

## Cultural Influences on the Adoption of Organic Farming Practices in Thailand

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### Abstract

This paper explores the cultural influences on the adoption of organic farming practices in Thailand, highlighting the interplay between traditional agricultural methods, community dynamics, and economic considerations. Despite the government's commitment to promoting organic agriculture through various initiatives, the transition from conventional to organic farming remains slow due to cultural resistance and a lack of clear policy direction. The study examines the significance of social networks, cultural beliefs, and generational differences in shaping farmers' attitudes toward organic practices. It emphasizes the need for a comprehensive policy framework that includes financial incentives, training programs, and improved certification processes to facilitate the adoption of organic farming. Additionally, the paper advocates for increased public awareness campaigns to educate consumers about the benefits of organic products, thereby enhancing market demand. By addressing cultural barriers and leveraging positive cultural values, the Thai government can foster a more conducive environment for the growth of organic agriculture, contributing to sustainable development and food security in the country.

**Keywords:** Organic Agriculture; Cultural Influences; Agricultural Practices; Sustainable Development; Farmer Education

### Introduction

World organic agriculture situation, since the 1990s, organic food and products have grown rapidly. Global organic farming revenues were estimated at US\$63 trillion in 2012. Organic farming from 2001 to 2011 increased by approximately 8.9 percent each year. Land use estimates for organic farming are 91,000,000 acres globally, or 37,000,000 hectares, equating to 0.9 percent of global farmland. That's a small proportion. In 2019, organic agriculture was practiced in 187 countries, and 72.3 million hectares of agricultural land were managed organically by at least 3.1 million farmers. Currently, 1.5 percent of the world's agricultural land is organic. The highest organic shares of the total agricultural land, by region, are in Oceania (9.6 percent) and Europe (3.3 percent; European Union 8.1 percent) The global sales of organic food and drink reached more than 106 billion euros. (FiBL & IFOAM,2021).

As of 2016, the 10 countries with the most organic farming areas were Australia, Argentina, China, USA, Spain, Italy, Uruguay, France, India and Germany. Thailand ranks 58th in the world with 57,198 hectares of land for organic farming (Helga Willer and Julia Lernoud (Eds.) 2018). In 2019, organic agricultural land increased in Africa, Europe, Latin America, and Northern America. The agricultural area decreased in Asia. (FiBL & IFOAM,2021) The world of organic agriculture shows the potential organic farming has to contribute to a sustainable future.

However, Thailand is a major exporter of food so some readers would find that point worthy. Thailand is the 8th largest area of organic farming in Asia and the 4<sup>th</sup> largest in ASEAN, with an area of 284,918 rai that has been certified. The number of organic farming producers is 13,154 families, expanding to the 3<sup>rd</sup> largest after China and the Philippines. In 2015, it grew by 21 percent from

2014, likely due to the change in government policy on rice price insurance, causing more rice farmers to switch to organic farming (Witoon Panyakul, 2016). During this period, it increased from 95,066 hectares in 2018 to 188,451 hectares in 2019 and Thailand ranks 5th in the world with 118,985 organic producers after India, Uganda (2016), Ethiopia (2015), Tanzania (2013) (Organic World Congress, 2021). The challenge for the Thai agriculture sector is to increase the number of organic farmers and organic farming areas as the highest in Asia.

National Organic Agriculture Development Board, Thailand (2023) reported that the average annual growth rate of organic agricultural produce in Thailand was 3 percent between 2017 and 2021, indicating that, on average, the quantity of organic agricultural products increased by 3 percent each year. This growth rate reflects a positive trend in the organic farming sector in Thailand, showing a steady increase in the production of organic agricultural goods over the specified years. It signifies a growing interest and investment in organic farming practices, leading to the country's gradual expansion of organic agriculture. The launch of 342 initiatives between 2017 and 2021 in Thailand to drive the growth of organic farming demonstrates a concerted effort and commitment by the government and relevant stakeholders to promote and expand organic agriculture in the country. These initiatives likely encompass a range of programs, policies, and projects aimed at supporting organic farming practices, increasing awareness about organic agriculture, providing training and resources to farmers, improving certification systems, and enhancing the overall infrastructure for organic production.

The significant number of initiatives launched over this period indicates a multifaceted approach towards advancing organic farming in Thailand. It suggests a proactive stance by the authorities to address food security challenges, promote sustainable agriculture, and meet the increasing demand for organic products. By implementing a diverse set of initiatives, Thailand aims to create a conducive environment for the growth of organic farming, encourage more farmers to adopt organic practices, and ultimately contribute to the development of a more sustainable and resilient agricultural sector in the country. The key objectives of the Organic Agriculture Action Plan in Thailand outline a comprehensive strategy aimed at advancing organic farming practices and promoting sustainable agriculture in the country. The first objective is to expand organic farming areas to 2.0 million rai (approximately 320,000 hectares). This objective focuses on increasing the total area dedicated to organic farming, indicating a commitment to expanding the production of organic agricultural products in Thailand. Secondly, increasing Good Agricultural Practices (GAP)-certified agriculture areas to 2.5 million rai (approximately 400,000 hectares) by 2027. By aiming to expand the areas certified under Good Agricultural Practices, the plan emphasizes the importance of adhering to high standards of agricultural practices to ensure quality and sustainability. The third objective is to engage a minimum of 80,000 farmers in organic cultivation endeavors, this objective highlights the intention to involve a significant number of farmers in organic farming activities, promoting the adoption of organic practices among a diverse group of agricultural producers. The fourth is to promote research, technological innovation, and the creation of an organic agriculture database by emphasizing research, innovation, and data collection in organic agriculture, the plan seeks to enhance knowledge, efficiency, and productivity within the sector. The fifth is to enhance production capacity and management across the organic agriculture supply chain. This objective aims to improve the overall production capacity and management practices within the organic agriculture supply chain, ensuring a more streamlined and efficient process from farm to market. The sixth objective is to elevate standards and certification systems in organic agriculture by raising standards and certification systems, the plan aims to ensure the integrity and quality of organic agricultural products, building trust among consumers and stakeholders. The last objective is to foster greater awareness and marketing efforts to promote organic agriculture practices. This objective underscores the importance of increasing awareness and promoting the benefits of organic agriculture, encouraging consumer demand and market growth for organic products in Thailand. These objectives collectively reflect Thailand's commitment to sustainable agriculture, food security, and the promotion of organic farming practices as part of a holistic approach to building a resilient and environmentally conscious agricultural sector.

According to a study, *Revitalizing Rural Communities: A Comparative Study of Thai and Japanese Experiences* (Saifon Suindramedhi, Hiromi Tokuda, and Hiroshi Ehara, 2017) the results show that the reason for the slow growth of organic agriculture is the new generation has less entry into the farming profession. Traditional farmers also refuse to switch from chemical agriculture to organic agri-

culture. In addition, the government's policy to promote organic agriculture is unclear. Even in 2016, the government announced the "Young Smart Farmer: YSF" policy, causing new generations of agriculture to increase, but not as expected. In 2017, the government was able to add only 2,310 new-generation farmers as Young Smart Farmers. Thailand has 12,710,000 workers in the agricultural sector (National Statistical Office, 2016). Department of Agricultural Extension surveyed that there were only 5,477 new generations of agriculture in the country.

This article aims to explain the organic farmer's acceptance of organic ways based on Everett M. Rogers' Diffusion of Innovation Theory as a framework to explain the phenomenon of organic farming ways adoption, including factors influencing the acceptance of organic agriculture. It is to answer research questions on how to make farmers accept innovation and technology instead of various innovations and technologies in agriculture that were invented by researchers in Thailand. The increase in organic farming in Thailand is therefore a significant contributor to the increase of global organic agriculture, food security, and sustainable development. This article aims to explain the characteristics of Thai organic farmers and how to spread the innovation and technology of organic agriculture assumes that the adoption of innovation and technology of organic farmers affects the scaling up of agricultural production that has quality per population and benefits the environment like the Sustainable Development Goals.

### **literature review**

Diffusion of Innovation, a theory by Everett M. Rogers, explains that innovation has many dimensions, whether it be invention, new idea, or technology. In the past, innovation diffusion theory has been used as a framework for studying the acceptance of new knowledge and the acceptance of new practices, as well as the acceptance of agricultural technology by different groups of people, especially in rural societies. Therefore, it is important to study the factors influencing the acceptance of organic ideas and practices by organic farmers. The study therefore uses this theory as a framework for explaining the acceptance of organic ideas and practices.

Rogers and Shoemaker (1971) described communication as essential for social change and explained the nature of social change. The study of "Water-boiling in Los Molinos" shows that the changes that occur are the result of the spread of new ideas to the social system. The process of social change consists of 3 steps: (1) Invention (2) Diffusion and (3) Consequences. In addition, Rogers and Shoemaker stated that communication, diffusion, and social change are related, that is, communication causes diffusion and leads to social change.

Later, Everett M. Rogers and all (1988:305) described diffusion as the process by which innovation is communicated through channels over time among members of society, while innovation means an idea, practice, or perception of a rather new creation by an individual or unit of society. In a community, to have something new to occur as an innovation, there must be 3 sources: Discovery, Invention, and Diffusion.

### ***The Components of diffusion of innovation***

The diffusion of innovation consists of 4 components: Innovation, Communication Channels, Time, and Social System.

**Innovation:** Innovation is an idea, practice, or object that is perceived as something new by an individual or group. According to Roger, 5 levels of attributes of innovation are as follows:

*Relative advantage;* It is the degree to which people perceive that the innovation is better than the original idea that existed and more useful than ever.

*Compatibility;* It is the degree to which people perceive that the innovation is consistent with the existing value, whether the adoption of innovation can be used or compatible with the original, and to what degree.

*Complexity;* It is a scale that measures the level of difficulty in perceiving and applying the innovation. Some innovations are easy to understand by members of society, others are difficult to understand. If innovation can be easily understood, it will be accepted and

used quickly. While for some innovations, users need to develop skills and understanding first.

**Trialability;** It is a scale that measures whether an innovation can be experimentally divided into phases or not and whether it can be learned by experimenting.

**Observability;** It is a scale that measures whether the outcome of an innovation is visible to others. The more efficiently the outcome of an innovation is visible, the more likely it is to be implemented. Visibility stimulates debate over new ideas between friends, neighbors, or innovation leaders.

**Communication Channels:** The success of innovation diffusion depends on the communication channel. If the communication channel is effective, it will affect and provide an impact on the decision to accept the innovation. That is to say, the efficiency of the communication channel will affect the decision to accept the innovation. Rogers et al (1988:301-302) studied the transformation of rural society in America. He believes that the main cause of change in rural American society is technology. He has studied the process by which technological innovation is communicated to farmers. The first thing that must be explained is that any farmer who decides to accept the innovation has his behavior according to the innovation decision-making process. There are five stages in this process: (1) Knowledge stage (2) Persuasion stage (3) Decision stage (4) Implementation stage (5) Confirmation stage.

**Time:** The diffusion of innovation involves three forms of Time: (1) the time involved in the process of deciding whether to accept or reject the innovation; (2) the time related to the diffusion of the innovation in the acceptance of the individual or society. At this point, innovators are divided into five groups: innovators, early adopters, early majority, late majority, and laggards; and (3) the time in terms of adaptor rate is the comparative speed at which innovations are accepted by members in the system.

**Social System:** A social system is a group of interrelated units obliged to solve problems to achieve the same purpose. A member or unit of a social system may be an individual, an informal group, or an organization. In addition, in a social system, there are norms of social unit that influence diffusion including leaders or change agents that influence attitude changes of members in that social unit.

### *The degree of acceptance of innovation*

Frameworks of Everett M. Rogers have been studied and applied to describe social phenomena from the past to the present, especially those related to the diffusion of innovation. This framework was used to study Thai academics such as Somsak Srisantisuk (2007), and Sanya Sanyawiwat (2008). They all study the degree of acceptance of innovation and the factors that affect its adoption.

Everett M. Roger's framework explains that the diffusion process takes place in society as a group process. However, the adoption process is an individual matter. It is an individual's mental process to accept innovation. The diffusion process is divided into 5 steps as follows:

**Awareness,** It is where an individual is aware of an innovation but lacks complete information about that innovation.

**Interest,** It is where an individual becomes interested in new ideas with a desire for details.

**Evaluation,** It is when an individual begins to apply that innovation and start making predictions for the future, deciding whether to experiment or not.

**Trial,** It is where an individual has fully tried the innovation.

**Adoption** is when an individual decides to continue to use the innovation to its complete extent.

According to Somsak Srisantisuk (2007), an innovation-decision process is an individual or social unit-level process. It is the perception of innovation that leads to forming an attitude towards innovation or a decision to accept or reject it. The process of making decisions about innovation consists of 5 steps.

*Gain ideas of innovation or Knowledge*, It occurs when the individual or the decision-making person learns the existence of innovation and understands how it works. At this stage, the important factor is mass media communication channels.

*Be invited or Persuasion*, It occurs when the individual or the decision-making person forms a like or dislike attitude towards an innovation. At this stage, an important factor is the interpersonal network communication channel.

*Decide to accept/reject or Decision*, It occurs when the individual or the decision-making person is obligated to an activity that will lead to a decision to accept or reject the innovation.

*Bring innovation to use or Implementation*, It occurs when the individual or the decision-making person agrees to implement the innovation.

*Make self-confirming or Confirmation*, It occurs when the individual or decision-making person has support for a decision that has been made. However, a person may change a decision that has been made if he or she feels that innovation is controversial.

Somsak Srisantisuk explains the rate of acceptance of something new or innovation means that members of society will accept something new slowly or quickly, according to the above process, there are 2 components to consider. *First, characteristics of new things* refer to characteristics that have been introduced to society and affect acceptance depending on cost, complexity, compatibility, utility, and communicability. *Second, characteristics of the population in society* refer to the differences of persons in the process of accepting new things, which Everett M. Rogers divided into 5 groups: Innovators, Early adopters, Early majority, Late majority, and Laggards. The study of Somsak Srisantisuk (2007) has applied the above concept in research by dividing the process of accepting new things into 5 steps as well.

*Awareness* is the level that individuals are aware that something new is happening. The source of news comes from officials, parents, relatives, friends, merchants, and the media.

*Interest* is the degree to which individuals pay great attention to detail and consider the benefits. Therefore, they request more information from knowledgeable sources such as district mayors, agricultural district officials, and various leaders.

*Evaluation* is the stage of decision-making or the transition to thinking of something new. There is a process of consideration of the benefits and drawbacks.

*Trial* is an important step in decision-making. If the results are good, they will be put into practice.

*Adoption* is the process of deciding to accept. Innovation has been evaluated before and later, it has been decided. At this stage, it may take some time to accept the innovation.

### **Factors affecting the diffusion of innovation**

According to the concept of innovation diffusion, factors affecting the diffusion of innovation consist of (1) factors arising from the benefits derived from innovations (2) factors from costs (3) factors related to industry or social environment, and (4) factors arising from uncertainties and problems with information.

Sanya Sanyawiwat (2008: 23-26) summarizes the proposal of diffusion of innovation concept that the acceptance of innovation depends on the individual, social system, the communication system, innovation, and timing.

*Acceptance of innovation depends on the individual*, It means that each individual decides whether to accept innovation or not accept innovation, some accept it quickly, and some accept it slowly, even in the same community. Those with high innovativeness tend to accept innovations quickly and become innovators, groups with rapid acceptance, or even a large group of those who accept innovations rapidly. On the other hand, those with low innovativeness, if not a large group of people who are slow to innovate, seem to be the

laggards. The acceptance of innovation is individual dependent.

*Acceptance of innovation depends on the social system*, It means that different types of social systems influence whether to accept or not accept innovations, including the speed of acceptance as well. This theory divides society into two categories: modern society and ancient or traditional society. Modern societies are more innovative than traditional ones. This is because modern society has a system of values and social norms in such a way that it supports change and advances the development of society. Therefore, when there is something new in society, they will encourage members to try. While traditional societies do not have a system of values and norms, such a society does not support innovation.

*Acceptance of innovation depends on communication system*, Communication system refers to the process of spreading, expanding, and diffusing innovation from its beginnings to its end. To accept or not accept innovation, communication is prominent. Rapid acceptances often occur once communication system has been processed between cosmopolite opinion leaders and young highly educated community members. Under this context, at the experimental stage of the innovation process, the acceptance of innovation is faster. In contrary, once members are lagging behind, innovation acceptance seems rather slow or there may be a tendency of rejection.

*Acceptance of innovation depends on the innovation*, This refers to and relates to the nature of innovation and whether it is responsible during the duration of acceptance. This theory states that there are 5 factors to consider in certain innovation, whether it is acceptable or unacceptable and whether it can be accepted fast or slowly: 1) its advantages, 2) social-cultural compatibility, 3) complexity, 4) experimental readiness, and 5) level of difficulty. Innovations with positive characteristics tend to be efficiently widespread. Meanwhile, innovations with negative characteristics tend to be rarely accepted because 1) it is not better than the original 2) it is incompatible with the cultural society 3) it has a complex structure 4) it cannot be explained or tested and 5) it is difficult to understand.

*Acceptance of innovation is time-dependent*, It means that the duration or time consumption influences the acceptance or rejection of the innovation. Time produces what is known as innovativeness, which indicates the degree or type of those involved in innovation is high, while some are low, some become innovators, and some are lagging. In terms of innovation acceptance, each individual will have to spend some time to consider innovation. Without time, one wouldn't be able to make a decision. Hence, time is of the essence to embrace innovation.

### Conceptual Framework

In the conceptual framework of this research, the author considers that the innovation and technology among organic farming ways is an "innovation" that spreads into the community. Whether farmers accept or not depends on innovation, communication, time, and the social system. There are 5 levels of farmers' acceptance of organic farming methods: (1) Awareness (2) Interest (3) Evaluation (4) Trial and (5) Adoption.

This article presents a focus on farmers in Lampang. Therefore, in the conceptual framework of the research study, the author considers that the adoption of organic farming ways depends on the following important factors: (1) the value of organic farming (2) the effectiveness of communication channels (3) the farmer's characteristics to adopt such innovations (4) the duration of the adoption and (5) other factors in relations to levels of acceptance methods.

### Research Methods

This research is a qualitative study that collected data by in-depth interviews and selected samples using purposive or selected with a specific goal from PGS organic farmer network. Therefore, there are 20 samples, consisting of 8 organic farmers, 2 organic farmers in the transition period, 2 farmers interested in organic farming in the early stages, 3 chemical and organic farmers, and 5 chemical farmers. The farmers selected for the study are between 46 and 62 years of age and live in Lampang province.

## Research Results

### Agricultural situation in Lampang Province

Lampang is the province used in this study located in the northern region of Thailand. It is an ancient province and has historical significance for at least 1,300 years. Most of the area is a plateau. The central part of the province is a lowland surrounded by mountains. In 2021, Lampang Province has a population of 728,508 people, 355,014 males, and 373,494 females, 11.6 percent of the population are farmers. Lampang Province has natural resources both forest resources and mineral resources, there is a forest area of 5,513,656.85 rai, accounting for 70.64% of the province's area. (Lampang Province Office, 2021).

Lampang province has a total area of 12,533.961 square kilometers or approximately 7,833,726 rai and is the fifth largest in the North after Chiang Mai, Tak, Mae Hong Son, and Phetchabun. Information from the Lampang Provincial Agriculture Office reported that Lampang has an agricultural area of 1,111,113 rai (2018). Mueang Lampang District is the district with the most agricultural area of 180,133 rai, followed by Wang Nuea, Ngao, and Mae Tha. The most agricultural areas are for farming, amounted to 522,757 rai, followed by cultivation, perennial fruit and medicinal plants, respectively (Table 1).

The agricultural area of Lampang Province is used for both in-season and upland rice. The field crops are black beans, red-finger beans, peanuts, soybeans, taro, castor, pineapple, cassava, etc. The important vegetables grown in Lampang are garlic, sweet corn, cantonese vegetables, green cabbage, chili, yard long beans, watermelon, sweet vegetables, turmeric, galangal, etc. (Lampang Provincial Agriculture Office, 2019).

<i>District</i>	<i>Farming Area</i>	<i>Field Crops</i>	<i>Perennial Fruits</i>	<i>Herbs</i>	<i>Total</i>
Muang Lampang	105,087	61,669	9,804	3,593	180,133
Mae Moh	17,371	21,504	25,163	389	64,427
Ko Kha	43,448	3,528	11,858	357	59,191
Searm Ngam	29,341	9,240	13,214	1,344	53,139
Ngao	41,297	66,295	9,901	9,830	127,323
Chae Hom	41,360	19,446	18,616	3,690	83,112
Wang Nuea	30,813	77,009	13,279	10,683	131,784
Toen	49,839	6,337	33,756	635	90,567
Mae Prik	15,374	7,410	8,916	703	32,403
Mae Tha	46,693	46,913	18,156	2,501	114,263
Sob Prab	34,297	4,350	10,994	349	49,990
Hang Chat	40,601	4,193	10,595	675	56,064
Muang Pan	27,236	17,882	20,675	2,924	68,717
<b>Total</b>	<b>522,757</b>	<b>345,776</b>	<b>204,927</b>	<b>37,653</b>	<b>1,111,113</b>

**Table 1:** Shows the number of agricultural areas in Lampang province classified by districts in 2018.

The gross domestic product of Lampang Province in 2011 consisted of important agricultural products such as rice, pineapple, garlic, cattle, pigs, sugarcane, rubber, maize, chickens, and bananas. From the analysis of the BCG Matrix of Lampang Province, it was found that the Star product is rice. The problem product or a Question Mark product is rubber, banana, sugar cane, and pineapple. Dog products are chickens, cattle, pigs, maize, and garlic. Lampang province chooses "rice" as an important economic product of the province. This is in line with Strategy 3 under the Lampang Provincial Development Plan, for 4 years (2015-2018). Strategy 3 promotes and develops safe and sustainable agricultural products. Unified standard Rice is safe as an economic crop and it is widely planted in all regions of the country. Rice is a cash crop that generates income for farmers and generates an amount of income for the country per

year. Lampang is another province that has safe rice cultivation for economic crops.

In the 2011/2012 planting year, the area of rice cultivation tends to decrease. Due to the flooding, the rice yield was reduced and the rice cultivation area was damaged. Farmers have therefore changed the cultivation of other cash crops such as maize, peanuts, and soybeans. The main economic crops of Lampang Province are rice, field crops, vegetables, and perennial fruits. The impact of flooding damaged agricultural cultivation areas, resulting in reduced rice yields in the province. Farmers who are engaged in agriculture have changed their cultivation to other economic crops as well. (Lampang Statistical Office, 2018 pp. 2-9).

Information from the Lampang Provincial Agriculture Office shows that most of the agricultural areas of Lampang Province are rice-growing areas, with more than 400,000 rai, followed by field crops. It has over 100,000 rai of cultivation area and is used for pineapple planting (Table 2). However, the report is for farmers registered with the Provincial Agriculture Office. There are still some farmers who do not report data.

Crops	Number of Household	Farming Area (Rai)	Yield
Rice	78,846	421,774.42	-
Field Crops	10,951	101,870.75	56,469,025.00
Pineapple	1,967	22,065.75	51,082,570.00
Vegetables	7,868	11,741.76	17,384,830.00

**Table 2:** Information of agricultural crops as a whole of Lampang Province in 2018.

Lampang Province uses the land for farming all year round, especially for farming and cultivating corn. When the in-season rice farming is completed, farmers begin to continually cultivate the off-season rice farming. Rice is harvested in October and finished in January. As for maize, it is planted twice a year and harvested throughout the year. January is for maize cultivation. Pineapples can be harvested from March to September each year. (Lampang Statistical Office, 2018 pp. 2-9).

### Areas and Products of Organic Agriculture in Lampang Province

Lampang Provincial Agriculture Office has reported the areas and types of organic crops in Lampang Province (as of January 29, 2020). The report shows that Lampang Province has a total area for organic agriculture of 6,318.465 rai and a total of 1,318 farmers engaged in agriculture (Table 3). *Organic Rice*, It was found that most of the organic crops are grown by rice farmers, amounting to 6,037.12 rai. However, organic rice cultivation is still in the transition period. There are only 130 rice farmers that have been certified with Organic Thailand Standards in an area of 642.12 rai. *Food Crops*, Organic food crops have an area of 183.27 rai. There are 2 farmers in the transition period and 10 are certified by Organic Thailand (renewal). *Integrated Agriculture*. It is organic farming where many crops are grown in the same area. Currently, 43 cases have entered the PGS system with only 86 rai of cultivation area. *Fishery*, Fisheries are farmers who are in the transition period. It has an area of only 12.075 rai.

### Types and Characteristics of Farmers in Lampang Province

The study found the characteristics of farmers affect the acceptance of innovations and technologies or organic ways. There are 20 farmers selected for the study, aged 46-62 years. Classifications have been applied according to their entry level in organic farming. There are 5 groups, consisting of (1) 8 organic farmers (2) 2 transitional organic farmers (3) 2 farmers interested in organic farming in the early stages (4) 3 chemical and organic farmers, and (5) 5 chemical farmers.

**Organic Farmers:** This group is divided into 2 sub-groups which are those who enter organic farming as the first occupation and those who enter organic agriculture after leaving other previous occupations. This group of farmers joined the organic farming group and PGS network in Lampang Province. Some have been certified by Organic Thailand standards and are called “*organic farmers*” or *innovators*.



<b>Produce</b>	<b>Organic Production</b>	<b>Standard</b>	<b>Number</b>	<b>Area (rai)</b>	<b>Area in Total (rai)</b>
Rice	T1-62 Initial assessment of 8 groups		168	942.00	6,037.12
	T2-61 Initial assessment of 17 groups		520	2330.00	
	T3-60 Conversion Period of 12 groups		425	2122.75	
	Certified organic rice(individual)	Organic Thailand	21	158.25	
	Certified organic rice (in group) 8 groups	Organic Thailand	109	483.87	
Food Crops	Interested Period				183.27
	Conversion Period		2	13.73	
	Renewal	Organic Thailand	10	169.52	
Integrated Farming	Interested Period				86.00
	Conversion Period				
	Certified	PGS	43	86.00	
Fishery	Interested Period				12.075
	Conversion Period		20	12.075	
	Certified	Organic Thailand			
<b>Total area of organic farming in Lamphang Province</b>			<b>1,318</b>		<b>6,318.465</b>

Source: NSC Lamapng, DoA Lamphang, DLD Lamphang, as of 29 January 2020.

**Table 3:** Shows the areas, types of produce, and certification standards of organic farming in Lamphang Province.

**Conversion Period:** This group has been farming for about 10 years and has entered the organic ways of agriculture or accepted the organic way of farming for at least 1 year. Once they were persuaded by fellow farmers and gained knowledge of organic agriculture, they decided to transform their cultivation into a completely organic farm. Organic farming ways and home-made experiments have been learned until they received positive results in terms of both the cost of production and the health of family members. Therefore, they joined the group of organic farmers in the area to develop the PGS organic certification system. However, they have not been certified by any standards, so this group is called “conversion period farmers”.

**Interested period:** This group has been in chemical agriculture before using both chemical fertilizers and pesticides, but they are interested and accept to switch to organic farming. After receiving details and knowledge about organic agriculture and learning that organic agriculture is beneficial in terms of income and health for both growers and consumers, they decided to join the organic agriculture group to receive training on organic agriculture and PGS certification. This group, when deciding to enter organic farming, begin to change the behavior of using fertilizers from chemical fertilizers to manure. The period of such behavior change is within 5 months. This group of farmers is about to start changing their farming style to organic farming. Therefore, this group of farmers is called “interested period farmers”.

**Chemical and Organic Farmers:** This group cultivates by applying chemical farming and is also experimenting with organic farming. The reason is that they are not certain about the returns and yields of organic farming, and whether they will receive the same income as the return that has been done with chemicals. They are therefore hesitant to switch to complete organic agriculture. As a result, this group divides the land into 2 plots, large plot is for a plantation of chemical agriculture such as sweet corn and maize to

ensure income. Another plot is smaller and used for organic farming of vegetables and fruits. It is intended to be grown for family consumption and sold in the community market. The reason why the area has to be divided for organic farming is because they are pressured by family members who have knowledge of the impact of chemical agriculture and receive information about organic agriculture from the media. The younger generation is trying to pressure their parents who are used to chemical farming to switch to organic farming. In addition, the farmers themselves experienced health problems from the use of chemicals. This group is in the evaluation phase whether to switch to organic farming entirely or not. Therefore, this group is called “*evaluated period farmers*”.

**Chemical Farmers:** This group has been engaged in chemical agriculture since entering the profession and has continued farming from parents. Once separated from the family, they still continue to apply chemical farming to cultivation and currently insist on chemical farming. This group mainly grows field crops such as maize, sweet corn, etc. It is influenced by contract farming companies. This group is mainly in the contract farming system as they understand that the cultivation of field crops in this system can guarantee a certain income. In addition, heads of families and community leaders have influenced the decision to switch to organic farming. Therefore, this group is called “*chemical farmers*”.

### **Adoption of Innovation and Technology of Organic Farmers**

The adoption of innovation and technology by organic farmers means the acceptance of organic farming and the development of organic agriculture by using agricultural technology, value addition, social and environmental responsibility, and the revitalization of rural society. The author calls *organic farming ways*. Organic farming ways are a new thing in the chemical farming society in the agricultural sector of Thailand since most farmers still use chemicals. The spread of organic farming in the community is a new knowledge (or methods and concepts) for community members. In this study, 10 farmers accepted the organic farming ways, including 8 who had started organic farming and 2 who had recently switched from chemical to organic.

Most of the farmers who accepted the innovation and technology have made a *Discovery* with “practices” and “results” of some organic farming ways themselves, for example:

1. It was found that organic agricultural products have a supporting market. There is a market every day where they can earn every day, responding to family income problems and even a better income. Chemical products cannot be sold every day as there is no market to support it. They have to sell the produce to contract farming companies.
2. Through the contract farming companies, farmers have to borrow money to buy chemical fertilizers and pesticides. They need to enter the cycle of borrowing money from one source to pay off another debt and circulating in a never-ending cycle. However, in organic farming, the investment in farming is less and they are not in debt for farming.
3. Organic farming has a system of grouping and assisting each other in both knowledge of cultivation and the exchange of knowledge. In marketing, there is a system to help each other within the group to deliver the produce to sell at the market outside the community. Additionally, farmers have discovered that chemical agriculture harms health. Family members have chemical allergies, especially young children.

It was also found that *invention* in the context of organic farming has both *hardware* and *software* such as inventing fertilizer formulas suitable for laterite soil, an invention of the solar lawn mower, an invention of a system to maintain the balance of ecosystems in vegetable plots, and an invention of product processing. These arise from the accumulation of experiences, experiments, and exchanges of knowledge of organic farmers, resulting in a reduction of cost and labor in production.

3 main groups of farmers accept organic farming ways in Lampang Province: (1) farmers who practice traditional organic farming, (2) chemical farmers who are influenced by organic farming ways, and (3) those who switch from other occupations to organic farmers. Each group has the following sources of acceptance:

1. *Farmers of traditional organic farming*, this group has accepted organic farming ways since the beginning of their farming career. The origin is from the ideology within the self to protect the environment, taking into account the health of both growers and consumers in the transformation process of this study. This group of farmers will act as “communicators” of organic farming methods to farmers in the social system or can be called “*Change Agents*”. When organic farming is spread in the social system, there are both accepting groups and unacceptable ones. Changes in the social system therefore occur.
2. *Chemical farmers influenced by organic farming ways*, this group is influenced by organic farming ways. The various forms of communication in the social system of organic farming have an influence on chemical farmers, such as training in social systems, accidental exposure to media in everyday life, and communication with friends and household members, including the results of the experiments in organic farming by themselves, etc. Thus, the chemical farmers switched to organic farming.
3. *Those who switched from other occupations to organic farmers*, this group has done other occupations and desire to change their career. They have sought knowledge about organic farming ways until the ideas have been cleared and crystallized before accepting organic farming ways and deciding to pursue organic farming. In this regard, the situation and trend of organic agriculture in Thai society have been evaluated to make decisions about career change.

## Conclusions

Innovation and technology in organic agriculture, which means an idea, practice, result, or thing that is perceived as something new about organic agriculture. According to Rogers, innovation must come from *Discovery, Invention, and Diffusion*.

“*Discovery*” of farmers who embrace organic farming is the discovery of the “practices” and “outcomes” of organic farming, for example, the discovery that organic agriculture has a positive effect on the health of both growers and consumers. It is a type of farm with small investments and without debt. There is a group willing to help each other. It is agriculture that protects the environment and creates sustainability. At the same time, farmers may be able to think of an “*Invention*” in the context of organic farming in both hardware and software, i.e. inventing fertilizer formulas that are suitable for each type of vegetable cultivation, an invention of the solar lawn mower, an invention of a system to maintain the balance of ecosystems in vegetable plots, and an invention of product processing. However, according to Rogers’ theory, neither discovery nor invention, if it had not been spread, would not be considered an innovation. At this point, “*Diffusion*” is a process of bringing “*Discovery and Invention*” to communicate to members of a society or unit of society until acceptance is achieved.

Therefore, Diffusion of organic farming way means accepting organic farming methods and principles in terms of concepts, practices, results, organic farming ways implementation, and extension of knowledge to other groups of farmers. In this study, the researcher analyzed 2 issues of diffusion, namely, in the pattern and in the condition of organic farming ways.

An acceptance of innovation and technology of organic farmers relies heavily on farmer’s characteristics. It can be compared with Everett M. Rogers’ classification of population according to the degree of acceptance of innovation.

To transform “*chemical agriculture*” to “*organic agriculture*” is considered an acceptance of organic agriculture. It is an ideology of acceptance of organic agriculture and the development of organic agriculture by using agricultural technology to add value to produce. It also concerns a high consideration of social and environmental responsibilities and a revitalization of rural society. The adoption of organic farming ways is also the spread of innovation. Farmers who enter organic farming ways, those who embrace organic farming, need to have qualities that are ready to learn new things, open to new things, dare to challenge, and thrive to learn. These qualities are a “*Growth Mindset*” to accept organic cultivation. This type of cultivation is applied to agricultural technology, product value addition, and social and environmental responsibility.

A concept on how to restore rural societies is included. Consequences after entering organic farming include discovering the practices and results of organic farming by the farmers. Some inventions and innovations make agriculture more convenient and efficient. Those playing a role in the *organic farming changer* are (1) members of the social system and (2) organizations or agencies involved

in organic agriculture or change agents outside the social system.

Finally, The adoption of innovation and agricultural technology depends on the nature of innovation and technology, characteristics of farmers' social ecosystem, communication, time, and mindsets of farmers. Whether farmers will accept the technology or not, it must first be considered whether the technology is beneficial or not, and whether it is highly valued. Is it worth implementing? Innovation and technology are easy or difficult to understand, which corresponds to the level of knowledge of farmers.

The adoption of organic farming practices in Thailand is significantly influenced by various cultural factors that shape farmers' perceptions, values, and behaviors. Understanding these cultural influences is essential for promoting organic agriculture effectively.

*Traditional Agricultural Practices*, many Thai farmers have deep-rooted traditions and practices that have been passed down through generations. These traditional methods often rely on chemical fertilizers and pesticides, making it challenging for farmers to transition to organic practices. The cultural attachment to conventional farming methods can create resistance to change, as farmers may be hesitant to abandon familiar techniques.

*Community and Social Networks*, in rural Thailand, farming is often a communal activity, and decisions are influenced by social networks. Farmers may look to their peers for guidance and validation when considering the adoption of organic practices. If organic farming is viewed positively within the community, it can encourage more farmers to adopt these methods. Conversely, if there is skepticism or lack of support from peers, it may hinder adoption.

*Cultural Beliefs and Values*, Thai culture places a strong emphasis on harmony with nature and respect for the environment. This cultural value can align with the principles of organic farming, which promotes sustainable practices and environmental stewardship. Farmers who resonate with these values may be more inclined to adopt organic methods as a way to honor their cultural beliefs.

*Economic Considerations*, economic factors are intertwined with cultural influences. In Thailand, many farmers face financial pressures that may lead them to prioritize short-term yields over long-term sustainability. The perception that organic farming may not be as profitable or that it requires more initial investment can deter farmers from making the switch, despite cultural values that support sustainability.

*Education and Awareness*, cultural attitudes towards education and knowledge dissemination play a crucial role in the adoption of organic farming. Farmers who have access to information about the benefits of organic practices and successful case studies may be more likely to adopt these methods. Cultural norms that prioritize education and innovation can facilitate the spread of organic farming practices.

*Government and Institutional Support*, the role of government policies and programs in promoting organic farming is also influenced by cultural factors. If the government aligns its initiatives with local cultural values and engages communities in the decision-making process, it can enhance the acceptance and adoption of organic practices.

*Generational Differences*, younger generations may have different attitudes towards farming compared to their elders. While traditional farmers may resist change, younger farmers may be more open to adopting organic practices due to increased awareness of environmental issues and global trends in sustainable agriculture.

In conclusion, the adoption of organic farming practices in Thailand is shaped by a complex interplay of cultural influences, including traditional practices, community dynamics, economic considerations, and educational opportunities. Understanding these cultural factors is essential for developing effective strategies to promote organic agriculture and encourage more farmers to embrace sustainable practices. By addressing cultural barriers and leveraging positive cultural values, stakeholders can foster a more conducive environment for the growth of organic farming in Thailand.

## Suggestions

For government policy improvements to promote organic farming in Thailand, (1) The government should establish a clear and comprehensive policy framework that outlines specific goals, strategies, and support mechanisms for organic farming. This framework should address the challenges faced by farmers and provide a roadmap for the growth of the organic sector. (2) Develop and expand training and education programs focused on organic farming techniques, pest management, and sustainable practices. These programs should be accessible to all farmers, particularly those in rural areas, to enhance their knowledge and skills in organic agriculture. (3) Increase funding for research and development in organic farming practices, including the development of organic fertilizers, pest control methods, and crop varieties suited for organic cultivation. Collaboration with universities and research institutions can facilitate innovation in the sector. (4) Improve the organic certification process to make it more accessible and affordable for smallholder farmers. Streamlining the certification process and providing support for farmers in obtaining certification can encourage more producers to adopt organic practices. (5) Create programs to promote organic products and improve market access for organic farmers. This could include establishing organic farmers' markets, supporting participation in trade fairs, and developing marketing campaigns to raise consumer awareness about the benefits of organic products. (6) Foster community engagement by involving local farmers in the decision-making process regarding organic farming policies. Establishing farmer cooperatives or networks can facilitate knowledge sharing and provide a support system for those transitioning to organic practices. (7) align organic farming policies with broader sustainable development goals (SDGs) to emphasize the importance of organic agriculture in achieving environmental sustainability, food security, and economic resilience. (8) Launch public awareness campaigns to educate consumers about the benefits of organic farming and encourage them to choose organic products. Increased consumer demand can drive more farmers to adopt organic practices. By implementing these policy suggestions, the Thai government can create a more supportive environment for organic farming, ultimately contributing to the growth of the sector and promoting sustainable agricultural practices.

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## References

### Books

1. Everett M Rogers. "Modernization Among Peasants: The Impact of Communications". Halt, Rinchart and Winston, Inc., USA (1969).
2. Everett M Rogers and F Floyd Shoemaker. "Communication of Innovations". A Division of Macmillan Publishing Co., Inc, USA (1971).
3. Everett M Rogers. "Diffusion of Innovations". A Division of Macmillan Publishing Co., Inc, USA (1983).
4. Everett M Rogers., et al. "Social Change in Rural Society". Prentice-Hall, Inc, USA (1988).
5. Everett M Rogers and F Floyd Shoemaker. "Communication of Innovations". A Division of Macmillan Publishing Co., Inc, USA (1971).
6. Somsak Srisantisuk. "Rural Sociology: Theoretical concepts and trends in Thai society". Bangkok : Expernet (2007).
7. Sanya Sanyawiwat. "Development theory and strategies Bangkok: Chulalongkorn University Press". 8th Edition (Revised Edition) (2008).

### Electronic Sources

8. Green Net. (2019). Another year in which the world's organic agriculture continues to expand: will Thailand catch up or not? <http://www.greenet.or.th/>
9. Green Net. (2019). Overview of the situation of organic agriculture in Thailand 2016. <http://www.greenet.or.th/article/411>

10. Green Net. (2019). Global organic farming area grows more than 15%, market grows 12% (2016). <http://www.greennet.or.th/news/1938>
11. Green Net. (2019). The World of Organic Agriculture: Statistics and Emerging Trends 2019. <http://www.greennet.or.th/library/book/organic-agriculture/1982>
12. Green Net. (2019). ASEAN : HOME OF ORGANIC. Retrieved from <https://actorganic-cert.or.th/th/asean-home-of-organic-2/>
13. Green Net. (2020). What is organic agriculture? <https://www.greennet.or.th/principle-oa/>
14. National Economic and Social Development Board. Sufficiency economy: statement of the 10th UNCTAD Conference in Bangkok (2000): 1-11.
15. Witoon Panyakul and et al (2015). Project to study and prepare information on the situation of organic products production and marketing. <file:///C:/Users/com40/Downloads/2015%20TH-OA%20market%20report.pdf>
16. FiBL & IFOAM. (2021). The World of organic agriculture. Organic World Congress 2021. <https://www.fao.org/family-farming/detail/en/c/1378841/>
17. Lampang Statistical Office. Lampang Organic Situation (2018): 2-9.
18. Lampang Provincial Agriculture Office. DoA Lampang, DLD Lampang, Lampang Organic Situation (2020)
19. Lampang Province Office. Brief of Lampang (2021).

#### **Journal**

20. Yupin Thuensri and Nitchapa Morathop. "Network Development of Organic Rice Growers in Uttaradit Province: Case study, Wang Ka Phi Subdistrict, Mueang District, Uttaradit Province". Lampang Rajabhat University Journal 5.1 (2016): 117.

#### **Research**

21. Saifon Suindramedhi, Hiromi Tokuda and Hiroshi Ehara. "Revitalizing Rural Communities: A Comparative Study of Thai and Japanese Experiences". Collaboration Research Project Thammasat University and Mie University, Japan (2017).

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