Social And Economic Factors Affecting Organic Farming In Nakhon Nayok Province

Assoc. Prof. Wanida Siriworasakul, Ph.D. , Asst. Prof. Shanaseuk Wisetchai, Ph.D.
Assoc. Prof. Watcharin Intaprom, Ph.D. , Assoc. Prof. Patcharee Klommeung, Ph.D.
Asst. Prof. Panlayamon Sinnang, Ph.D. , Asst. Prof. Natta Kertsup, Ph.D.

Abstract

The objectives of this research are to (1) study success and sustainability factors that are important components of organic farming, (2) study organic farming models that are successful and can be extended to other areas, and (3) propose the policy and operational recommendations in driving organic agriculture in Nakhon Nayok Province. This research employed the mixed method, gathering data by questionnaires distributed to 400 samples who were the farmers both interested and uninterested in the participatory organic certification project. The in-depth interviews and focus groups were conducted with the group of 60 successful and unsuccessful farmers in organic farming for gaining qualitative data. Quantitative data was analyzed, using descriptive statistics; numbers, percentages, means, and standard deviations, whereas the qualitative data were analyzed using content analysis, summary, and interpretation.

The research found that: 1) There were many important component factors contributing to the success and sustainability in organic farming which were health, environmental, social and economic factors. 2) The model of successful organic farming which could be expanded to other areas were (1) the farmers being stimulated to join the project by knowledge, understanding, and being health-concerned, (3) analysis of environmental conditions that affect organic farming and participation in the Participatory Organic Certification Project (PGS), which were natural resources, community, economic, social and politic environments, (4) supporting factors of production Continuous training and knowledge on various matters (5) strengthening of farmer groups (6) classification or selection of farmer groups who applied to join the project (7) training to develop knowledge in organic farming, and (9) evaluation at various stages. 3) Policy and operational recommendations for driving organic agriculture in Nakhon Nayok Province are (1) planning, (2) monitoring and

evaluation, (3) integration with other relevant government and private agencies, (4) building confidence among consumers, (5) marketing (6) adding added value to products, (7) project integration, (8) determining positions for those responsible for the project, (9) determining responsible departments, (10) setting as the national agenda, (11) creating incentives, and (12) establishing a fund.

Keywords: organic agriculture, Participatory Organic Agriculture (PGS) Certification, Nakhon Nayok Province.

Introduction

In the next decade, agriculture will focus on quality and food safety. Trade will emphasize the quality of agricultural products. Organic farming systems will play a role in replacing the use of chemical fertilizers and pesticides. Currently, Thai agriculture relies heavily on chemical fertilizers and pesticides, which are expensive and have adverse effects on producers, consumers, and the environment. Exported products also face the risk of being rejected by trading partners. Therefore, it is necessary to change the production system and shift towards using safer organic alternatives, producing toxin-free and organic food in the long run. (Vittun Panyakul and Chaiwat Kongsum, 2015)

The results of the Participatory Guarantee System (PGS) organic agriculture project conducted by the Department of Land Development revealed that there is an increasing number of farmers interested in participating in organic agriculture projects each year. However, the number of farmers who have been certified according to the PGS organic agriculture standards is still limited. Additionally, it was found that some groups of farmers have discontinued their intention to produce in the organic agriculture system (Vittun Panyakul, 2012). Due to these reasons, it is necessary to study in-depth the factors that affect the decision to not participate or to successfully participate in the project and obtain certification for organic agriculture standards by farmers' groups. Particularly, it is important to identify the socioeconomic factors that support and motivate farmer groups to pursue successful organic agriculture production. This information will be used to improve the efficiency of the organic agriculture project conducted by the Department of Land Development and provide policy recommendations for the country's organic agriculture development. Therefore, a study on the

socioeconomic factors that influence organic agriculture production has been conducted to obtain data on the key success factors that contribute to sustainable and successful organic agriculture. This data can be expanded to other areas and provide policy recommendations for the Department of Land Development to drive the efficiency and achieve the goals of organic agriculture development in Nakhon Nayok province.

Nakhon Nayok province is a green province that does not allow industrial factories, which means that the majority of the population relies on agriculture as their main occupation. This ensures that Nakhon Nayok does not have environmental pollution problems, in order to be an eco-friendly city for the well-being of farmers, consumers, and tourists who visit the province in large numbers. Agriculture in Nakhon Nayok is suitable for organic farming, but due to the traditional farming methods that have been practiced for a long time, most farmers still practice chemical farming. However, transitioning from chemical farming to organic farming is not difficult, even though the government has been promoting organic farming for a long time. In Nakhon Nayok, there are only a few farmers who have successfully certified their organic farming practices under the Participatory Guarantee System (PGS). Despite having a large number of farmers who have been trained and have the potential to practice organic farming and meet the standards of the PGS, the number is still limited. Therefore, studying the socio-economic factors that affect farmers' organic farming can provide insights into the key success factors and sustainability of organic farming, as well as develop successful models of organic farming that can be replicated in other areas in the future.

Research objectives

1. To study the factors of success and sustainability that are important components of organic agriculture in Nakhon Nayok province.
2. To develop a model of successful organic agriculture that can be replicated in other areas.
3. To provide policy recommendations and operational guidelines for promoting organic agriculture in Nakhon Nayok province.

Research Methodology

The research methodology involves a mixed-method approach, combining quantitative research through the distribution of

questionnaires to a group of 400 farmers who are interested and not interested in participating in the organic farming certification program. Additionally, qualitative research is conducted through in-depth interviews and group discussions with a sample of 60 farmers who have experienced success and failure in organic farming. The quantitative data is analyzed using descriptive statistics such as percentages, means, and standard deviations. The qualitative data is analyzed through content analysis, summarization, and interpretation.

The research findings are as follows:

1. The factors of success and sustainability are important components of organic farming. The motivating factors for farmers to participate in the Participatory Guarantee System (PGS) project are generally high (mean = 3.97, S.D. = .768). When considering individual factors, the majority are related to health (mean = 4.13, S.D. = .767), followed by environmental factors (mean = 4.02, S.D. = .786), and lastly, economic factors (mean = 3.82, S.D. = .783).

The factors influencing the goals of the Participatory Guarantee System (PGS) certification are generally high (mean = 3.88, S.D. = .756). When considering individual factors, the majority are related to knowledge and understanding (mean = 3.96, S.D. = .759), followed by farmer readiness (mean = 3.92, S.D. = .720) and management factors (mean = 3.92, S.D. = .685), and lastly, environmental factors (mean = 3.72, S.D. = .858).

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There are several factors that contribute to the success and sustainability of organic farming:

2. Successful Models of Organic Agriculture and their Expansion to Other Areas

The successful models of organic agriculture and their expansion to other areas have various components and relationships, as follows:

Farmers are motivated by various factors to participate in the Participatory Guarantee Systems (PGS) for organic agriculture, including health factors, environmental factors, the well-being of farmers resulting in good mental health from practicing organic agriculture, awareness of the safety of

consuming organic produce, the strong health of people in the community resulting from organic farming, and awareness of the safety from chemicals and pesticides in organic farming. Social factors include social values and acceptance of organic agriculture in the current society, as well as inspiration from the success of exemplary organic farmers and the formation of strong farmer/community groups resulting from organic farming. Economic factors include understanding and awareness of market needs and consumer demand for organic products, awareness of increased prices and income from organic farming.

Cognitive factors affecting farmers participating in the Participatory Organic Farming Certification (PGS) project, such as knowledge and understanding of organic farming that promotes good health, knowledge and understanding of the environment, knowledge and understanding of organic farming, knowledge and understanding of marketing of organic agricultural products, environmental factors that affect organic farming and participation in the Participatory Organic Certification Project (PGS), including the natural resource environment and community environment, community economic environment, community social environment, and political environment.

The strength of the farmer group, a network of farmers who exchange knowledge on organic farming results in lower production costs, helping to reduce the debt burden. Groups of farmers who do organic farming come together to set the price of their produce, resulting in increased income for the members. Forming groups and having strong group leaders can invite farmers to join the group. This affects farmers participating in the Participatory Organic Certification Project (PGS).

Standard methods or tools for classifying or selecting groups of farmers who apply to participate in the Participatory Guarantee System (PGS) for organic agriculture certification have key components for classifying and selecting farmers to participate in the PGS. This method reduces various losses, such as the loss of resources from training a large number of farmers who do not apply the knowledge gained to organic farming. Standard methods or filtering tools for selecting farmers who apply to participate in the program include having their own agricultural land, interest and commitment to change and belief in organic farming, clear group formation and leadership that can develop strength, production factors such as organic fertilizers and raw materials for composting, time

and labor dedicated to organic farming, suitable environment for developing organic farming standards, and access to water sources for agriculture.

Once the group of farmers applying to participate in the program meets the standard classification or selection criteria, the next step is training to develop knowledge in organic farming to qualify for Participatory Guarantee System (PGS) certification. Farmers are then required to engage in post-training activities to support ongoing evaluations.

Evaluations can be conducted at different stages and are not necessarily limited to stages 1, 2, or 3, but should be based on the potential of the farmer group. For example, if a group of farmers has already been certified as organic by another credible organization, the evaluation for this group can be conducted at stage 3 or directly receive PGS certification, if the certification details or criteria are similar or close to those of the PGS certification.

3. Policy Recommendations for Driving Organic Agriculture in Thailand are as follows:

3.1 Planning : It is advisable to develop both short-term and long-term plans to drive organic agriculture. This includes budgeting and annual operational plans to address the issue of project discontinuity, which is a major problem in many areas. The government should provide comprehensive support for organic agriculture, covering production systems, marketing systems, consumption systems, and standardization systems, from the beginning to the end. Additionally, there should be simultaneous implementation of knowledge sharing and technical assistance for both existing and new farmers.

3.2 Tracking and Evaluation: It is recommended to establish systems and tools for tracking and evaluating the progress of the project. This includes providing consultation and problem-solving during the project implementation to ensure its efficiency and achievement of the goal, which is to certify farmers as participants in Participatory Guarantee Systems (PGS) for organic agriculture.

3.3 Collaboration with relevant government agencies and private sectors: Organic agriculture involves various factors that require support, such as water systems or sources, and market distribution. Therefore, the Department of Land Development should collaborate with relevant government agencies and private sectors to assist organic farmers in these aspects.

3.4 Building consumer confidence: It is crucial to build consumer confidence in order to increase the sales of organic

agricultural products. Therefore, the Department of Land Development should allocate a budget for the Participatory Guarantee Systems (PGS) project that includes communication and marketing activities through various media channels to reach and build trust with consumers.

3.5 Marketing: Organic agricultural products in areas with supportive markets, such as the Sanam Chai market that supports organic agricultural products from Prachin Buri province and Lemon Farm Company that purchases organic agricultural products (watermelons) from Yasothon province, have resulted in organic farmers in the Participatory Guarantee System (PGS) achieving their goal of being certified organic or PGS certified. Therefore, the government or the Department of Land Development should have policies to develop markets or distribution channels for organic agricultural products or develop online markets for organic farmers' groups, in order to increase sales and prices. This can be done by specifying activities and allocating additional budget in the PGS certification program.

3.6 Value-adding: Organic agricultural products generally do not command higher prices than chemically grown products. However, when there is processing or development of packaging and labeling that effectively communicates and builds consumer confidence, organic products can have clear value-added benefits. Therefore, there should be activities and budget allocation to further develop value-added aspects of organic agricultural products in the PGS certification program.

3.7 National Agenda on Organic Agriculture has been promoted for a long time but has not achieved the desired success. Therefore, the government should designate Organic Agriculture as a national agenda, so that responsible agencies and related organizations can fully implement the policies with the support of the government in all aspects.

3.8 Motivation for Transitioning to Organic Agriculture: The government should provide incentives and motivation for farmers who want to transition from chemical-based agriculture to organic agriculture. This can include price risk insurance, financial support, and production factors.

3.9 Establishment of Funds: The government should establish funds specifically for organic farmers, with registration for organic farmers and support processes in place. These funds can provide financial support and other production factors to enable new farmers who want to transition to organic agriculture to establish themselves.

Additionally, collaborative learning processes should be created.

Research Summary

From the research findings, it was found that the factors contributing to the success and sustainability of organic farming include:

1) Health factors, such as the well-being of farmers resulting in good mental health from practicing organic farming, the perception of safety from consuming organic products, and the overall physical health of the community improved by organic farming practices. Additionally, awareness of safety from chemicals and pesticides used in organic farming.

2) Environmental factors, such as understanding the organic farming practices that lead to better environmental systems, including soil, water, and air quality.

3) Social factors, such as the current social values and acceptance towards organic farming, inspiration from successful organic farming examples, and the formation of strong farmer communities resulting from organic farming practices.

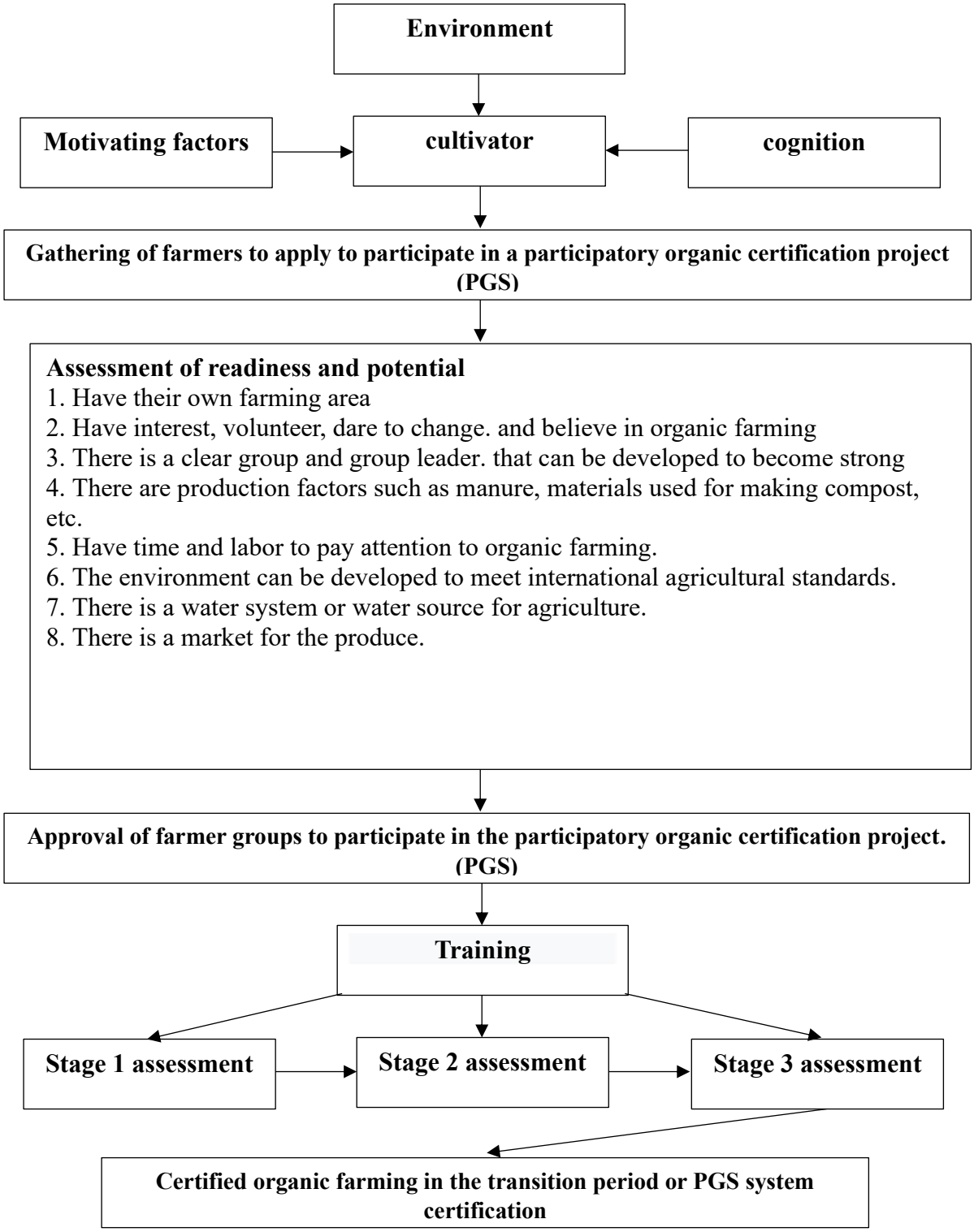
4) Economic factors aligned with the principles set by the International Federation of Organic Agriculture Movements (IFOAM) mentioned in the 2012 Earth Net Foundation, which emphasize the four important aspects of organic farming: Health, Ecology, Fairness, and Care.

Furthermore, in line with the Samai Wansa et al (2019) which collected principles and concepts of organic farming, it is stated that according to the definition of IFOAM, an international network of organizations in the field of organic farming, organic farming is a production system that emphasizes the sustainable health of soil, environmental systems, and people. Organic farming relies on ecological processes, biodiversity, and natural cycles.

From the research findings, it was found that the successful model of organic agriculture can be expanded to other areas. Farmers are motivated to participate in the Participatory Guarantee System (PGS) for organic agriculture certification due to various factors such as health benefits, environmental factors, mental well-being of farmers, perception of the safety of consuming organic produce, improved community health due to organic farming, and awareness of the safety from chemicals and pesticides in

organic farming. Social factors include social values and acceptance of organic agriculture, as well as inspiration from successful organic farmers and the strengthening of farmer groups/communities through organic farming. Economic factors include understanding and awareness of the market/demand for organic products, increased prices/income from organic farming. The study by Phraerawi Kehasuwan et al (2018) collected ideas and theories about participatory organic agriculture systems and stated that the Participatory Guarantee System (PGS) is a community-based organic certification system following international organic agriculture principles and standards. It emphasizes strong and continuous participation of community members with shared responsibilities and benefits, building trust, social networking, and exchange of learning. It is also consistent with the study by Dusit Athinuwat et al (2016) which mentioned that the PGS group process should be conducted based on the PGS principles of IFOAM, which are internationally recognized. The principles include participation, exchange of opinions, transparency, trust, horizontal relationships, and learning processes. It focuses on farm visits and evaluations of group members' farms as part of the learning process.

A successful organic farming model that can be expanded to other areas has elements and relationships can be written as a chart as follows.



Picture 1: Organic farming model that is successful and can be expanded to other areas.

Recommendations:

1. Strengthening farmer groups: A strong farmer group can lead its members towards the goal of obtaining organic certification or participating in the Participatory Guarantee System (PGS). Therefore, it is important to strengthen the farmer groups that participate in the project. This can be achieved through effective group management, such as planning, communication, division of labor, and adherence to ethical principles.

2. Group Leadership Development: Group leaders play a crucial role in setting the direction of the group and serving as the leaders and coordinators between the members, government agencies, private organizations, and other groups. They also handle various problem-solving tasks within the group. Therefore, it is essential to develop leadership qualities and managerial skills among agricultural group leaders. This includes emphasizing the importance of their role and incorporating additional activities within the Participatory Guarantee System (PGS) project.

3. Self-assessment: Farmers or agricultural groups should undergo self-assessment along with the responsible project officers to ensure their preparedness in achieving the PGS certification. This self-assessment process helps instill confidence that they can successfully meet the PGS standards without any significant delays or setbacks.

4. Systematic management of agricultural land is necessary for organic farming, particularly in small-sized areas with sufficient water sources. This is because farmers with large land or limited access to water tend to not participate in the project. Therefore, government officials responsible for the areas should provide guidance on systematic land management that can assist farmers interested in organic farming, but have the aforementioned limitations. Examples of such guidance include allocating a portion of the land for organic farming, implementing solar-powered irrigation systems, and adopting integrated farming approaches such as the "New Agriculture Theory" and the "Mound-Pond-Field Model"

Next Research Proposal:

1. The primary issue and challenge faced by farmers in organic farming is marketing, which leads to a decrease in consumer confidence. Hence, it is necessary to conduct research on the marketing of organic agricultural products.

2. The success of organic farming varies across different regions and types of crops being cultivated. Therefore, there should be research aimed at developing a model for the success of organic farming among farmers, considering both the geographical area and the types of plants involved.

3.

Bibliography

Dusit Atthiwan, Jintana Intaromngam, Somchai Wisarathapong, Prinya Phonsirichaiwattana, and Laksmi Metapanni. (2016). What is the Participatory Organic Agriculture Standard?**. Thai Journal of Science and Technology**, 5(2), 119-134.

Phraewee Khaesuwan and colleagues. (2018). **Development and Expansion of Organic Vegetable Production System in Land Reform Areas.** Land Reform Office for Farmers (S.P.K.).

Samai Wansa and colleagues. (2019). **Study Project for Developing Potential of Production and Distribution of Organic Agricultural Products: A Case Study of Organic Agriculture Group, Nong Waeng Sog Phra Sub-District, Phon District, Khon Kaen Province.** Bangkok: National Science, Research and Innovation Policy Council (NSRIC).

Soil Weaving Foundation. (2012). **Organic Agriculture**. [Online]. Available: www.greennetorganic.com. Accessed: March 1, 2023.

Vittun Panyakul and Chaiwat Kongsum. (2015). **Study and Compilation of Organic Production and Market Situation.** Bangkok: Office of the Permanent Secretary, Ministry of Commerce.

Vittun Panyakul. (2012). **Basic Knowledge of Organic Agriculture**. (4th ed.). Bangkok: Soil Weaving Foundation.