



Capital that influences the decision to pursue an agricultural career: A case study of young farmers in the northeastern region of Thailand

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Abstract

This research aims to study the capital that influences the decision to pursue a career in agriculture among the new generation in the northeastern region of Thailand using quantitative research methods and used an interview form with a Cronbach's Alpha value of 0.90 to collect data from a sample of 310 people who were randomly selected (Simple random sampling) with an acceptable error level of 0.05. The research results are divided into 3 main issues: 1) Basic information of new generations farmer (Individual, Household, Economic) 2) Capital level influenced and 3) Relationship between basic information of new generations farmer and capital. The research found that the new generation is a group of people in Generation Y. The average age is 38 years. They have the status of being the children of farmers and 1 in 4 experiences working in other occupations before coming to agriculture. Entered the agricultural profession at the average age of 29 years. Most were households with debt and most had other occupations as well. Ownership of almost all land comes from traditional inheritance. Currently, households can make an average profit of 377,261 baht per year from farms and an average of 512,039 baht per year from other occupations. Human capital (mean = 3.8) and physical capital and natural capital (mean = 3.6) are important at the level. While social capital (mean = 3.1) and monetary capital (mean = 2.5) were of moderate importance. In terms of the relationship between the general information of the new generation and capital, it is found that personal basic factors with a statistically significant relationship at the 0.05 level, including the number of years of formal education. The basic household factors that have a statistically significant relationship at the 0.01 level include debt of farmer households and possession of high-value machinery. The basic economic factors of households that have a statistically significant relationship at the 0.05 level are the economic level of the province areas for livestock and selling products to middlemen.



Keywords: Capital, Young Farmer, New Generations, Migration, Occupation, Small Farmers, Farmer Household, Inheritable, Persistence

Introduction

Food security in many parts of the world is being seriously threatened. One important issue is Demographic problems in which agricultural society is currently entering an aging society. Joosse and Grubbstrom (2017) have explained this issue as follows: Currently, much of agriculture is left to aging farmers? Leaving one-third of the agricultural area in critical times. These problems span many countries around the world. For example, the average lifespan of farmers in the United States is 58 years (Zahniser et al., 2018), in Japan the average age is 67 years old (MAFF, 2017), in Italy the average age is 58 years old (Eurostat, 2016), and Thailand's average lifespan is 58 years old (National Statistical Office, 2018), etc. These situations are accelerating the need for many countries to increase the number of new generations of farmers entering the agricultural sector. However, this is not so easy as today's lifestyles change, and more lucrative careers emerge. The new generation tends to seek that opportunity in the city rather than remaining in the countryside, even though they are descendants of the farmers.

The exodus of young people from agriculture contributes to the stability of the agricultural sector. Stloukal (2004) states that due to this situation, many farming households are at risk of maintaining production levels but it cannot be clearly determined that this is a negative effect. Zhao and Jiang (2022) explain that emigration is an attempt to overcome obstacles from farms. Taylor and Martin (2001) state that emigration also increases the source of income and Lanzona (1998) stated that the migration of young people to other production sectors is due to necessity based on the economic level of households with different resources. Which can be seen that in smallholder households, there are vulnerabilities that are difficult to maintain or abandon. Saiyut et al. (2017) confirmed in his research that the thing that can best replace elderly farmers is the new generation of farmers. Thailand has designed a project named Young Smart Farmer (YSF) since 2015 with the objective of replacing elderly farmers, Department of Agricultural Extension (2021), but there are still not many new generation farmers participating in the project compared to with the total number of farmers, National Statistical Office (2018).

Deciding on a career is a type of decision that is relevant and specific to the individual. It is a process that is connected to many theories. This process involves the rational choice of one option or another, Downs (1957) explains. This decision is directly related to the expression of human behavior. Either in a way that we can recognize or not. Therefore, this review would like to study capital that is a precursor to the decision to pursue a career in agriculture for the new generation. Currently, there is no clear or specific report on this issue for the new generation of farmers in the northeastern region of Thailand.



Literature review

Concepts and theories of human decision-making

Human behavior and decision-making Career decisions are a type of decision that is relevant and specific to a person. It is a process that is linked to many theories, ranging from personality, behavior, environment, attitude, intuition, needs, motivation, goal setting. Identifying choices, decisions, satisfactions, and happiness, however, this process of choice is essential. to end a rational decision and decision making is directly related to the expression of human behavior. Royal Academy (2013) stipulates that decision means decision and Saaty (1980) who invented the Analytic Hierarchy Process, also known as AHP, as a method used in analysis to the decision to choose the best alternatives (Best Alternatives) is based on the principle of setting goals (Goal), Criteria, Sub-criteria, Alternatives (Alternatives), and then do a comparative analysis (Trade off) by Give the weight value of each choice. Including sensitivity analysis (Sensitivity Analysis) that may occur. then consider the reasonableness Consistency to find the best option Holland (1973) studied personal interests, traits, and behaviors. It has been summarized into four main concepts: 1) personality is the driving force of the individual, 2) the environment is dominated by personality, 3) the individual seeks an environment favorable to his or her personality, and 4) a person's behavior is determined by personality and environment. As for the issues of secondary concepts, four are: 1) Consistency; 2) Differentiation. (Differentiation), 3) Congruence and 4) Calculus, which is evident from Holland's (1973 study of behavior) that can isolate the reasons that lead to decision-making in the expression of behavior. It is divided into 2 groups of reasons, namely reason group 1, the expression of individual personal behavior that is unique. and Reason 2 Environment is an important complement that has an important influence on human behavior.

Human behavior and identity

Instinct is one of the things that produces the expression of behavior in humans. Royal Academy (2013) has given the meaning that intuition means knowledge that is born from birth. Make it possible to do it yourself without being taught by Freud (1917), who invented the theory of psychoanalysis. (Psychoanalysis Theory) and described intuition as It is the energy that is present in us from birth that makes us want to live. want to be creative Desire to achieve the goal of satisfaction (Pleasure) and happiness (Happiness).

Opinion and Attitude

Royal Academy (2013) has defined that attitude means opinion. and gave the meaning of the attitude that the attitude or feeling of a person towards something, where the word “attitude” corresponds to the English word “Opinion” and the word “attitude” to the English word “Attitude” (Oxford Dictionaries, 2011). This word is closely related. In which people will have opinions and behaviors will be consistent. In deciding which behaviors to perform,



individuals give their attitude to each choice as a detail from additional feelings to information and experiences that exist within the individual. After that, attitudes inclined toward favorable or pleasurable directions emerged.

Goals, Expectations, Drives, and Motives (Expectancy, Goal, Drive & Motives)

Locke and Latham (1990) established goal setting theory. (Goal-setting theory) and explained the theory that the planning process is to create objectives that indicate the direction of action. The success of the targeting lies in how appropriate the attributes are. how specific Can it be measured? And achieving goal objectives is a challenge. Vroom (1964) describes Vroom's expectancy theory with the formula $Motivation = Expectancy \times Valence$, or $motivation = expectation \times value \text{ of result}$. Motivation is based on the degree to which a person wants something and the degree of probability that he or she will obtain it, Miller (1951) describes in The Need-Drive-Incentive Theory (Need-Incentive). Drive-Incentive Theory) People's mental needs are different. But there is one thing in common: desire causes stress or distress. This is what drives man to take action to satisfy his need, reduce, alleviate, or ultimately alleviate suffering, which is the driving force. It's called incentives by Robbins (1998). Motivation Theory states that motivation stimulates behavior and that people act powerfully. Realize the value have a clear direction Demonstrates intention, effort, or proves one's abilities.

Capital, Human and Behavior

The manifestation of individual decisions. The primary contributor to decision-making is the personality of the person who predominantly prevails over the environment that contributes to rational decision-making. These so-called “costs” are not just things that are monetary. Rather, everything that forms a person is unique. Mores and McNamara (2013) outlined the five areas of capital that people have differently. In a person, what is available can be a factor that causes both positive and negative decisions. There are 5 aspects of capital: 1) Human Capital 2) Social Capital 3) Capital Physical Capital 4) Natural Capital and 5) Financial Capital. Stephen and Nora (2013) describe five areas of capital that individuals will have. different in a person, things that exist can be factors that cause positive or negative decisions. Having good costs leads to good decisions. If there are costs to cover the decision, risks can be avoided. Each aspect of capital may have the following meanings:

1) Human Capital refers to the knowledge, skills, and expertise of a person. This arises from the experiences of people who have learned throughout time. both from education Occupation Training, familiarity, personal interest, etc. These are costs that express a person's specific techniques, including professional skills, analytical thinking. Assessment A person's goal orientation, attitude, emotions, and behavior.

2) Social capital refers to social resources that individuals interact with in their lives. This cost refers to trust. recognition Receiving support, etc. These things are received from

the social environment such as family, parents, friends, co-workers. What is gained from that interaction will make a person gain confidence and act according to faith. confidence This social capital supports the expression of individual behavior.

3) Physical capital refers to things that facilitate a person to be able to do something more conveniently. Both in occupation and in normal life It is a basic factor that supports or elevates a person's ability to be better. If it is within a sufficient level, the person will be able to display behavior to its full potential. These include housing, machinery, tools, transportation, electrical systems, plumbing systems, energy systems, communications.

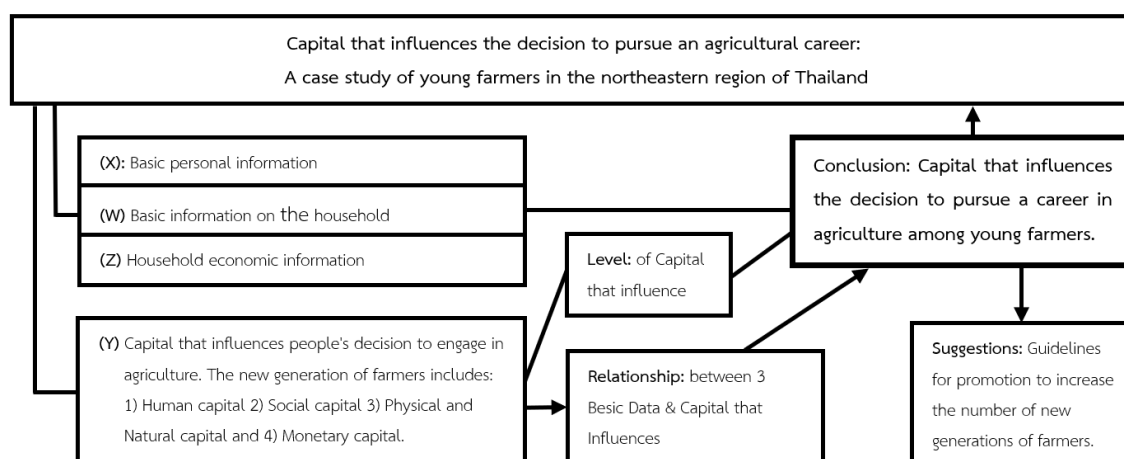
4) Natural Capital refers to designated natural resources. Life potential, this can be said about occupations, including land, minerals, water sources, weather, and energy. These things can determine a person's way of life, and the abundance of resources in some occupations is considered an important factor that indicates success or failure.

5) Financial capital refers to assets and assets obtained from collection or support, including capital, savings, loans, bonds, stocks, land, gold, gems, inheritance, plants, pets, silk, patents, these things. It's all about creativity, imagination, design and styles of living and working.

Research Objective

To analyze the capital that influences the decision to pursue a career in agriculture among young farmers in the northeastern region of Thailand.

Figure 2 Conceptual framework



Methodology and Methods

This research is quantitative research using Structured interview (Close-Ended Form) as a research tool. Descriptive statistics were used to explain, such as frequency, percentage, mean,



standard deviation, and multiple linear regression analysis is used to find the relationship between basic information of the new generation and the motivation that makes them decide to pursue agricultural careers.

The Study Area

The Northeastern region of Thailand.

The population and sample size

Selection of the sample was carried out in 2 phases: Phase 1 was the selection of the study area. The researcher reviewed the documents in various directions to consider and select the areas and after reviewing the documents the researcher was able to deduce that Economic data is linked to location. Area characteristics and social identity using the value of Gross Provincial Products or GPP (Office of the National Economic and Social Development Council, 2019) as the main criteria for consideration and selecting 5 provinces that can represent all 5 sub-regions. Including Udon Thani, Sakon Nakhon, Khon Kaen, Nakhon Ratchasima and Ubon Ratchathani. In the second phase, simple random sampling is used to get the appropriate proportion size from the population data to be selected to be Young Smart Farmers (YSF), a total of 1,325 people. (Office of Agricultural Extension and Development Area 4, 2021) using the formula of Yamane (1973), an acceptable error level of 0.05, which results in calculating the appropriate sample size is 310 cases. After that, a formula for calculating the size is used. Suitable example (Proportional allocation) (Suthasasna, 1984) to calculate the sample size in each province. The calculation results were as follows: Udon Thani 66 cases, Sakon Nakhon 60 cases, Khon Kaen 63 cases, Nakhon Ratchasima 61 cases, and Ubon Ratchathani 60 cases.

Data collection

Data collection for this research, an interview form is used to collect data from the sample. In the process of creating the interview form, it has been carried out through 3 important steps: Step 1 through checking the accuracy of the questions with the objectives (Index of item objective congruence or IOC) by 3 experts. Step 2 through interview testing. 30 samples, the test results had a Cronbach's Alpha value of 0.90, which can be considered a tool with confidence within the criteria for collecting data appropriately (Panpinij, 2010). Step 3: Passed ethics certification. Research in humans from the Human Research Ethics Committee Chiang Mai University, dated January 10, 2023, research project certificate number CMUREC No. 65/190, then proceeded to collect data between November 2022 – April 2023.

Data Analysis

Part 1: Basic personal information of the new generation. Basic household information of the new generation and economic information of the new generation's farming households.



In this section, descriptive statistics using frequencies, percentages, and medians will be used to explain.

Part 2: is an analysis of the level of motivation that influences the decision to pursue a career in agriculture. Data analysis in this section Will present data showing the mean and standard deviation Std. Deviation. This research uses interpretations from the data on a 5-level Likert scale: 1) Minimal influence or No influence = 1.00 – 1.80 2) has little influence = 1.81 – 2.60 3) Moderately influential = 2.61 – 3.40 4) Highly influential = 3.41 – 4.20 and 5) Most influential = 4.21 – 5.00 (Likert, 1961)

Part 3: Multiple Linear Regression Analysis to test the relationship between 3 basic data areas: 1) Basic personal data of the new generation (X) 2) Basic household data of the new generation. (W) and 3) Basic economic information of new generation households (Z) towards their motivation (Y) to find a relationship that is statistically significant. Using the SPSS program, perform a Linear Regression analysis using the Enter method and divide the relationship levels into 2 levels: 1) Highly Significant Level = Sig. < 0.01 (***) and 2) Significant Level = Sig. < 0.05 (*) (Limmathurotsakul, 2013)

Results and Discussion

1. General Individual Data for New Generations (N = 310)

The research found that the new generation of farmers are female. The average age is 38 years. Most education levels are at the bachelor's level. They are Generation Y. Most of them are married or have a partner. Almost all of them are children of farmers, almost one in three have worked in other occupations before, and almost half have previous experience working in the government sector. Their income in the last year from other occupations before entering agriculture was an average of 281,742 baht per year. The reason for changing careers or doing additional farming came mainly from family issues. They entered agriculture at an average age of 29 years, and they preferred Membership of agricultural-related groups in the community (Table 1)

Table 1 General Individual Data for New Generations (N=310)

General Individual Data	frequency	Unit	%	General Individual Data	frequency	Unit	%
Female	167	P	53.9	Have worked in the private sector before.	50	P	16.1
Male	143	P	46.1	Have worked in the private business field before	23	P	7.4
Age (Average)	38	Y		Have worked in the independent profession before	3	P	1.0
Gen Y	220	P	71.0	Number of years of other work (Average)	8	Y	
Gen X and Gen Z	90	P	29.0	Last income from other occupations before starting agriculture (Average)	281,742	฿ / Y	
In relations	167	P	53.9	Changes due to financial issues	98	P	31.6
Single	143	P	46.1	Changing careers because of family issues	192	P	61.9



General Individual Data	frequency	Unit	%
There is a farm in the original domicile.	248	HH	91.6
Number of years studied in the system (Average)	14	Y	
Children of farmers	292	P	94.2
Study in the field of agriculture	41	P	13.2
Never had any other occupation	88	P	28.4
Have worked in the government sector before	146	P	47.1

General Individual Data	frequency	Unit	%
Changing careers because of health issues	48	P	15.5
Changing careers because of social issues	74	P	23.9
Changing careers because of security issues	72	P	23.2
Changing careers because of lifestyle issues	124	P	40.0
(Average) Age when farming (Average)	29	Y	
Participating in agriculture-related groups	214	P	69.0

P = People, HH = Household, Y= Year, ฿ = Bath

2. General Household Data for New Generations (N = 310)

The research found that the household information of new generation farmers has an average of 4.3 household members. Most members have occupations. While some households have elderly and sick people who are unable to work and there are people who are studying. The level of importance of the attitude of agriculture to households was at the level of 77.3%, which was in the quartile of the main occupation. Almost all households were previously engaged in agriculture and half had other occupations outside of agriculture. At present, most households do agriculture together with other occupations. There are an average of 2.6 household members involved in farming, an average of 1.7 people in other occupations, an average area of 27.3 rai (4.4 hectares), an average distance from the city of 66.9 kilometers (calculated at a speed of 60 km per hour) 73.9 % identified as households in debt with an average outstanding debt of 616,299 baht, almost half have high-value machinery and more than half hired outside labor, and 72.9% still hired additional machinery for farming (Table 2).

Table 2 General Household Data for New Generations (N=310)

General Household Data	frequency	Unit	%	General Household Data	frequency	Unit	%
Member (Average)	4.3	P / HH		Farming members (Average)	2.6	P / HH	
Members with professions (Average)	3	P / HH		Members who have other occupations (Average)	1.7	P / HH	
Old or sick people (Average)	0.4	P / HH		Household farming area (Average)	27.3	Rai	
Children or currently studying (Average)	0.9	P / HH		Size of the district where the farm is located (Average)	11.3	Sub-D	
Employed persons to all members			72.0	Time from farm to provincial center (Average at speed 60 KM per Hour)	66.9	Min	
Additional responsibilities of the employed person to the household			56.4	In debt	229	HH	73.9
Level of importance of attitudes of agriculture to households (Average)			77.3	Outstanding debt (Average)	616,299	฿	
The household's original occupation was agriculture.	292	HH	94.2	Have high value machinery	135	HH	43.5
The household's original occupation was another occupation.	155	HH	50.0	Hire external labor	175	HH	56.5



General Household Data	frequency	Unit	%
Currently, households engage in agriculture and other Occupations.	277	HH	90.0

General Household Data	frequency	Unit	%
Hire agricultural machinery	226	HH	72.9

P = People, HH = Household, Y= Year, Sub-D= Sub District, B = Bath, Min = Minute

3. General Economic of Household Data for New Generations (N = 310)

The research found that most of the new generation farmers are in provinces with a low economic level (median = 180,404 baht per year). They have an average crop area of 24 rai, an average livestock area of 1.8 rai, and an average farm water source of 1.6 rai. There are only 1 in 4 new generation farmers whose farmland is in an irrigated area, most of the farm area is lowland. Most ownership belongs to the parents. Next is the ownership of young farmers or their spouses. Almost all farming resources come from inheritance. Young farmers have an average of 3.8 farm production activities, with 74.8% stating that growing crops is their main activity. As for other main activities, there are still not many, while 32.9% have certified production standards. However, the source of distribution for most products is in the community and through middlemen. The new generation of farmer households can make an average profit from farms of 377,261 baht per year, and the new generation of farmer households can make an average of 512,039 baht per year from other occupations. On average, farming can generate an average income of 29,590 baht per rai- per year. And when calculating the level of economic importance to households, it was found that only 40.3% found that agriculture was more important than other occupations (median = 52% baht per year) (Table 3).

Table 3 General Economic of Household Data for New Generations (N=310)

General Economic of Household Data	frequency	Unit	%	General Economic of Household Data	frequency	Unit	%
Provinces with an economic level equal to or above the median (Equal & Over Median)	124	HH	40	Mainly grows crops	232	HH	74.8
Provinces with an economic level below the median (Under Median)	186	HH	60	They mainly livestock or insects.	36	HH	11.6
Cultivation area (Average)	24	Rai		Mainly engaged in fishing	8	HH	2.6
livestock area (Average)	1.8	Rai		Mainly processing	34	HH	11.0
Water source area (Average)	1.6	Rai		Have a standard	102	HH	32.9
Located in an irrigation area or public water source (Average)	83	HH	26.8	Sold in the community	270	HH	87.1
The farm is a lowland area.	219	HH	70.6	Sold to other areas	161	HH	51.9
The farm is a highland area.	162	HH	52.3	Sold to the purchasing yard	150	HH	48.4
The farm is a wetland.	32	HH	10.3	Sold to middlemen	195	HH	62.9
The farm is a mountainous area.	26	HH	8.4	Sold to contractors	30	HH	9.7
Ownership belongs to YSF or spouse.	177	HH	57.1	Sold via the internet	133	HH	42.9
Ownership belongs to parents.	198	HH	63.9	Farm Profit (Average)	377,261	B / Y	
Resources from traditional heritage	293	HH	94.5	Profit from other occupations (Average)	512,039	B / Y	
Resources from other YSF careers	155	HH	50	Income per 1 Rai (Average)	29,590	B / Y	



General Economic of Household Data	frequency	Unit	%
Resources from spouses	121	HH	39
Farm production activities (Average)	3.8	Act	

General Economic of Household Data	frequency	Unit	%
Agricultural income is highly important to the household economy (Equal & Over Median)	125	HH	40.3
Agricultural income is of low importance to the household economy (Under Median)	185	HH	59.7

P = People, HH = Household, Y= Year, Act = Activity, ß = Bath, Min = Minute

4. Motivation effecting of new generation for selection Occupation (N=310)

Capital that influences young farmers' decision to pursue an agricultural career both from a positive and a negative perspective. The results of the study found that from the 4 areas of capital, when arranged in order of their influence on the choice of agricultural careers of the new generation from most to least, can be arranged in order as follows: 1 human capital (mean = 3.8) 2 physical capital and natural capital (mean = 3.6) 3 social capital (mean = 3.3) and 4 monetary capital (mean = 2.7) It can be observed that Human capital has the greatest influence. This is consistent with TCDC (2018) who explained that the new generation tends to give quite a lot of freedom to their own thoughts and behaviors. It is surprising that they chose this path when other Gen Y turned their backs on agriculture. In terms of human capital Having a determination and determination in farming is the most important capital (mean = 4.2), which is consistent with Kurochikina (2015) who stated that the determination of the new generation is quite complex and if they choose to farm, they usually have profound meaning In terms of social capital support from family members is the most important source of capital (mean = 3.9), which is consistent with Cater III and Kidwell (2014) who confirmed that 86% of household business owners want to pass it on to their descendances and fully expect that the household business will be well taken care of both physical capital and natural capital. Having sufficient land size to generate capital income is the most important (mean = 3.7), consistent with Zhao and Jiang (2022) who explain that households with a large amount of agricultural land have a tendency for members to leave agriculture. Little and monetary capital the new generation sees that having non-agricultural income from both the YSF and other household members supporting farming is the most important (mean = 3.5). This point is consistent with Shi (2018) who stated that off-farm income influences farm potential of different household members (Table 4)

Table 4 Level of Capital effecting for new generation choosing agriculture (N=310)

Capital	Mean	Std. D	Level of influence
Human Capital	3.8452	.58328	High
Have good enough physical and mental health to engage in agriculture.	4.0516	.76572	High
Knowledgeable and skilled in farming skills.	3.5065	.75360	High
Have the skills to search and be able to access information necessary for farming.	3.8742	.80067	High
Have the necessary skills in marketing	3.5452	.86062	High



Capital	Mean	Std. D	Level of influence
Have a determination in farming.	4.2484	.77975	Most
Social Capital	3.2574	.62953	Moderate
There are counselors and agencies to support.	3.4774	.97101	High
Members within YSF households provide support.	3.8581	.85096	High
Have their own labor and machinery or can be provided in the community	3.4194	1.05432	Moderate
There is a market ready to sell the products.	3.6323	.92795	High
Contact farming	1.9000	1.21466	Low
Physical Capital and Natural Capital	3.6155	.69451	High
The farm location has suitable weather conditions for the agricultural activities that YSF has chosen.	3.6677	.90088	High
The nature of the farm area is suitable for the agricultural activities chosen by YSF.	3.5355	.90147	High
Natural resources in farm areas are available to support production in chosen agricultural activities.	3.5935	.88641	High
There are good and accessible utilities.	3.5645	1.10341	High
There is sufficient land size to generate income.	3.7161	.92610	High
Money Capital	2.7394	.62727	Moderate
There is enough investment to ensure good farm management.	3.0645	.91147	Moderate
Have a reserve fund in case of emergencies.	2.8516	.94024	Moderate
Have enough credit to provide additional financing.	3.0774	.93154	Moderate
Have income from non-agricultural occupations (from YSF and other household members)	3.4742	1.08728	High
There are investors who support farming.	1.2290	.68912	Minimal or no

5. Multiple Linear Regression Analysis for Individual and Capital

Multiple Linear Regression Analysis between 22 basic personal factors (X) and capital that influences the decision to pursue an agricultural career (Y), with the equation as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \beta_{19} X_{19} + \beta_{20} X_{20} + \beta_{21} X_{21} + \beta_{22} X_{22}$$

The results of the analysis found that all 22 factors and capital were able to predict together (R^2) = .109 and had a joint significance value of (Constant Sig) = .000 and it was found that among these there were variables with significance values. Statistically, there is 1 variable as follows:

x_6 = Number of years of formal education (Highly Significant) is an issue that has a positive statistical significance at the 0.01 level. This explains that having a high number of years of formal education. (Highly educated) is an important capital for the new generation to choose to pursue a career in agriculture. Even though in normal social conditions young people in agriculture are often pushed out of agriculture. For the classic reason that if you study hard you will grow up to be a boss. This is consistent with Corbett (2007) who stated that the development of the education sector is a process in which new generations learn to leave their communities. But on the other hand, this new generation is a paradox, that is, they grow up according to the patterns of their time but turn their backs on their family's expectations (Table

5).Table 5 Multiple Linear Regression for Individual and Capital

Variable	B	SE	Beta	t
(Constant)	45.833	5.481		8.362 ***
x_1 = Sex	-1.201	.917	-.077	-1.309
x_2 = Age	-.081	.099	-.064	-.820



Variable	B	SE	Beta	t
X ₃ = Generation	.244	1.177	.014	.207
X ₄ = Status	1.522	.953	.097	1.597
X ₅ = The farm is located in hometown.	1.626	1.641	.058	.991
X ₆ = Number of years of formal education	.530	.241	.143	2.204 ***
X ₇ = Children of farmers	-.116	1.933	-.003	-.060
X ₈ = Agricultural education	-1.318	1.318	-.057	-1.000
X ₉ = Previously worked in the government sector	-.059	.132	-.052	-.445
X ₁₀ = Previously worked in the private sector	.630	2.994	.021	.211
X ₁₁ = Used to work in the private business field	1.570	3.265	.100	.481
X ₁₂ = Used to work in an independent field	6.823	4.393	.259	1.553
X ₁₃ = Number of experiences working in other occupations before engaging in agriculture	4.544	5.338	.159	.851
X ₁₄ = Annual income in the last year before engaging in agriculture	-1.602	1.120	-.265	-1.430
X ₁₅ = Changing careers because of financial issues	.343	1.125	.020	.304
X ₁₆ = Career change due to family issues	-.157	1.420	-.010	-.110
X ₁₇ = Changing careers because of health issues	-1.238	1.351	-.057	-.916
X ₁₈ = Changing careers because of urban social issues	-2.024	1.310	-.110	-1.545
X ₁₉ = Changing careers because of security issues	-.953	1.286	-.051	-.741
X ₂₀ = Changing careers because of lifestyle issues	1.254	1.094	.079	1.147
X ₂₁ = Age of the farmer when engaged in agriculture	.456	.823	.056	.554
X ₂₂ = Participating in agriculture-related groups	1.915	.999	.114	1.917

$R^2 = .109$, $SEE = 7.66612$, $F = 1.583$, Sig. of $F = .049^b$, * = Sig. < .05, *** = Sig. < 0.01

6. Multiple Linear Regression Analysis for Household and Capital

Multiple Linear Regression Analysis between 19 basic household factors (W) and capital that influences the decision to engage in agriculture (Y), with the equation as follows:

$$Y = \alpha + \beta_1 W_1 + \beta_2 W_2 + \beta_3 W_3 + \beta_4 W_4 + \beta_5 W_5 + \beta_6 W_6 + \beta_7 W_7 + \beta_8 W_8 + \beta_9 W_9 + \beta_{10} W_{10} + \beta_{11} W_{11} + \beta_{12} W_{12} + \beta_{13} W_{13} + \beta_{14} W_{14} + \beta_{15} W_{15} + \beta_{16} W_{16} + \beta_{17} W_{17} + \beta_{18} W_{18} + \beta_{19} W_{19}$$

The results of the analysis found that all 19 factors and capital were able to predict together (R^2) = .131 and had a joint significance value of (Constant Sig) = .000. And it was found that among these there were variables with significant values. Statistically, there are 2 variables as follows:

W_{15} = Having debt of farmer households (Highly Significant) is an issue with a negative statistical significance at the 0.01 level. It explains that debt-free farmer households are an important capital for the new generation to choose to pursue a career in agriculture. Debt is a controversial issue as to whether the presence or absence of debt is more beneficial to the farm. Having debt can mean having good credit, and not having debt can mean that the household is doing very well economically. This will affect the decisions of the new generation. This is consistent with Nuthall and Old (2017) who stated that debt in household farm businesses is passed down from ancestors. This increases the burden on successors and is directly detrimental to the farm (Table 6).

W_{17} = Having high-value machinery (Highly Significant) is an issue that has a positive statistical significance at the 0.01 level. It explains that having high-value machinery on the farm is an important capital for the new generation to choose to pursue a career in agriculture. It can be seen that the new generation recognizes the importance of using



technology to help with production within the farm and having large machinery ready to support farming as an important capital. Because there is no need to invest in additional resources. Large machinery can be considered an inheritance, and in some households, owning large machinery and working for hire in the community can create another source of income for the household, and many households can generate more income than agriculture. Sharma et al. (2016) stated that machines are still unable to replace labor in every step. Agricultural labor at the household level remains important. Encouraging them to move out is considered negligence in the production process (Table 6)

Table 6 Multiple Linear Regression for Household and Capital

Variable	B	SE	Beta	t
(Constant)	52.743	3.914		13.477 ***
w ₁ = Number of members in farmer households	2.082	1.721	.378	1.209
w ₂ = Number of members with occupations	-1.474	1.932	-.218	-.763
w ₃ = Number of members without occupations	-2.740	1.527	-.245	-1.794
w ₄ = Number of members who are children or are currently studying	-2.126	1.529	-.242	-1.390
w ₅ = Percentage of responsibilities other than self of employed persons per household	.002	.019	.016	.105
w ₆ = Level of importance of the agricultural profession to the household in terms of attitude	.026	.024	.068	1.062
w ₇ = The traditional occupation of the household was agriculture.	-.365	2.060	-.011	-.177
w ₈ = The traditional occupation of the household is an occupation other than agriculture.	1.374	.965	.088	1.425
w ₉ = At present, households have occupations other than agriculture.	-.756	1.595	-.030	-.474
w ₁₀ = Number of members who are engaged in agriculture	-.104	.579	-.015	-.180
w ₁₁ = Number of members who have occupations other than from the agricultural profession	-.123	.322	-.025	-.382
w ₁₂ = Total farm area	.015	.016	.062	.953
w ₁₃ = Size of the district where the farm is located	.005	.083	.003	.058
w ₁₄ = Travel time from farm to provincial center	-.021	.014	-.086	-1.482
w ₁₅ = Indebtedness of farmer households	-4.365	1.057	-.243	-4.127 ***
w ₁₆ = Amount of debt of farmer households	-7.886E-8	.000	-.018	-.294
w ₁₇ = Owning high value machinery	2.728	.982	.173	2.779 ***
w ₁₈ = Hiring workers to do farming	.153	.943	.010	.162
w ₁₉ = Hiring machinery for agriculture	-.377	1.001	-.021	-.377

$R^2 = .131$, SEE = 7.56156, F = 2.279, Sig. of F = .002^b, * = Sig. < .05, *** = Sig. < 0.01

7. Multiple Linear Regression Analysis for Economic and Capital

Multiple Linear Regression Analysis between 30 basic household economic factors (Z) and capital that influences the decision to engage in agriculture (Y), with the equation as follows:

$$Y = \alpha + \beta_1 Z_1 + \beta_2 Z_2 + \beta_3 Z_3 + \beta_4 Z_4 + \beta_5 Z_5 + \beta_6 Z_6 + \beta_7 Z_7 + \beta_8 Z_8 + \beta_9 Z_9 + \beta_{10} Z_{10} + \beta_{11} Z_{11} + \beta_{12} Z_{12} + \beta_{13} Z_{13} + \beta_{14} Z_{14} + \beta_{15} Z_{15} + \beta_{16} Z_{16} + \beta_{17} Z_{17} + \beta_{18} Z_{18} + \beta_{19} Z_{19} + \beta_{20} Z_{20} + \beta_{21} Z_{21} + \beta_{22} Z_{22} + \beta_{23} Z_{23} + \beta_{24} Z_{24} + \beta_{25} Z_{25} + \beta_{26} Z_{26} + \beta_{27} Z_{27} + \beta_{28} Z_{28} + \beta_{29} Z_{29} + \beta_{30} Z_{30}$$

The results of the analysis found that all 30 factors and capital were able to predict together (R^2) = .129 and had a shared significance value (Constant Sig) = .000 and it was found that among these there were variables with significance values. Statistically, there are 3 variables as follows:

Z_1 = economic level of the province (Significant) is an issue that has a negative statistical significance at the 0.05 level. It can be explained that if the new generation lives in a



province with a poor economic level (Below the median) is an important capital to choose to pursue a career in agriculture. This may make sense in order to explain the phenomenon from multiple perspectives. One interesting point is Provinces with poorer economies often have limited non-agricultural jobs, meaning those who persist in these provinces may have to pursue farming as a career. But in another way, it can be explained that the agricultural culture in the community is so strong that it attracts the new generation to choose to pursue a career in agriculture. Silva et al. (2021) concluded that returning to the community is due to a sense of belonging and belonging to the community. Those who emigrate often do not receive this in urban society (Table 7).

z_3 = Livestock area (Significant) is an issue with a negative statistical significance at the 0.05 level. This explains that the fact that households do not have or have little space for livestock is an important capital for the new generation to choose to pursue a career in agriculture. A number of farmers who mainly raise livestock for value reasons outweigh the important cereal crops that are commonly grown in the region. Their area is suitable. Especially with water sources in this region there is always the problem of shortages, so they are a group of people who are fortunate in terms of space and the capital required for raising livestock is much higher, for two important reasons. This may be concluded that differences in area affect household costs, which is an important decision-making variable. This is consistent with Shi et al. (2007) who described the value of land as agricultural land, besides serving as a factor of production, also has the function of being a source of capital for farms (Table 7).

z_{24} = selling products to middlemen (Significant) is an issue with a negative statistical significance at the 0.05 level, explaining that not selling produce to middlemen is an important capital that makes the new generation choose to pursue a career in agriculture. It can be seen that middlemen are often a major obstacle for small farmers that is difficult to avoid. If it can be sold in other ways, it will provide a more worthwhile profit. But due to the readiness potential of households that are different, there may not be a better option. Brar et al. (2018) explains that many farmers understand this problem well. But due to the unprepared potential of older farmers, declining strength and lack of young people on farms choosing this route seemed the best solution because losing some income at this point would mean dealing with finished farm products (Table 7).

Table 7 Multiple Linear Regression for Economic and Capital

Variable	B	SE	Beta	t
(Constant)	45.705	8.366		5.463 ***
z_1 = Economic level of the province	-2.020	.926	-.128	-2.181 *
z_2 = Cultivation areas	.016	.019	.064	.859
z_3 = Areas for Livestock	-.325	.148	-.144	-2.200 *
z_4 = Water sources within the farm	.621	.326	.137	1.907
z_5 = Utilizing public water sources or irrigation	.769	1.056	.044	.728
z_6 = The area of the farm is lowland.	.569	1.140	.033	.499
z_7 = The area of the farm is highland.	-.099	1.031	-.006	-.096



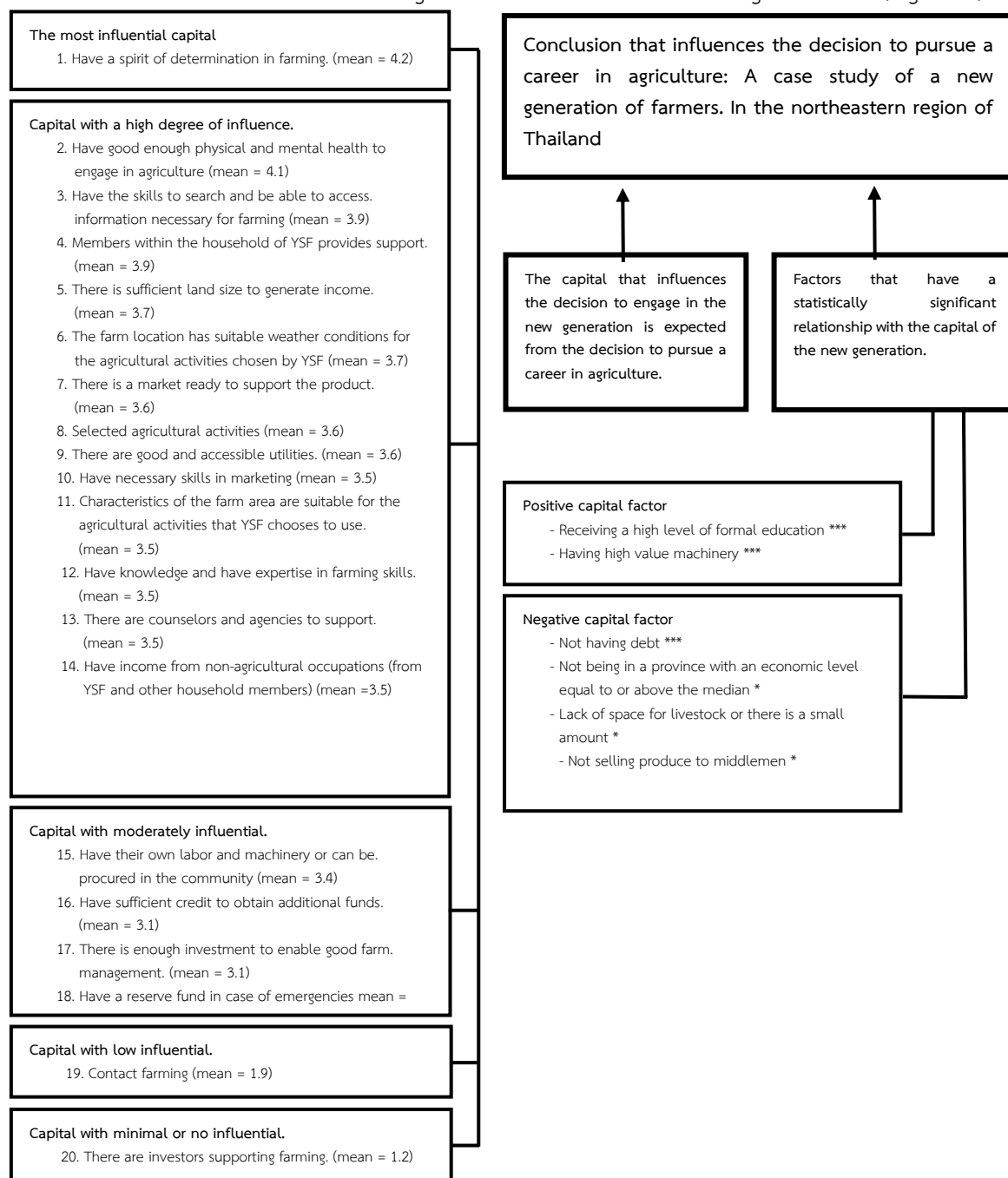
Variable	B	SE	Beta	t
Z ₈ = The farm's area is a wetland.	-1.737	1.549	-.068	-1.122
Z ₈ = The farm's area is mountainous.	1.519	1.570	.058	.968
Z ₁₀ = Ownership belongs to YSF or spouse.	-.040	1.177	-.003	-.034
Z ₁₁ = Ownership of the farm area belongs to the parents.	1.323	1.171	.082	1.129
Z ₁₂ = Farming resources come from traditional heritage	-.476	2.136	-.014	-.223
Z ₁₃ = YSF Farming resources come from other YSF professions.	.455	.938	.029	.485
Z ₁₄ = The resources for farming come from the spouses.	.565	1.011	.035	.559
Z ₁₅ = Total number of production activities within the farm	.022	.270	.006	.083
Z ₁₆ = Growing crops is the main activity of the farm.	7.620	8.206	.427	.929
Z ₁₇ = Livestock or insects is the main activity of a farm.	8.644	8.372	.362	1.032
Z ₁₈ = Fishing is the main activity of the farm.	5.524	8.800	.113	.628
Z ₁₉ = Processing is the main activity of the farm.	8.789	8.083	.355	1.087
Z ₂₀ = Production activities on the farm have certified standards.	.999	1.002	.061	.997
Z ₂₁ = Selling products in the community	-2.674	1.443	-.116	-1.852
Z ₂₂ = Selling products to other areas	.808	1.043	.052	.775
Z ₂₃ = Selling products to the purchasing yard	-.361	.989	-.023	-.365
Z ₂₄ = Selling products to middlemen	-2.159	.953	-.134	-2.265 *
Z ₂₅ = Selling products to contractors	-2.677	1.560	-.101	-1.716
Z ₂₆ = Sell products using the internet as an intermediary.	.844	1.071	.054	.788
Z ₂₇ = Net profit from farming per year	1.642E-7	.000	.012	.170
Z ₂₈ = Net profit from other household occupations per year	5.211E-7	.000	.087	1.437
Z ₂₉ = Average income from farming per rai per year	-7.778E-6	.000	-.066	-1.014
Z ₃₀ = The level of importance of agriculture to the household economy	.721	1.022	.046	.706

$R^2 = .129$, SEE = 7.64057, F = 1.369, Sig. of F = .101^b, * = Sig. < .05, *** = Sig. < 0.01

Conclusion

A study of capital that influences the choice of agricultural careers of the new generation in the northeastern region of Thailand. The results of the research indicate that Human capital is of utmost importance. This is because they often make their own decisions. From the skills of the new generation who can find good information to confirm the possibility before making a decision. Therefore, their career choice is deliberate, and this group expresses it by choosing to engage in agriculture. Physical capital and natural capital are important at different levels. This is often due to their good fortune in having relatively good resources and large enough to generate the desired level of income. Most of this luck comes from their ancestors who collected it and passed it on to them. Social capital, although these new generations are resolute in their decisions, but they still desire good support from those around them because agriculture is still seen by many as a sedentary or, in extreme views, a career choice. Agriculture is backward. And lastly, there is monetary capital. They view that it may not yet be very important. But one thing that they value is having income from other careers to support them. In the case of the relationship of the variables Relationships are all positive. These things show relatively high individual potential and a relatively good economic level of the household. It may be divided into 2 groups: 1) Positive capital that the more you have or the more you have. Moreover, it is the capital that causes the new generation to decide to pursue a career in agriculture, including receiving a high level of formal education. And having 2) high-value machines has negative capital. In this group, if there are none or few It will further affect the decision to pursue a career in agriculture for the new generation, including not having debt. Not

being in a province with an economic level equal to or above the median, Lack of space to livestock or a small number and not selling produce to middlemen. Therefore, it can be concluded that the social and economic quantities of capital in each area of the farmer's household influence the choice of agricultural careers of the new generation. (Figure 2)



*** = Sig. < 0.01 (Highly Significant), * = Sig. < .05, (Significant)

Figure 2 Conclusion that influence the decision to pursue a career in agriculture: a case study of new generations of farmers in the northeastern region of Thailand



Suggestions

Suggestions for future research on relevant issues, there should be continuous study of the factors that are specific to the career choices of the new generation. Because these variables are even confirmed over a period of time, but it tends to change rapidly according to the development of the current world. You should also study other related issues such as motivation, pressure, decision-making conditions, and external factors.

Suggestions related work, for related work promoting the increase in the number of new-generation farmers is because it maintains the production structure in the agricultural sector. You should understand the factors involved in designing the project and selecting project participants appropriately in order to save resources in the process, including increasing success in project implementation.

Suggestions for farmer households, in this research it has been pointed out that household resources that are passed down are important for young farmers' career decisions. Therefore, the family institution should create a stable agricultural occupation. In order to attract the new generation to maintain stable household resources. **Suggestions for young farmers**, there are many career choices for today's new generation but choosing to abandon agriculture may mean abandoning the household. This risks the collapse of the family institution. Therefore, when choosing a career, you should take into account what you have and the appropriate direction to maintain your agricultural career while being able to pursue other areas without conflict.

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