

The Use of Integrated Agriculture to Improve Quality of Life of Farmers In Ban Na Sub-district, Nakhon Nayok Province, Thailand

Shanasuek Wisetchai^{1*}, Pathomchanok Siripatchara²,
Nikorn Rodprasert³, Sawek Suwanprawek⁴, Suthep
Bualoy⁵

¹Associate Professor, Faculty of Humanity and Social Sciences,
Phranakhon Rajabhat University, Thailand

²Assistance Professor, Faculty of Humanity and Social
Sciences, Phranakhon Rajabhat University, Thailand

³Village Headman, Department of Provincial Administration,
Thailand

⁴Village Headman, Department of Provincial Administration,
Thailand

⁵Village Headman, Department of Provincial Administration,
Thailand

Correspondence: E-mail: shanasuek.wis@gmail.com

Abstract

The objectives of this research were; 1) to study agriculture problems of farmers , 2) to survey the quality of life, 3) to develop model utilizing integrated agriculture to improve life quality of farmers, and 4) to drive the model to improve quality of life of farmers in Banna sub-district, Nakorn Na Yok province, Thailand. This research employs mixed research approaches. The population consists of farmers residing in Banna sub-district, Nakhon Nayok province. The samples include farmers from 237 households. Gathering data via interviews and focused group discussion, the key informants include agricultural officers and 14 village leaders. Questionnaires are utilized to gather data, which is subsequently examined using statistical measures: percentages, averages, and standard deviations.

The results revealed that: 1) The challenges faced by farmers in Banna sub-district in the field of agriculture encompass inadequate water resources, soil degradation, chemical usage, and elevated agricultural expenses. 2) Prior to the implementation of the life quality development model, the

quality of life of farmers in Banna subdistrict was at average level. 3) Models aimed at improving quality of life prioritize the enhancement of the economy, mental well-being, physical health, and society. 4) The application of the life quality development model through integrated agriculture in Banna sub-district has resulted in improvements in four dimensions of life quality: economic, mindset, health, and society.

Keywords : Life Quality Development Model , Integrated Agriculture, Nakhon Nayok province

INTRODUCTION

Thai society has been changed according to the global social trend under the influence of liberal capitalism. Modernization brings a major shift into the development process in the society of Thailand (Pimdee, Jedaman, Wang-Saorad, and Kinboon, 2017). Capitalism influences people's lifestyles by promoting materialistic values, prioritizing consumption and production for competition, and encouraging monoculture agriculture for mass trade. This leads to a decline in the quality of life for farmers, pushing them into a cycle of debt. To solve such challenges, one must practice self-reliance by breaking free from excessive consumerism and embracing a lifestyle of self-sufficiency.

The area of Ban Na District, located in Nakhon Nayok Province, is under the jurisdiction of Phranakhon Rajabhat University. The university's primary objective in this area is to provide academic services and facilitate the transfer of technology to the local community and society at large. The overall surface area measures roughly 388.4 square kilometers. The population of the area is 69,266, with over 70% of the population engaged in agricultural activities. The farmers in the region have very modest earnings, with an average annual household income ranging from 30,000 to 60,000 baht. The majority of farmers in Ban Na district employ the Farmer 1.0 approach, characterized by the cultivation of a single crop in substantial quantities, mostly driven by exports and aligned with the principles of the capitalist economic system. It is distinguished by farming that is only partially integrated (Inthatsingh, 2007). Chemical fertilizers and insecticides are employed to get the intended crop production. This results in elevated production costs and leads to issues of inadequate yield, which in turn adversely impacts the health of farmers

owing to excessive chemical usage. Furthermore, the presence of financial and health issues contributes to a decline in the overall quality of life and an inability to experience happiness (Bualoy, 2020).

Quality of life is multidimensional: physical wellbeing, material wellbeing, social wellbeing, emotional wellbeing, and development and activity (Felce, Perry, 1995). The phenomenon arises from assigning significance and contentment to different factors according on the prevailing circumstances and surroundings. An optimal quality of life encompasses several key elements, including adequate economic resources, a favorable living environment, sound mental well-being, strong social connections, and societal acceptance. In order to enhance the standard of living for farmers, our attention should be directed towards the development of these components. An innovative farming methodology has been effectively implemented to tackle quality of life concerns. A new agricultural approach, intergrated farming, is one that has been successfully applied to improve life qaulity.

The new agricultural theory and integrated agriculture approach is consistent with solving the problem of quality of life of farmers. His Majesty King Bhumibol Adulyadej has introduced a novel farming strategy to enable the Thai population to thrive in the modernized global society. The philosophy revolves around the sufficiency economy production system, which emphasizes the principles of unity, cooperation, and mutual help. The primary philosophical principle is to empower farmers to achieve self-sufficiency, reminiscent of their traditional way of life (Chaipattana Foundation, 2020). By providing support in the execution of tasks and the utilization of existing resources, while prioritizing the essential equilibrium of the environment, integrated or mixed farming practices can effectively lower living expenses. This approach also ensures a suitable response to household needs and reduces both production costs and potential risks in future production.

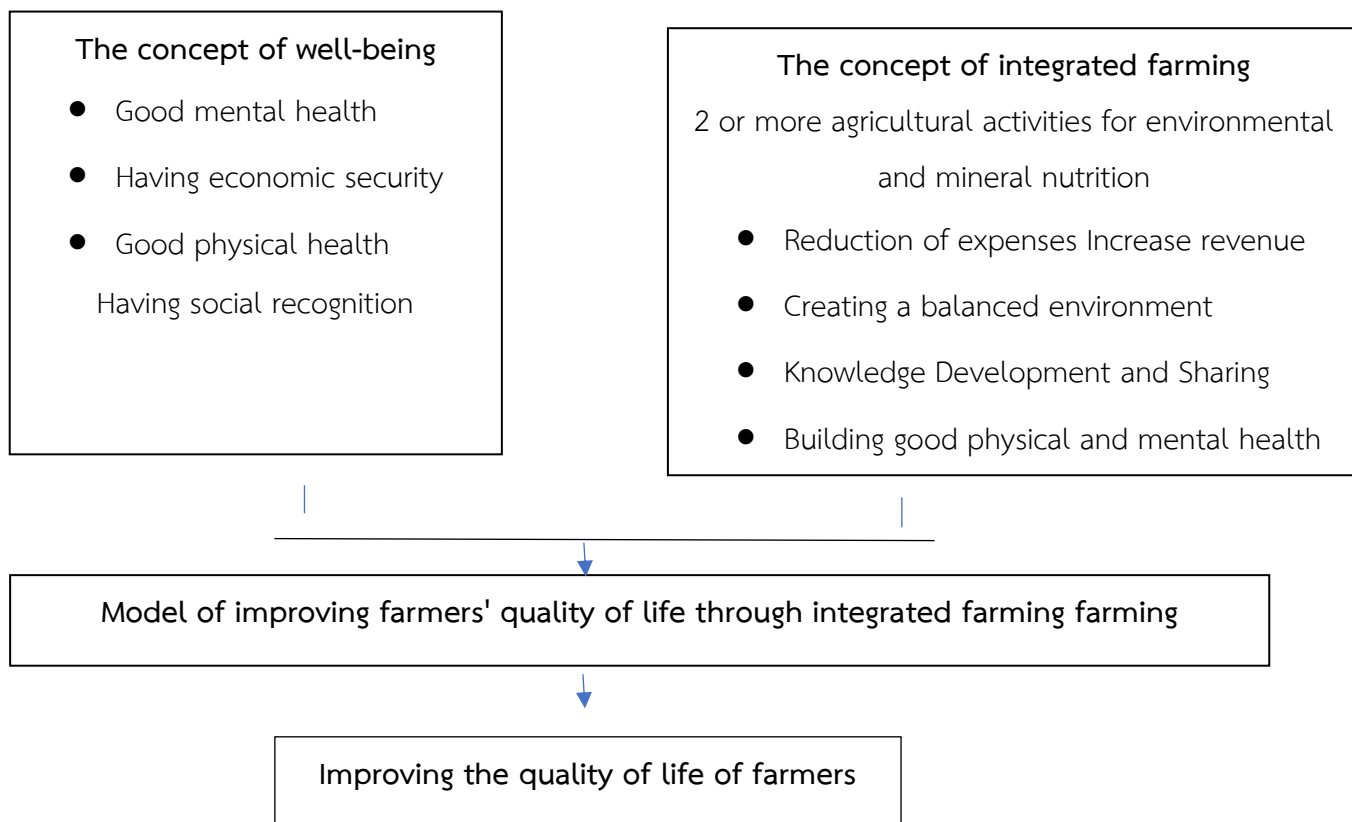
According to the problems of the farmers in Ban Na area, Nakhon Nayok province, it is necessary to improve their quality of lives. In order to achieve happiness within society, it is imperative to enhance the overall standard of living. This can be accomplished by prioritizing the implementation of the new

agricultural theory and integrated agriculture, as advocated by His Majesty the King Bhumibol Adulyade. This research project aims to enhance the quality of life for farmers by applying new agricultural theories and integrated agriculture, based on the Royal Charter granted to Thai people for navigating a capitalist society.

RESEARCH OBJECTIVES

1. To survey the condition of farmers' farming problems in Ban Na sub-district, Ban Na District, Nakhon Nayok Province, Thailand
2. To study the quality of life of farmers in Ban Na Subdistrict. Ban Na District, Nakhon Nayok Province, Thailand
3. To develop a model for applying new agricultural theories and integrated agriculture to improve the quality of life of farmers in Ban Na Subdistrict, Ban Na District, Nakhon Nayok Province, Thailand
4. To drive and evaluate the model of applying new agricultural theories and integrated agriculture to improve the quality of life of farmers in Ban Na sub-district, Ban Na District, Nakhon Nayok Province, Thailand

CONCEPTUAL FRAMWORK



RESEARCH METHODS

This research is a mix of quantitative research and qualitative research.

Population and sample

The population used in this research was farmers in Ban Na Subdistrict, Ban Na District, Nakhon Nayok Province, 11 villages, totaling 579 households.

The sample used in this research was farmers and farmers in Ban Na Subdistrict, Ban Na District, Nakhon Nayok Province. 237 households

Data Collection Tools

This research has tools used in research. as follows

- 1) questionnaire It is created by synthesizing variables from the concept of farming factors.
- 2) Interview form by synthesizing questions about farming and improving quality of life. From the article Textbooks, articles, theses, related research

Collection of Information

Data collection in this time, we did the following:

1. Gather data from surveys regarding agricultural methods and the well-being of farmers in Ban Na Subdistrict situated in Nakhon Nayok Province, Thailand.
2. Conduct a focused group discussion with key informants, including community leaders and representatives from the farming community, the individuals involved including the staffs of the Ban Na District Agriculture Office, government officials, members of the corporate sector, and agricultural entrepreneurs in Ban Na Subdistrict, Ban Na District, Nakhon Nayok Province, Thailand.
3. In-depth interviews are done using an open-ended method, wherein community leaders and representatives of farmers are interviewed. The individuals involved include staff members from the Ban Na District Agriculture Office, government officials from Nakhon Nayok Province, and representatives from the private sector, agricultural entrepreneurs in Ban Na Subdistrict, Ban Na District, Nakhon Nayok Province, Thailand.

4. Gather data through participatory observation by closely examining the lifestyles and farming practices of the community.

Analysis of data and statistics used

In this analysis, we conducted the following analysis:

1. Analyze the quality of life of farmers in Banna Subdistrict, Banna District, Nakhon Nayok Province, Thailand by using frequency and percentage (%), mean, and standard deviation (S.D.)
2. Conduct a qualitative analysis by examining the data and verifying it using a triangle check. Relational relationships are elucidated through the process of interpretation, inductive reasoning, logical analysis, and subsequent description.

LITERATURE REVIEWS

Life Quality

Considered in various dimensions; physical wellbeing, material wellbeing, social wellbeing, emotional wellbeing, and development and activity (Felce and Perry, 1995), the concept of quality of life is complex and varied, encompassing both general satisfaction with life and satisfaction within particular areas (Hörnquist, 1990). It is personalized, influenced by personal and cultural factors, and can be impacted by health problems (Breslin, 1991). It can be seen as a set of life characteristics that can be categorized into opportunities and outcomes, as well as external and internal aspects (Veenhoven, 2014).

According to the World Health Organization, quality of life refers to how individuals see their position in life within the cultural and value framework of their society, as well as in connection to their personal goals, aspirations, standards, and worries (World Health Organization, 2022). Quality of life encompasses holistic welfare and contentment, encompassing factors such as educational and employment accessibility, lack of armed conflicts or endangerments, as well as sound physical and mental well-being. The concept is relative, subjective, and includes intangible elements, such as spiritual ideas and a feeling of belonging (Institute for Work and Health, 2012). Good quality of life is optimal standard of living involving a

comprehensive and diverse approach to overall welfare, incorporating multiple aspects that contribute to a gratifying and meaningful life. A decent quality of life is based on various foundations which include mental and physical health, economic security, and social recognition;

1. Mental health

Mental health is a crucial component of quality of life, particularly for those with severe mental health problems (Connell, 2012). The mental health is the emotional well-being, resilience, and life skills—is essential. The ability to manage and navigate one's emotions promotes a good outlook and emotional balance. Mental health requires resilience—the ability to overcome obstacles, adapt to changes, and stay mentally healthy. Problem-solving, communication, and stress management abilities strengthen mental health and help people handle life's challenges. These factors promote personal pleasure and fulfillment and make people more resilient and adaptable to life's ever-changing dynamics, improving quality of life.

2. Economic Security

Economic security is component of good life quality (Sushko et al., 2016). A high quality of life depends on economic security, which provides financial stability, growth prospects, and the ability to meet basic needs. Financial stability helps people manage daily spending, prepare for the future, and handle unexpected financial issues. It encourages people to invest in education, skills, and personal growth, creating new opportunities and better well-being. Economic security also ensures access to housing, healthcare, and education, raising living standards. Economic security boosts individual pleasure and societal resilience and prosperity by providing financial control and predictability.

3. Good health

Good health is essential for a good life. Physical health affects many elements of daily life and enjoyment (Breslin, 1991). Healthy people have more energy, greater immunological function, and can do more without much restriction. Good health fosters positivity, giving people energy and excitement for life. It also helps attain personal and professional goals, boosting self-esteem. Good health also encourages freedom and a full, active lifestyle, improving quality of life. Proper

nutrition, regular exercise, and preventative healthcare are essential for long-term health and happiness.

4. Social recognition

Social recognition and efficient social engagement are essential for a good quality of life (Ferriss, 2006). Humans are social beings, and a sense of community, acceptance, and acknowledgment boosts well-being. Social recognition boosts self-esteem, worth, and purpose. Meaningful relationships and acceptance from friends, family, and society provide emotional support and a supportive network throughout happy and sad times. Learning to negotiate social interactions and develop meaningful connections improves quality of life and feelings of connectivity and contentment. Healthy social relationships improve personal experiences and foster a feeling of community, which is vital for a fulfilling existence.

Overall, quality of life includes people's views on their social status, cultural, value, and personal frameworks. This multidimensional idea incorporates education, work, dispute resolution, and physical and mental health. A high quality of life includes mental and physical health, economic security, and social status. Personal satisfaction and life adaptation depend on mental health, which includes emotional well-being, resilience, and life skills. Well-being and societal resilience require economic security, which provides financial stability and growth. Healthy living fosters positivity, vitality, and a full life. Social recognition, community, and acknowledgment are essential for emotional support and fulfillment. A holistic, multifaceted approach to welfare leads to a fulfilling life.

Integrated Agriculture

The Integrated Agriculture is a comprehensive and environmentally-friendly farming method that synergistically incorporates many agricultural practices, including crop cultivation, animal husbandry, and agroforestry. It is the part of The new agricultural theory introduced by His Majesty King Bhumibol Adulyadej to Thai people to thrive in the modernized global society. The philosophy revolves around the sufficiency economy production system, which emphasizes the principles of unity, cooperation, and mutual help (Chaipattana Foundation, 2020).

Office of Agricultural Research and Development Region 3 (2013). Ministry of Agriculture and Cooperatives of Thailand

has defined and described Integrated agriculture that it is a farming system that involves the cultivation of crops, simultaneously cultivating diverse animal species or engaging in fishing activities within the same area, which can greatly enhance the overall productivity and mutual benefits. It is founded on the notion of the integration of flora, fauna, and the surrounding ecosystem. Coexistence can manifest as either a plant-plant, plant-animal, or animal-animal connection.

The integrated agriculture seeks to maximize resource utilization, minimize ecological footprint, and improve overall productivity. Srisuyong (2012) has concluded the definition of integrated agriculture as alternative farming practices with two or more activities in the same time period and area. Both are activities of plant planting and animal husbandry, fisheries and other agricultural activities that can benefit each other. By using the production resources available in the farmers' fields, namely land, capital, labor, appropriately for maximum benefit.

The benefit of integrated agriculture is building good physical and mental health and it also can make economic strength. Technology Policy Division for Agriculture and Sustainable Agriculture (2016) stated that the Integrated agriculture is a solid way to mitigate revenue threats. Diversified crop and animal husbandry production is crucial. This diversified approach guarantees household income is not reliant on a single source, ensuring financial stability. This integrative strategy boosts household income, ecological sustainability, and farmer empowerment.

In conclusion, Integrated Agriculture represents a deliberate and holistic approach that recognizes the interconnectedness of diverse farming elements. This strategy not only promotes ecological balance but also reduces dependence on external resources such as synthetic fertilizers and pesticides, enhancing the overall resilience of the farming system. Integrated Agriculture proves to be both environmentally beneficial and economically profitable, offering farmers a diversified and resilient source of income while contributing to their physical and mental well-being. The effectiveness of this technique lies in its ability to establish a harmonious and mutually beneficial relationship among the various components of the agricultural ecosystem, creating a sustainable and thriving model for modern farming practices.

RESEARCH FINDINGS

Agricultural problems of farmers in Ban Na sub-district Ban Na District, Nakhon Nayok Province, Thailand

Farmers in Ban Na sub-district, Nakhon Nayok Province, confront a confluence of challenges that significantly impact their agricultural endeavors and overall livelihoods. These problems include;

High production costs

High production costs is a significant challenge for Thai farmers in Ban Na sub-district, creating a ripple effect that reverberates through the financial landscape and deeply impacts their quality of life. The ongoing need for updated technology, machinery, and inputs to improve productivity is a major factor in driving up production costs. As farmers endeavor to stay up with advancing agricultural practices, the financial burden of obtaining and upkeeping sophisticated equipment, fertilizers, insecticides, and genetically modified crops becomes ever onerous. Moreover, the volatile nature of fuel costs, which play a crucial role in agricultural activities, exacerbate the economic difficulties experienced by farmers. The financial consequences go beyond the immediate worries of the farming community. Due to escalating production costs, farmers sometimes become ensnared in a cycle of indebtedness, resorting to loans to cover expenses while facing mounting challenges in repaying them. The presence of debt not only impacts individuals' financial stability but also has a significant impact on their psychological well-being, resulting in increased levels of stress and worry.

Water deficiency

The Banna subdistrict is marked by a dearth of water and a deficiency in irrigation facilities, leading to a heavy reliance on seasonal agriculture. This is a significant obstacle in the field of farming. The agricultural environment in this region primarily depends on a steady and sufficient water supply for farming. Regrettably, the inadequate water supply is a substantial obstacle to the prosperity of agricultural pursuits, impacting the overall financial stability of the farming community. As agricultural methods expand, the demand for water increases, putting more pressure on the already restricted water supplies. This matter not only impacts the present efficiency of farms but also gives rise to apprehensions regarding the future viability of agricultural operations in Banna subdistrict.

Soil degradation

The area of Ban Na Subdistrict is currently grappling with problems associated with soil degradation. Most of them face common problems, namely the soil's poor water retention capacity, acidic soil, and soil degradation resulting from the usage of fertilizers and pesticides. The problem with the soil is its lack of water retention capacity. The sandy soil is a consequence of the particular characteristics utilized for agricultural reasons. Moreover, numerous agricultural regions are afflicted by the prevalence of sour or acidic soils. This is an outcome of the increasing use of chemical fertilizers by farmers in their agricultural fields.

Health problems

The widespread application of chemicals in agriculture within the Banna Subdistrict region has resulted in a multitude of issues that have far-reaching effects on both the environment and the well-being of the communities engaged in agricultural practices. Although these chemical inputs have been essential in enhancing crop yields and general productivity, their extensive use has resulted in unforeseen repercussions. The overdependence on agricultural chemicals leads to environmental concerns such as soil degradation, water pollution, and ecosystem disruption. Nevertheless, the consequences go beyond the agricultural sectors and have a direct influence on the physical condition and welfare of farmers and nearby communities. The use of pesticides and fertilizers has been linked to a range of health problems, including respiratory disorders and more severe, chronic health conditions. The combination of the economic burden of healthcare expenses and the possibility of reduced output caused by health issues produces a harmful loop that negatively impacts the quality of life for individuals involved in agriculture. In order to guarantee a healthier and fairer future, it is crucial that we adopt more balanced and sustainable farming practices as we deal with the intricate confluence of agricultural productivity, environmental sustainability, and human health.

Quality of life of farmers in Ban Na subdistrict before the implementation of the model of promoting good quality of life through integrated farming

Prior to the introduction of the integrated farming model aimed at fostering a high quality of life, the farmers in Ban Na Subdistrict experienced challenges in four key areas: mental

well-being, economic stability, and physical health. The assessment revealed that their quality of life in overall aspect was rated at a moderately satisfactory level ($\bar{X}$ 3.65, S.D.= .830). Reviewing by each aspect, it showed that psychological quality was the highest ($\bar{X}$ = 3.74, S.D.= .839), followed by health ($\bar{X}$ =3.72, S.D.= .810), social recognition ($\bar{X}$ =3.62, S.D.= .820), and economic ($\bar{X}$ = 3.55, S.D.= .851) respectively. Even the results were in acceptable zone, there were some area neededfor improvement in order to enhance their overall quality of life.

According to qaulitative data, it revealed that the community was confronted with a significant issue as they struggle with inadequate savings, which greatly affected their standard of living. Due to their limited financial resources, some individuals became susceptible to economic uncertainty and unexpected expenses, thereby continuing a cycle of financial stress. The lack of money not only hindered their capacity to invest in contemporary farming methods and technologies, but also limited them access to vital resources like as healthcare and education for their children. The farmers in Banna Subdistrict experienced a decline in their overall well-being , highlighting the immediate requirement for specific interventions and support mechanisms to improve their economic resilience and boost their overall quality of life.

In addition, the farmers in Banna Subdistrict faced a health problem related to the extensive use of agricultural chemicals and high levels of PM 2.5, which greatly affected their quality of life. The dependence on chemical inputs in agricultural techniques has resulted in a variety of health issues among these committed individuals, such as respiratory problems and other detrimental consequences. Moreover, the widespread existence of PM 2.5 intensifies the health hazards. Inhalation of high amounts of PM 2.5 was linked to farmers' respiratory and cardiovascular problems. The collective consequences of chemical utilization and air pollution not only endanger the physical welfare of farmers but also provided enduring risks to the general health of the community. Immediate action was necessary to tackle these health issues, guaranteeing the welfare of the farmers in Banna Subdistrict and promoting sustainable farming methods that prioritized both productivity and the environment.

The model of applying new agricultural theories and integrated agriculture to improve the quality of life of farmers In Ban Na Subdistrict, Ban Na District, Nakhon Nayok Province

Integrated agriculture model for quality of life improvement It consists of developing 4 elements of good quality of life which are;

Building good mental health

Building good physical health through integrated farming involves the creation of a positive environment that seamlessly blends agricultural practices with the principles of ecological harmony. By adopting an integrated approach, farmers not only cultivate crops but also nurture a diverse ecosystem that promotes biodiversity and sustainability. This holistic farming method encourages a symbiotic relationship with nature, relying on natural processes to enhance soil fertility and mitigate the use of harmful chemicals. The integration of livestock, crops, and other elements creates a balanced ecosystem that not only yields nutritious produce but also contributes to a cleaner and healthier environment. Importantly, this approach maximizes psychological benefits as individuals engage in a closer connection with the land and the cycles of nature, fostering a sense of purpose and well-being. By embracing integrated farming practices, communities not only enhance physical health through sustainable agriculture but also nurture a positive and fulfilling relationship with the natural world.

Creating economic strength

In economic aspect, the integrated farming is a strategic approach aimed at mitigating the risk of crop losses while concurrently bolstering income and minimizing expenses. Integrated farming methods involve diversifying agricultural activities by incorporating various crops, livestock, and sustainable practices within a single system. This diversity acts as a risk mitigation strategy, as potential losses from a specific crop failure can be offset by the success of others. Additionally, the integration of livestock not only provides an alternate income stream but also facilitates nutrient recycling, enhancing soil fertility and reducing the need for external inputs. By adopting such a comprehensive approach, farmers can increase their overall income by tapping into multiple revenue streams while simultaneously reducing expenses associated with synthetic fertilizers and pesticides. Integrated farming, therefore, emerges as a multifaceted strategy that

not only safeguards against economic uncertainties but also promotes resilience and sustainability within agricultural communities.

Enhancing physical health

In term of physical health, Integrated farming stands as a holistic approach that contributes significantly to building and maintaining good physical health. One of its key benefits is the reduction in the risk of diseases by minimizing the use of harmful chemicals in agricultural activities. By adopting sustainable and organic practices, integrated farming systems prioritize environmental health, safeguarding both the soil and the crops from the adverse effects of synthetic pesticides and fertilizers. This approach ensures that the produce is free from harmful residues, promoting better health for both farmers and consumers. Furthermore, the inclusion of diverse crops and livestock in integrated farming provides a more comprehensive and balanced nutrition profile. The integration of nutrient-rich crops and livestock allows for a diverse and wholesome diet, ensuring that individuals obtain the complete nutrition necessary for optimal physical well-being. In essence, integrated farming emerges as a pathway to good physical health, emphasizing disease prevention, environmental sustainability, and the provision of nutritionally rich food.

Promoting social recognition

Social wise, the integrated farming not only cultivates crops and livestock but also nurtures a sense of community and shared knowledge, fostering a harmonized society. The practice of integrated farming encourages farmers to share their expertise, experiences, and innovative techniques with one another, creating a collaborative environment. This knowledge-sharing dynamic not only enhances the overall agricultural productivity but also strengthens the social fabric. Farmers, feeling a sense of connection and interdependence, come to view themselves as integral parts of a broader societal framework. This shared identity cultivates a feeling of acceptance and recognition within the community, as individuals appreciate the diverse contributions each farmer makes to the collective well-being. Integrated farming, therefore, becomes a catalyst for the development of a harmonized society where mutual respect, shared knowledge, and a sense of belonging prevail, contributing to the overall prosperity and resilience of the community.

The four factors mentioned above, generated by integrated farming and significantly contribute to the improved quality of life for farmers, depicted in the following figure;

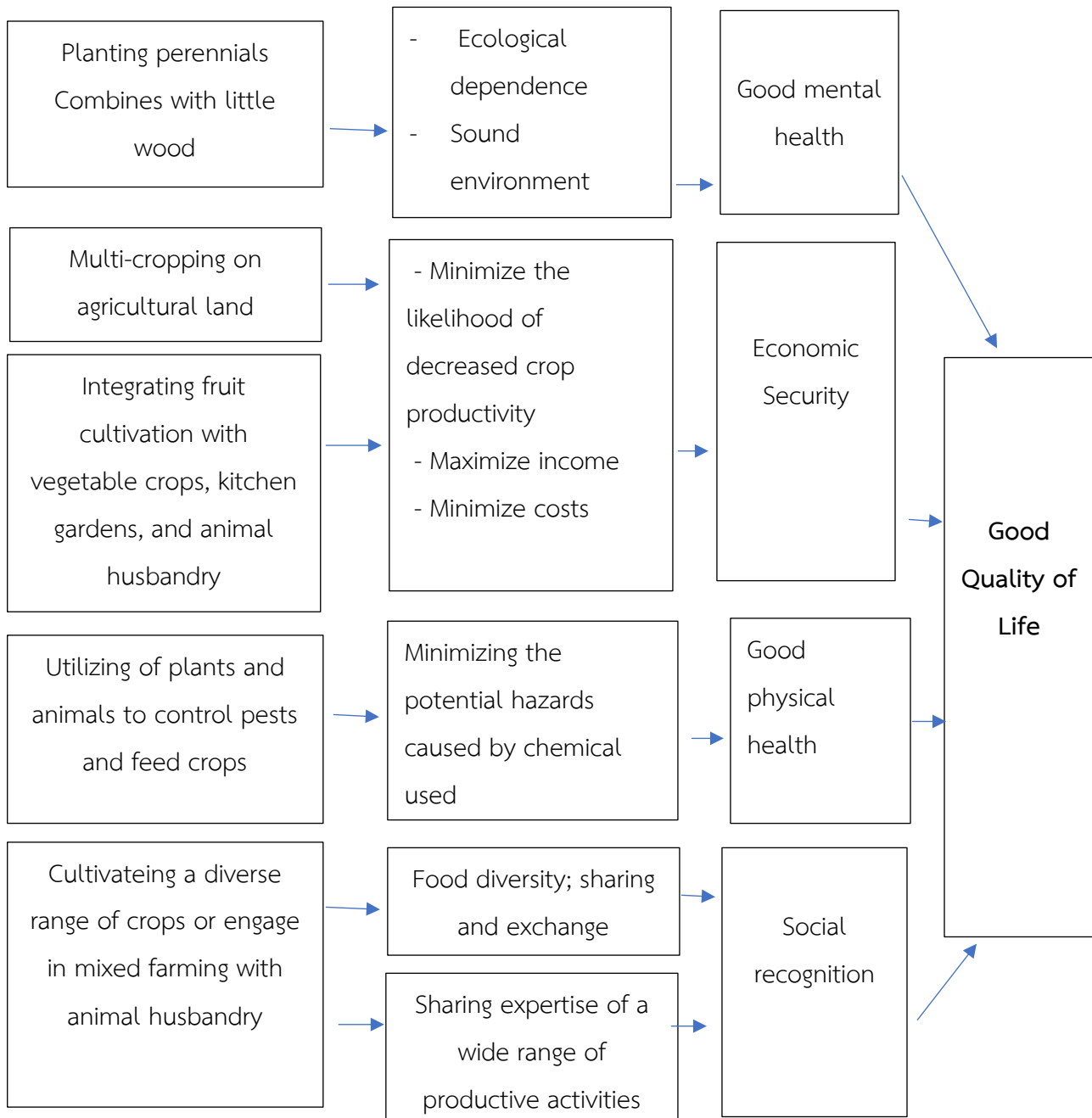


Figure 1: Integrated agriculture for quality of life improvement

Implementing and evaluating new agricultural theories and integrated farming models to enhance the quality of life for farmers in the Banna sub-district

After the adoption of integrated farming practices in Banna Subdistrict, the farmers have undergone a significant and

positive change in their overall welfare. The life quality assessment after implementing model shown in figure 1 revealed that their quality of life in overall aspect was rated at a high level (4.35, S.D.= .827). Reviewing by each aspect, it showed that psychological quality was the highest (= 4.51, S.D.= .830), followed by social recognition (=4.32, S.D.= .812), health (=4.31, S.D.= .825), and economic (= 4.28, S.D.= .841) respectively.

According to qualitative data, it revealed that the use of integrated farming practices not only led to the establishment of a favorable and enduring ecological system, but also fostered a feeling of ease and satisfaction among the farming community. Farmers that conscientiously utilize the agricultural environment and prioritize self-sufficiency have been able to achieve a balanced lifestyle by mixing exercise and moderation into their everyday practices. The comprehensive strategy has resulted in a deep sense of psychological wellness, as farmers report contentment with their situation, radiating a resilient and optimistic attitude. The fostering of magnanimity and a collective aspiration for the welfare of all members of the society has additionally bolstered their sense of esteem in their vocation. The farmers of Banna Subdistrict see a profound positive effect on their lives, both in terms of their agricultural practices and their overall well-being, as a result of integrated farming. This is due to their newfound sense of pride and a resilient mindset.

In addition, the farmers have observed a significant enhancement in their health subsequent to the successful execution of integrated farming operations. Integrated farming has made a substantial contribution to improving health by incorporating a variety of agricultural activities, resulting in clearer and higher quality health outcomes. Farmers are experiencing the advantages of a diverse and nutritionally dense food by employing methods such as integrated vegetable cultivation, intercropping, or integrating crop cultivation with animal husbandry. The saying "Plant what you eat, eat what you grow" holds significant meaning for farmers who engage in integrated farming, as they prioritize consuming the many products they cultivate or rear. The inclusion of a variety of foods in their diet not only improves their physical health but also decreases their dependence on pesticides, so enhancing the overall safety of their agricultural products. By implementing integrated crops and animal

husbandry practices, farmers not only safeguard their own consumption but also enhance productivity and community health, leading to a beneficial improvement in the health aspect of Banna Subdistrict.

Furthermore, the farmers also have experienced a substantial enhancement in their economic prowess due to the successful execution of integrated farming practices. Integrated agriculture is a successful catalyst for improving the quality of life by expanding economic opportunities. By practicing polyculture and including animal husbandry, farmers have successfully diversified their revenue sources. This method not only enhances the sustainability and resilience of the agricultural system, but also decreases overall costs by reducing reliance on external inputs such as synthetic fertilizers and pesticides. Moreover, the integrated strategy reduces the likelihood of crop losses, guaranteeing a more consistent and reliable source of income for the farmers. The extra revenue derived from a variety of agricultural operations not only enables them to make adequate deposits, but also enhances their general economic welfare, signifying a good change in the economic situation of the Banna Subdistrict.

Finally, in the aspect of social recognition, the farmers have seen a significant improvement in the quality of their social life. Integrated farming surpasses conventional agricultural practices and promotes a shared value system that encourages communal learning within the community. Farmers cooperate and share expertise, fostering a collective comprehension of sustainable and diversified agricultural methodologies. The act of sharing knowledge not only enhances the social connections among farmers but also has a wider impact on society, since the principles of integrated farming serve as a motivating force for others. Consequently, farmers are experiencing a growing level of acceptance and respect from the community. The wide range of agricultural products that arise from integrated farming not only demonstrate the farmers' ability to adjust to different circumstances, but also generate possibilities for joint sales or exchanges, promoting more engagement among members of the community. Integrated farming serves as a catalyst for developing a strong and integrated social fabric in Banna Subdistrict.

CONCLUSION

In conclusion, the farmers Ban Na Subdistrict have faced with mental health, economic stability, and physical health issue which affected their life quality. The assessment found that their quality of life was moderately satisfactory, with areas for improvement. The integrated farming strategy, which prioritizes economic, environmental, and health factors, improves Ban Na Subdistrict farmers' quality of life. Positive community change and sustainable well-being require immediate action and targeted interventions. The implementation of integrated farming in the Banna Subdistrict has proven to be a transformative force, positively influencing various aspects of the farmers' lives. From cultivating a sustainable environment and fostering a strong sense of community to improving economic strength and enhancing health, integrated farming has emerged as a holistic approach that addresses multifaceted challenges. The farmers, now practicing diversified and environmentally conscious agriculture, experience not only economic resilience but also a newfound pride in their profession. The social fabric of the community has strengthened through shared knowledge and collaborative learning, fostering acceptance and respect among its members. Moreover, the adoption of integrated farming has resulted in improved physical health for the farmers, driven by a diverse and safe food supply. As a comprehensive and sustainable model, integrated farming stands as a beacon for communities seeking to harmonize ecological, economic, and social aspects, exemplifying the potential for positive change in agricultural landscapes.

DISCUSSION

The research findings provide a thorough depiction of the difficulties encountered by farmers in Ban Na sub-district, Nakhon Nayok Province, elucidating the complexities of their economic hardships. The farmers face substantial challenges to their well-being due to the combination of expensive production expenses, water resource problems, and soil deterioration. Significantly, the weight of expensive production expenditures, which include personnel, machinery, and fertilizer costs, directly threatens their economic stability. The revenue derived from their agricultural endeavors frequently fails to meet these significant expenses, leading to financial hardship for numerous farmers. The economic difficulty is closely connected to the farmers' total well-being, in line with the study of Hamsupho (2000) that quality of life refers to individuals' ability to coexist effectively within society.

The multifaceted nature of human existence, encompassing physical, intellectual, mental, and emotional dimensions, as articulated by Chandra (1999), further highlights the interconnectedness of economic challenges with overall well-being. As the research illuminates the difficulties faced by farmers in acquiring resources and executing production methods, it underscores the undeniable impact on their economic circumstances and, consequently, their standard of living. Addressing these challenges becomes pivotal for enhancing the overall quality of life for farmers in Ban Na sub-district.

The research findings offer unique insights into the various dimensions of farmers' quality of life in Ban Na Sub-district, Ban Na District, Nakhon Nayok Province, with a specific emphasis on psychological well-being. Most farmers demonstrate admirable qualities of self-reliance, physical well-being, humility, and satisfaction, emphasizing a favorable mindset. Nevertheless, the study highlights the significance of fostering benevolence and a perception of collective welfare, in addition to preserving tranquility, as pivotal elements for a comprehensive psychological well-being. The implementation of mixed farming techniques, which involve the cultivation of vegetables, the growth of crops, and the keeping of animals, is identified as a significant factor contributing to these favorable characteristics. This strategy promotes the "capacity to distribute and transmit value" across the community, emphasizing the importance of knowledge and resources in impacting the farmers' potential to benefit others. The research is in line with the integrated agricultural paradigm, which prioritizes four fundamental components for a high standard of living: cultivating sound mental well-being, advancing economic stability, guaranteeing optimal physical health, and nurturing a sense of social inclusion. This approach aligns with the notion proposed by Chaiyaamporn and Samakkarn (1991), which highlights the importance of achieving a state of contentment and overall wellness, encompassing both physical and mental aspects. The integrated agricultural model, with its focus on these four areas, demonstrates its suitability as a framework for improving the overall quality of life for farmers in the examined region.

The research findings illuminate the beneficial influence of integrated farming on the social aspect of farmers' quality of life. The study uncovers a perception of self-esteem and acknowledgement among farmers, originating from their realization of the significance they contribute to society through agriculture. This perception is developed by the gradual accumulation of experience in the implementation of integrated farming methods. The research is consistent with the findings of Meepromphan (2014), which specifically examined integrated agriculture management. Meepromphan's research underscored the significance of understanding, sagacity, strategies, and approaches employed in integrated agricultural systems. This study supports these findings by emphasizing that farmers, by acquiring knowledge and implementing their practical knowledge from integrated farming, make a substantial contribution to the advancement and adjustment of these techniques. Crucially, the research highlights that the knowledge and experience gained from integrated farming play a crucial role in promoting beneficial connections among communities, society, and other institutions. The findings highlight that integrated farming improves both individual agricultural practices and fosters strong social bonds within the community.

The research carried out in Ban Na area highlights a crucial element of farmers' well-being, namely in relation to their financial security. The findings indicate a current deficiency in the economic aspect, marked by a shortage of saved funds and inadequate income to meet expenses. The financial difficulty poses a substantial barrier to attaining a holistic standard of living for the farmers in the district. The research strongly supports the use of integrated agriculture as a feasible measure to enhance economic conditions. Integrated farming maximizes resource usage and product management by employing a systematic approach to cultivating crops and raising animals. This methodology, exemplified by prior investigations like the study conducted by Santapan (2007), not only diminishes manufacturing expenses but also guarantees an uninterrupted yield for commerce. The model adheres to the concepts of sustainable development, placing emphasis on achieving a harmonious equilibrium between economic prosperity, environmental factors, and the overall standard of living. The beneficial effects of integrated agriculture are not confined to individual households but also encompass the wider community, highlighting the possibility

of extensive enhancements in economic stability and overall quality of life.

The research findings indicate a direct relationship between the implementation of integrated agriculture practices and an enhanced quality of life for farmers, namely in terms of their physical well-being. Although the farmers generally reported satisfactory health, the study revealed certain areas that may be improved, particularly in terms of regular physical activity and the utilization of pesticides in agricultural techniques. The latter poses a possible health hazard, as several farmers rely on chemical inputs in their production techniques. In response to these issues, the research recommends the advancement of integrated agriculture, with a focus on a supporting and sustainable approach to resource consumption, while minimizing the use of chemicals. Promoting the adoption of a nutritious diet and consistent physical activity among farmers is considered crucial. These results are consistent with the research conducted by Phrakruthammathon (2014), which documented improvements in the well-being of farmers following their shift away from chemical-intensive farming methods. The suggested principles, derived from the teachings of Buddha, reflect the integrated agricultural method, which highlights self-reliance, moderation, and a dependence on nature for long-lasting prosperity. The integrated farming model serves as both an agricultural strategy and a comprehensive framework that promotes a well-rounded and health-conscious lifestyle for farmers.

RECOMMENDATIONS

1. The implementation of knowledge management for successful integrated farming in Ban Na Subdistrict should involve the development of a structured and accessible information base.
2. The approach of enhancing the well-being of farmers through integrated agriculture should be extended to other regions where agriculture is predominantly practiced in order to enhance the quality of life for farmers.
3. It is advisable to promote the involvement of community leaders in facilitating the integration and dissemination of knowledge among farmers to optimize the implementation of integrated farming practices.

REFERENCES

- Breslin, S. (1991). Quality of Life: How Is It Measured and Defined? *Urologia Internationalis*, 46, 246-251.
<https://doi.org/10.1159/000282146>
- Chaipattana Foundation. (2020). New theory of agriculture. Retrieved from
<https://www.chaipat.or.th/>
- Chaiyaamporn, S. and Samakkarn, S. (1991). Quality of life of Thai people compared between city and countryside. Bangkok: National Institute of Development Administration Research Office.
- Chandra, P. (1999). Quality of working life of civil servant teachers of Sa Kaeo Provincial Primary Education Office, Thesis for the Master of Education degree. Burapha University.
- Connell, J., Brazier, J., O'Cathain, A. et al. (2012). Quality of life of people with mental health problems: a synthesis of qualitative research. *Health Qual Life Outcomes* 10, 138.
<https://doi.org/10.1186/1477-7525-10-138>
- Felce, Perry, J. (1995). Quality of life: Its definition and measurement. *Research in Developmental Disabilities*. Volume 16, Issue 1, January–February 1995, Pages 51-74.
[https://doi.org/10.1016/0891-4222\(94\)00028-8](https://doi.org/10.1016/0891-4222(94)00028-8)
- Ferriss, A.L. (2006). A Theory of Social Structure and the Quality of Life. *Applied Research Quality Life* 1, 117–123.
<https://doi.org/10.1007/s11482-006-9003-1>
- Hamsupho, S. (2000). Population and quality of life development. Odeon Store Publishing.
- Hörnquist J. O. (1982). The concept of quality of life. *Scandinavian journal of social medicine*, 10(2), 57–61.
<https://doi.org/10.1177/140349488201000204>
- Institute for Work and Health. (2012). Quality of Life. Retrieved from
<https://www.iwh.on.ca/whatresearchers-mean-by/quality-of-life>
- Inthasingh, A. (2007). Factors affecting the decision to do integrated farming of Farmers in Mueang Nakhon Nayok District Nakhon Nayok Province. Master of Business Administration Thesis. Ubon Ratchathani Rajabhat University.
- Khonkla, P. (2004). Quality of life in school for high school students, the Department of General Education, Kalasin Province. Master of Education Thesis. Mahasarakham University.

Meeprompan, P. (2014). Integrated Agricultural Management of Model Farmers. Master of Science (Agricultural Management), Sukhothai Thammathirat University.

Office of Agricultural Research and Development Region 3. (2013). Meaning and importance of Intergrated agriculture. Retrieved from http://202.143.165.163/as23037/chap1/chap1_1.pdf

Pimdee, P., Jedaman, P. , Wang-Saorad, K. , and Kinboon, N. (2017). Sufficiency Economy: Demission of Social Capital Development to the Pace of Change in the 21st Century of Thailand. *Sociology and Anthropology*, 5(9), 713 - 718. DOI: 10.13189/sa.2017.050903.

Phrakruthammathon, W. A. (2014). Improving the quality of life of the organic farming community according to Buddhist principles for sustainable communities in the upper central region. Doctor of Buddhist Studies Program. (Buddhism) Mahachulalongkornrajavidyalaya University.

Santaphan, P. (2007). Strengthening the quality of life of families and communities according to mixed agricultural practices: case study of Prathumchat Farm, Bung Subdistrict, Mueang District, Amnat Charoen Province. Thesis Master of Arts Program, Ubon Ratchathani Rajabhat University.

Srisuyong, N. (2012). Integrated farming of farmers in Udon Thani province. Thesis for the Master of Agriculture Degree. Sukhothai Thammathirat Open University.

Technology Policy Division for Agriculture and Sustainable Agriculture. (2016). Integrated agriculture. Retrieved from <https://www.moac.go.th/philosopher-sustainable-agri-preview> (382891791795)

Sushko, V., Pronchev, G., Shisharina, E. V., and Zenkina O. (2016) Social and economic indices of forming the quality of life. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL & SCIENCE EDUCATION*, VOL. 11, NO. 18, 10839 -10849

Veenhoven, R. (2014). Quality of Life (QOL), an Overview. In: Michalos, A.C. (eds) *Encyclopedia of Quality of Life and Well-Being Research*. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-0753-5_2353

World Health Organization. (2023). WHOQOL: Measuring Quality of Life. Retrived from <https://www.who.int/tools/whoqol>