
The development of new agricultural theory network group in Ban Kung, Surin province Thailand

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Abstract The New Agricultural Theory Network Group was developed in Ban Kung, Surin Province by Participatory Action Research method. The emphasis was on the important participation of all important key stakeholders. It is based on the belief that farmers and all responsible persons have enough potential to develop New Agricultural Theory Networks Group. So research and development are used to develop the learning process. The current study, problems and development were needed, seeking guidance and development method, determined the indicators for development activities. Network group development processes were Network Grouping, the role arrangement of group members and learning together system arrangement. Results found that before the development of farmers to do New Agricultural Theory, people did farming according to their own aptitude with no meeting, no sharing and no communication. But they aimed to establish a new theoretical in Ban Kung, Surin Province to convey their expertise to the farmers or share learning together. Guidelines and methods were developed for a New Agricultural Network Group to set up the new Agricultural Network Group by farmers, and established the role of network members, set up a communication system that can communicate to each other, provided a participatory learning exchange, increased knowledge skills. Appropriate model network group development was started by organizing opportunities and processes for farmers to learn together by sharing experiences. Farmers were a good attitude towards farming according to New Agricultural Theory. It is found that farmers can be a stable career, enough income, improved quality of life, strengthened community for stable and sustainable development.

Keywords: New Agricultural Theory, Network Group

Introduction

Agriculture is one of the most important economic sectors in Thailand and it is a major producer of agricultural products in the world due to the geographical advantages that are appropriated for agricultural production. In addition to produce for domestic consumption, it also has sufficient output for export raw materials and processing. The government has supported and promoted the production of agricultural products to develop agricultural raw

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materials from the Thai kitchen to the world kitchen. That is the reason why the agricultural sector is important for the economic development of the country (Senanarong, 1998). Due to the economic crisis in 1997, the government changed the policy of administration. It is ocused on developing people as a driver of the country's development and to improve quality of life. The happiness of the people is the main goal of the development. The emphasis was on people's participation in the local community. It aimed to improve the direction and development path towards sustainable social, economic and environmental based on the concept of sustainable agriculture development. The philosophy of Sufficiency Economy is a guideline for sustainable development. The emphasis on building a strong social foundation can lead to long-term self-reliance by starting from the change that farmers can rely on themselves enough to eat at the farm level. (Academic Book Center, Phranakhon Rajabhat University. 2011).

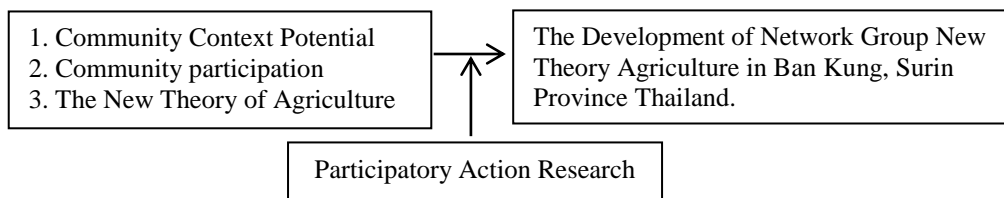
New Agricultural Theory is a model of sustainable agriculture, which is a concrete example of applying the Sufficiency Economy Philosophy. Applying the new theory and concept of agriculture under His Majesty the King's business is referred to apply principles and practices in using land and water sources for agriculture to maximize the benefits of sustainable agriculture. The emphasis is on the management of water resources in the field enough to produce food crops especially rice for consumption in the household. It also produces other crops for consumption and sells the rest to the market to make enough money. The highlight of the new agricultural theory is Food Security (Promthong. 2000). New Agricultural Theory is the way to help people in remote areas can be implemented to reduce the risks that often occur with monoculture. The new theoretical approach, which focuses on household production will help farmers not to face the risk of fluctuations in agricultural prices and have a stable life and focusing on farmers to have their own water pond to reduce the risk of uncertainty of water. Encouraging farmers to integrate is important for production, processing and marketing. It may be in the form of cooperatives to conduct joint activities, after which it must cooperate with funding sources. Organizations that support them to develop and manage for efficiency lead to development in all communities around the country (Promthong. 2000). The combination of people in the community can solve difficult and complex problems that requires a strong community in the process of responding to the needs of the people and progressing out of poverty. It also makes a connection in the economy, society and politics and makes community development work achieve goals. It also strengthens the community and helps the community to develop self-reliant capacity in the future. That is important for community development (Chaiyarat, 2002).

Ban Kung is located at Samrong Thap Subdistrict, Samrong Thap District Surin Province. It is a local community with diverse social capital, natural resources, cultural heritage, belief and lifestyle. In the past, Ban Kung community was a great demand for community development to be strong self-reliant and sustainable. The questions for researchers was the development of the New Agricultural Theory Network Group of Ban Kung community in Surin province and how to develop the New Agricultural Theory Network Group developed in Ban Kung community.

Objectives were to study the context of Ban Kung community towards the development of the New Agricultural Theory Network Group, to study the guidelines and methods of developing the New Agricultural Theory Network Group and to develop New Agricultural Theory Network Group model with the appropriate method in Ban Kung community.

Materials and methods

Conceptual Framework was demonstrated as follows:-



Research and development of New Agricultural Theory Network Group in Ban Kung, Surin Province was determined that network group development process were 1) Network grouping, 2) The role arrangement of group members and 3) Learning together system arrangement. The main informants were 35 villagers and community leaders. The research area was set up as the community of Ban Kung Moo 2, Samrong Thap Subdistrict, Samrong Thap District, Surin Province. The period of operation was started in December 2017 to November 2018.

This research was studied in the field of social sciences as Participatory Action Research. The researcher aimed the reality of the community, the environment, the context of the community including the thinking and learning process of farmers in the community to know about the relationship to adaptation. Change in production and the lifestyle of those who have been educated in the prototype demonstration area and participate in a forum to exchange knowledge, learn new agricultural theories in the community. Use the observation method, In-depth interviews and focus group discussion. The

structured questions was used to analyze by identifying the categories in the research framework to find out the conditions to make participants who visited the prototype demonstration area and participated in the seminar on the exchange of new agricultural knowledge, and adapt to the New Agricultural Theory. The new agricultural network theory group included views of farmers in the community on the sufficiency economy concept.

Research Tools: The questionnaire and participant observation were used to study basic information such as the general condition of the village by observing the environmental conditions of the village and agricultural area. The participatory observation was used by participating in community activities as well as activities of farmer groups within the community. In-depth interviews were individual interviewed from key informants and selected case studies by observing and interviewing farmer families who adapted to new agriculture theory, and the new theory of sufficiency economy. The farmers were interviewed to adopt the traditional production model of commercial farming using open-ended structured interviews. The research was brought the key issues into the main questions from the quantitative questionnaire and conditions of farmers in changing production process, guideline and process of adaptation, thinking and learning process of the new agricultural theory on sufficiency economy concept.

Data collection: the researcher used the participant observation and in-depth interview to interviews with key informants. To explore the context, social, cultural, beliefs and well-being of the community, conditions and factors to adapt production processes, guideline and process of adaptation, thinking method and the new learning process of the new agricultural theory were recorded. The questionnaire was used to collect the baseline population data like age, sex, education. Economic aspects included land ownership, debt, as well as differences in knowledge, understanding, intent, potential intentions, participation and adaptation to new agricultural theories by the following steps. The first step: Researchers were entered the community to build relationships with the community and inform the purpose of doing research for the community. The researcher met the community leaders for their cooperation in the research. During this time, the researchers studied the basics of the history of the community, general conditions of the community, production and lifestyle from the documentation, community leaders and government officials who working in the community. Second step: Once familiar with the community, the researcher studied the insights and tried to join the community. Trying to get involved in community activities such as taking part in charity events including the participation of various agricultural activities, the questionnaire was used to collect data. Third step: The researcher went to the

community to collect additional information on the incomplete part by taking notes, recording including recording activities and events by the camera.

Data were statistical analyzed from the questionnaire by descriptive statistics for frequency distribution and analyzed data from participatory and non-participatory observation. In-depth interview and focus group discussion in Ban Kung community to summarize the key ideas were also concerned.

Results

On the potential of Ban Kung community context found that Ban Kung was a suitable area for agriculture. Some areas can be farmed throughout the year, such as rice cultivation which may be considered as the main agricultural products and rice is one of Thailand's top export products. So the main occupation of the Kung people is farming. Most farmers have agricultural land between 1 to 8 acres, accounted for 94.7%. Mainly 100% of water is used for agriculture. There are 64.1% of water reserves in ponds. Farmers cultivated jasmine rice for 96.4 p%; maize and husbandry were 45.7%, sticky rice 24.9%, sugarcane 10.7 % and cassava 10.7%. The yield of jasmine rice (69.9%) and sticky rice (59.4%) are mostly consumed by the farmers and the rest will sell to the market but the farmers sold all other crops. Average net income from agriculture is between 100,000 and 300,000 baht per year. The problems and obstacles that farmers see as problematic are the high cost of production and the price is falling.

Guidelines and methods for developing new agricultural networks was found that educating to meet the prototype demonstration area, seminar on new agricultural knowledge exchange at Ban Samrong, Tha Sawang subdistrict, Muang district, Surin province. It made Ban Kung people to gain can knowledge to practice, resulting in better quality of life. Making biological substances for use in agriculture for safety life. It also focused on producing enough crops to consume within the household. At the same time, consumers are safe. This reduced the cost of consumers in their land areas. It is enough to live, enough to eat and keep family closed from farming. In addition, local wisdom has been introduced in the area of their own agriculture, such as the use of herbs for pest control.

The study participants who visited the prototype demonstration area and participated in the seminar on the exchange of new agricultural knowledge are introducing new agriculture theory to those who are interested to apply. When the quality of life is improved by the use of new theories of agriculture as a result in important realized and build the learning network. Development of local wisdom to solve agricultural problems in various fields that related to

agriculture. There are invited groups of agriculture to participate in the collaborative group as a group of biological fertilizer, organic agriculture and integrate agriculture to reduce the risk of harm to consumers, who may be members of their own family. It is also supported by local authorities in the field of product distribution and guaranteed seed price. The important thing is to provide knowledge to those interested in farming to implement for improve the quality of life and increased participation in the community. The result is self-reliance. The community has strengthened, leading to the development of a balanced and sustainable life, economy and environment.

The findings on the development of new theoretical models of agricultural networks in the community of Ban Kung. From interviews and observations, the new agricultural theory of the community was concluded that after the study visit in the demonstration area and the seminar on new agricultural knowledge exchange at Ban Samrong, Tha Sawang subdistrict, Muang district, Surin province. People and community leaders have established Organic Farming Groups, Silk Group, Jasmine Rice Seed Group, and Sustainable Agriculture Housing Fund. The people who had been educated in the prototype demonstration area and participated in the seminar on the exchange of knowledge about the new theories of agriculture apply knowledge to be trained in their own area. For example, the use of land for planting has changed the plants to be planted in a variety of areas by studying the types of plant species to be planted, improving the soil fertility by using cow dung in the plots, Water management by reserving water for use in their own area, compost fertilizer from the residual material and use local herbs to prevent disease and insect pests. The yield is reduced in the first period after the chemical is discontinued, then the yield will start to improve and most importantly the yield is safe from toxic substances.

The richness and diversity of the ecosystems in the plots of the study participants in the prototype demonstration areas and the exchange of new agricultural theory is the link between the physical and cultural aspects of the community. This will lead to the idea and belief that when the new theories of agriculture will be sustainable in the area. In addition, the belief in economic self-reliance by reducing expenditure, which is a factor in the production of fertilizers, pesticides and seeds for propagation, reduce food expenditures by producing for family consumption and create interchangeable yield systems. This would make the first phase of agricultural farming more profitable when the yield of the plots varies with the type of plant and animal. The product can be sold in markets in the community and outside the community. Savings are a fully productive system of farming, including saving in the form of knowledge. The physical and mental health of the farm makes the trainees hope for their

careers and their well-being. As a result, people have good mental health, hope and long-range goals are created as well as an old-age pension. It also inherits the inheritance of the children, resulting in commitment and encouragement to adapt to a sustainable agricultural system.

Discussion

The context of Ban Kung Kung farmers before the development of new agricultural theory found: Ban Kung is suitable for agriculture, a variety of crops as Jasmine Rice, sticky rice, maize and cassava. Villagers mainly rely on rainwater and reservoirs for agricultural in the villages. Problems and obstacles that farmers see as problematic are the high cost of production and the price is falling. In accordance with Suwanalap's study (2014), which studies on community context analysis for gathering body of knowledge on New Theory Agriculture based on Sufficiency Economy Philosophy of Ban Tha Ta Sri School, Ta Lang Nai Subdistrict, Wang Nam Yen District, Sa Kaeo Province. In the past, the villagers do their own agriculture, no meetings and no communication. But they also aim to create a new theory in Ban Kung, Surin Province, to share their expertise and knowledge with farmers or sharing and learning together. In accordance with Wongkham's study (2014), which studies on the management of agricultural knowledge using agricultural wisdom based on the new theory: a case study of the network of the local scholar in Buriram Province.

In case of guidelines and methods for developing new agricultural networks found: educating by study visit in the prototype demonstration area, providing the seminar on new agricultural knowledge exchange at Ban Samrong, Tha Sawang district, Muang district, Surin province. Those who have been studying in the prototype demonstration area and participated in the seminar on the exchange of New Agricultural Theory knowledge, the theory has introduced about the subject of farming in the new theory to those who are interested to apply. As a result, the importance and integration of the learning network to solve agricultural problems in various fields that related to agriculture. In accordance with Wongkham's study (2014), which studies on the management of agricultural knowledge using agricultural wisdom based on the new theory: a case study of the network of the local scholar in Buriram Province.

Guidelines for the development of the new agricultural network of Ban Kung, Surin province is the establishment of a new agricultural network in Ban Kung area, Surin province by providing clear information to farmers, participatory communication systems, participatory learning exchanges,

provide new knowledge skills for farmers. In accordance with Punprasit's study (2009), which studies on agricultural production approach by the New Royal Theory for the central farmers.

In case of development of a new theoretical model of agricultural networks with appropriate methods in Ban Kung community. The group of villagers who were educated in the prototype demonstration area and participated in the seminar on the exchange of knowledge on New Agricultural Theory introduced the knowledge that they had been trained to deploy in their own area. For example, the use of land for planting has changed the plants to be planted in the area to make a variety of plants. Improvement of soil fertility by using cow manure as fertilizer in the cultivated plot. Water management by reserving water for use in their own area. The use of local herbs to prevent disease and insect pests that the yield is reduced in the first period after the chemical is discontinued, then the yield will start to improve and most importantly, the yield is safe from toxic substances. In accordance with Nutidhammanit's study (2010) which studies on agricultural model of the Royal New Theory according to geosocial based: a case study of Ban Boonpak, Moo5, Rongkwang District, Prae Province. The development of appropriate networking groups began by organizing opportunities and processes for farmers to learn together by sharing experiences. Farmers have a positive attitude toward planting based on new theories. It is a guarantee that farmers can rely on themselves, have a stable career, earn enough income, better quality of life, the community is strong, and the community economy is stable and sustainable. In accordance with Wongkham's study (2014), which studies on a study of management of agricultural knowledge using agricultural wisdom based on the new theory: a case study of the network of the local scholar in Buriram Province.

When each family is happy with the new theory of agriculture, networking at the community level is crucial to sustainability. The implementation of the New Agricultural Theory was a common learning experience by sharing participatory learning that farmers had come to talk about and exchange experience. That makes farmers can find solutions to problems together. The power of the community to solve the problem at the household level. Farmers can be self-reliant by the synergy of a strong community network. In accordance with Sutthipong Uriyapongsa's study (2009), which studies on summarized lesson-learn and enlargement and Sufficiency Economy Application of upper northern farmers in Agricultural New Theory system.

It is suggested to modify the behavior of farmers to turn to new agricultural theory should enhanced incentive training should be provided

during the study visit in the demonstration area and join the discussion forum on new agricultural knowledge to increase efficiency and effectiveness in applying knowledge for good quality of life, high self-sufficiency leads to new agriculture theoretical behaviorManagement approach for farmers to adapt to new agricultural practices for environmental sustainability in the future, the context of the community should be understood and dealt with. Influence of behavior change in accordance with the condition of the area and society, the culture of the community. The key factors to consider are: making the farmers adapt their ideas by managing learning processes and transmissions that relate to trainees engaging with them, providing information, labor management, use group or group behavior to push, use of appropriate technology, learning management for farmers to know about costs and profits not only price incentive and the quality of life is safe for families and communities. It should encourage farmers to join the group to expand the network of learning and development of folk wisdom related to agriculture. Develop cooperative systems, raise funds, brainstorm or save together. It is important to strengthen the community so that it can negotiate in marketing. They should also find ways to help farmers continue their group activities. In the development of eco-friendly agricultural systems in both short-term and long-term, farmers should be involved in all levels of planning from information on the project and the impact of the project on resources and the environment. Plan for the benefit of the community.

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