

Problems and Needs of Local Leaders towards Sustainable Agriculture in Organic Laying Hens Learning

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Abstract

This research aims to study the problems and needs of local leaders towards sustainable agriculture in organic agriculture learning. Participants were 40 local leaders in the communities raising good-humored egg-laying hens. They are farmers who adhere to the sufficiency economy philosophy and intend to develop into an organic egg-laying hen production system in Khao Khitchakut District, Chanthaburi Province, Thailand. The tool used in the study was a questionnaire on farmers: production conditions, problems, and demand issues for good-humored egg-laying hens. The results found that they raised good-humored egg-laying hens and intended to develop into an organic system. However, they had less knowledge, experience, organic feed ingredients and understanding of organic feed production. The problem and demand in production remained at a low to moderate level. Even though the result indicated that the level of problems and needs are not high, knowledge development and the community's understanding of organic farming continue unceasingly since there is a demand for good-humored eggs. The government agencies should promote the transfer of production technology, production standard, inputs support, farm accounting,

group publicity, online marketing, packaging suitable for long-distance transport and give suggestions for the group to have strength and sustainability in production.

Keywords: Agricultural education, Learning community, Local leader, Organic livestock, Sustainable agriculture

1. Introduction

Organic livestock is a way to produce livestock products under an organic agriculture system which is an alternative for farmers or consumers who concern with the effects of agriculture towards well-being of people, animals and environment. It helps the farmers to change in learning a livestock production for being a part of organic agriculture. Organic livestock uses natural substances to replace drugs and chemical substances for raising animals. Agriculture goods are produced under the standard of organic livestock which farmers can be learned through authentic practices (Bahlo et al., 2019).

The standard of organic livestock in the country which is one part of organic agriculture employ basic foundation of holistic agriculture that concern with ecosystem in order to serve and restore environment for a sustainability of resources, society and economy (Leksut & Pituratchareoungkul, 2020). Therefore, organic agriculture focuses on using natural products, avoiding chemical substances and not using transgenic living creatures. Organic agriculture learning also emphasizes on disease prevention such as well management of animal farming, choosing animal breeds that are suitable with natural resources and environment, free-range raising depends on each type of animal's behaviors to prevent stress and create immune system.

Moreover, domestic consumption of organic agriculture products should be supported on a basis of using biodiversity of plants and animals, indigenous knowledge and cultural diversity for self-reliance according to the sufficiency economy philosophy which is a valuable learning and instruction to live in balance (Nuangchalerm & Chansirisira, 2012; Silatejo, 2020). The topography of Chanthaburi province allows people to farm for domestic consumption and commercial purpose. But dramatic changes from economy, society, politics and spreading of disease cause an adaptation of people in the communities.

However, an initial information from interviewing the farmers showed that most of them would like to develop organic livestock together with planting industrial crops such as durian, mangosteen and longkong. Organic livestock requires well-manage and effective system, but most of the farmers lack of knowledge such as farm management, controlling and treatment of animal's diseases including preparing high quality food and lacking of a learning center in their areas. These factors lead to the need of skilled leaders who understand organic livestock system and able to transfer knowledge and give practical suggestions to the farmers.

In order to do this, the research must be conducted to study about problems and needs of the leaders in organic livestock for sustainable agriculture learning. Local farmers can live with natural environments in balance through the way of life and local wisdom (Khastini et al., 2019). The study aims to explore problems in organic livestock of communities in Chanthaburi province. The study is the elements for creating a developing plan for organic

livestock and to improve the appropriate way to solve problem. Local leaders can provide problems and needs to issues about organic agriculture learning as well.

2. Research Framework

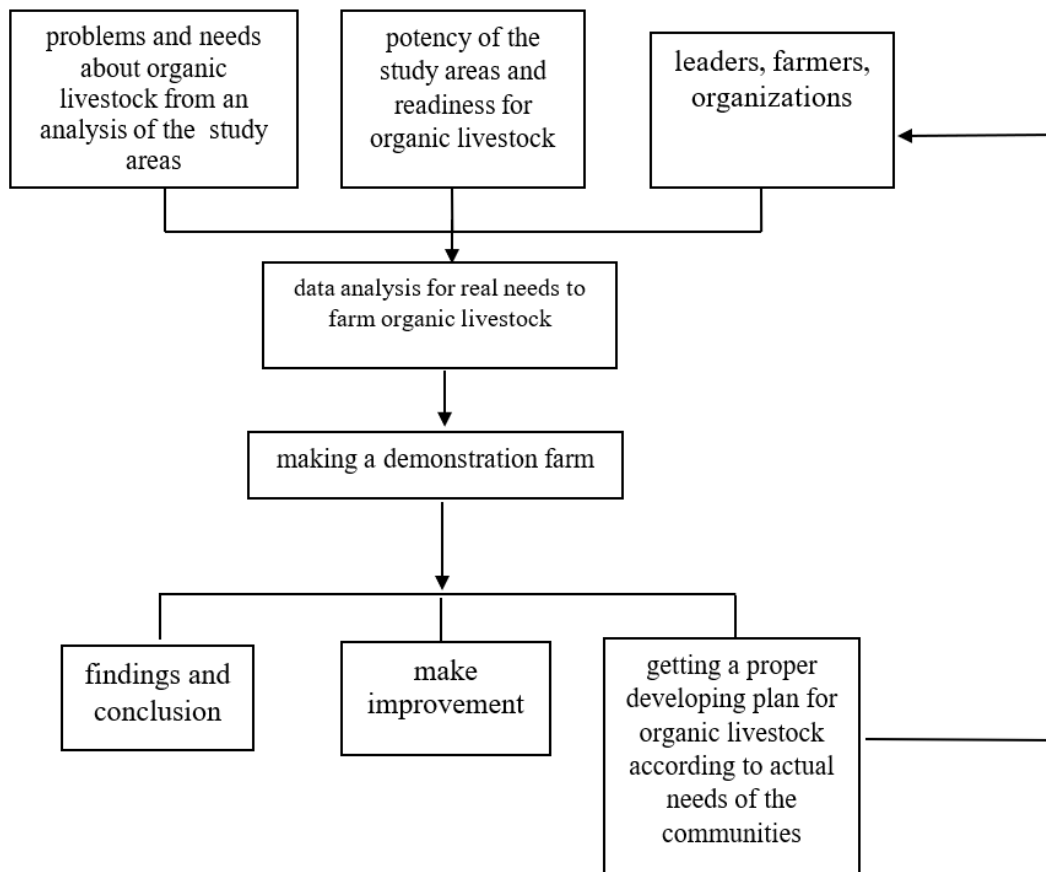


Figure 1. Research framework

3. Method

3.1 Participants

This study was conducted among the communities in Chanthaburi province, Thailand. Forty local leaders from the different communities located in 10 districts were recruited. The districts compose of Mueng district, Klung district, Tha-Mai district, Pongnamron district, Makham district, Leamsing district, Soidaow district, Kanghangmaeow district, Nayaiarm district and Khao Khitchakut district.

Participants in this research were determined as organic livestock farmers who intend to develop their farms to be an organic agriculture which means they would raise good-humored egg-laying hens. Other types of livestock farming have its objective for commercial purpose. Food and drugs for animals are provided from the companies, so these farmers do not meet

the research's requirement.

Twenty of them are male and the rest are female. Their average age is 52.70 years old and they are Buddhist. Fifty percent of the participants graduated elementary school. 50% of the farmers who take care of hens are wives or couples. Average number of people in a family is 4 people and 3 of them help raising hens. Participants take care of hens by themselves at 85.70%.

3.2 Participants

This study employed multi-stage sampling to recruit organic livestock farmers in Chanthaburi province as following;

- (1) Selecting target districts was from the districts that continuously farm organic livestock. The top 3 from the total 10 districts which have the highest number of organic livestock farmers were chosen.
- (2) Selecting target sub-district was from the sub-district that continuously farm organic livestock. The first rank which has the highest number of organic livestock farmers was chosen.
- (3) Selecting target villages was from the villages that continuously farm organic livestock. The top 2 villages which have the highest number of organic livestock farmers were chosen.
- (4) Interviewee samples from each district were recruited by the proportional rate of determined participants.
- (5) Selecting organic livestock farmers was from simple random sampling by drawing names of the farmers from determined villages, sub-districts and districts.

3.3 Research Tools

The questionnaire which had been created from lessons, theories and journals related to organic livestock was used as a tool for data collection. It composed with 3 parts: 1) basic information of farmers in the communities about economy and social aspects; 2) questions about farming conditions, organic livestock and problems; 3) problems and requirements for farming organic livestock. Types of questions appeared in the questionnaire were close-ended question and open-ended question.

Content validity of the questionnaire was tested by 4 experts. Objectives, operative terminology and question structure were attached with the content validity form when sending to the experts. After that Item-Objective Congruence Index: IOC was used to verify the questionnaire. The results showed that the content validity of 3 parts of questionnaire scores in a range between 0.75-1.00.

3.4 Data Collection

Researchers analyzed the study area together with the communities and organizations which emphasized on the community's participation about actual problems and needs in order to prepare data for creating organic livestock development plans. The data was collected by

group interview on the topics about problems and needs of the area and farming organic livestock.

3.5 Data Analysis

This is a quantitative study which employed statistic programs such as frequency, percentage, arithmetic mean, and standard deviation.

4. Results

The results found that the number of male and female participants were equal. Their average age was 52.70 years old and all of them were Buddhist. A half of the participants graduated elementary school. A half of the farmers who took care of hens were wives or couples. Average number of people in a family was 4 people and 3 of them helped raising hens. When 85.70% of the participants took care of hens by themselves, 79% of the participants made a living by farming only, and 14% of the rest had second jobs such as self-employ or merchants.

The results showed that the farmers owned their farm lands in an average of 24 rai (38,400 SQM) The highest rate was at 100 rai (160,000 SQM) and the lowest rate was 2 rai (3,200 SQM). Their average annual income from agriculture was 180,000 baht. An average income from raising hens was 8,151 baht/month. 50% of the farmers made profit 4,684 baht/month. An average number of hens were 240 with the highest rate at 1,000 and the lowest rate at 48. An average number of eggs per day were 152.6 with the highest rate at 500 eggs/day and the lowest rate at 36 eggs/day. All of the participants raised good-humored egg-laying hens and Chongmoohang hens. They had approximately 4 years experiences of hen farming by starting a farm project at Klongplu municipality which supported by the department of livestock development.

The results showed that problems in organic livestock in the communities were at the highest rate to the lowest rate. The highest score was about expensive food supplies. Medium scores were about understanding in food mixing and expenses to do farm. The lowest scores were about advertisement of the communities, environment of a farm, knowledge and experiences and water draining respectively (Table 1).

Table 1. Problems and needs for organic livestock in the communities

Types of the study data	Problems		Needs	
	\bar{x}	Level of problems	\bar{x}	Level of needs
1. Cost and expenses	2.86	medium	3.14	medium
2. Knowledge and experience to raise hens	1.21	lowest	1.93	low
3. Understanding for food mixing	3.10	medium	3.29	medium
4. Environment	1.42	lowest	2.71	medium
5. Supporting from government and private sectors	1.64	low	2.21	low
6. Advertisement	1.50	lowest	1.79	low
7. Food supplies	3.71	high	2.21	low
8. Selling price	2.50	low	2.07	low
9. Price controlling	2.43	low	2.64	medium
10. Water draining	1.07	lowest	2.36	low

Needs of the communities to farm organic livestock were at the medium and low rates. The medium rates were about understanding for food mixing, cost and expenses, environment and price controlling respectively. The low rates were about water draining, supporting from government and private sectors, food supplies, selling price, knowledge and experience to raise hens and advertisement respectively.

5. Discussion

Organic livestock in the communities is an indigenous wisdom of living. This research shows that problems and needs of the farmers to do organic livestock in Chanthaburi province are at the lowest rate to medium rate except the problem about expensive food supplies. The farmers own their farm lands in an average of 24 rai (38,400 SQM), and they grow various kind of plants such as fruit trees, rubber trees and vegetables. The farmers do not use insecticide or chemical substances. The annual income is approximately 180,000 baht. An average income from raising hens is 8,151 baht/month. A half of the farmers make profit approximately 4,684 baht/month.

The problems about understanding for food mixing and cost are at medium rate. These may come from knowledge exchange among people in the communities, so it decreases such problems (Sriprasert, 2016; Pokanit, 2019; Mongkolkajornkitti & Apinonteerakda, 2019). Besides, the lowest scores of the problems are about advertisement of the communities, environment of a farm, knowledge and experiences and water draining respectively. These are according to the point that farmers in Chanthaburi perform their careers for a long time, so they have knowledge and experiences which transferred from generations. An important

factor is a concept of changing from domestic agriculture to commercial agriculture that may affect organic livestock in the communities because environment and natural resources are changed (Kittiserichai, 2019).

Therefore, a government sector should support and maintain standard of qualified organic livestock. This can create trust in customers and support sustainable learning center (Boonrom et al., 2020). Needs of the communities to farm organic livestock is at the medium and low rates. A medium rate is about understanding of food mixing, so this reflects confidence of farmers that they have enough knowledge to do organic livestock. It may cause a lack of certain knowledge and proper technology to increase products and maintain production standard. Therefore, a government sector should take part to support, promote and give suggestions (Mugunieri et al., 2004; Millar & Connell, 2010; Yotsuk & Kawichai, 2017).

Moreover, the factors about cost, environment and price controlling may come from the fact that farmers might bring their own sources and materials in the communities to do domestic agriculture. But if their needs change from domestic to commercial agriculture, they require cooperation from various organizations. The low rates of needs are about water draining, supporting from government and private sectors, food supplies, selling price, knowledge and experience to raise hens and advertisement respectively. These needs are acceptable because farmers emphasize on domestic agriculture rather than commercial agriculture (Sakam, 2018; MacLaren et al., 2019; Lovarelli et al., 2020).

It can be provided suggestions that farmers should cooperate with related organizations in order to support their production supplies, knowledge, cost reduction and household accounting. Organic livestock system is a way of raising animals by concerning of their safety and ranged free. Government sectors especially the department of livestock development should take part in the communities to transfer production technology and production standard, support production supplies, farm accounting, advertisement, online market, packaging for long distance delivery including any essential suggestions. Especially food formula, raw material for food mixing, growing plants for animals in a farm and management of the leaders to create sustainable production and income based on participation in learning (Parmin et al., 2019; Vetter, 2020; Osabohien et al., 2022).

6. Conclusion

Local leaders in the communities raising good-humored egg-laying hens had less knowledge, experience, organic feed ingredients, and understanding of organic feed production. The problem and demand in production remained at a low to moderate level. The government or concerning sectors should promote the transfer of production technology, production standard, inputs support, farm accounting, group publicity, online marketing, packaging suitable for long-distance transport and give suggestions for the group to have strength and sustainability in production. The learning community and educational process can help them to success in sustainable agriculture in organic agriculture learning.

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