ORIGINAL ARTICLE

Quality of work life (QoWL) among farmers in Thailand

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ABSTRACT

Working conditions and quality of work life reflect a person's overall quality of life and wellbeing. The purpose of this cross-sectional survey study was to investigate the working conditions, quality of work life, and related factors among farmers. The samples consisted of 445 farmers from the Wang Chin and Song Districts in Phrae Province, Thailand. Data collection was accomplished through a self-administered questionnaire. A structural equation model was specified to investigate the extent to which individual characteristics, interpersonal factors, and working conditions contribute to the quality of work life. More than half of the participants were (52.1%) men; the average age was 48.26 years; the average monthly income was 5,113.48 THB; 89% held debt; and 56.9% were landowners. Farmers' perceptions of working conditions, namely, the physical, chemical, and ergonomic working environment were poor, and there was a significant risk of workplace accidents. The results revealed that the overall quality of work life among employees was moderate (82.9%). The causal model of the quality of work life was assessed and justified through SEM. The model fits well with the empirical data (GFI = 0.973, AGFI = 0.912, CFI = 0.985, RMSEA = 0.062, SRMR = 0.053). A combination of marital status, relationships with family and peers, social support, the biological environment, and ergonomics explained 23.3% of the variation in the quality of work life. The findings indicate that government organizations involved in agricultural work should work with interdisciplinary groups to improve the quality of farmers' working lives. It is recommended that a one-stop service center be established in an easily accessible area, as a resource for farmers to store their knowledge and gain inspiration. Farmers should be encouraged to work together to improve their ability to negotiate and the community's ability to build a sustainable quality of life.

Key words:
quality of work life; work-life quality; working conditions; farmer

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INTRODUCTION

People are an important resource, potentially benefiting both organizations and the country as a whole. The basic goal of human resource development is to ensure that people have a good quality of life, including wellbeing and preparedness for learning and working to the best of their ability. It is plain to see that rampant injustice and poverty are consequences of an imperfect development process and unquestionably a barrier to long-term growth. The intended impacts on informal workers include estrangement because they lack the power to assert or negotiate with the government to improve the quality of life for themselves and their families. Informal workers also tend to be relocated away from developing areas and the rest of society.

The working environment and working conditions have an overall negative impact on employees' health, and ultimately, a person's quality of life. In an effort to gauge employee satisfaction with the working environment in various occupations, it was notable that working life and personal time frequently overlap[1]. The term "quality of work life" refers to the recognition and evaluation of various situations where people are connected to the job and work environment. It depends on the individual's life circumstances, position, duties, and skills[2]. Therefore, a person's quality of life is likely to be good if they have a good work life.

For a very long time, the livelihoods of most Thai people have depended on farming. In 2020, there were 9,368,245 farmers, with 4,900,875 (52.31%) working in plant cultivation[3]. However, this profession garnered the least amount of attention. It is not a vocation that requires advanced abilities; hence, no organization or specific group sponsors or protects its employment status. As a result, it is not as highly regarded or desired by society as other professions. Nevertheless, it is acknowledged to be a profession that boosts the country's GDP. In comparison to 2018, the agricultural sector grew by an average of 0.5% in 2019[3]. However, the government has done nothing to assist or consider these people's lives, despite them being exposed to hazardous working conditions.

The physical environment (heat, storms, floods, earthquakes), the biological environment (pathogens, parasites, snakes, and other dangerous animals), and the chemical environment (fertilizers, pesticides) are just a few of the hazards farmers must deal with. Furthermore, the ergonomics of workstations can cause pain and muscle injury. Another challenge faced by this group of professionals is the fluctuation in produce prices brought on by both domestic and international economic trends. This is forcing farmers to take on additional financial obligations related to production until they become indebted both inside and outside the system, leading to stress, depression, and ultimately suicide[4]. According to the statistics from 1996 to 2015 on farmer suicides in Thai society, there were 65 successful suicide attempts, while 60 farmers threatened to end their lives. The problems encountered by these farmers included: (1) not having enough money to pay off debts on time; (2) not having enough money for farming; (3) not having enough land, which is the main resource; and (4) experiencing natural disasters[5]. In previous studies, it was noted that Thai farmers faced challenges due to their use of pesticides, danger of contracting diseases, unpleasant odor of burning oil, vibration, noise, sensitivity to paddy dust, and method of doing physically demanding work[6,7]. Additionally, they often lose out due to poverty or migrating for other jobs, and they face economic disadvantages in both local and international markets and a terrible consumerism-influenced style of living. Not least of all, the peasants' ancient way of life, spirituality, and connection to nature

were lost because commercial agriculture receives much too much attention. The 8th Congress determined the national agenda as a result of what had occurred to the peasants to remove or resolve those problems. Therefore, farmers are the group most at risk for injuries at work in the agricultural industry[8].

The aforementioned information makes it clear that farmers face a high risk of physical and psychological harm as a result of their work. This has led researchers to investigate the factors influencing farmers' work-life quality. According to the literature review, several levels of variables correlate with the farmers' quality of work life. The factors affecting farmers' quality of work life in this study were divided into three groups: (1) individual characteristics (gender, age, educational level, marital status, income, liability, and land ownership); (2) interpersonal factors (relationship with family, relationship with peers, and social support); and (3) working conditions (biological environment, physical environment, chemical environment, ergonomics, occupational accidents, and accident prevention). If the factors or patterns of relationships between the factors impacting the quality of farmers' working lives can be identified, the issue will be highlighted and encourage further development or improvement in farmers' quality of life.

MATERIALS AND METHODS

Study Design and Samples

A cross-sectional survey study collected data from farmers in Wang Chin and Song Districts, Phrae Province, where the highest number of farmers were located[9]. Sample sizes were calculated using Daniel's known exact population formula[10] and the results of a study focusing on the quality of life among vegetable growers residing in Muang District, Khon Kaen Province. The quality-of-life score for work satisfaction was 0.03[11]. As a result, it was necessary to collect a sample of 445 people aged at least 18 years, who could read and write Thai and had been employed in the field for at least six months, including the people who consented to take part in this study. This study was approved by the ethics committee for research in human subjects of Phrae Provincial Public Health Office (PPH. No016/2564).

Research Instruments

The research instrument consisted of a 41-item questionnaire divided into five parts. Part 1, contained seven general informational questions which respondents could choose to answer or leave blank. Part 2 was divided into relationships with peers and family (five and four items, respectively). Part 3 of the workplace consisted of 11 items: three relating to the workplace, three concerning occupational accidents, and three involving accident prevention. Part 4 of the social support package included seven items. There are nine items in Part 5 of the quality of work life checklist. Questionnaire Parts 2–5 describe a five-level rating scale ranging from the most (5) to the least (1).

The definition of quality of work life covers satisfaction about the environment of the workplace, such as social-economy status, safety in the workplace, and career progression. For the dimensions (1) social-economy status, which was classified into three levels: poor (4–8 scores), moderate (9–13 scores), and good (14–20 scores); (2) safety in the workplace, which was classified into three levels: poor (4–8 scores), moderate (9–13 scores), and good (14–20 scores); and (3) career progression, which was classified into three levels: poor (3-6 scores),

moderate (7–10 scores), and good (11–15 scores).

For working conditions such as chemical environment, physical environment, accident prevention, and occupational accidents, they were also classified into three levels: poor (3–6 scores), moderate (7–10 scores), and good (11–15 scores). In addition to the biological environment, ergonomics was also classified into three levels: poor (2–4 scores), moderate (5–7 scores), and good (8–10 scores).

The Content Validity Index (CVI), means of internal consistency (Cronbach's Alpha coefficient), and confirmatory factor analysis (CFA) were used to examine the reliability and validity of Parts 2–5.

Statistical Analysis

This study used two approaches. Firstly, SPSS for Windows was used for descriptive statistics to describe the characteristics of participants and other factors such as percentage, mean, and standard deviation. Second, the structural equation modeling (SEM) approach was used to investigate the relationship between latent and manifested variables. After specifying the model, a fit assessment was performed to determine how well the specified model fitted with the empirical data. A comparative fit index (CFI) > 0.95, root mean square error of approximation (RMSEA) < 0.08, and standardized root mean square residual (SRMR) < 0.08 were used as acceptable goodness of fit thresholds[12,13].

RESULTS

Characteristics of the Study Sample

The average age of the 445 participants was 48.26 years (SD = 10.668); more than half (52.1%) were men; 69.4% had completed the required middle school education; and 78.0% lived with a spouse or partner. The average monthly income of the participants was 5,113.48 THB (SD = 3,165.445), while 89% held debt, and 56.9% were landowners. Table 1 presents the characteristics of the study sample.

Table 1. Characteristics of the study sample (n=445)

Items	n (%)	Items	n (%)
Gender		**Debt**	
Male	232 (52.1)	Yes	396 (89.0)
Female	213 (47.9)	No	49 (11.0)
Educational level		**Age (years)**	
Lower than junior high school	309 (69.4)	Min-Max	20.0-80.0
Junior high school or above	136 (30.6	Mean	48.26
Marital status		SD	10.668
Not living with a spouse/partner	98 (22.0)	**Monthly income (in THB)**	
Living with a spouse/partner	347 (78.0)	Min-Max	600-20,000
Land ownership		Median	5,000
Yes	253 (56.9)	Mean	5,113.48
No	192 (43.1)	SD	3,165.445

Quality of Work Life (QoWL) and Working Conditions

The farmers' overall quality of work life was at a moderate level (82.9%). Since the dimensions of the quality of work life consisted of social-economic status and safety at the workplace, both were found to be at a poor level (59.6% and 57.1%, respectively), while career progression was judged to be at a moderate level (58.7%).

The farmers' perceptions of the working conditions were at a poor level in

the chemical environment, physical environment, ergonomics, and occupational accident categories (53.0%, 77.3%, 79.3%, and 55.3%, respectively). The farmers' ability to avoid accidents was found to be at a good level (47.3%), and the biological environment at a moderate level (45.3%). Table 2 shows the level of quality of work life and working conditions.

Table 2. Level of quality of work life (QoWL) and working conditions

Factors	Level (%)			Min-Max	Mean±SD
	Good	Moderate	Poor		
Overall quality of work life	7.0	82.9	10.1	13.0-37.0	26.24±4.582
Dimensions of quality of work life:					
Social-economy status	2.2	38.2	59.6	7.0-20.0	14.28±2.906
Safety in the workplace	2.2	40.7	57.1	2.0-8.0	4.36±1.413
Career progression	7.4	58.7	33.9	3.0-13.0	7.60±2.111
Working conditions:					
Chemical environment	12.0	35.0	53.0	3.0-15.0	8.17±2.644
Physical environment	3.0	19.7	77.3	3.0-15.0	6.86±2.295
Biological environment	20.3	45.3	34.3	2.0-10.0	6.01±1.710
Ergonomics	1.0	19.7	79.3	3.0-12.0	7.12±1.778
Occupational accidents	10.3	34.3	55.3	3.0-15.0	8.35±2.211
Accident prevention	47.3	39.7	13.0	5.0-15.0	11.07±2.250

Descriptive and Internal Consistency of the Variables According to Cronbach's Alpha

The average score for each variable and the reliability and validity test results of the constructs are presented in Table 3. The Cronbach's Alpha values for seven latent variables were greater than 0.7 (ranging from 0.734 to 0.867), indicating good internal consistency (Schmitt, 1996). The significant factor loadings (λ) and good model fit values obtained from the CFA confirmed the validity of these constructs

.

Table 3. Descriptive and internal consistency of the variables according to Cronbach's Alpha

Factors	No. of Items	Min-Max	Mean±SD	Internal Consistency Cronbach's α
Relationship with family	4	9.0-20.0	16.73±2.316	0.821
Relationship with peers	5	10.0-26.0	19.59±2.856	0.848
Social support	7	14.0-34.0	25.20±3.713	0.734
Working environment	10	12.0-48.0	24.97±6.483	0.867
Occupational accidents	3	3.0-15.0	8.46±2.210	0.707
Accident prevention	3	5.0-15.0	11.17±2.245	0.788
Quality of Work Life	9	13.0-37.0	26.24±4.582	0.752

Structural Equation Modeling

Structural equation modeling (SEM) was performed to examine the simultaneous relationships among the study variables. Individual characteristics, interpersonal relationships, and working conditions were hypothesized to have a direct influence on the quality of work life. The model fit statistics for the hypothesized model were poor (χ^2/df = 13.320, GFI = 0.842, AGFI = 0.710, CFI = 0.582, RMSEA = 0.167, and SRMR = 0.153). Figure 1 shows how the hypotheses on the relationships between the study variables can be analyzed.

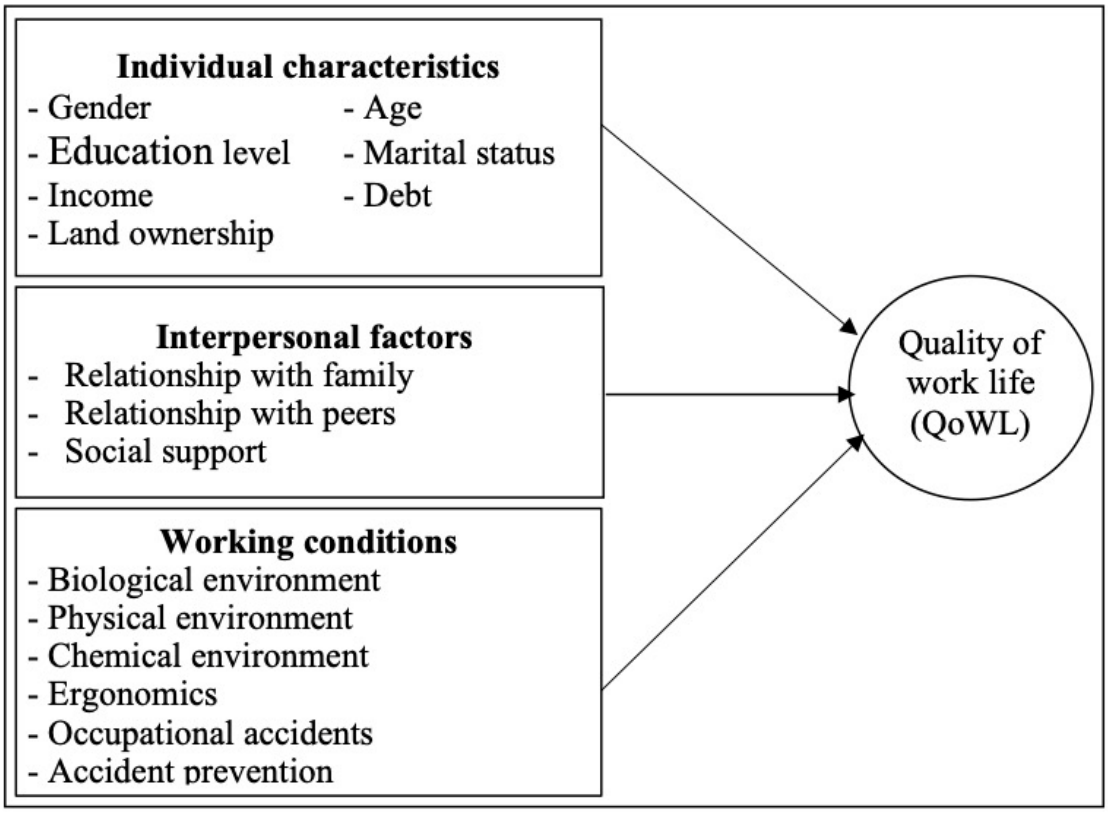

Figure 1. Analytical framework of the hypothesized relationships among the study variables

After removing insignificant paths and allowing correlations between the manifested variables and measurement errors (Figure 2), the revised model fits better with the data (χ2/df = 4.967 ($p<0.001$), GFI = 0.973, AGFI = 0.912, CFI = 0.985, RMSEA = 0.062, SRMR = 0.053). The results indicate that marital status (γ = 0.181, $p<0.001$), relationship with family (γ = 0.117, $p<0.05$), and biological environment (γ = 0.312, $p<0.001$) are positively associated with quality of work life, while social support (γ = -0.308, $p<0.001$), relationship with peers (γ = -0.128, $p<0.05$), and ergonomics (γ = -0.335, $p<0.001$) show negative associations. The exogenous variables explained 23.3% of the variation in work-life quality. Table 4 shows the standardized and unstandardized estimates of the associations between variables in the SEM model.

Table 4 Estimated parameters for the revised SEM model

Variables	Standardized Regression Coefficient	Unstandardized Regression Coefficient	S.E.	C.R.
Marital status	0.181	0.103	0.031	3.363***
Relationship with family	0.117	0.012	0.006	2.097*
Social support	-0.308	-0.020	0.005	-4.366***
Relationship with peers	-0.128	-0.011	0.005	-2.352*
Biological environment	0.312	0.042	0.009	4.536***
Ergonomics	-0.335	-0.047	0.010	-4.586***

*p<0.05, ***p<0.001

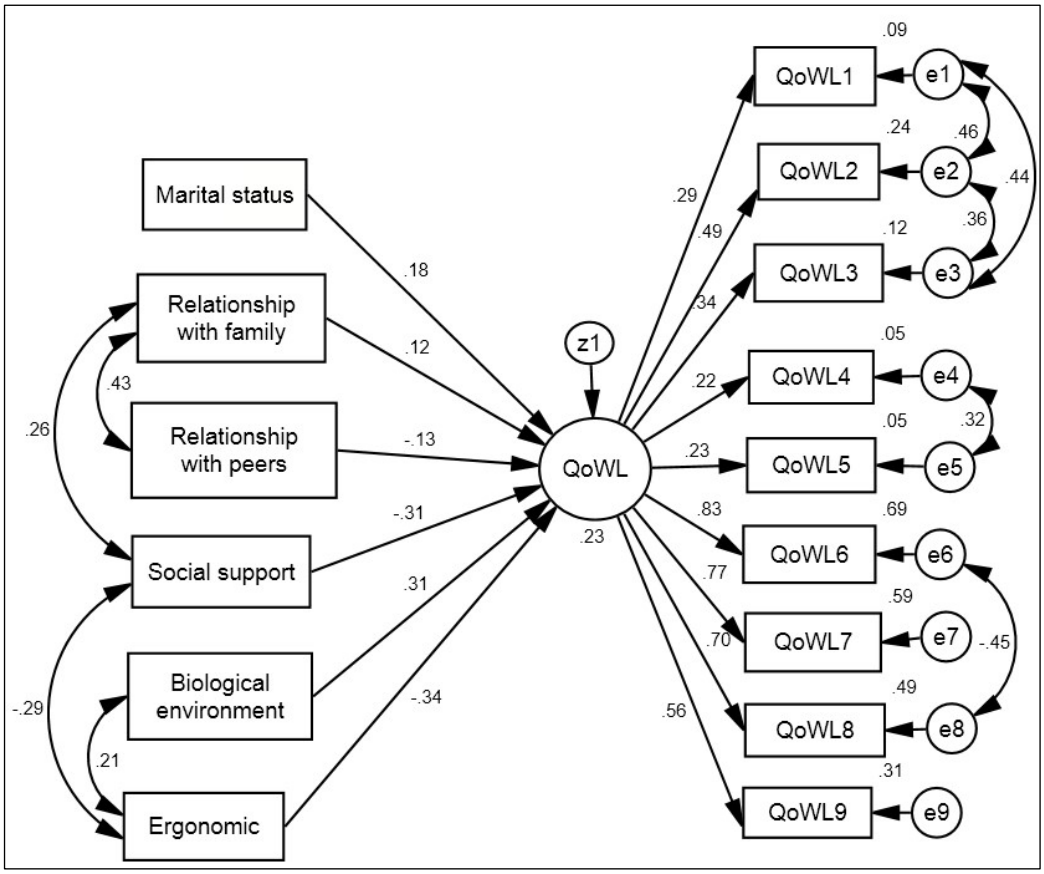

Figure 2. Revised SEM model for the associations between independent variables and quality of work life

DISCUSSION

Work-life quality was found to be mild to moderately poor in the sample of farmers in Phrae Province, Thailand. Studies in China[14] and Indonesia[15] revealed similar results. The level of quality of work life per domain was poor, especially in terms of social-economic status and safety in the workplace, with career progression judged to be moderate. Farmers believe that social-economic status and workplace safety are important domains that need to be

addressed. This is clearly demonstrated by the data, according to which the majority of farmers make less than 5,000 baht per month and are heavily in debt. Additionally, the low price of paddy results in the farmer's income being insufficient to cover expenses, making it difficult to improve the family's socioeconomic status. These findings align with a study by Sutabutr et al. (2020), which indicates that farmers in Suphan Buri Province, Thailand, must incur debt to pay for their families' needs as well as the cost of their subsequent farming[16].

Working conditions, or the working environment, are components of the psychosocial effects on work-life balance and job satisfaction. Farmers in Phrae Province perceived their working conditions, namely the chemical environment, physical environment, ergonomics, and occupational accidents, to be poor. Consequently, they are subject to significant health risks. Additionally, work-related accidents might occur at any time. From the results of this study, it is clear that accidents involving sickles and falls while working occur frequently among farmers. However, farmers learn how to protect themselves against these risks by asking their peers and the personnel at the Health Promotion Hospital for information and assistance in creating a safe environment to enable them to continue working. Thus, farmers would be able to operate as effectively as feasible or take fewer risks at work if they had an accurate perception of their working conditions and the requisite abilities to prevent work-related accidents. These findings are in line with a study by Moda et al. (2021), which found that farmers' health and wellbeing might improve when working in a favorable atmosphere[17]. Additionally, a study by Ardakani (2019) showed that job stability and quality of work life increased job satisfaction among Bafgh saffron farmers[18].

Individual characteristics were found to relate only to marital status and job quality. A farmer who lived with a spouse or partner had a better quality of life at work because they helped one another and shared their emotions, and were happy. These findings were consistent with some previous studies (e.g., Jiao et al., 2008; Xu, 2016; Gosetti, 2017)[19-21].

Regarding interpersonal factors, extending from an individual to a group setting affects a person's expression both directly and indirectly. The results indicate that relationships with family, peers, and social support are determined by the quality of work life. It could be argued that interactions among people lead to the sharing of information, the emergence of a new body of knowledge, or the simultaneous learning of something new. Additionally, these relationships foster mutual respect and give people the motivation to come together in order to bargain or establish their stance more powerfully than they could alone. These findings correspond to those revealed by Kong et al. (2019)[14].

Working conditions have a direct impact on the quality of work life and quality of work, while biological and ergonomic settings directly impact the quality of a farmer's working life. These findings correspond with those of Lakshmi et al. (2018)[22] and Kong et al. (2019)[14]. The most important factor affecting farmers' quality of work life was ergonomics. The term "ergonomics" refers to improper lifting, hunching over, and incorrect working positions, all of which can be harmful to farmers' health.

This study emphasizes the difficulties farmers face because not only do they lose money when selling their goods but also need to pay more for medical care if they suffer severe injuries. Additionally, unlike other occupations, farmers do not receive social security benefits or compensation for missed work. Farmers are also not included in the classification of workers in the industrial system or other vocations. Therefore, in the institutional market, farmers are regarded as

informal workers. As a result, the benefits acquired include rights to universal health insurance. However, Thailand offers peasants liberal agricultural welfare in three different ways: (1) agricultural welfare emphasizes increasing competitiveness; (2) social welfare for underprivileged farmers to the extent that they can compete in the market; and (3) a form of protection that puts burden on the individual rather than the welfare provided by the state to raise social standards[23]. There is an absence of social security and equal civic rights for farmers compared to other professions. Since farming is the family's primary source of income, it has an impact on expenditure and how other aspects of life are connected. For example, parents with school-aged children often cannot afford the costs involved in education, potentially leading to their children dropping out of school, and being unable to seek well-paid careers as a result of a lack of education or occupation-specific skills. Consequently, they are unable to enhance their own and family members' quality of life. In order to improve the quality of life for the population, the quality of work life must be addressed. Given a good working environment, fair remuneration, and the freedom to perform to the best of their ability, people will be able to improve their overall quality of life.

The concept of quality of work life (QoWL) among farmers is the main focus of this study, which is the first to do so. Previous studies concentrated on the concept of quality of life (QoL), which excluded the context of working and the environments of the workplace. However, this study also had the limitation that, because of the working conditions, we did not have a checklist to make observations to describe the phenomena properly; we had only questionnaires to gather data, which sometimes failed to provide in-depth explanations. Therefore, the future study should examine the data carefully and include approaches to addressing the data, such as focus groups, deep interviews, or qualitative methodologies.

CONCLUSION AND RECOMMENDATIONS

Having a high quality of work life is important for overall health outcomes and life satisfaction. The findings of this study imply that some factors might contribute to promoting the quality of work life. Government agencies like the Provincial Agriculture Office and the Department of Agriculture should work with experts from a variety of fields, such as healthcare professionals, community development officers, and local government organizations to improve the quality of farmers' working lives. Constructing a one-stop service center in the neighborhood that the general public can readily access as a conduit for the dissemination of new information, would help to foster the development of professional skills and boost output and quality. Farmers should be reminded to pay regular attention to the usage of protective equipment at work as an additional incentive to reduce the number of work-related accidents. Furthermore, government organizations should promote communal integration among farmers to build their negotiating leverage with different authorities and organizations, and encourage teamwork to identify ways of raising the value of rice produced, among other matters. Moreover, the community would be strengthened, leading to sustainable growth.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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