

Quality of Life of Elderly Farmers in Chainat Province: An Analysis Using United Nations Quality of Life Indicators

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Received August 22, 2025; Revised October 17, 2025; Accepted October 31, 2025

Abstract

This research aimed to study 1) assess the quality of life of elderly rice farmers in Chainat Province based on the United Nations' Quality of Life Indicators, and 2) compare their quality of life according to personal factors including gender, age, marital status, chronic illness, income, debt, and total farming area. The sample consisted of 412 elderly rice farmers, selected using multi-stage sampling. Data were collected through a structured questionnaire with a reliability coefficient of 0.87. The data were analyzed using descriptive Statistics, including frequency, percentage, mean, and standard deviation, as well as inferential statistics using t-tests and ANOVA. The findings revealed that (1) the overall quality of life of the elderly rice farmers was at a moderate level ($\bar{X} = 3.76$, $SD = 0.86$). The highest mean score was in the domain of personal beliefs and values ($\bar{X} = 3.94$, $SD = 0.76$), followed by mental health ($\bar{X} = 3.67$, $SD = 0.85$), independence ($\bar{X} = 3.68$, $SD = 0.85$), and social relationships, while the environmental domain had the lowest score ($\bar{X} = 3.49$, $SD = 0.89$). (2) Statistically significant differences in quality of life were found in relation to age ($p = 0.47$), chronic illness ($p < .001$), income ($p = .015$), and debt ($p = .003$). In contrast, gender, marital status, and total farming area showed no significant differences.

Keywords: quality of life; elderly; farmers; Chainat Province; United Nations Indicators

Introduction

Thailand is rapidly entering an aging society, a trend particularly evident in the agricultural sector. Chainat Province, where rice farming is the dominant occupation, clearly illustrates this demographic shift. As younger generations migrate to urban areas, the aging population continues to be active in agricultural labor. This phenomenon presents multiple challenges that directly affect the well-being and quality of life of elderly farmers (Seangpraw et al., 2019; Hemnoot & Treesorn, 2025; Hongthong, 2024).

Quality of life is a multifaceted concept encompassing various dimensions outlined by the United Nations, including physical health, mental well-being, independence, social relationships, environmental conditions, and personal beliefs. These dimensions are intricately linked to the realities of agricultural life, which involves physical hardship, economic uncertainty, and environmental changes. A comprehensive understanding of these dimensions is crucial to developing appropriate support mechanisms for this vulnerable group (Hongthong, 2024).

Studying the quality of life of elderly farmers in Chainat is vital given the region's unique socio-economic and cultural context, which shapes both their living conditions and the specific challenges they face. Local-level data provide a clearer picture of the situation and can inform targeted, effective policy-making. Previous studies have highlighted various factors influencing the quality of life of elderly individuals. For instance, Seangpraw et al. (2019) found that older adults with a stable income and family support tend to enjoy a better quality of life. Emphasized the importance of mental health and community participation. Apidechkul (2011) reported that women tend to have higher mental health-related quality of life than men, while physical health tends to decline with age. Furthermore, elderly individuals with higher incomes and lower debt levels were found to have significantly better quality of life (Hemnoot & Treesorn, 2025).

While these studies underscore the complexity and multifactorial nature of quality of life, there remains a pressing need for area-specific investigations to produce contextually relevant findings that can guide effective interventions.

Chainat Province is currently facing challenges related to an aging agricultural population. Elderly rice farmers contend with declining agricultural yields, fluctuating market prices, increasing debt, and deteriorating health—all of which directly affect their quality of life. Therefore, examining the quality of life of elderly farmers in this region is both timely and necessary.

This research seeks to understand the current state of elderly farmers' quality of life in Chainat Province. It aims to identify influencing factors and provide a foundation for agencies and policymakers to design appropriate interventions. Ultimately, this study aims to improve elderly farmers' well-being and foster positive social change.

Research Objectives

1. To examine the quality of life of elderly rice farmers in Chainat Province based on the United Nations' Quality of Life Indicators.
2. To compare the quality of life of elderly rice farmers classified by personal factors, including gender, age, marital status, chronic illness, Annual income, debt, and total farming area.

Scope of Research

Content of the Study: This study examines the quality of life of elderly rice farmers in Chainat Province across six dimensions outlined by the United Nations: physical health, mental well-being, independence, social relationships, environment, and personal beliefs and values. It also explores differences in quality of life based on personal factors.

Population and Sample: The population included elderly rice farmers aged 60 years and older who have engaged in rice farming in Chainat Province for at least five years and are registered with the Department of Agricultural Extension. As of January 2024, the total population was 18,756. (Chai Nat Provincial Agriculture and Cooperatives Office, 2025). A multi-stage sampling method was used to select a sample of 412 participants, calculated using Taro Yamane's formula with a 95 % confidence level and a 5 % margin of error, plus an additional 5% to account for incomplete responses.

Study Area: The study was conducted in Chainat Province, covering four districts: Mueang Chainat, Sankhaburi, Hankha, and Wat Sing. These districts were selected using simple random sampling.

Study Period: The research was conducted from January to April 2025, including survey design, data collection, and analysis.

Literature Review

The study of elderly farmers' quality of life is grounded in several theoretical frameworks and empirical studies that highlight the multifactorial nature of well-being among aging agricultural workers.

Socioeconomic Factors Socioeconomic conditions are critical in determining the quality of life among the elderly, especially in agricultural communities where income instability and economic risk are prevalent. Seangpraw et al. (2019) found that older adults with regular income and family support exhibit better quality of life. Similarly, community participation and social recognition enhance well-being (Seangpraw et al., 2019; Hongthong, 2024; Hemnoot & Treesorn, 2025). Hemnoot & Treesorn (2025) concluded that economic stability—characterized by high income and low debt—is a significant determinant of life satisfaction and overall well-being among elderly individuals.

In summary, income, debt, and social support significantly influence the quality of life among elderly agricultural workers. Stable earnings, family and community support, and the absence of financial burdens are essential to maintaining a high quality of life in old age.

Health and Age-Related Factors Health status and age are also essential factors. Physical and psychological changes that occur with aging, as well as those associated with chronic health conditions, present significant challenges. Jengan et al. (2020), Yodmai et al. (2019), and Hu et al. (2024) noted that chronic illness is a significant risk factor for a decline in quality of life. Hu et al. (2024), Apidechkul (2011), and Kim and Jeon (2020) found that physical quality of life tends to decrease with age, along with reduced mobility, daily functioning, and social participation.

These findings underscore the importance of promoting health, preventing disease, and providing adequate care for the elderly to maintain and enhance their quality of life.

Spiritual and Personal Belief Dimensions are crucial. In addition to economic, social, and health dimensions, spiritual well-being and personal beliefs play a crucial role in determining quality of life, particularly in the Thai cultural and social contexts. Hongthong (2024), Hemnoot and Treesorn (2025), and the study found that religious faith, a sense of life meaning, and pride in one's occupation significantly contribute to psychological well-being. Furthermore, personal beliefs serve as internal coping mechanisms that help elderly individuals manage life's hardships.

Therefore, spiritual and personal belief systems are essential foundations for inner strength, fostering emotional stability, life satisfaction, and a more profound sense of fulfillment. Enhancing

these dimensions is indispensable for achieving comprehensive, sustainable improvements in the quality of life of older adults.

Conceptual Framework

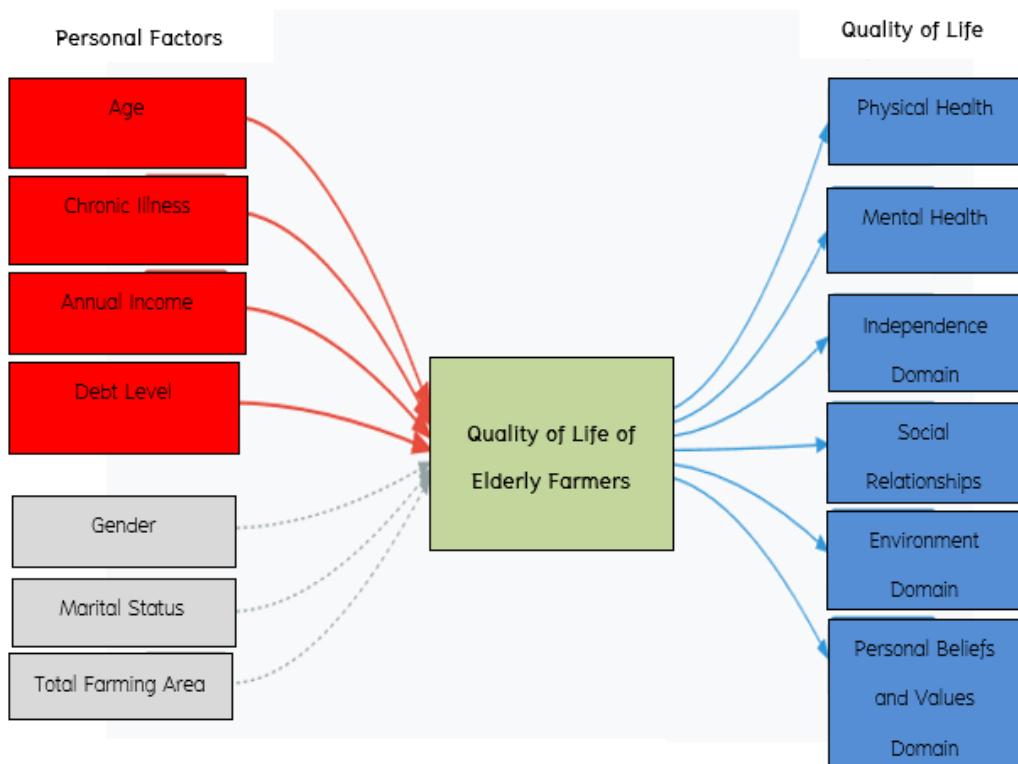


Figure 1: Conceptual Framework

Research Methodology

This research employed a quantitative approach with the following methodology.

The population consisted of elderly rice farmers aged 60 years and above in Chainat Province, who had been continuously engaged in rice farming for at least five years and were registered with the Department of Agricultural Extension. As of January 2024, the total population was 18,756 individuals (Chai Nat Provincial Agriculture and Cooperatives Office, 2025). The sample size was calculated using Taro Yamane's formula at a 95 % confidence level and a 5 % margin of error, yielding a minimum of 392 participants. To account for potential non-responses, the sample was increased by 5 %, resulting in a final sample size of 412 participants. A multi-stage sampling method was used as follows:

District Sampling: Four out of eight districts were randomly selected using simple random sampling: Mueang Chainat, Sankhaburi, Hankha, and Wat Sing.

Sub-district Sampling: Two sub-districts from each selected district were randomly drawn.

Village Sampling: Two villages were randomly selected from each sub-district, yielding a total of 16 villages.

Respondent Sampling: Systematic random sampling was then used within the official registries of the 16 villages, proportionally selecting the final 412 participants.

Research Instrument

Data were collected using a structured questionnaire divided into two parts:

Part 1: Personal demographic information (checklist format).

Part 2: Quality of life measurement adapted from the WHOQOL-BREF (Thai version), developed by the World Health Organization, using a 5-point Likert scale. The reliability coefficient (Cronbach's alpha) of the instrument was 0.87.

The data were collected through self-administered questionnaires and researcher-assisted interviews for elderly participants with reading difficulties.

Data were analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviations, to examine demographic characteristics and overall quality of life. The interpretation of quality of life scores was classified into three levels:

1.00 – 2.33 = Low

2.34 – 3.67 = Moderate

3.68 – 5.00 = High

Inferential statistics, including independent-samples t-tests and one-way ANOVA, were used to compare quality of life across different personal factors.

Research Results

Objective 1: General Quality of Life Levels

The results indicated that the overall quality of life of elderly rice farmers in Chainat Province was at a moderate level ($\bar{X} = 3.67$, $SD = 0.85$). Among the six quality of life domains based on the United Nations indicators, the highest average score was in the domain of personal beliefs and values ($\bar{X} = 3.94$, $SD = 0.76$), followed by mental health ($\bar{X} = 3.76$, $SD = 0.86$), and independence

($\bar{X} = 3.68$, SD = 0.85). The environmental domain received the lowest score ($\bar{X} = 3.49$, SD = 0.89).

Table 1 Quality of Life Levels by Domain

Domain	\bar{X}	S.D.	Interpretation
Physical Health	3.54	0.93	Moderate
Mental Health	3.76	0.86	High
Independence	3.68	0.85	High
Social Relationships	3.62	0.90	Moderate
Environment	3.49	0.89	Moderate
Personal Beliefs and Values	3.94	0.76	High
Overall	3.67	0.85	Moderate

From Table 1, each domain is elaborated in detailed sub-tables in the full manuscript (Tables 2 – 7), highlighting individual items such as satisfaction with health, sleep, mobility, community support, safety, and spiritual fulfillment.

Table 2 Quality of Life Levels of Elderly Farmers in Chainat Province – Physical Health Domain

Physical Health Domain	\bar{X}	S.D.	Interpretation
1. How satisfied are you with your health?	3.52	0.91	Moderate
2. To what extent do you feel that physical pain prevents you from doing what you need to do?	3.38	1.05	Moderate
3. Do you have enough energy for everyday life?	3.61	0.89	Moderate
4. How satisfied are you with your sleep?	3.49	0.93	Moderate
5. How satisfied are you with your ability to perform your activities of daily living?	3.69	0.88	High
Total	3.54	0.93	Moderate

In Table 2, the physical health domain showed a moderate overall level, with only one item (satisfaction with the ability to perform daily activities) reaching a high level.

Table 3 Quality of Life Levels of Elderly Farmers in Chainat Province – Mental Health Domain

Mental Health Domain	\bar{x}	S.D.	Interpretation
6. How well are you able to concentrate?	3.72	0.85	High
7. How much do you enjoy life?	3.79	0.83	High
8. To what extent do you feel your life to be meaningful?	3.75	0.87	High
9. How often do you have negative feelings such as a blue mood, despair, anxiety, or depression?	3.66	0.92	Moderate
10. To what extent do you feel your life is meaningful?	3.87	0.83	High
Total	3.76	0.86	High

From Table 3, the mental health domain showed a high overall level, with most items at high levels, except for negative feelings, which were at a moderate level.

Table 4 Quality of Life Levels of Elderly Farmers in Chainat Province – Independence Domain

Independence Domain	\bar{x}	S.D.	Interpretation
11. How well are you able to get around?	3.64	0.86	Moderate
12. How satisfied are you with your ability to perform your daily living activities?	3.69	0.83	High
13. How satisfied are you with your work capacity?	3.56	0.91	Moderate
14. How satisfied are you with yourself?	3.84	0.79	High
Total	3.68	0.85	High

From Table 4, the independence domain showed a high level overall, with the ability to perform daily activities and self-satisfaction at high levels.

Table 5 Quality of Life Levels of Elderly Farmers in Chainat Province – Social Relationships Domain

Social Relationships Domain	\bar{x}	S.D.	Interpretation
15. How satisfied are you with your personal relationships?	3.59	0.88	Moderate
16. How satisfied are you with the support you get from your friends?	3.61	0.92	Moderate
17. How satisfied are you with your financial support from relatives?	3.68	0.89	High
18. How satisfied are you with the opportunities for leisure activities?	3.60	0.91	Moderate
Total	3.62	0.90	Moderate

From Table 5, the social relationships domain showed a moderate level overall, with only financial support from relatives reaching a high level.

Table 6 Quality of Life Levels of Elderly Farmers in Chainat Province – Environment Domain

Environment Domain	\bar{x}	S.D.	Interpretation
19. How safe do you feel in your daily life?	3.53	0.84	Moderate
20. How healthy is your physical environment?	3.50	0.91	Moderate
21. How available to you is the information that you need in your day-to-day life?	3.40	0.96	Moderate
22. To what extent do you have the opportunity for leisure activities?	3.52	0.87	Moderate
Total	3.94	0.89	Moderate

According to Table 6, the environment domain showed a moderate level across all items.

Table 7 Quality of Life Levels of Elderly Farmers in Chainat Province – Personal Beliefs and Values Domain

Personal Beliefs and Values Domain	\bar{x}	S.D.	Interpretation
23. How much do you enjoy being a farmer?	3.90	0.78	High
24. How proud are you of being a farmer?	3.95	0.75	High
25. To what extent do you feel that farming is valuable to society?	3.96	0.72	High
26. To what extent do your personal beliefs give you strength to face difficulties?	3.95	0.80	High
Total	3.94	0.76	High

In Table 7, the personal beliefs and values domain showed the highest overall level, with all items at high levels.

Objective 2: Comparison by Personal Factors

The study found statistically significant differences in quality of life based on age ($p = .047$), presence of chronic illness ($p < .001$), income ($p = .015$), and debt level ($p = .003$). However, gender, marital status, and total farming area did not show significant differences.

Table 8 Quality of Life Differences by Personal Factors

Personal Factors	Quality of Life		t/F	p-value
	\bar{x}	S.D.		
Gender	Male	3.66	0.86	1.25
	Female	3.61	0.84	
Age	60–69 years	3.72	0.81	.047*
	70–79 years	3.66	0.84	
	80 years and above	3.51	0.89	

Personal Factors	Quality of Life		t/F	p-value
	\bar{x}	S.D.		
Marital Status	Single	3.61	0.82	
	Married	3.67	0.85	
	Widowed	3.58	0.87	1.87
	Divorced/Separated	3.49	0.94	.098
Chronic Illness	No	3.78	0.83	
	Yes	3.56	0.85	4.24 .000***
Annual Income	Less than 50,000 THB	3.45	0.91	
	50,000–100,000 THB	3.61	0.82	
	100,001–150,000 THB	3.70	0.84	3.41 .015*
	150,001–200,000 THB	3.74	0.83	
	More than 200,000 THB	3.80	0.77	
Debt Level	No debt	3.80	0.76	
	Less than 100,000 THB	3.71	0.84	
	100,000–300,000 THB	3.60	0.87	4.79 .003**
	300,001–500,000 THB	3.48	0.88	
	More than 500,000 THB	3.40	0.91	
Total Farming Area	Less than 10 rai	3.63	0.87	
	10–20 rai	3.66	0.83	
	21–30 rai	3.68	0.86	1.46 .207
	31–40 rai	3.69	0.82	
	More than 40 rai	3.73	0.84	

*p < .05, **p < .01, ***p < .001

From Table 8, the comparison of quality of life among elderly rice farmers based on personal factors revealed several statistically significant differences. Specifically, age, chronic illness, income, and debt level were all significantly associated with variations in quality of life.

Elderly farmers aged 60–69 years reported higher quality-of-life scores than those aged 70–79 and 80 years and above, indicating a significant decline in perceived well-being with advancing age ($p = .047$). This finding suggests that physical and social limitations associated with aging may adversely affect life satisfaction.

In terms of health status, those without chronic illness had significantly higher quality-of-life scores ($p < .001$) than those with chronic illnesses, underscoring the negative impact of long-term illnesses on elderly individuals' overall well-being.

Income also played a significant role. Farmers earning more than 200,000 THB annually reported the highest quality of life scores, while those with an annual income below 50,000 THB had the lowest ($p = .015$). This supports the notion that financial stability contributes positively to the well-being of older adults.

Debt level was another critical factor. Participants with no debt reported significantly higher quality-of-life scores than those with higher levels of debt ($p = .003$), reflecting the burden of financial obligations on emotional and psychological health.

On the other hand, gender, marital status, and total farming area did not yield statistically significant differences in quality of life ($p > .05$), suggesting that these factors may not have a direct or substantial influence on the overall well-being of elderly rice farmers in this context.

Discussion

Objective 1: Overall Quality of Life

The results showed that the overall quality of life of elderly rice farmers in Chainat Province was moderate, with the highest mean score in the domain of personal beliefs and values, followed by mental health and independence. The lowest score was observed in the environmental domain.

These findings are consistent with the study by Seangpraw et al. (2019), which found that elderly individuals in central Thailand who remained economically active reported moderate to high quality of life, particularly in the spiritual and psychological dimensions. Religious beliefs and personal values serve as important sources of emotional support, helping elderly individuals cope with physical decline and social changes. Similarly, Jang et al. (2020), who studied older adults in rural South Korea, found that spiritual faith and a sense of meaning in life positively influenced quality of life.

The moderate score on the environmental dimension may reflect deficiencies in public amenities, safety conditions, and convenient public access within rural farming communities. These challenges can hinder the physical comfort and safety of elderly farmers and may require targeted public policy interventions.

Objective 2: Differences by Personal Factors

The study found that age, chronic illness, income, and debt were significantly associated with quality of life, while gender, marital status, and farming area were not.

The negative correlation between increasing age and quality of life aligns with the findings of Kim and Jeon (2020), who reported that physical capacity and social engagement tend to decline

with age. Similarly, Apidechkul (2011) and Jengan et al. (2020) emphasized that chronic diseases limit elderly individuals' ability to perform daily activities, thereby reducing their perceived well-being.

In terms of economic factors, elderly farmers with higher incomes and no debt reported significantly higher quality-of-life scores. This finding is consistent with Rojanadhamkul (2018) and Seangpraw et al. (2019), who asserted that economic stability is a primary determinant of quality of life among the elderly, especially in rural contexts where financial insecurity is prevalent.

The absence of significant differences by gender, marital status, or farming area may reflect the relatively uniform socio-economic and cultural characteristics among the elderly farming population in Chainat Province. It suggests that these factors may not contribute to substantial variation in quality of life in this particular setting.

Conclusion

1. Elderly rice farmers in Chainat Province have an overall moderate quality of life, with the highest scores in personal beliefs and values, mental health, and independence domains.
2. Personal factors that significantly differentiate quality of life include age, chronic illness, income and debt level.

Suggestions

1. Research-Based Recommendations

Based on Objective 1 findings that elderly rice farmers in Chainat Province have moderate overall quality of life, with highest scores in mental health, personal beliefs and values, and independence domains, relevant agencies should implement proactive community health services such as annual health screenings and mental health counseling for elderly farmers, and promote community activities such as establishing elderly groups to enhance social relationships.

Based on Objective 2 findings that elderly farmers with different age, chronic illness, income, and debt levels have significantly different quality of life at .05, .001, .05, and .01 levels respectively, while gender, marital status, and total farming area showed no differences, relevant agencies should develop income policies such as elderly farmer income insurance or debt payment suspension for low-income individuals.

2. Recommendations for Future Research

1. Qualitative or Mixed Methods Studies to delve deeper into elderly individuals' feelings about quality of life to better understand cultural context, beliefs, and personal satisfaction.
2. Regional Comparisons of elderly quality of life across different regions to examine geographical and cultural differences affecting quality of life.
3. Predictive Modeling using advanced statistical analysis or artificial intelligence to predict risk factors and resource allocation for quality of life.
4. Policy Impact Assessment examining the effects of government policies such as national pension schemes, income insurance, or state welfare cards on rural elderly well-being.

New Knowledge

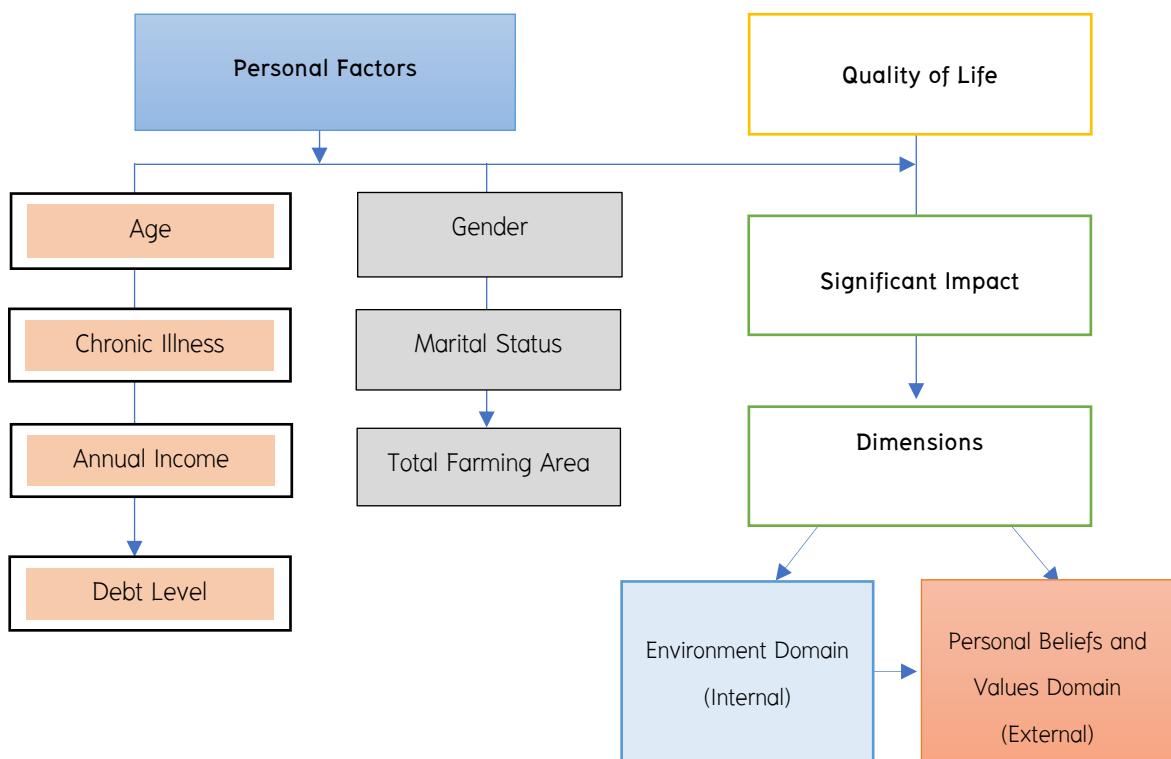


Figure 2 Quality of Life of Elderly Farmers in Chainat Province.

The findings of this study have led to the discovery of the following new knowledge:

1. **Critical Impact Factors:** Age, chronic illness, annual income, and debt level are the primary factors that significantly and statistically affect and differentiate the overall quality of life and the quality of life across all six dimensions among elderly farmers.

2. Strengths and Vulnerabilities: While the Personal Beliefs and Values dimension scored highest, indicating strong internal coping mechanisms, the lowest score was observed in the Environmental Dimension. This points to deficiencies in public amenities, safety conditions, and convenient public access, underscoring the urgency of addressing these external challenges.

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