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STRUCTURAL EQUATION MODELING OF FARMER'S QUALITY OF LIFE

Sanyasorn SWASTHAISONG[1], Lamai ROMYEN[1], Pissadarn SEANCHAT[1], Chardchai UDOMKIJMONGKOL[1], Nathichai THANARAJ[1], Chainarong PHOOKASEM[1], Pawarin SWASTHAISONG[2], Nitchaon KHUMSAI[3] and Sanya KENAPHOOM[4]

1 Sakon Nakhon Rajabhat University, Thailand; sanyasorn@snru.ac.th (S. S.); lamairomyen@gmail.com (L. R.); pisdpc7@gmail.com (P. S.); chardchai_U@hotmail.com (C. U.); nathichai@snru.ac.th (N. T.); chainarong@snru.ac.th (C. P.)

2 Independent Scholar, Thailand; pchueasawathi@gmail.com

3 Krirk University, Thailand; nichon9942@gmail.com

4 Rajabhat Mahasarakham University, Thailand; zumsa_17@hotmail.com

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Abstract

This research aims to analyze the structural equation modeling of farmer's quality of life and propose guidelines for promoting and improving the farmers' quality of life. The results showed that the integrated causal structural factor influencing farmers' quality of life was consistent with the empirical data. Determined from the harmonization index, it consists of χ^2 = 585.945, df = 387, P-Value = 0.085, CFI = 0.921, TLI = 0.936, SRMR = 0.024, RMSEA = 0.048 and χ^2/df = 1.514. Every variable has a construct reliability value (ρ_c), between 0.965-0.998 above the threshold (0.60), construct validity values meet the specified criteria. The indicator had an element weight between 0.445-0.976, statistically significant at the 0.01 level for all of them, residual values are between 0.040-5.579. The accuracy (R^2) of the structural equation affecting farmers' quality of life was 0.775. All variables in the model together predicted the farmers' quality of life by 77.50% with statistical significance at the 0.01 level. The variable that directly affects farmers' quality of life the most is governmental support (G). The most indirect influencing variable was the sufficiency economy lifestyle (S). Together, all variables in the model accounted for 82.70% of the latent variables in quality of life variance. In addition, guidelines for promoting and improving the farmers' quality of life found that: improving the farmers' quality of life and peasants should first focus on economic development, farmers' attitudes towards living under the principles of sufficiency economy, dependence, organic farming, chemical fertilizers etc.

Keywords: Quality of Life, Farmer, Structural Equation Model

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Introduction

The Thai agricultural sector is facing challenges both from structural factors and from external changes that directly affect the productivity and competitiveness of most of our farmers (Attavanich et al., 2019). This shows that the Thai agricultural sector is facing labor shortages and more than half of the agricultural households have elderly workers, with limited access to modern knowledge and technology. Most of our farmers are smallholders. This often leads to a lack of economies of scale in access to technological resources and a lack of bargaining power in a market system with long supply chains, and the transmission of government agricultural extension policies may be inefficient and widespread. As a result of the above challenges, combined with climate change and increasing competition in the global market, most Thai farmers still have low productivity and net profits and remain dependent on the government (Rattanawararak et al., 2020). There is also a chronic problem that farmers have to face, namely the problem of debt in the system at an average of 100,000 baht per household, and the problem of accumulated debt. Most of them are self-reliant, i.e., want to speed up yields by purchasing herbicides or production-enhancing hormones, especially when buying seeds that are advertised as high-yielding even though farmers can manage the seeds and increase yields too. Soil amendment care management does not have to pay for these costs. The problem of water management systems even in irrigated areas but insufficient water is a chronic problem faced by farmers, especially farmers in the area because the irrigation system is not under the actual conditions of the area. The structural problem is that agriculture is shifting from self-reliant to dependent on marketing so that food and agricultural products are cheap, while farmers bear all the risks themselves. Farming is highly dependent on nature, which cause unfairness to farmers, and result poor a quality of life and poor health (Office of the Health Promotion Fund, 2019).

Quality of life is a topic of increasing interest in research over time and is being targeted by health service agencies. In addition, quality of life is an important destination for individuals, communities, and the nation as a whole. Any country, if its population as a whole is low in quality, no matter how abundant its natural resources are, it may not be able to develop and develop to catch up with or be equal to that of a country with a quality population. The quality of the population is therefore an important factor in determining which country's economic and social development will progress more than the other. Just like Japan after World War II, its civilization was affected by the war, but through the promotion and development of the quality of the Japanese population physically, mentally, and intellectually, Japan quickly became a socio-economic and cultural powerhouse. Therefore, quality of life is seen as important to oneself, family, community, and nation. Therefore, everyone should know and understand various matters related to the quality of life correctly and help each other to improve themselves, their families, communities, the nation, and the environment, which will eventually lead to good quality together. Therefore, improving the quality of life is considered something that should be done because most of the problems affecting the quality of human life are caused by humans such as overpopulation problems, environmental problems, and social problems, including social values (Office of the National Economic and Social Development Board, 2017)

However, the farmers in northeastern Thailand encountered 5 important problems as follows: Production factors, internal problems, external problems, natural factors and public policy. In order to enhance the formers' potential for a sustainable quality of life, the following are proposed: Farm knowledge enhancement (soil, water, cultivated area management, seed selection, and animal husbandry); cooperation among scholars and villagers; establishment of a cooperative in line with Sufficiency Economy Philosophy; application of traditional life style to create values; preservation of farming as an occupation; research and development of rice varieties; agricultural Thai rice marketing; and savings and capital management (Boonwises &

Lapchit, 2018). Inddition, Sakon Nakhon Province have average income per person per year (year 2018) less than 38,000 baht/person/year (people whowith income lower than the PO) of 263 households, accounting for 0.11 percent, ranked 56th among country and number 16 of the Northeast (In order from highest to lowest criterion). Agriculture still relies mostly on nature or rainwater, the famer stick to monoculture Mass production model, there is no extension in product processing and marketing, lack knowledge and understanding of production. and adhere to chemical agriculture, do not have knowledge and understanding of production planning and marketing, some farmers still refuse to change the concept, stick to the same old idea, lacking develop new knowledge and lack of continuous development (Office of Agriculture and Cooperatives, Sakon Nakhon Province, 2020: 86). That means, the farmer's quality of life has a problems.

Therefore, the researchers consider it necessary to conduct a research study to determine the integrated causal factors influencing the quality of life of farmers in Sakon Nakhon Province, Thailand which focuses on the target area according to the policy of Sakon Nakhon Rajabhat University, in response to the intent of the establishment of Rajabhat University that "It is a university of local development", and continue to fulfill the vision of the Thai government of a "stable, prosperous, sustainable, and developed country".

The researchers define the research objectives as follows: (1) to analyze the corroborative components of the integrated causal factors, which consisted of knowledge, sufficiency economy lifestyle, attitude towards farmers' occupation, government support, and quality of life of farmers and peasants, (2) to study the direct and indirect influences of the integrative causal factors, which consisted of knowledge , sufficiency economy lifestyle, attitude towards peasant occupation, support from the government sector that affects the quality of life of farmers and peasants, and (3) to establish the guidelines for promoting and improving the farmers' quality of life.

Literature Reviews

Quality of Life of Farmers

Life is made up of a body and a mind, life will grow with the nourishment of both body and mind. The theory of quality of life developed from the works of two philosophers Maslow (1954) and Sharma (1988). Maslow proposed Maslow's Hierarchy of Needs theory, showing that human beings will have needs as the driving force or intrinsic motivation to use their cognitive energy to lead themselves towards that need, and Maslow came up with 5 hierarchies of needs. The level that produces step-by-step motivation from low to high to take action to obtain or satisfy a need, as it is commonly known. (Sharma, 1988) presented Sharma's Hierarchy of Human Needs and Quality of Life with the Satisfaction scale as an index of Quality of Life, Classes are categorized according to the 3 types of responses they are looking for: Level one is Bio-physical Need, The second level is Psycho-Social Needs, and the third level is Individual Aspiration Needs. If a person receives a first, second, and third level of desire, then there will be low, middle, and high satisfaction respectively. And satisfaction is also related to the quality of life at Level One, Level Two, and Level Three as well. This research draws on the concept of Andrew & Withey (1974) that divides quality of life into nine areas: (1) health, (2) residence, (3) economy, (4) education, (5) society and environment, (6) recreation, (7) family, (8) mind, and (9) Safety.

Attitude

Attitude refers to the knowledge, understanding, and feelings a person has about something as a result of an experience or environment and a tendency for a person to behave, react and act on it in a supportive or negative way. Attitude is something that cannot be seen clearly, to know an individual's attitude requires a method of interpreting the expression. Psychologists and scholars have described the key attitude components of attitude as (1) cognitive component,

(2) effective component, and (3) behavioral tendency component (Atmana, 2007). Most research findings indicate that attitude is a variable closely related to human behavior, and psychologists tend to find attitude to be an important predictor of desirable behavior, for example, those with higher electoral attitudes had more ethical electoral behavior than those with less positive electoral attitudes, it was also found that in the overall group, positive attitude towards going to elections predicted 12.8% of ethical electoral behavior and 2.8% of the electoral behavior of members of the House of Representatives and the party. Researchers studied positive job attitudes and work behaviors or performance or effectiveness at work, for example, a study on alienation in the work of teachers by Nirunthavee (1989) found; working condition attitude was the first important predictor of overall teaching behavior with one variable accounting for 6% of the overall teaching behavior in the cohort, and was also the first important predictor of teaching behavior in the cohort. Several other subgroups, such as single teachers, predicted 14 percent. A review of the literature shows that positive behavioral attitudes are important predictors of desirable behavior. It also appears that the more positive the attitude of behavior, the more it is. Therefore, it was expected that those who had more positive attitudes toward farming occupations had higher quality of life than those who had fewer positive attitudes toward farming occupations.

Living According to the Principles of Sufficiency Economy

Sufficiency economy is a philosophy that His Majesty the late King Rama IX has given to guide the way of life for Thai people for more than 25 years, before the economic crisis and later emphasized the solutions survive and be able to survive stably and sustainably under globalization and changes. It is a development based on the middle path and recklessness, taking into account moderation, reasonableness, building a good immunity, as well as using knowledge, prudence, and morality in planning and decision making. Actions consist of three attributes, or three rings; moderation, rationality, and good immunity. There are also two important conditions which are knowledge and virtue, or "3 rings, 2 conditions" for short (Kittijungjit, 2012: 27).

Household Accounting

Household accounting is the number of household income and expenditures, therefore it is a mirror or showing the financial status of the family, as a number that shows evidence that income and expenses are balanced or not, which causes insufficiency, poverty, debt, etc. There are two common problems which are low income and higher expenses than income. Increased income can be solved with lifelong learning, as for family expenditures, they must be controlled by spending only what is necessary, not spending because of desire, if so, how much is not enough to pay. Farmers should do integrated farming, and produce food for consumption. As a self-immunity, the produce leftover from consumption is sold to bring income to cover the kitchen expenses. For other occupations that are unable to produce their food, most of these people live in the big cities so their incomes are higher than farmers, but at the same time, their expenditures are high as well. Therefore, proper cost control in household accounting will be the immunity of all professions (Kittijungjit, 2012: 42).

Governmental Support

Governmental support is similar to organizational support and is a variable that has received attention from organization psychologists, who started studying this variable is Eisenberger et al. (2001) It defines the perception of organizational support as a person's belief or feeling that the organization they are working for has committed to them. On the other hand, if a person is perceived as being highly supportive, they will more likely to commit by performing well in this belief and feeling. These are divided into two categories: (1) A feeling that the organization places great importance on praising its work, and (2) the feeling that the organization cares about its well-being. For farmers and peasants, receiving governmental support is the support of an organization that takes care of the people such as central government, provincial, and

local government agencies, etc. International research has shown that those who perceived their sponsors as having higher job satisfaction and a better quality of life than those who received less governmental support.

Research Methodology

This research is Mixed Methods Research, using both quantitative and qualitative research methods together, the researchers divide the research method into 2 phases as follows:
Phase 1: Quantitative Study the population and the sample group were agriculturists and farmers in the target areas of Sakon Nakhon Rajabhat University in 10 sub-districts, consisting of; (1) Ban Phaed Subdistrict, Kham Ta Kla District. (2) Sang Kho Sub-district, Phu Phan District. (3) Tha Kon Subdistrict, Akat Amnuay District. (4) Khok Sila Subdistrict, Charoen Sin District. (5) Kho Khieo Sub-district, Waritchaphum District. (6) Na Hua Bo Subdistrict, Phanna Nikhom District. (7) Tao Noi Subdistrict, Tao Noi District. (8) Lao Phon Kho Sub-district Khok Si Suphan District. (9) Muang Lai Sub-district, Mueang Sakon Nakhon District. And (10) Ban Paen Subdistrict, Phon Na Kaeo District. The sample size was determined using the criterion for the number of samples studied in the analysis of linear structural equations which should not be less than 20 units per 1 variable. (Anderson & Gerbing, 1984; Wiratchai, 1999; Angsuchoti et al., 2009) In this research there are 14 variables in total, so the sample size must not be less than 280 people which is the minimum criteria, this research will use a sample of 300 people. The sample was chosen using Stratified Random Sampling. Research tools include: (1) the questionnaire which is divided as follows; (1) general characteristics, (2) the way of life according to the sufficiency economy philosophy of farmers, (3) the satisfaction of the farmer's infrastructure, (4) the governmental support of the farmers, (5) attitudes towards peasant occupation of farmers, and (6) recommendations for promotion and development. The researchers have studied the concepts, theories, and principles related to creating questions under the research objectives. After that, a questionnaire was taken by 5 experts to check IOC values, it was between 0.66-1.00 scores. The questionnaire was tried out to find the Item Total Correlation value (r) between 0.361 and above (School of psychology university of New England, 2008 Cited in Phusee-orn, 2008: 73). Reliability analysis is 0.90. Data collection was applied by questionnaire, and data analysis was conducted using computer programs.
Phase 2: A study of guidelines for improving the quality of life of farmers. The target population is divided into two categories: (1) The target population in the interviews were representatives of farmers in the target areas of Sakon Nakhon Rajabhat University, 1 person each, totaling 10 people, using the purposive sampling technique. (2) The target group in the small group meeting is comprised of 6 experts using the purposive sampling technique. The research instruments were divided into two categories: (1) Interview form, and (2) Focus group discussion. Data analysis uses content analysis and thematic analysis, based on theoretical concepts as a framework for categorizing qualitative data analysis techniques and using successive approximations.

Research Results

The results showed that the integrated causal structural factor influencing farmers' quality of life was consistent with the empirical data. Determined from the harmonization index, it consists of $\chi^2 = 585.945$, df = 387, P-Value = 0.085, CFI = 0.921, TLI = 0.936, SRMR = 0.024, RMSEA = 0.048 and $\chi^2/df = 1.514$. Every variable has a construct reliability value (ρ_c) between 0.965-0.998 above the threshold (0.60), construct validity values meet the specified criteria. The indicator had an element weight between 0.445-0.976, statistically significant at 0.01 level for all of them, residual values are between 0.040-5.579. The accuracy (R^2) of the structural equation affecting farmers' quality of life was 0.775. All variables in the model together

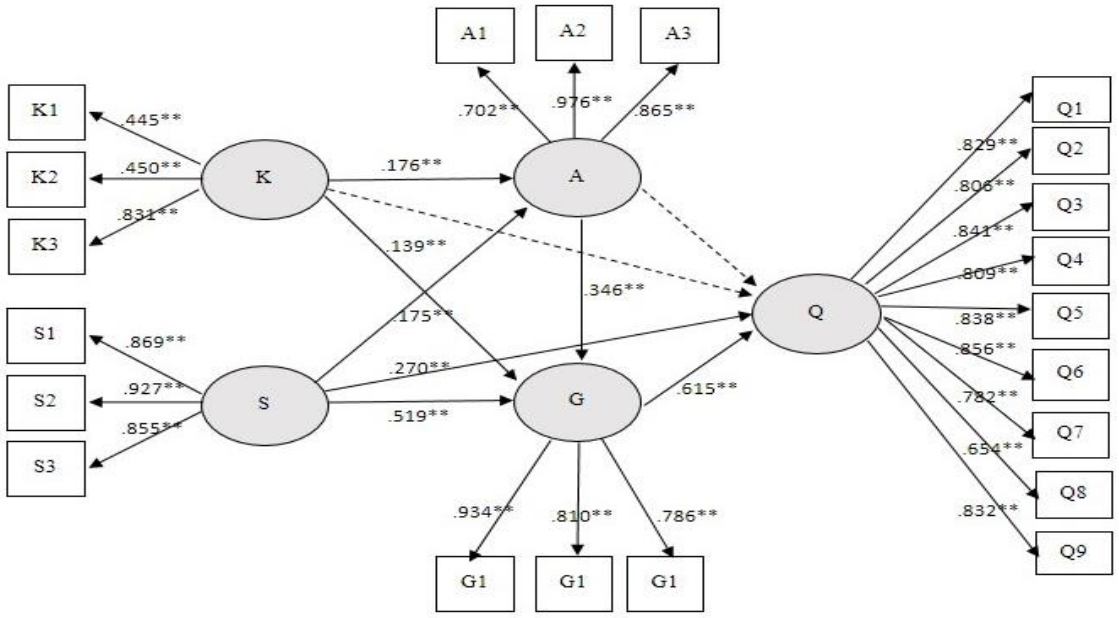
predicted the farmers' quality of life by 77.50% with statistical significance at the 0.01 level, as in table 1 and figure 1.

Table 1 Component weight values of the variable measurement modeling in the structural equation model influence the quality of life of farmers

Measurement model	Indicator	Element weight (λ)	S.E.	Z-test	Residual	R^2
Knowledge (K)	K1	0.445**	0.059	7.574	0.888	0.198**
	K2	0.540**	0.064	8.445	0.995	0.292**
	K3	0.831**	0.073	11.346	5.579	0.690**
Living according to the principles of sufficiency economy (S)	S1	0.869**	0.017	50.264	0.188	0.755**
	S2	0.927**	0.013	73.671	0.102	0.858**
	S3	0.855**	0.018	46.759	0.193	0.731**
Attitude towards farmer's occupation (A)	A1	0.702**	0.030	23.047	0.510	0.493**
	A2	0.976**	0.011	86.068	0.040	0.953**
	A3	0.865**	0.018	49.000	0.246	0.748**
Governmental support (G)	G1	0.934**	0.016	57.194	0.102	0.873**
	G2	0.810**	0.024	34.471	0.215	0.657**
	G3	0.786**	0.032	24.357	0.220	0.618**
Quality of life (Q)	Q1	0.829**	0.020	41.817	0.136	0.686**
	Q2	0.806**	0.022	36.820	0.180	0.649**
	Q3	0.841**	0.019	44.988	0.172	0.706**
	Q4	0.809**	0.022	37.317	0.210	0.654**
	Q5	0.838**	0.019	44.397	0.148	0.703**
	Q6	0.856**	0.017	49.733	0.164	0.733**
	Q7	0.782**	0.024	32.554	0.274	0.612**
	Q8	0.654**	0.035	18.944	0.326	0.428**
	Q9	0.832**	0.019	42.993	0.193	0.693**
R^2 structural equation of influence on the quality of life of farmers was 0.775.**						

** Statistically significant at 0.01 level.

Furthermore, most of the latent variables in the model were positively significant at the significance level .01. The variables that had the highest direct influence on the quality of life of farmers were; government support, followed by sufficiency economy, respectively, Except for Knowledge (K), and attitudes towards peasant occupation (A). The variable that had the greatest indirect influence was living according to the principle of sufficiency economy. All variables in the model together describe the variability of the quality of life variables by 77.50%, as shown in Figure 1.



χ^2 = 585.945, df = 387, P-Value = 0.085, CFI = 0.921, TLI = 0.936, SRMR = 0.024, RMSEA = 0.048, χ^2/df = 1.514,
** Statistically significant at the .01 level.
Figure 1 Modeling of the quality of life of farmers

The results of the route analysis to study the direct and indirect influence of the integrated causal factor model affecting the quality of life of farmers by using the M-plus program, the researchers found the results as shown in Table 2.

Table 2 Sizes of direct influences, indirect influences, and total influences in the structural equation model of variables

Effect	Direct Effect	Indirect Effect	Total Effect
Knowledge (K)	0.015	0.040*	0.025
Living according to the principles of sufficiency economy (S)	0.270**	0.524**	0.793**
Attitude towards farmer's occupation (A)	0.045	0.213**	0.258**
Governmental support (G)	0.615**	0.000	0.615**
Quality of life (Q)		-	-

** Statistically significant at 0.01 level.
* Statistically significant at 0.05 level.

From Table 2, it was found that the influence size in the structural equation modeling of variables was statistically significant at the 0.01, The predictive variable with the highest total influence, living according to the principle of sufficiency economy (S), was 0.793, followed by governmental support (G) with a value of 0.615. Attitudes towards occupation (A) were 0.258, respectively. Except for the knowledge (K), which was not statistically significant. The results of direct influence analysis in the structural equation modeling revealed that the influence size was statistically significant at the 0.01 and 0.05 levels. The highest direct influence forecast variable, governmental support (G), is equal to 0.615, followed by living according to the principle of sufficiency economy (S) which was equal to 0.270 respectively. Except for the variables of knowledge (K) and attitudes towards famer's occupation (A), which were not statistically significant. And the results of indirect influence analysis in the structural

equation modeling found that the influence size was statistically significant at the 0.05 level. The predictor variable with the highest indirect influence was living according to the principle of sufficiency economy (S) lifestyle with a value of 0.524, followed by attitude towards peasant occupation (A) was 0.213. Knowledge (K) were 0.040, respectively. Except for governmental support (G), which was not statistically significant.

It was also found that most of the latent variables in the model were positive at the significance level of 0.01, The variable that had the highest influence on the quality of life of farmers was living according to the principle of sufficiency economy (0.793**), followed by governmental support (0.615**), and attitudes towards farmer occupation (258**), respectively. The most indirect influencing variable was living according to the principle of sufficiency economy (0.524**), followed by attitude towards farmer occupation (0.213**), and knowledge (0.040*) respectively. And all variables in the model together predicted the quality of life of farmers by 82.70% with a statistical significance at the 0.01 level. Explain how the quality of life of farmers and peasants can be directly or indirectly enhanced or promoted, direct action, the first important factor is governmental support, followed by living according to principle of sufficiency economy. Indirect action, the first important factor is to living according to the principle of sufficiency economy, followed by attitude towards occupation, and Knowledge respectively.

The results of the study of guidelines for promoting and improving the quality of life of farmers are as follows: General condition or context of the target area, some geographical diversity conditions are dry at the groundwater drilling sites, some areas rely on irrigation systems, and some areas adjacent to water bodies experience flooding during the rainy season. The main occupation is farming, the secondary occupation is catching fish, growing tomatoes, organic farming, and growing mixed crops such as asparagus, potatoes, mushrooms, etc. Most of them are engaged in farming by using water from irrigation and water from Nong Han. In sustainable living conditions, most of them suffer from drought, insufficient water for cultivation, flooding, labor and capital shortages, lack of market, agricultural rights, poor price of rice, relying on leaning to the use of chemicals, and the rice is not toxic.

However, the improvement of the quality of life of the farmers involved should focus first on economic development such as solving the problem of low agricultural product prices, etc., because if the economy is good, health, education, housing, family, recreation, and mental health will be good as well. After all, it is the main factor in living, eating, and keeping the stomach of farmers. Factors affecting the quality of life of farmers are promoting organic farming, adjusting farmers' attitudes, refraining from applying chemical fertilizers and using toxic substances, and living according to the principles of sufficiency economy, self-sufficiency, and dependence. without being tied to government policies, fair pricing, governmental support, seed promotion, integrated farming, organic fertilizer production, changing the way of thinking/attitude of farmers about Monoculture cultivation, and training to educate farmers on household accounting.

Therefore, the guidelines for using the model of improving the quality of life of farmers found from the results of this research can be formulated as an integrated development policy. The factors that should be promoted to peasant agriculture are knowledge of sufficiency economy principles and household accounting, attitudes towards farmer's occupation, and governmental support in many forms, both directly and indirectly, as follows:

1) Direct action is to develop and encourage farmers to live according to the sufficiency economy principle. first, followed by the improvement of attitude towards peasant occupation. and governmental support respectively.

2) Indirect action consisted of 3 methods: Method 1: Educating about sufficiency economy and household accounting together with promoting sufficiency economy lifestyle; Method 2: Governmental development, support in parallel with the adjustment of attitude towards famer’s

occupation and the third method of governmental development support in tandem with the promotion of living under the principles of sufficiency economy (This method works best).
3) Promoting and improving the quality of life of farmers in 9 areas, focusing on the areas with low averages first, namely safety, followed by recreation, economy, and environment, respectively.
4) Cooperation to develop and promote governmental support factors such as the use of loans from the Bank for Agriculture and Agricultural Cooperatives, the processing of products made from rice, channels for selling rice that get a price, and helping farmers to settle debts, etc.
In addition, agriculturists and peasants should be encouraged to develop themselves continuously to gain knowledge and understanding of the Sufficiency Economy Philosophy.

Discussion and Conclusion

The integrated causal structural factor influencing farmers' quality of life was consistent with the empirical data. Determined from the harmonization index, it consists of $\chi^2 = 585.945$, df = 387, P-Value = 0.085, CFI = 0.921, TLI = 0.936, SRMR = 0.024, RMSEA = 0.048 and $\chi^2/df = 1.514$. Every variable has a construct reliability value (ρ_c) between 0.965-0.998 above the threshold (0.60), construct validity values meet the specified criteria. The indicator had an element weight between 0.445-0.976, statistically significant at 0.01 level for all of them, residual values are between 0.040-5.579. The accuracy (R^2) of the structural equation affecting farmers' quality of life was 0.775. All variables in the model together predicted the farmers' quality of life by 77.50% with statistical significance at the 0.01 level.
These findings are consistent with research by Koedmeemu (2017) found the factors affected quality of work life were: income from the rice pledging scheme, debt after participating the scheme, and types of land possession. The factors affected quality of family life were: marital status, income from the rice pledging scheme, and debt after participating the scheme. The factors affected health-related quality of life was debt after participating the scheme. Lastly, the factors affected quality of everyday life were: income from the rice pledging scheme and debt after participating the scheme. Palee & Anantanathon (2020) found the External environment factors including communities and societies, natural resources and the environment, and government policies that influence the security of livelihoods of the agriculturalists in the industry area of Thailand.
Guidelines for promoting and improving the quality of life of farmers found that improving the quality of life of farmers should focus on economic development first, because if the economy is good, health, education, housing, family, recreation, and mental health will follow. However, the cause or factor affecting the quality of life of farmers is the promotion of organic farmin, and the farmer's attitude adjustment to living according to the principles of sufficiency economy, etc. The findings are consistent with the research results of Kosol (2012) who studied the quality of life of rubber farmers during the recession: a case study of Surat Thani and Nakhon Si Thammarat provinces found that: Suggestions of rubber farmers who think that will lead to a better quality of life is that rubber farmers have offered the most about the price of their products, wanting to have a consistently high price, they should not be given a very low-price reduction. This is because the product that is sold means income is used to feed the family, and rubber farmers are burdened with high fertilizer prices. For working life, government agencies are required to take care of the rubber plantation fund, as well as provide technical advice to farmers regularly, whether a farmer will have a good quality of life depends more on the individual circumstances of the individual. This is because each person has different backgrounds and life satisfaction. What is important is having enough income, not being in debt, and knowing one's modesty is essential to making life as enjoyable as possible. And the results of this study are consistent with research by Othasri (2011), which found that the problems and obstacles associated with the existence of farmers are water resources and natural

disasters, interference from local politicians, problems with poor seed quality, instability in prices of crops and transport, and problems from policy support.

In addition, the recommendations derived from the study include: (1) The Sufficiency Economy Philosophy should be applied by implementing the New Theory Agriculture approach by multiplying crops rather than farming alone, Encouraging farmers to be self-reliant in a sustainable manner, without the need to wait for government assistance. (2) The government should promote knowledge for farmers to have more knowledge such as rice seeds, using local materials, understanding one's way of life, and being able to live with nature. (3) The government must provide more and more serious support to the agricultural sector and the cultivation of farming occupations to provide funding to the farmers, but government must also cut bach on populism. And a study by Romyen (2018) found the quality of life of farmers should be improved in three areas: the economy, education, and health. Relevant government officials should support and encourage farmers to grow organic vegetables, healthy vegetables, grow their vegetables, non-toxic, have a learning center to enhance agricultural products, and organize training on soil, water, and plant varieties appropriate in each area. It is also consistent with the findings of Kanchanaroek & Aslam (2017) that modifying the way of farming by growing a variety of crops and reducing the use of chemicals in the quantity and duration of the contract farmers should be compensated according to the amount of chemical use reduction, especially in the case of long-term contracts.

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