productivity and quality.

B. Recommendations

First, Interest and intention for farming of farmers are the key factors of adoption SLM practices.

Additionally, For all enterprises, including farming, generating and applying new knowledge is essential.

However, the adoption of new knowledge for enhancing productivity, increasing competitiveness, and sustainability in farming is usually lower than expected. “Innovation System” concept helps to build and understanding how the process of agricultural innovation takes place and how its relevance and what quality and capacity can be enhanced and developed.

Agricultural Innovation System (AIS) can be defined as “a network of organizations,

enterprises, and individuals focused on bringing new products, new processes, and new forms of organizations into social and economic use, together with the institutions and policies that affect their innovative behavior and performance”(GFRAS, 2018).



Fig 1 - Thailand agri soil



Fig 2 - Thailand agriculture sector restructuring
(source: Phastraporn Salaisook , Thesis 2019)

World Bank 2006 defines AIS as “ a system that brings together actors from the public, private and civil sector to bring new products, processes and organizational forms into economic use, along with institutions and

policies that affect how actors interaction and how knowledge is used and exchanged.”

This system explains the way that different actors interact to share, access, and exchange knowledge as the demand and supply knowledge exchange of individuals and organization, as well as the policies and mechanisms.

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