

# Factors Related to Attitudes about Kai Noi Rice Production under Folk Culture of Farmers in Xiangkhoung Province, Laos P.D.R

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## Abstract

This study was conducted to investigate: 1) socio-economic attributes of farmers growing Kai Noi rice; 2) attitude towards Kai Noi rice growing of the farmers; 3) factors related to the attitudes towards Kai Noi rice growing of the farmers. The sample group consisted of 313 farmers growing Kai Noi rice in Xiangkhoung province, Laos P.D.R. A set of structured-questionnaires was used for data collection and analyzed by using descriptive statistics and multiple regression. Finding showed that about one-half of the respondents (50.8%) were female and 47.42 years old on average. More than one-half of the respondents were elementary school graduates and below. Almost all of the respondents were married with 5.09 household members and 3.236 household workforce on average. The respondents had 10.58 rai of farm land and had farming experience for 15.73 years on average. They had an annual household income for 102,590 baht each on average. As a whole, the respondents had a high level of knowledge and understanding about Kai Noi rice growing. Also, they had a high level of attitudes towards Kai Noi rice production ( $X_{\bar{}} = 3.60$ ). The following had a relationship with the attitudes : sex, educational attainment, debt, household members, household income, experience in Kai Noi rice growing, being a group member, and knowledge about Kai Noi rice growing.

**Keywords:** Kai Noi rice, attitudes, folk culture

## Introduction

Rice is an important staple food of Laotians in terms of social, economic, and cultural aspects. An income earned from rice growing in Laos P.D.R accounts for 17.23% of the country's G.D.P. Besides, it creates a job opportunity for farmers in the agricultural sector for 86.00%. Nowadays, rice growing in Laos P.D.R covers an area of about

5,455,600 rai or account for 80 percent of the whole crop cultivation area in the country. In other words, Laos P.D.R can produce unmilled rice for about 4.12 million tons per year or 768 kg per rai on average. Moreover, rice is an important exported product of Laos P.D.R which can generate revenue for millions baht each year. Importantly, rice plays an important role in the creation of the

country's food security (Lao Statistics Bureau, 2015).

The 8<sup>th</sup> National Social and Economic Development Plan (2006-2020) of Laos P.D.R set a goal of country's rice production to be at 4.5 million tons per year. This was to be responsive to needs for food of people in the country and the surplus could be sold or exported (1-1.5 million tons per year). In order to archive this goal, the government had to promote farmers to practice modern farming with good yields. This also included improvement of production system in a form of terms, forming a production group, community enterprise establishment, and model family in agricultural production. In addition, the public sector assisted farmers by providing a good irrigational system, modern agricultural tools, production factors (such as fertilizers and new rice varieties), and new method for increased yields. All of these aimed to gain yields as set in terms of quantity an quality. Interestingly, it could be value added for agricultural products (ໄລ້ ກໍາລັງທຸນ, 2016).

In addition to increased rice yields under the goal as set, the current competition in agricultural products also emphasizes on quality and safe food on the basis of environmentally friendly farming. Indeed, Kai Noi rice cultivation is an alternative of farmers for sustainable and good life. Since Kai Noi rice growing is a popular product among Laotians, the Laos P.D.R government support and promotes Kai Noi rice to be an important product of the country. Hence, rice farmers there must understand guidelines for Kai Noi rice production. In fact, there is dissemination of this knowledge beginning with soil preparation up to Kai Noi rice processing for value added (Ministry of Agriculture and Forestry, 2017).

In order to support data for the public/ private sectors and various international

organizations as level as interested persons, Kai Noi rice is ranked in top-five of main products. According to the strategic plan of Xiangkhoung province (2015-2020), the price of Kai Noi unmilled rice was 13-15 bath per kg. At present, the beer Laos company orders Kai Noi rice for beer Laos production. It is mainly from Muang Pak, Muang Khoon, Muang Phaxai, and Muang Phukood since all of these have suitable climate and environment for Kai Noi rice growing. Main prominent of Kai Noi rice include soft and good smell. Actually, Kai Noi rice becomes to be part of Laotian culture and livelihoods and it is related to local tourism such as "Kai Noi Boon festival". This festival celebration is held after the harvest of Kai Noi rice in November of each year. As a matter of fact, Kai Noi rice is grown under experience and folk wisdoms inherited from generation to generation. Each place has its own rice seed keeping method and familiarity. Therefore, the researchers and interested in the investigation of farmers attitudes towards Kai Noi rice production in Xiangkhoung province. It is expected that data gained from this study can be used for promoting Kai Noi rice production under folk culture in Xiangkhoung province and its vicinity.

### Research Methodology

This study employed quantitative method to investigate factors having relationships with attitudes towards Kai Noi rice production under folk culture of farmers in Xiangkhoung province, Laos P.D.R.

### Population and sample group

The population in this study were farmers growing Kai Noi rice in Xiangkhoung province and the sample group was obtained by multi-stage sampling (Suwatthee, 1998) as follows: 1) Random sampling was conducted with 20 villages 20

villages (1,453 household: Kangwing, Pone, Lao, Yon, Lardbouk, Na-U, Chang, Phosi, Nasai, Napo, Kherng, Na Saithong, Nag-nguam, Puwiang, Piang Luang, Hor Kang, Chiangdia, Nahung, Nakho, and Nawang; 2) The sample group was determined in accordance with the formula of Taro Yamane with the reliability at 95%; 3) The population of each village was set by using comparison of the triangulation law; and 4) Selecting of farmers to be interviewed by using lottery method.

#### Data collection

Two types of data source were used in this study: primary and secondary data. The farmer involved the collection of data from documents, research reports Xiangkhoung province annual report, and basic data on Kai Noi rice growing of the Agriculture Bureau and Xiangkhoung Provincial Forestry Office. The latter included the use of questionnaire as a tool for data collection administered with farmers growing Kai Noi rice in Xiangkhoung province.

#### Data analysis

Obtained data were analyzed by using the statistical package for the Social Sciences Program. Socio-economic attributes of the respondents were analyzed by using descriptive statistics- percentage, mean and standard deviation. Data on the respondent attributes towards Kai Noi rice production were analyzed based on the 5-rating scale of Likert as follows:

Score	Agreement level
5	= Highest
4	= High
3	= Moderate
2	= Low
1	= Lowest

Score range	Description
4.51-5.00	Highest
3.51-4.50	High
2.51-3.50	Moderate
1.51-2.50	Low
1.00-1.50	Lowest

Enter Multiple Regression analysis was used for finding factors having relationships with the farmers attitudes towards Kai Noi rice production.

#### Results and Discussion

Results of the study revealed that about one-half of the respondents were female and their average age was 47.42 years. Almost all of the respondents (90.7%) were married. More than one-half of the respondents were elementary school graduates (62.9%), ethnic group (77.3%) and Buddhist (97.4%). The respondents had 5.09 household members and 3.23 of them were household workforce. They had 10.58 rai of agricultural area each 15.7 years of experience in farming and their annual household income was 102,590 baht. Most of the respondents had no social position. They contracted agricultural extension worker for 1.34 time and perceived concerned data for 39.9 times per year on average.

Regarding an analysis of factors related to the respondent attitudes towards Kai Noi rice production, 17 independent variables had an effect on the attitudes (47.60%,  $R^2=0.476$ ). The rest (52.40%) were influences of other variables not specified in this study. Based on the independent variables having on effect on the attitudes towards Kai Noi rice production (sig. 0.01), 8 variables were found to be positive : sex, educational attainment, debt, household income, household members, experience in Kai Noi rice growing, being a group member, and knowledge about Kai Noi rice production.

1) Sex There was a statistically significant relationship between sex and the attitudes. Results of the study showed that the female respondents were more interested in Kai Noi rice growing than the male respondents. This might be because Kai Noi rice growing is a main activity of farmers in Xiangkhoung province and rice is a staple food. In other words, it is a Laotian culture and male is considered to be the family head as well as the leader of agricultural practice. Results of the study showed that most female farmers support agricultural activities such as yield sorting and packaging. Other duties of female farmers included homechores such as cleaning, cooking and child care-taking. This is different from male farmers whose main duties are farming and income earning. Folk culture of Xiangkhoung province determines makes to be the family head and makes decision for their family. Makes are important to the agricultural sector in terms of workforce such as land clearance, soil preparation and yield delivery.

2) Educational attainment It could be seen that farmers having high educational attainment tend to have better attitudes towards those having low educational attainment. This might be because those having high educational attainment can access data on a comparison of Kai Noi rice production costs and its price in the market. At present, the price of Kai Noi rice is in equal which might be because most farmers have been growing it for a long time with various growing method. Results of the study conform to a study of Kritsada (2016) which found that education has a positive relationship with attitudes towards the philosophy of sufficiently economy. Besides, they suggested that it should have potential development of people in the community particularly community leaders in terms of knowledge, understanding and good attitudes towards the philosophy of sufficiently economy. Then, these will be

able to transfer concepts of the philosophy to people in their community continually.

3) Household debt There was a relationship between household debt and attitude towards Kai Noi rice growing. It can be seen that debt problem of farmers is a serious matter happening for a long time. This financial burden makes farmers suffer a lot caused by loaning for agricultural investment and household expenses. This conforms to a study of Ronnarongsuk (2015) which found that most farmers face debt burden due to high agricultural production costs. In this case, rice and cassava groups cannot expect future production costs and yield price. Consequently, there is a problem in uncertainty of agricultural careers and farmers have to look for a sideline job. This is an alternative for them to find a supplementally income and reduce debts. It was also found that concerned public agencies have to assist them in terms of production costs and yield price management based on market price reference and sufficiently for living.

4) Household income There was a relationship between household income and attitudes towards Kai Noi rice growing. The total income has a relationship in the same direction with debt since the total income has a relationship with the attitudes. This is due to agricultural investment gains from loaning while supplementally incomes has an effect on decreased debts with a significant level. Since a sideline job does not need an agricultural costs so the relationship direction is opposite to the agricultural costs. This conforms to a study of Kruekum *et al.*, (2019) which found that increased incomes of a farmer household has an effect on attitudes towards innovation transfer from folk wisdoms. Therefore, increased household incomes tends show knowledge and various methods about agricultural production which meets need of the market in terms of quantity

and quality. This is reliability creation to farmers and leads to an opportunity to transfer knowledge and skills to household members. It is on the basis of the benefit of local wisdoms which help increase incomes and an economic opportunity.

5) *No of household members* There was a statistically significant relationship at 0.05 between a number of household members and the attitudes towards Kai Noi rice growing. This is because a more number of household members has an effect on a better attitudes towards Kai Noi rice growing. Many household members can do a lot of activities on Kai Noi rice production. At present, there is a decrease in agricultural and household workforce so it needs to hire for workforce.

6) *Experience in Kai Noi rice growing* There was a relationship between experience in Kai Noi rice growing and the attitudes towards Kai Noi rice growing. This implies that farmers who have been growing Kai Noi rice for a long time usually have better attitudes towards Kai Noi rice growing than those having less experience. This is because those having more experience accumulate knowledge and skills in good practice of Kai Noi rice production. It conforms to a study of Thongprecha and Nalampang (2011) which found that farmers having many years of experience in organic fertilizer application usually accumulate knowledge, skills, attitudes and good practice. It also conforms to a study of Janthong and Sakkat (2016) which found that experience in mango production had a statistically significant relationship at 0.01 with the adoption of appropriate agricultural principles. In other words, farmers having long experience in mango orcharding are experts and ready to develop themselves all the time.

7) *Being a member of an agricultural organization* There was a relationship between being a member of an agricultural organization

and good attitude towards Kai Noi rice growing. It can be seen that farmers who are members of an agricultural organization usually have better attitudes towards Kai Noi rice growing under folk culture than those who are not. This is because these farmers have opportunities to exchange knowledge and experience in Kai Noi rice production. It conforms to a study of Siriwiriyasomboon (2016) which found that being a member of an agricultural organization is an important factor to the adoption of organic rice production. This is because there are opportunities to exchange knowledge and experience with other farmers. Besides, educational trip has a positive effect on the adoption of organic rice production due to the application of knowledge and experience gained from the educational trip.

8) *Knowledge about Kai Noi rice growing* There was a relationship between knowledge about Kai Noi rice growing and attitudes towards Kai Noi rice growing. This is because increased knowledge about Kai Noi rice growing tends to have an effect on good attitude towards Kai Noi rice production. In other words, having a body of knowledge about Kai Noi rice production help perceive and understand its benefits and good practice guidelines. This is particularly on method of production, cultivation, care-taking, harvest and processing. Importantly, it must put the important on clean and safe yields under good agriculture practice. Jiumpanyarach (2017) conducted a study on factors effecting the sustainability of organic agriculture in Thailand. It was found that the lesson from small-scale farmers has similar attitude towards normal agriculture and organic agriculture system. However, the decision making to purchase depends on an idea and behavior of an individual and household. This included economy, existing natural resources, knowledge, management, statistics on demand and supply and possibility

of organic farming. Farm management focusing on risk reduction, technology, self-capability perception have an effect on competency of task performance of personnel of the Bank of agriculture and Agricultural Cooperative. The researchers propose that human resource management is essential to business running of every organization. It aims to promote potential

in competition and successful business operation. Kramol (2014) conducted a study on factors effecting behaviours on the purchase of organic agriculture yields (non-toxin) of the farmer market in Chaing Mai. It was found that consumers having high educational attainment and income tent to purchase non-toxin or organic yields mor than ever.

**Table 1** Factors effecting farmer adoption of rice production technology under good agricultural practice

Independent variables	Dependent variable		
	B	T	Sig.
Sex	.119	2.987	.003**
Age	-.002	-1.310	.191
Marital Status	-.002	-.034	.973
Education attainment	.136	2.915	.004**
Funding source	-.056	-1.425	.155
Debts	.215	5.031	.000**
Family member	.025	2.065	.040*
Family Income	-.001	-3.661	.000**
Farming area	-.009	-1.954	.053
Farming experience	.007	2.463	.014*
Social occupation	-.024	-.310	.757
Channels for receiving information	.028	.215	.830
Agricultural group member	.133	3.298	.001**
Agricultural staff contact	-.029	-.689	.492
Agricultural training/educational trip	.013	.310	.757
Participating in traditional rituals	-.059	-1.047	.296
Knowledge about Kai noi rice production	.128	10.225	.000**
		R <sup>2</sup> .476	F 15.785
		Sig. F .000**	

**Remarks:** \* Statistically significant level at 0.05

\*\* Statistically significant level at 0.01

## Conclusions

Results of the study can be concluded that the Kai Noi rice farmers in Xiangkhoung province have a high level of attitudes towards Kai Noi rice production. There are 8 variables having a statistically significant relationship with the attitudes towards Kai Noi rice production: sex, educational attainment, debt, a number of household members, household income, experience in Kai Noi rice growing, being a group member and knowledge about Kai Noi rice growing.

## Recommendations

Having experience in training or educational trip of the respondents make them have increased attitudes towards Kai Noi rice production. Therefore, they should be promoted to adopt modern technology for the production of high quality Kai Noi rice and processed products. Also concerned public agencies should extend knowledge for Kai Noi rice farmers about marketing. Results of the study indicated that high educational attainment make the Kai Noi rice farmers have good attitudes towards Kai Noi rice production. Hence, the Agricultural extension agency should send its personnel to visit them continually in order to perceive problems encountered and help solve it. Agriculture and forestry personnel, community leaders and public/private sectors concerning with body of knowledge building and technology transfer should play roles in the promotion and development of Kai Noi rice production as well as marketing. This will help Kai Noi rice farmers have increased incomes and results in a better livelihoods.

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