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Factors Affecting Income of Farmers Who Farm People in Phayakkhaphum Phisai District, Maha Sarakham Province

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Abstract:- *The objectives of this study aimed to, 1) the context and general economic conditions of farmers' farms in the village, and 2) the factors affecting the income of farmers' farms in the village. The collection by survey with a questionnaire with 135 samples of farmer's farms in villages No. 9, 10, and 15, Lan Sakae Sub-district, Phayakkhaphum Phisai District Maha Sarakham Province to the data. Data analysis to analyze by descriptive statistical analysis including percentage, mean, and standard deviation. The results that the context and general economic conditions of farmer's farms in the village to most of the 79 people as male (58.5%), 64 people (47.4%) as under primary education, the minimum age was 26 years, (58.2%), the minimum area for farming as 1 rai, the income of farming as the lowest of 900 baht, the highest of 114,600 baht, the average of 28,836.6667 baht. Factors affecting the income of farmers who farmed at a significant level of 0.05., such as the size of the farming area and the income of farming. The variables that did not affect the income of the farmers' farm at the level of 0.05, such as sex, age, number of workers, and irrigated area.*

Keywords: Income; Farmers; Farm People

Introduction

Agriculture has been the basic occupation of people in Thai society for all ages. About two-thirds of the population is in agriculture, agricultural development has always been an important goal of national development with a focus on better incomes and higher livelihoods. A key factor in contributing to the success of economic development is the widespread adoption of production techniques among peasants. It is well known that Thailand is a country that is mainly agricultural and mainly farming. Therefore, the government needs to improve agricultural work first, the national economy will be better, the people will have better-living conditions.

First of all, it is necessary to consider how many factors such as land, labor, capital, and management exist, and how they relate to each other. Overall farm income, as measured by the Farmers Income Index, found that in February 2019, an increase of 3.89 percent from February 2018, was a result of the price index rising by 0.65 percent, with the major commodities increasing in prices such as paddy, cassava, and pigs. The production index increased by 3.21 percent, with the main products having increased production, namely Paddy rice, maize, rubber, oil palm, broiler, and chicken eggs. But considering the March 2019 Farm Income Index trend, income fell 6.39 percent as a result of lower price indexes (Ministry of Agriculture and Cooperatives.2019).

Overall farm income as measured by the Farmers Income Index in May 2019 stood at 145.04, an increase of 1.14 percent from May 2018. This was a result of a 0.62% increase in the production index. Cassava, maize, rubber, durian, oil palm, broiler, and eggs. and the price index increased by 0.52%, with the main products increasing in price were pineapples, durians, pigs, and white shrimp Vannamei (Bureau of Agricultural Economic Research. 2019).

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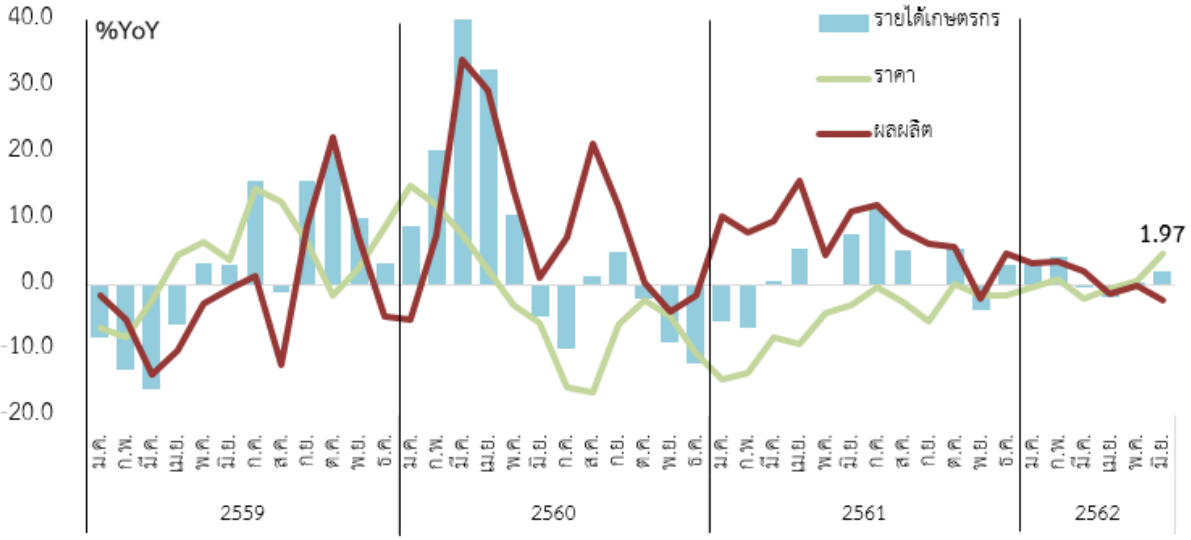
Table 1 Changes in Agricultural Economic Index

(Unit: Percent)

List	2018	2018			2019			
		First half	Second half	Quarter 4	Quarter 1	April	May	June (p)
Farmer income	0.46	-0.03	1.77	0.25	2.15	-2.04	1.14	1.97
Agricultural products	6.48	9.75	3.93	1.42	2.86	-1.39	0.62	-2.51
Agricultural price	-5.66	-8.91	-2.07	-1.15	-0.69	-0.66	0.52	4.59

*Note: %YoY is compared to last year, p is preliminary.
Source: Agricultural Economic Operations Center, Office of Agricultural Economics

ภาพที่ 1 แสดงดัชนีรายได้ ราคา และผลผลิตสินค้าเกษตร



ที่มา: ศูนย์ปฏิบัติการเศรษฐกิจการเกษตร สำนักงานเศรษฐกิจการเกษตร

For the community area of Village No. 9, Village No. 10, and Village No. 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province, geographically is a lowland area, most of the population in the area is agricultural, which has the main income from Do farming. However, due to the economic downturn, rice prices continued to decline, which affected household incomes. From the foregoing, the researcher is interested in studying the factors affecting the income of farmers who farm in the village community of Village No. 9, Village No. 10, and Village No. 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District. , Maha Sarakham Province. This is to study the context and general economic conditions of the community and as a guideline to improve the quality of life of the households, therefore it is appropriate to do so for the benefit of all parties involved.

Research objectives

The objectives of this research were to study the context and general economic conditions of the community at Village No. 9, Village No. 10, and Village No. 15, Lan Sakae

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Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province, and to study the factors affecting the income of farmers who farm, Lan Sakae Sub-district, Phayakkhaphum Phisai District, Maha Sarakham Province

Research hypothesis

Factors affecting the income of farmers who farm are sex, age, labor, area size, cost, and irrigation area.

Research scopes

1. Limit the scope of studying the monetary income of households in Village No. 9, Village No. 10, and Village No. 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province.
2. Study only the factors affecting the income of farmers who farm in Village 9, Village 10 and Village 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province.
3. Study only the farming households in Village No. 9, Village No. 10 and Village No. 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province.
4. The data collection period is the 2018/19 crop year (1 May 2018-31 June 2019).

Literature Review

There has been a considerable amount of research into the factors affecting the income of farming farmers. Most of the studies aimed to study the factors affecting the income of farmers who farmed. The factors of the sample group are different, which can be summarized as follows:

Srinualjan, K. (1992) studied income distribution and income composition of agricultural households in Nakhon Ratchasima province. The income that a farmer's household receives from plants, animals, from other sources in the agricultural and non-agricultural sectors is the income that causes unequal distribution of the farmer's income with the Gini coefficient of 0.396. As for employment and subsidy, it is the income that improves the distribution of income among the majority of farm households. The genie coefficient of the households received thus requires farm households to seek additional income in addition to their main occupation income in the sector. Agriculture and non-agricultural sectors. And Srinualjan, K. cited a study by Areepakorn, K. (1990), which reported that the proportion of people living below the poverty line dropped from 57% in 1906/06 to 18 percent. of the entire country's population in 1990. The northeastern region faced the most severe poverty at 28 percent, followed by the southern, northern, and central regions, which accounted for approximately 15 percent. Although the country's poverty has declined, the number of poor people in the 1990s was about one-fifth of the country's population, accounting for 80% of the country's poor farmers. This is caused by natural production, fluctuating farm prices, and limited supplementary income. The problem of poverty in rural areas is more severe than in cities. In the country as a whole, when considering the income and expenditure components of the average farmer, agricultural income plays an important role, about 60% and 40% is non-farm income. The northeastern region has similar income from both sources, but the central region has a high proportion of agricultural income because it has better economic infrastructure. Irrigation systems and roads for transportation deliver products to the market thoroughly, and resources are soil conditions that are fertile for cultivation. And when comparing between 1990 and 2001, looking at the net cash income of the agricultural sector, the proportion of poverty decreased from 72.65% to 55%.

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Kulwachai, N. (1994) studied the factors influencing the use of pesticide fertilizer machinery of Thai farmers. Thai farmers use fertilizer first, followed by using machinery, especially the use of machinery to prepare the soil, and use pesticides as a last resort, The most commonly used pesticides are insecticides and herbicides. When comparing between regions, it was found that the Northeastern region used more fertilizer than other regions. The central region uses machinery and pesticides the most. Factors influencing the use of pesticide fertilizer machinery were found to differ between sectors, but it was found that credit, income per rai, and being in irrigated areas had a high influence on the use of various technologies in all sectors.

Teerasuji, C. (1998). A study of the income distribution of agricultural households farming under different production environments was studied in 6 villages. Different production environments have a significant effect on differences in technology adoption, production, labor, and capital and affect farm income structures. Farming households who farm especially in the unfavorable production environment, farming incomes are disproportionate, and farmers rely on income from other agricultural production activities, or non-farm production activities. It was also found that between agricultural households that farm in various production environments, income inequality is quite high. It was also found that the sources of income that caused a large difference were: Income from non-farm production activities, income from non-farm production activities, including income from households who work ฬat another place is sent.

Maiprasert, K. (2002) conducted a comparative study of cost and return between jasmine rice cultivation and Suphan rice in Khanu Woralaksaburi District, Kamphaeng Phet Province. The cost of jasmine rice cultivation per rai per year 1-5 is 8,172.80–9,365.43 baht, has the highest profit equal to 1,487.20 baht per rai per year, The lowest 294.57 baht per rai per year, has a payback period of 4 years, has a net present value of -572.78 baht, and the average rate of return on investment is 5%. Suphanburi rice planting has an average total cost per rai per year during the 1-5 years amounting to 6,778.69–7,893.74 baht, and the highest profit is 5,224.11 baht per rai per year, as low as 4,109.06 baht per rai per year, has a payback period of 3 years and 5 months, It has a present value of 11,673.64 baht and the average rate of return on investment is 9%. In addition, when comparing the cost and return of the two rice varieties, it was found that Suphanburi rice has a lower average total cost, but has a higher return than jasmine rice cultivation, which Suphanburi rice has a faster payback period and has a positive present value and the higher average return on investment than fragrant Jasmine rice.

Bureau of Agricultural Economic Research(2015) has studied the change and distribution of income of agricultural households. There are two types of education. (1) Descriptive analysis describes the data by presenting it in an annotated form with tables and diagrams. (2) Quantitative analytical model. The results showed that Government policy focuses on spreading the benefits arising from economic growth to all sectors of the country, especially the poor, to earn more and benefit from economic expansion in the country. A larger proportion than the rich to have a better income distribution. From the analysis of the coefficient of the income distribution of agricultural households during the year 1994-2004, the coefficient and index found that Income distribution to agricultural households is still not good but tends to improve, The proportion of the poor tends to decline, The ratio of income among the highest-earning households to the lowest income also differed as much as 11 times. One of the reasons is mainly the level of education and productivity activities of the head of the household. The value of the debt tends to increase. However, from the indicators of financial ratios, it was found that Agricultural households are still stable and have the

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liquidity to pay their debts. Recommendations of the results of the study highlight the characteristics of income distribution among farmers' households. Although there is a downward trend, the inequality is still quite high, And there are quite a few peasant households in poverty. Guidelines for improving the livelihoods of farmer households to have better living conditions and living conditions are as follows: States should encourage members of farming households to obtain a high level of knowledge, while also educating poor agricultural households to make informed decisions about the production that is suitable for their environment, Production activities other than household agriculture should be strengthened.

Suwannapruek, S. (2003) studied the factors affecting the net income of farming households who only live in agricultural production. There are both males and females aged between 35-60 years old, This consists of income generated from rice cultivation, and income from other agricultural production, as well as income generated from contracts in agricultural production. However, in the study of irrigation areas such as Bang Luang Subdistrict, Sappaya District, and Nong Noi Subdistrict, Wat Sing district, And the area outside the irrigation is Wang Man Subdistrict, Wat Sing District. The results showed that the irrigated area, which is defined as a fully irrigated area, consists of Ban Don Talai, with the largest share of income being the agricultural sector with farming income, which has a revenue share of 91.88 percent of total revenue. Revenues in other agricultural sectors account for 2.10 percent of total income. For non-farm income, there will be income from non-farm activities 6.01 percent of total income, And it is the income that the child returns to the household 0.01 percent of the total income. Comparison between the income in the agricultural sector of Ban Don Talai will share 93.89% of the income, For Ban Don Suea, the source of income with the largest share of income was agriculture at 90.97 percent of total revenue, with 9.03% of non-farm income. For the agricultural sector, the largest income is from rice or farming. Factors affecting income are gender, age, size of farming area, irrigated area, and income. When comparing non-agricultural income that is income from employment or non-agricultural activities that are not income sent back by children to households, it appears that this type of income of Tambon Bang Luang, Amphoe Sappaya is higher than Tambon Nong Noi, Wat Sing District. Because it is near the industrial plant and near the city area, which makes farming households earn more from people who work in the industrial and service sectors than households in Nong Noi Sub-District, Wat Sing District.

Putjeen, K.(2009). Factors affecting household income between agricultural and non-agricultural sectors in Muang District, Chiang Mai Province. The results showed that the majority of household heads were 63.5 percent male, 31.0% aged 41-50 years, 52.5 percent marital status, 56.5 percent had postgraduate education, and households had household members. 3 people living together 41.2%, number of household members and one person earning income 54.0%, 41.3 percent of households had no dependent members, land ownership 56.7%, and has a land holding value of 660,000 baht, Households earn monthly income between 5,001-10,000 baht. The household occupation was found to be gardening 59.0%, followed by private employees 47.5%, 44.8 percent have a career span of 5-10 years. Currently, after the economic crisis that occurred in 2007-2008, the number of poor people has increased. In 2007, there were 6.39 million poor people across the country. This economic crisis has resulted in a severe contraction in exports of goods and services, within 2008 the proportion of exports and imports to gross domestic product (GDP) was 72.1 percent and 56.6 percent, respectively. Factors that affect income are gender, age, amount of income, and expenses. Therefore, the expansion or contraction of exports and imports of goods will have a significant impact on the economic expansion in terms of services,

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domestic consumption, investment, and employment in the production of industrial goods. and the capacity utilization rate is greatly reduced. Inventory is increasing rapidly, the manufacturing sector has to reduce working hours, Thailand originally the main economic system in agriculture, most of the income comes from this sector when the population increases, Agricultural development is also limited by the area being unable to expand rapidly developing information technology. Coupled with the concept of industrial development and industrial expansion, the structure of the economy, therefore, depends not only on the agricultural sector.

Khunthongjan, S.(2 0 1 4) studied income and spending patterns of rice farmer households and the balance of livelihood: a case study of Ubon Ratchathani Province. The results showed that the main occupation was rice cultivation, followed by general labor. It shows that a farming career alone cannot support the family, it is necessary to have a career that can generate additional income. Uninterrupted income throughout the year inevitably affects household spending planning. Expenses and liabilities come from the cultivation of economic vegetables and animal husbandry. The agricultural sector has changed, resulting in higher costs. The source of the rice production of farmers was found to be sold to middlemen or brokers and participated in the rice-pledging scheme, which was a very similar proportion. Most farm households do not have savings due to the relatively low income of farmers. To create a balance of livelihood, besides growing rice, most farmers choose the first order is mixed farming, the second is the cultivation of cash crops, and the third is to increase the value of the yield through processing.

Chaiyawong, P., and Tansuchart, R.(2016) studied the factors that influenced farmers to choose to plant 3 varieties of colored rice, namely red jasmine rice, rice berry, and Kam Lanna rice (Niao Dam) farmers in Chiang Rai and Chiang Mai provinces. The results showed that the factors that determined the selection of all 3 rice varieties were statistically significant was the participation of farmers' groups, the purpose of producing for consumption, and then selling. For the cost of cultivation (second rice fields), having a production certification standard is a factor that determines the selection of rice berry and Kam Lanna plantings. As for the experience in planting colored rice and contract production, it influenced the selection of red jasmine rice and Kam Lanna. It was also found that the size of the planting area affected the cultivation of red jasmine rice and rice berry. The study also found that the income factor from cultivation (in the field) also affects the choice of red jasmine rice planting. The dried paddy price factor affects the choice of rice berry planting. And the lowland areas also affect the choice of planting Kam Lanna rice. Therefore, policies that will motivate farmers to choose to plant more colored rice are: Educating farmers, encouraging farmers to plant colored rice with contracts, and at fair purchase prices, as well as encouraging farmers who produce colored rice to be certified for various production standards such as agricultural standards. good and appropriate organic farming standards, etc.

Research Conceptual Framework

This research was to study the factors affecting the income of farmers who farmed in Village No. 9, Village No. 1 0 and Village No. 1 5, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province. From the study of the aforementioned concepts, theories, and research, the concepts can be defined as the following concepts:

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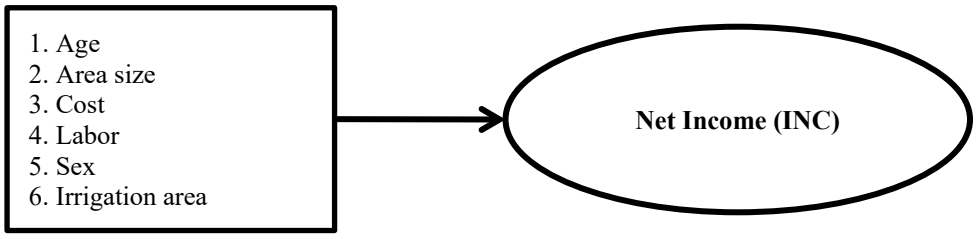

Figure 2: Conceptual framework for studying factors affecting the income of farmers who farm

Methodology

The population used in the study was the farming households in Village No. 9, Village No. 10, and Village No. 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province in the 2018/19 crop year, totaling 203 households.

The present study determined the sample size by the Yamane method (TaroYmane.1973:727) at a tolerance of 0.05, From a population of 203 households, a sample size of 135 households is obtained, It details sample size calculations using the TaroYmane method at a 95% confidence level with a 5% margin of error, sampling to obtain accurate data and a well-represented sample of the population for this research, Therefore, the researcher determined the sample group and selected the Simple random sampling method. Since it is a sampling method suitable for research with a small population, the researcher has designed the research by drawing lots from the house number.

Data Collection Tools: This research examines the factors influencing the income of farmers who farm with a large number of related variables. However, most of the variables are those that can be easily measured quantitatively. Therefore, in this study, the researcher used a quantitative questionnaire as the key to collecting data, The questionnaire was divided into 2 parts as follows: Part 1 general information about the head of the household, and part 2 factors influencing the income of farmers who farm.

Data Collection: (1) Primary Data is a collection of data from 135 questionnaires. It collects general data such as education level, age, area size, gender, number of households, laborers, irrigation areas, income, costs such as farming costs, operating costs. Work and rewards from farming during the 2018/19 planting year. (2) Secondary Data is data collected from thesis reports related to rice farming together with researching various statistics such as farmer income overview in 2018, Ministry of Agriculture and Cooperatives Office of Agriculture and Cooperatives and work. related research etc.

Data analysis: (1) descriptive statistics are used for the analysis of variables to find the distribution of frequency, percentage, mean, standard deviation, maximum, and minimum values in the characterization of each sample variable. (2) inferential statistics is an analysis of the influence of factors affecting the income of farmers who farm by using the Multiple Linear Regression model which can be shown in the equation form.

Results

A study on “Factors Affecting Income of Farmers”. The study used a tool to collect data from the sample group using 135 questionnaires. The results were divided into 2 parts.

Part 1 General Data Analysis of Household Heads: Analysis of General Data of Household Heads of a Sample of Farmers Farming in Village 9, Village 10 and Village 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province. The percentage distribution and the mean of 1 3 5 households can be classified by variables as follows:

Table 2 Gender of the head of the household

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Gender	Frequency (Family)	Percentage
Male	79	58.5
Female	56	41.5
Total	135	100

From Table 2, the sexes of the heads of farming households in Village 9, Village 10 and Village 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province; Most of the 79 households were male, accounting for 58.5%, and 56 households were female, accounting for 41.5%.

Table 3 The highest level of education of the head of the household

Education	Frequency (Family)	Percentage
Lower than elementary school	64	47.4
Primary school	32	23.7
Junior high school	18	13.3
High school	18	13.3
Bachelor's degree	2	1.5
Postgraduate	1	0.7
Total	**135**	**100**

From Table 3, the highest educational level of the heads of farming households in the villages 9, Moo 10 and Moo 15, Lan Sakae Sub-district, Phayakkhaphum Phisai District, Maha Sarakham Province found that Most of the 64 households had a lower education level than primary school, accounting for 47.4%, followed by 32 households with primary education, accounting for 23.7%, followed by 18 households with lower secondary and high school level, accounting for 13.3%, followed by 2 households with a bachelor's degree, accounting for 1.5 percent, and the least had a postgraduate education level of 1 household, representing 0.7 percent, respectively.

Table 4 Age of the head of the household

	Frequency (Family)	MIN	MAX	$\bar{x}$	S.D.
Age	135	26.00	83.00	58.2593	11.63818

From Table 4, the age of the heads of farming households in Village 9, Village 10 and Village 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province, from the sample of 135 households, found that The minimum age (MIN) is 26 years, and the maximum age (MAX) is 83 years, the mean age is 58.2593 years, and the standard deviation (S.D.) is 11.63818.

Table 5 Area size for farming

	Frequency (Family)	MIN	MAX	$\bar{x}$	S.D.
Area size	135	1.00	46.00	13.1734	7.67487

From Table 5, the size of the farming area of the farmers who farmed in Village 9, Village 10 and Village 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province, from the sample of 135 households, found that The minimum area for farming (MIN) is 1 rai and the maximum area for farming (MAX) is 46 rai, representing an average household area of 13.1734 rai and the standard deviation (SD) is 7.67487.

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Table 6 Number of household workers

	Frequency (Family)	MIN	MAX	$\bar{x}$	S.D.
Number of household workers	135	1.00	8.00	2.4889	1.08495

From Table 6 , the number of households in the farmer's households in Village 9 , Village 1 0 and Village 1 5 , Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province, from the sample of 1 3 5 households, found that There was the lowest number of household workers (MIN) of 1 and the highest number of household workers (MAX) of 8 people, representing the average number of household workers at 2.4889 and the standard deviation (S.D.) was 1.08495.

Table 7 Cost of farming

	Frequency (Family)	MIN	MAX	$\bar{x}$	S.D.
Cost of farming	135	900.00	114600.00	28836.6667	18051.17539

From Table 7, the cost of farming among farmers in Village 9, Village 10 and Village 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province, from a sample of 1 3 5 households, found that The lowest farming cost (MIN) is 9 0 0 baht and the highest farming cost is 1 1 4 6 0 0 baht, the average farming cost is 2 8 8 3 6 . 6 6 6 7 baht and the standard deviation (S.D.) is 18051.17539.

Table 8 Net Income

	Frequency (Family)	MIN	MAX	$\bar{x}$	S.D.
Net Income	135	-17000.00	82000.00	15008.5185	15190.93964

From Table 8, the net income of farmers farming in Village 9, Village 10 and Village 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province, from a sample of 1 3 5 households, found that The lowest net income (MIN) is 1 7 0 0 0 baht and the highest net income (MAX) is 8 2 0 0 0 baht, representing the average household net income of 15008.5185 and the standard deviation (S.D.) is 15190.93964.

Part 2 Results of the study of factors affecting the income of farmed agriculture

The study of factors affecting the income of farming farms can be shown in Table as follows.

Table 9 Analysis of factors affecting the income of farmed agriculture

Independent variable	B	Beta	t	P-Value
constant	-8545.580		-2.160	0.33
1. Sex	-2085.798	-.068	-1.469	.144
2. Age	59.746	.046	.985	.326
3. Size of farming area	4509.909	2.279	11.384**	.000
4. Number of Labor in the Household	-394.730	-.028	-.561	.576
5. Cost	-1.300	-1.544	-7.665**	.000
R^2 = .729, Adj R^2 = .718, F = 69.346, P-Value = .000				

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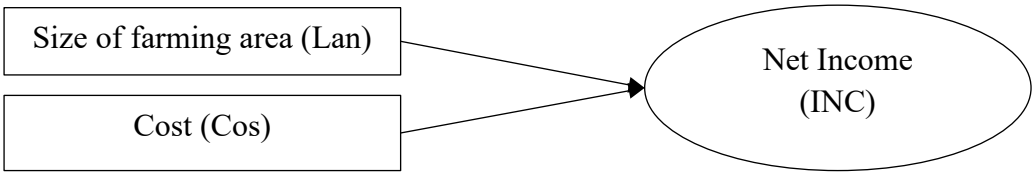
Note: **There is a correlation at 0.05 level of significance.

From Table 9, it is found that when considering the decision coefficient Adj R^2 which is equal to 0.718, It shows that the change in income of farming farmers can be explained by the 71.8% model. P-Value = 0.000, indicating that at least one independent variable affects income, and when considering the P-Value of each variable, it was found that independent variables that did not affect income at the 0.05 level of significance were: gender, age, irrigation area, and several household workers. The independent variables affecting income at the significance level of 0.05 were the size of the farming area and the cost.

The model obtained from the analysis can be described as the following equation.

INC=-8545.580+4509.909(Lan)-1.300(Cos)

The model of the equation can be formed as follows:



When considering the statistical value, it was found that the factors affecting the income of the farmers who farmed in Village No. 9, Village No. 10, and Village No. 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province, the two variables were the size of the area in Farming, and cost can describe the change in income of farmers who farm as follows. (1) The size of the farming area has a positive coefficient (B) of 4509.909, meaning that if there is an additional 1 rai of farming area, it will increase the income of 4509.909 baht. And (2) the cost has a negative coefficient (B) of -1.300, meaning that if the cost of farming increases by 1 baht, it will result in a decrease in income of 1.3 baht.

Conclusion and Discussion

The study on "Factors Affecting Income of Farmers in Farming" in 2018/19 aims (1) to study the context and general economic conditions. and (2) to study the factors affecting the income of farmers who farm, which from the study can be summarized and suggested as follows:

1. Characteristics of variables affecting the income of farmers who farm: It was found that farmers farming in Village No. 9, Village No. 10, and Village No. 15, Lan Sakae Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province in the year 61/19 were found. An analysis of the general data of the heads of households of the farmer's sample by the distribution of percentage and mean of 135 households found that Most of them were male, 79 households accounted for 58.5%, 56 households were female, accounting for 41.5%. 64 households graduated below the primary school, representing 47.4%, Elementary school of 32 households, representing 23.7 percent, Secondary school and upper secondary school of 18 households representing 13.3 percent, 2 households with a bachelor's degree accounted for 1.5%, and at least one household graduated with a postgraduate degree, representing 0.7 percent, respectively. The minimum age (MIN) is 26 years and the maximum age (MAX) is 83 years, the mean age is 58.2593 years and the standard deviation (S.D.) is 11.63818. The minimum farming area (MIN) is 1 rai and the maximum farming area (MAX) is 46 rai, representing the average household farming area of 13.1734 rai, and the deviation The standard (SD) is 7.67487. There is a minimum number of household workers (MIN) number 1 and a maximum number of household workers (MAX) number 8 people, The number of workers in the household is 2.4889 and the standard deviation (S.D.) is 1.08495. The lowest

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farming cost (MIN) is 900 baht and the highest farming cost is 114600 baht, the average farming cost is 28836.6667 baht, and the standard deviation (S.D.) is 18051.17539.

2. Factors Affecting Farmers' Income: The variables affecting the farmer's income at a significant level of 0.05 were the size of the farming area and the cost of farming. However, the variables that did not affect the income of the farmers who farmed at the 0.05 level were sex, age, number of workers, and irrigation area.

Recommendation

1. Policy recommendation

1.1 Since rice production from the first farming is a season that yields higher quality and quantity rice than other productions and has the least risk of damage from flooding. Therefore, the government should develop and support farmers to increase their rice production capacity in this first round by encouraging farmers to reduce production costs and modify farmers' production behavior to cultivate crops in line with the risks involved. with various methods such as Encouraging farmers to assess the risks of natural disasters to use them in production planning, reducing production costs when perceived risk, Encouraging tilling of the soil before flooding, promoting black rice cultivation, etc.

1.2 Government sectors should seriously focus on solving peasant problems by focusing on long-term solutions, not on immediate, or populist solutions. But there should be a solution to the problem so that peasants can earn their living in farming with sustainable self-reliance because farmers have to face many problems such as Higher production costs, lower yields, higher fertilizer prices, debt conditions, and various natural disasters that affect and damage crop yields every year. Since Thailand does not have a good water management system, if left like this, the peasants would not be able to sustain their farming careers. There would be only the big capitalists and the peasants becoming hired workers instead.

1.3 To reduce the risk of rice production for the second crop by increasing the ability to drain water from the area as quickly as possible, including the development of water sources to enable second farming during the dry season, the government should encourage the development of electric water pumping irrigation systems to cover the area as well as use the existing irrigation system to be efficient and effective, Develop water storage systems based on natural water sources and farmland water sources during floods to store water for use in dry seasons, Develop an efficient groundwater utilization system, develop a water storage/diversion system from the main rivers for use in the dry season.

1.4 The government should promote research on Thai rice to have a variety and uniqueness suitable for the area by developing research on native Thai rice varieties and various upland rice varieties to have drought-tolerant or low-water or flood-resistant characteristics.

15. Develop a natural insurance system to help at-risk farmers and to reduce the burden on the government.

1.6 The government should promote the management of the entire watershed and create a database system capable of obtaining information about the entire water system. It should also provide information to farmers for immediate planning and decision-making, or long-term decisions in cultivation. In addition to being used as information for prevention, it can also be used as information to assess the risk of flooding both in the short term and in the long term for the next season.

2. Academic recommendation

2.1 Should study other variables that will affect the income of farmers who farm.

2 .2 There should be continuous research to study problems, obstacles, and real solutions to improve the quality of life of farmers to have a better life.

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