Indonesian Journal of Agricultural Research Vol. 07, No. 02, 2024 | 140 – 148

InJAR
Indonesian Journal of Agricultural Research

The Role of Motivation and Work Environment to Promote Productivity of Chili Farmers in Magelang

Muhammad Ricza Irhamni[1*], Khoirul Muna[1], and Wildan Yusrul Falah[2]

[1]Department of Management, Faculty of Economics and Business, Wahid Hasyim University, Indonesia
[2]Department of Management, Faculty of Economics and Business, Nahdlatul Ulama Islamic University

Abstract. This paper examines the impact of motivation and the work environment in supporting the productivity of chili farmers in Magelang. We use managerial work motivation theory to identify farmer motivation and use the work environment as a measuring tool to determine the environmental conditions around agricultural land. The quantitative model is estimated to show that motivation and work environment can significantly boost farmer productivity. The sample in this study was 64 respondents, regression analysis was used in this study using SPSS 22. Farmers with high motivation will increase the productivity of their crops, although this is not significant. Finally, farmers with a good working environment will increase farmer productivity significantly.

Keywords: agriculture, farmers productivity, motivation, work environment

Received 01 December 2023 | Revised 01 July 2024 | Accepted 12 July 2024

1. Introduction

The agricultural sector plays a crucial role in the economy of a country and also helps shape its socio-economic structure. In addition to meeting the nutritional needs of the population, the agricultural sector also serves as a source of raw materials for other sectors, especially the food processing industry [1]–[2]. As a result, the agricultural sector has a crucial role in the country's economic structure. To support economic development, a strong agricultural sector must develop in terms of both supply and demand. In terms of supply, the agricultural sector must be able to generate profitable production surpluses that can be reinvested in higher production and help create industries that rely on the agricultural sector's ability as a source of investment and raw materials. In terms of demand, a strong agricultural sector must create potential demand for agricultural products themselves or other products that are not produced by other sectors [3]–[5].

Agriculture in Indonesia is the largest sector of the economy, particularly chili farming, which has a significant number of cultivations. This allows for the production of chili harvests to be carried out in collaboration with the surrounding community as a favored food seasoning [6]–[8].

*Department of Management, Faculty of Economics and Business, Wahid Hasyim University, Indonesia

E-mail address: ricza@unwahas.ac.id

Copyright © Indonesian Journal of Agricultural Research 2024 Published by Talenta Publisher
p-ISSN: 2622-7681 | e-ISSN: 2615-5842 | DOI 10.32734/injar.v7i2.15426
Journal Homepage: https://talenta.usu.ac.id/InJAR

A farmer bears the responsibility of managing the land and also functions as a production unit within the agricultural sector. Each farmer's endeavor involves elements such as land, capital, labor, and management. In rural areas, chili farmers rely on the available natural resources to support their work [9].

Based on the initial observation conducted by the researcher on chili farmers in Magelang, it was found that some farmers were not working to their maximum capacity, resulting in negative impacts on productivity. The productivity of these farmers is still low, as evidenced by the yield obtained from October to December 2022, where the production target of 60kg during peak harvest with 2000 chili plant seedlings has not been achieved. The majority of farmers were only able to produce around 30-40kg of chili during peak harvest with 2000 chili plant seedlings.

Enhancing productivity plays a crucial role in shaping the national growth rate. The productivity level of a country or industry can be a sign of progress, particularly if they can produce better products with more efficient resource utilization [10]. Overall productivity improvement will expand the availability of goods and services, meet the needs of the community independently, and enhance their well-being. This occurs because increased productivity means increased worker income, which ultimately boosts the purchasing power of the community for goods and services [11]–[13].

Productivity is related to the result, which is the extent to which the output is obtained in the production process. Faslah & Savitri explain that productivity is an indicator that describes the relationship between inputs such as labor, capital, natural resources, energy, and other elements with the output generated in the form of goods or services, both in terms of quality and quantity [14]. The productivity of farmers is influenced by various factors, including motivation and environmental conditions in their workplace [15]–[16].

Farmers, as actors in managing agricultural businesses, require motivation to carry out and develop their enterprises. Previous research conducted by Fahmi & Saputri has proven that motivation has a positive and significant influence on work productivity [17]. However, Nangoy, R. state that motivation does not have a significant influence on work productivity [18].

Factors outside of motivation also have a significant impact on the productivity of farmers' work [19]. Favorable working conditions, such as adequate agricultural facilities, modern agricultural technology, access to good markets, as well as support from the government and society, can enhance farmers' work efficiency [20]–[22]. On the other hand, inadequate working conditions, such as limited resources, difficulties in access, and lack of support, can hinder farmers' work efficiency [23]–[24].

Previous research conducted by Bakker et al. has demonstrated a positive and significant relationship between the work environment and work productivity [25]. Conversely, Saleh & Utomo study found that the work environment does not have a significant relationship with work productivity. These contradictory findings can serve as the basis for this research [26].

2. Materials and Methods

2.1. Respondents

Motivation is a driving force that arises from both internal and external factors, compelling an individual to engage in activities aimed at achieving predetermined goals [27]. The motivation indicators identified in this study include meeting basic needs, enhancing financial gain, saving money, aspiring for a better life, fostering connections, seeking collaboration, promoting unity, expressing viewpoints, and seeking assistance [28]–[29].

The work environment encompasses all the equipment and materials used in work, as well as the work methods applied, both individually and in groups, around a person's workplace [30]. This study examined various factors that contribute to the workplace environment, including land availability, water availability, natural resource availability, climate conditions, presence of pests and diseases, agricultural policies, education and knowledge, access to markets, farmer institutions and organizations, and food security [31]–[32].

Productivity is a concept that illustrates the relationship between output (the quantity of goods and services produced) and input (the quantity of labor, capital, land, and so on) used to generate that output [10]. The productivity indicators of farmers in this context encompass several factors, including their ability to enhance their achieved outcomes, work ethic, self-development, quality, and efficiency [33].

2.2. Methods

The population is a generalization area that contains objects/subjects and has specific characteristics that are not entirely decided by experts to be focused on and then concluded. The entire farmers in Magelang Regency become the population used in this study. The total population in this study is 178 farmers [34]. The required sample representative for this study consists of 64 farmers. The data collection method utilized in this research is the questionnaire. A questionnaire is a set of written questions or statements given to respondents to answer. The use of a questionnaire as a data collection technique is done when the researcher has a clear understanding of the variables to be measured and has certain expectations from the respondents. Questionnaires can take the form of questions or statements and can have closed or open characteristics [35].

Partial testing is conducted to calculate the partial influence of one independent variable on the dependent variable. This partial test can be determined by comparing the significance level t through testing results with the significance value used. The conditions for partial testing of independent variables are as follows: a. If the probability value is > 0.05 or 5%, then H0 is accepted and Ha is rejected. b. If the probability value is < 0.05 or 5%, then H0 is rejected and Ha is accepted [36].

3. Results and Discussion

Multiple linear analysis is employed in models that have more than one independent variable to determine their impact on the dependent variable [37]. The outcome of multiple linear analysis is presented in the Table 1.

Table 1. Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients
		B	**Std. Error**	**Beta**
1	(Constant)	9.021	4.811	
	Motivation	.208	.104	.227
	Work Environment	.202	.056	.411
a. Dependent Variable: Farmers Productivity				

Table 1 provides a regression equation, which allows for the following conclusions to be made: 1). The constant value of 9.021 indicates that the productivity variable (Y) has a baseline value of 9.021, independent of any other variables. 2). The regression constant value for the motivation variable (X1) is 0.208, indicating a positive relationship between motivation and work productivity. This suggests that an increase in motivation, while holding all other variables constant, will result in an increase in productivity. 3). The regression constant value for the work environment variable (X) is 0.202, indicating a positive relationship between the work environment and work productivity. This suggests that an improvement in the work environment, while holding all other variables constant, will result in an increase in productivity.

A partial test or t-test is a test that functions to determine the extent to which independent variables partially affect dependent variables. The t-table value is obtained based on df (64-2=62) at a 0.05 or 5% error level, then the t-table value is obtained at 1.670. Furthermore, the results of the t-test are presented in the Table 2. Table 2 can be used to answer the hypotheses in this study as follows: 1). Motivation (X1) obtained a significance value of 0.05 < 0.05, which can be concluded that motivation has an influence on work productivity. The regression coefficient value of 2.002 > 1.670 indicates a positive influence. Therefore, it can be concluded that motivation partially has a positive influence on work productivity. This is in line with H1: Motivation has a positive influence on work productivity. Thus, H1 is accepted. 2). Work environment (X2) obtained a significance value of 0.001 < 0.05, meaning that the work environment has an influence on work

productivity. Furthermore, the regression coefficient value of 3.622 > 1.670 indicates a positive influence. Therefore, it can be concluded that the work environment partially has a positive influence on work productivity. This is in line with H2: The work environment has a positive influence on work productivity. Thus, H2 is accepted.

Table 2. Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients
		B	**Std. Error**	**Beta**
1	(Constant)	9.021	4.811	
	Motivation	.208	.104	.227
	Work Environment	.202	.056	.411
a. Dependent Variable: Farmers Productivity				

The higher the motivation of farmers in their work, the higher the productivity that will be generated [38]. However, this does not always happen to its maximum extent. Conversely, if the motivation of farmers in their work is low, the productivity of their work will also be low. Therefore, farmers must be aware of the motivating factors that influence the optimal productivity of their work [39].

Based on the responses to the statement on motivational variables, the highest percentage, which is 90%, pertains to the motivation of farmers to work towards improving their quality of life. On the other hand, the lowest percentage, which is 85%, relates to farmers working out of their own volition and their drive to discuss agricultural issues with other farmers [40]. The findings of this study support previous research conducted by Prastowo, which indicates that motivation has a positive influence on farmers' productivity [41].

The productivity of farmers is significantly and positively influenced by their work environment. A conducive work environment includes factors such as physical comfort, adequate agricultural facilities, and social support and collaboration among farmers [42]–[43]. The presence of a good work environment has a positive impact on the well-being and motivation of farmers in carrying out their agricultural work. Farmers who work in a positive environment also have better access to resources, information, and training needed to improve productivity [44]–[46].

Based on the feedback on the variables of the work environment, four statements have the highest percentage, which is 87%. These statements are about the availability of adequate natural resources to support agriculture, the increase in capital due to pests, the influence of harvest prices on motivation at work, and finally, the benefits of farmer groups for agriculture. Furthermore, the lowest percentage is the statement regarding the availability of adequate land for agriculture, which is 83%. The findings of this study corroborate the research conducted by Haslindah et al, which demonstrates that the work environment has a significant and positive impact on the productivity of farmers [47].

The motivation and work environment together have a positive influence on the productivity of farmers. High motivation encourages farmers to work harder and more effectively [29], [39]. Conversely, a conducive work environment such as good access to agricultural resources, support from colleagues, adequate training, and adequate infrastructure will enhance the performance and productivity of farmers [48]. In this simultaneous influence, both motivation and work environment mutually influence and contribute to the improvement of farmers' work productivity [49]–[50].

Based on the feedback on the variables of work productivity, the statement with the highest percentage is the statement regarding the immediate completion of tasks, which accounts for 88%. On the other hand, the statement with the lowest percentage is the statement regarding the farmers' ability to control pests and diseases, which accounts for 83% [51]–[52]. The findings of this study support previous research conducted by Pranata, indicating that motivation and work environment have a simultaneous and significant positive influence on farmers' work productivity [53].

4. Conclusion and Recommendation

The results of this study suggest that motivation has a positive impact on farmers' work productivity, although it is not statistically significant. This is supported by the t-test results, which did not yield a value smaller than the critical value, but the calculated r-value was higher than the tabled r-value. Therefore, motivation has a positive but non-significant influence. It can be concluded that the more motivated farmers are in their work, the higher their productivity levels. The results of this study indicate that the work environment has a notable and positive influence on farmers' productivity. This is supported by the t-test, which revealed a significant difference and a higher calculated r-value compared to the standard r-value. Consequently, it can be concluded that a better work environment for farmers leads to increased productivity. Recommendations in this study could further develop the research model by incorporating additional variables beyond the scope of this study. This is because there are variables in this study that have an influence but are not significant, and there are still high percentages of other variables. Therefore, in the future, more comprehensive information can be obtained by considering several factors that affect the research.

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