
Utilization and Preservation of Agricultural Areas at Baan Bang Rong, Phuket Province

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This study aimed to: 1) explore agricultural area utilization and preservation of 17 farmers domesticating goats and 55 orchard farmers in Ban Bang Rong, Phuket sub-district, Thailand district, Phuket province and 2) compare land use and preservation of agricultural areas of the farmers. The sample group in this study was obtained by purposive sampling. A set of questionnaires was used for data collection and analyzed by descriptive statistics i.e. frequency, percentage, standard deviation, and t-test (independent sample). Results of the study revealed that impacts of land use of the farmers was found at a high level i.e. investment was not worth for the occupation ($\bar{x} = 2.88$); are fertility for the occupation ($\bar{x} = 2.85$); expansion of residential areas ($\bar{x} = 2.85$); and water shortage during the dry season ($\bar{x} = 2.79$). Regarding a guideline for helping the farmers doing agricultural occupation, it included: 1) building consciousness for the youth to love their community and 2) preserving an identity of local culture and tradition. Besides, there was the management of tourist groups to learn ways of their life of people in the community, instillation of new generations to perceive value of agricultural areas, construction distinct points, community coordination, and development of interesting agricultural areas. Regarding the preservation of agricultural areas as source of local food production and accommodating an agro-tourism source of the community, the farmers gave suggestions which were very beneficial as follows: 1) conservation of nature particularly on plant varieties and an50a3 breeds in agricultural areas of the community; 2) develop the agricultural are to be an agricultural learning center; 3) preservation of agricultural areas for new generations to do agricultural occupations and build a residential area; 4) mixed farming of one stop service on yield production and processing for value added and construction of motivation for the youth to perceive value of agricultural occupation and to prevent ancestors' area selling.

Keywords: utilization, preservation of agricultural area, agro-tourism, agricultural community

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Introduction

Effective agricultural land use recording economic, social, and environmental conditions, must be classified according to potential of agricultural area to be appropriate in terms of soil properties, water sources, and environmental conditions to contribute to agricultural occupations of farmers. The preservation of agricultural areas is one method which relies on participation process and strength of the community to purpose a guideline for problem solving for the sustainability of natural resources and environment. This will be the guideline making famers be able to increase production efficiency or self-reliant (Somranjit *et al.*, 2015). Besides, most way of life of people in rural areas does not familiar with agricultural occupations. As a whole, there is peace although there is difference from natural resources and topographic conditions. This includes happiness from freedom, warmth of the family and occupational pride. Finding measures on the preservation of agricultural areas as importance basic production resources must be accelerated. Besides, the protection of agricultural land utilization must have measures to sustainably promote land use. Hence, it is essential to investigate land use and preserve agricultural areas in Baan Bang Rong as well as impacts and problems encountered of the farmers. Regarding an appropriate methods to preserve agricultural areas and utilization in order to preserve resources as a production factor of local farmers to be able to produce agricultural products and sustainable utilization, agricultural areas in Baan Bang Rong, Phuket province is abundant and has diverse resources essential to agricultural occupation. Problem encountered in these areas is agricultural area encroachment for residential areas, small industry, commercial buildings, etc. Eventually, it has a negative impact on social and economic as a whole.

Objectives of the Study

Specifically, this study aimed to investigate:

1. Agricultural land utilization, land holding traits and factors causing the occurrence of change in agricultural land utilization at Baan Bang Rong.
2. A guideline for preserving agricultural areas to accommodate a tourist source.

Conceptual Framework

The conceptual framework in this study focused on the investigation of land use related to occupations of farmers, orchard farmers and farmers domesticating goals. This study change on the conceptual framework of Sudchookiat *et al.* (2007) determining traits and factors having an effect on land use as follows: 1) general traits and land use of the farmers i.e. agricultural

area, investment traits, land title, worthiness and economic returns; agricultural occupations; interest and readiness for farming as a tourist spot; land use and agricultural are preservation and 2) factors on change in land use for agriculture included social quality problem, agricultural occupation perpetuation; promotion by public agencies, environmental conditions, urban community expansion, natural calamity, and land holding security.

Scope and Delimitation

1. Populations in this study were 72 orchard farmers, and farmers domesticating goals in Baan Bang Rong community, Phuket province.

2. Content included: 1) general traits and land use of the farmers i.e. agricultural area, investment trait, land title, worthiness and economic returns, agricultural occupations, interest and readiness farming as a tourist spot, land use and preservation of agricultural areas and 2) factors on change in land use such as soil quality problem, agricultural occupation perpetuation, promotion by public agencies, environmental conditions, urban community expansion, natural calamity, and land holding security.

Methodology

This study employed quantitative Social Science research with the following details:

1. Population and sample group were farmers in Baan Bang Rong community, Phuket province obtained by purposive sampling and non-probability sampling. Data were collected during 5th February - 1st July 2017.

2. Research instrument in this study was questionnaire compound: 1) basic generate data of the orchard farmers and the farmers domesticating goals and 2) land use and preservation of agricultural areas. It was prepared based on documentary review, concepts, theories, and related research. This included empirical fact condition, the questionnaire was checked in terms of objectivity and variety by 3 scholars using finding of IOC (Index of Item-objective Congruence) and its value was equipment to 0.86. Then, the questionnaire was improved based on suggestions of the scholars before data collection.

3. Data collection was conducted in Baan Bang Rong community during 5th February - 1st July, 2017. (72 farmers)

4. Data analyses by using descriptive statistics i.e. frequency, percentage, mean, and standard deviation (Srisathitnarakool, 2002):

Score	Mean space		Level of Problem
3	2.34-3.00	=	High
2	1.68-2.33	=	Moderate
1	1.00-1.67	=	Low

Results

General conduction of land use of the farmers

The investigation of general conditions and land use as well as the preservation of agricultural areas in Baan Bang Rong community aimed to obtain the results to be used in local development for the benefits in agricultural occupations and accommodate an agro-tourist spot in Phuket province. Findings showed that the farmers mostly had there of less than 10 rai. The investment was done by the farmers themselves. Most of them had their own land (97%) and they did not want to rent an area or sell their land (83.3%). Economic returns of agricultural area utilization were 58.3 percent. They perceived that it was worthwhile for agricultural occupation (63.9%). There was an idea or interest in farming as an agro-tourist spot (72.2%). The farmers wanted to attend training on farming as agro-tourist spot (70.8%). They were ready to make their farm as an agro-tourist spot (59.7%). The farmers agreed to farming by themselves and wanted it to be an agro-tourist spot (93.1%).

Factors on change in land use in agricultural occupations

Change in land use of the farmers had many factors due to general environmental conditions involve tourism services. Thus, there was land selling and purchasing or leasing for various service activities receiving higher returns than agricultural occupations. However, the study on factors on changes of land use the farmers caused by various problems i.e. soil fertility problems (52.8%); there was no new generations to perpetuate agriculture occupations (61.1%). In addition, the problems rather had impacts included: residential area expansion (80.7%) and an increase in house estates. For natural calamity having an effect on the farmers included: water shortage (83.3%), the surrounding communities had change in land use (79.2%), and land holding title security (76.4%).

Table 1. Problems as impacts on the farmers in Baan Bang Rong Community, Phuket province.

Problems as impacts on land use of the farmers	\bar{x}	S.D.	Level of impacts
1. Land selling/purchasing	2.74	0.47	High
2. Area fertility for occupations	2.85	0.40	High
3. In appropriate environment conditions for farming	2.71	0.49	High
4. Residential area expansion such as house estate	2.85	0.36	High
5. Natural calamity e.g. drought and flood	2.79	0.44	High
6. There was no new generation to perpetuate agricultural occupations	2.78	0.48	High
7. The investment is not worthwhile for the occupation	2.88	0.33	High
8. Promotion of concerned public agencies	2.76	0.43	High
9. Surrounding communities had change in land use	2.65	0.51	High
10. Land holding title security	2.78	0.45	High
On average	2.78	0.44	High

According to Table 1, a study on problems in impacts on land use of the farmers in Baan Bang Rong community was found at a high level of all items. A highest an average mean score fell into: the investment was not worthwhile; area fertility for occupations; and residential area expansion such as an increase in house estates.

Regarding problems in land use of the orchard farmers and the farmers domesticating goats, it was found that there was no difference in problems. However, problems being impacts on the farmers (more than 80%) included residential area expansion, commercial building construction; natural calamity such as water shortage, and surround communities had change in land use. Land selling/purchasing was found at a high level ($\bar{x} = 2.74$).

Table 2. A comparison of farming as an agro-tourist spot: of the farmers having difference in farming type

Agricultural type	Farming as an agro-tourist spot			
	Interest		Not Interest	
	n	%	n	%
Orchard farmers	51	92.73	4	7.27
Farmers domesticating goats	16	94.12	1	5.88

A comparison of an interest to make farms as an agro-tourist spot of the 2 groups of farmers. It was found that there was an interest to develop their farm to be an agro-tourist spot to generate supplementary incomes of the farmers (< 90%). For in-depth interview, the farmers purposed their opinions and needs to be beneficial about sustainable agricultural area utilization in the future. This

could be a local food production source and the community. This was particularly on incomes of the farmers and the accommodation of tourism. In conclusions, there were details of each aspect as follows:

1. Preservation of agricultural areas in Baan Bang Rong community to have sustainability in tourism.

According to the farmer interview related to the preservation of agricultural areas of the community which was very beneficial to sustainability of agricultural occupations. This included building consciousness to the youth to know the preservation of natural resources and environment; the management of activities promoting knowledge about agro-tourism to the youth, care-taking of cleanliness in the area; promoting villagers to do farming together with tourism; conservation of environmental and natural resources; building safety to tourists; building friendships within the community; promoting by both public and private agencies; improvement and development of landscape to be beautiful; building income generating to the community; and construction of a learning center to disseminate knowledge to the community.

2. Development farmers' area to be a tourist spot of the farmers

According to farmers enquiry about self-farming as an agro-tourist spot in the area in order to help solve various problems. The farmers expressed their opinions about the benefits which would happen from the said activities. That was, it helped solve problems on the capitalist not to interfere in agricultural areas of the farmers; existing of agricultural occupations; income generating i.e. the farmers and economic development within the community; agricultural area conservation; construction of occupations to new generations; assistance in marketing of agricultural yields in the area; pollution reduction; reduction of household expenses; solving problems in debts of the farmers by value added of agricultural yields solving problems in soil sun force and waste water treatment; conservation of various resources in agricultural areas. This conformed to a study of Wongharnchao *et al.* (2001) which found that land loss arising from not fully land use so it needs to find value added method in the area.

Therefore, the farmers proposed a guideline for farming as an agro-tourist spot which could solve area problems in their area. This focused on security of agricultural occupations, preservation of agricultural areas for food production of the community; and preservation of wisdoms on agricultural occupations of the locality.

3. Agro-tourism preparation to help preserve agricultural areas of the community

The farmers proposed a guideline for farming which would help preserve agricultural areas since it would create benefits to the farmers and the community. For example, the farmers generate incomes making tourist perceive

value of agriculture in the conservation of nature in agricultural areas of the community and the preservation of agricultural and residential areas. Importantly, it was the construction of occupations to new generations in the community and value added of agricultural yields. The preservation of agricultural areas was in the hand of capitalists. This conformed to a study of Sanboonpong (2010) and capitalists or external persons who wanted land in the community for business running. The farmers proposed assistance for one another to perceive value of agricultural areas to decrease debt problem. Thus also conformed to a study of Khongthon (2015) and there will have increased area expansion in future.

4. Management of agricultural areas to be a tourist spot including benefit gaining from tourism in Phuket province

The farmers proposed a guideline for the management of agricultural areas to tourist spot including benefit gaining from tourism. For example, holding activities between the farmers and tourists. Mixed farming creates distinction to have attractions in agricultural areas, community participations, income, promotion for people in the community; development and improvement of agricultural areas within the community. There were landscape planning; the construction of a learning center as central media for developing agricultural areas in the community to be a tourist spot; management of adequate yields to needs of tourists; building reliability and confidence to tourists; building community products based on bio-gas, agricultural yields processing, home grown vegetables for household consumption particularly on non-toxin vegetables, and community product promotion.

Conclusion

According to a study on economic condition and foundation of the farmers, most topographic conditions contributed to agricultural occupations. There was Para rubber plantation as a main plant generating incomes to the farmers. This conformed to a study of Muangmoon (2015) which found that Para rubber plantation has increased high production costs. Besides, current conclusion has change in accordance with development of the province focusing on tourism as main incomes and this caused change in forms of agricultural occupations to be other business to cope with tourism dispersing to all answers. Trails of land use for agriculture (97.2%). At present, agricultural area utilization gives economic returns for 58.3 percent. This conformed to a study of Mingthipon *et al.* (1968) and Samranjet *et.al.* (2015) that production of farmers did not contribute to self-reliance and price of agricultural yields were not worthwhile. Thus, it was variable to insecurity in occupations. There was no idea to rent, an area or land

selling (83.3%), the farmers still did the same occupation (63.9%). There was an idea on farming as a tourist spot (72.2%). The farmers wanted a training on farming methods as a tourist spot (70.8%). There was readiness for developing forms to be an agro-tourism source (59.7%) and agreement to farming as a tourist spot of Phuket province (93.1%).

Problems having impacts on agricultural occupations had a rather high average mean score i.e. the investment was not worthwhile with incomes from occupation ($\bar{x} = 2.88$). This conformed to a study of Yibmantasiri *et al.* (2010) which farmers were risky to have increased debts. It also conformed to a study of Khusanthia (2014) which perceived that land loss of farmers was from debt problem condition, problem in area fertility for occupations ($\bar{x} = 2.85$); residential area expansion such as house estate ($\bar{x} = 2.85$); water shortage during the day season ($\bar{x} = 2.79$); and a guideline assisting farmers to do agricultural occupations. Importantly, creating consciousness to the youth to love their community and conserve cultural and traditional identities of local community and development of agricultural areas.

Regarding a guideline for the preservation of agricultural areas to accommodate an agro-tourists spot. The farmer proposed diverse suggestions which were very beneficial. This conformed to a study of Somboonpong (2010) i.e. conservation of agricultural areas in the community; conservation of agricultural and residential areas; mixed farming, production, processing and particularly on creating motivation to the youth to perceive value of agricultural occupations in order to prevent land selling.



Fig. 1. Mixed plant growing between fruit trees and other plants in the same area



Fig. 2. Animal domestication mixed with plant growing

Discussion

According to results of the study, there was an important issue connecting with agricultural development for stability and sustainability if it is well care-taken by concerned agencies. Agricultural area condition of Baan Bang Rong community, Phuket province still be abundant with bio-diversity along the seashore and general areas of the community. It is an important area producing local agricultural products sold to various service places. Since the expansion of community and tourism business, there is adaptation of agricultural occupations for existence. For example, building value added from activities in farmers' area to have yield diversity. Factors having impacts on farmers, there are many aspects which are problems making a decreased in agricultural occupations. Besides, area use begins to change which results in food security of the community. This conforms to a study of Thaworn (2007) which revealed about having no new generations to inherit or develop agricultural occupations of the family; expansion of residential areas; worth whiles of obtained yields and high production costs. It also conforms to a study of Na Ayuthaya and Setsirote (2010) which revealed about solving problems in access to soil resource which must have fair income distribution as well as building good governance between the capitalist and those having few incomes. However, one strong point of agricultural areas in Baan Bang Rong community is an agricultural product producing source staying with the community having high consumption. There are tourism service places which highly need agricultural products. However, farmers cannot produce it in time for needs of the tourism service places. Thus, it is a good chance for farmers to produce quality products which are adequate for consumption.

Suggestions

1. According to results of the study, it was found that both groups of farmers had no difference in land use. However, factors on change of land use as a problem were found more than 80 percent i.e. expansion of residential area and water shortage during the dry season. Therefore, the farmers must have a good production plan or highest effective land use. This is because the price of land there is high which may not worthwhile for investment.

2. The farmers face a problem in the in hesitation of agricultural occupations of new formalities. Hence, concerned agencies should hold training on the construction of consciousness to the youth to perceive importance of agricultural occupations. The development of farming to be an agricultural business can cope with change in topographic condition affectively.

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