

Research Article

The Influence of Farmer Group Dynamics on the Implementation of Good Agricultural Practices (GAP) of Red Chili in Sukajaya District, Bogor Regency

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ABSTRACT

This study analyzes the influence of farmer group dynamics on the application of Good Agricultural Practices (GAP) in the cultivation of red chili in Sukajaya District, Bogor Regency. Red chili is an important commodity that maintains the stability of the national economy which is vulnerable to fluctuations in price and production. Data shows that there has been a decrease in the productivity of red chili in Sukajaya District despite an increase at the regency level, indicating that the application of GAP is not yet optimal. Using a descriptive quantitative approach and multiple linear regression analysis, this study involved 101 respondents from farmer group members. The results showed that the factors that significantly influenced the application of GAP were group task function, group objectives, guidance, group structure, effectiveness, and pressure, with a contribution of 72.2%. Characteristically, the majority of farmers are men (94%), of productive age 36-45 years (34.7%), with elementary school education (38.6%), very experienced in farming (40.6%), and have sufficiently productive land (41.6%). The strategy to increase the dynamics of farmer groups to optimize the implementation of Good Agricultural Practices (GAP) needs to pay attention to these factors, especially the function of group tasks that have the greatest influence, through training, technical guidance, counseling, and routine monitoring.

Keywords: Farm Group Dynamics; Good Agricultural Practices (GAP); Red Chili; Sukajaya

1. INTRODUCTION

Indonesia is an agricultural country with most of its population working in the agricultural sector, especially rural communities. Of the 84,096 villages in Indonesia, 72,724 rely on the agricultural sector for their source of income (Statistics Indonesia, 2022). The agricultural sector plays an important role in sustaining national development, especially in labor absorption and food provision. In Bogor Regency, around 12.92% of the community earns a living in the agricultural sector (Badan Pusat Statistik Kabupaten Bogor, 2024). Red chili (*Capsicum annum L.*) is one of the important commodities that maintain the stability of the national economy. According to (BPS Lampung Province, 2024), the increase in red chili prices contributed 0.39% to inflation. This price increase is often caused by weather factors that have an impact on the distribution chain (Andini et al., 2024). To maintain the stability of red chili supply, efforts are needed to improve the ability of farmers through education programs, training, counseling, mentoring, and strengthening farmer institutions. Farmer institutions such as farmer groups (Poktan) are a forum for farmers to develop agricultural businesses and obtain more opportunities for education, training, and self-development.

Farmer groups consist of farmers with various characteristics, which affect group dynamics. Martadona et al. (2022) in their research on the Dynamics of Shallot Farmer Groups in Lembah Gumanti District, Solok Regency found that the factors that significantly influence farmer groups are education and land area. The agricultural production process is often influenced by the agricultural system applied. Good Agricultural Practices (GAP) is an agricultural system that is considered superior because it covers broad aspects, from cultivation techniques to farmer management, to produce better agricultural products in quantity and quality. Data on red chili productivity in Sukajaya Subdistrict shows a significant decline from 51.04 quintals/ha in 2020 to 36.85 quintals/ha in 2021, while at the Bogor Regency level there was an increase from 77.92 quintals/ha to 92.12 quintals/ha in the same period (Bogor Regency Statistics Agency, 2022). This decrease indicates that the application of agricultural technology in accordance with GAP has not been optimized in Sukajaya Sub-district (Bogor District Central Bureau of Statistics, 2022).

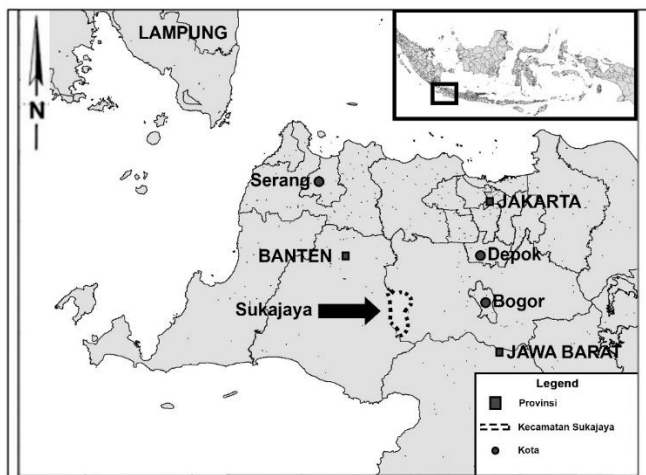


Figure 1. Research location

This research was conducted in Sukajaya Subdistrict (Figure 1), Bogor Regency, West Java Province. Geographically, Sukajaya Sub-district is located in the western part of Bogor Regency, bordering Lebak Regency to the west, Nanggung Sub-district to the north, Cigudeg Sub-district to the east, and Jasinga Sub-district to the south. The area has a hilly topography and is at an altitude of about 400-700 meters above sea level, with climatic and soil conditions suitable for red chili cultivation. Sukajaya sub-district has an area of approximately 12,733 hectares with the majority of the population earning a living as farmers. Of the 11 villages, the research focused on four villages namely Kiarasari, Pasirmadang, Cisarua, and Jayaraharja, which were chosen because they have active farmer groups that focus on red chili cultivation. There were 17 farmer groups with a total of 198 red chili farmers who became the study population.

Data from the Bogor District Central Bureau of Statistics (2022) shows a decline in red chili productivity in Sukajaya Sub-district from 51.04 quintals/ha in 2020 to 36.85 quintals/ha in 2021. This phenomenon contrasts with the trend at the district level where productivity increased from 77.92 quintals/ha to 92.12 quintals/ha during the same period. This productivity gap indicates a problem in the application of agricultural technology in accordance with the principles of Good Agricultural Practices (GAP), so it is an important background to examine the factors that influence the application of GAP in red chili cultivation in the region, especially related to the dynamics of farmer groups as the main forum for transferring agricultural knowledge and technology. This study aims to: (1) analyze the characteristics of red chili farmers in Sukajaya District, Bogor Regency; (2) analyze the level of influence of group dynamics on the application of GAP in red chili plants by farmers in Sukajaya District; and (3) formulate strategies to improve the application of GAP in red chili plants through group dynamics.

2. RESEARCH METHOD

This study uses a quantitative approach with multiple linear regression analysis. According to Sugiyono (2022), the quantitative approach is research based on the philosophy of positivism to examine certain populations or samples with random sampling, data collection using instruments, and statistical data analysis. The research was conducted for four months from July to October 2024 in Sukajaya District, Bogor Regency, West Java Province. The research population is chili farmers who are members of farmer groups in Sukajaya District, totaling 198 people. Determination of the sample using the Slovin formula with an error rate of 7%, resulting in 101 respondents.

$$n = \frac{N}{1+N(e)^2} = \frac{198}{1+198(0,07)^2} = \frac{198}{1+0,9702} = \frac{198}{1,9702} = 100,49 = 101$$

This study examines the relationship between group dynamics and the application of Good Agricultural Practices (GAP). The dependent variable (Y) is GAP implementation measured through three indicators: impact (Y1.1), quality (Y1.2), and level of implementation (Y1.3). Meanwhile, the independent variable (X) consists of eight group dynamics factors including group objectives (X1), group structure (X2), group task function (X3), coaching (X4), cohesiveness (X5), atmosphere (X6), pressure (X7), and effectiveness (X8). The study aims to analyze the influence of these group dynamics factors on the success of GAP implementation. This research utilizes comprehensive data collection methods. Primary data was obtained through two main approaches: direct interviews with respondents using pre-prepared structured questionnaires, and systematic observation of the research object. This direct observation allowed the researcher to objectively record the phenomena

occurring in the field. In addition, the research also utilized secondary data collected through recording documents from various related agencies and institutions as well as reviewing literature relevant to the research topic. This combination of data collection methods aims to obtain complete and accurate information on the relationship between group dynamics and the implementation of Good Agricultural Practices

This research uses two data analysis methods. First, descriptive statistical analysis is applied to provide a comprehensive description of the research object based on the sample or population data collected. This method helps researchers present data characteristics systematically. Second, multiple linear regression analysis was used to measure the influence of the eight independent variables of group dynamics (X1-X8) on the dependent variable of Good Agricultural Practices (Y). Before conducting the regression analysis, researchers conducted a classical assumption test which included normality and linearity tests to ensure that the regression model met statistical requirements and could produce valid and unbiased estimates. Through the regression equation, researchers can identify how much each group dynamics factor contributes in explaining variations in the level of GAP adoption by farmers.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \dots + e$$

Where:

- Y = GAP Implementation
- X₁, X₂, X₃, ... = Independent variables
- a = Constant
- b = Regression coefficient
- e = Error term

3. RESULTS AND DISCUSSION

3.1 Respondent Characteristics

The respondents consisted of 101 red chili farmers who were members of 17 farmer groups in Sukajaya District, Bogor Regency. The majority of respondents were male (94%), with the highest age distribution in the range of 36-45 years (34.7%) which is the productive age. Respondents' education levels were predominantly at primary school (38.6%) and junior high school (34.7%) levels, with an average farming experience of over 15 years (40.6%). The area of land cultivated is mostly in the moderately productive category (0.41-0.8 ha) as much as 41.6%, while the membership period in the farmer group is mostly in the range of 3-5 years (31%).

Table 1. Statistical Description of Research Variables (n=101)

Variables	Mean	Median	Mode	Std. Deviation	Min	Max
Group Objectives	3,0752	3,00	3,00	0,33879	2,33	4,00
Group Structure	2,7555	2,67	2,67	0,46584	2,00	4,00
Task Function	3,0321	3,00	3,00	0,39270	2,00	4,00
Coaching	2,9802	3,00	3,00	0,40206	2,00	4,00
Compactness	3,0497	3,00	3,00	0,38655	2,00	4,00
Atmosphere	3,0497	3,00	3,00	0,38655	2,00	4,00
Pressure	2,4779	2,33	2,33	0,57411	1,33	4,00
Effectiveness	2,9401	3,00	3,00	0,34056	2,33	3,67
GAP Implementation	2,9949	3,00	3,07	0,10406	2,73	3,37

Source: Primary data processed (2025)

In general, the mean and median values of the research variables were in the moderate to high category (scale 1-4). Group purpose had the highest mean value (3.0752), followed by cohesiveness and group atmosphere (both 3.0497), indicating members' positive perceptions of these aspects. The group pressure variable had the lowest mean value (2.4779), indicating relatively moderate pressure within the group. The standard deviation on the GAP implementation variable (0.10406) indicates high uniformity in GAP implementation practices among respondents. In contrast, the group pressure variable had the highest standard deviation (0.57411), indicating greater variation in members' perceptions of pressure within the group.

3.2 Analysis of the Effect of Group Dynamics on GAP Implementation

The results of multiple regression analysis show that farmer group dynamics significantly affect the application of GAP in red chili cultivation, with an R^2 value of 0.722. This means that 72.2% of the variation in the application of GAP can be explained by the eight elements of group dynamics studied, while 27.8% is influenced by other factors outside the research model. Of the eight elements of group dynamics analyzed, six elements were shown to have a positive and significant influence on the application of red chili GAP, namely group objectives ($\beta = 0.153$, $p < 0.001$), group structure ($\beta = 0.119$, $p < 0.001$), group task function ($\beta = 0.181$, $p < 0.001$), coaching ($\beta = 0.136$, $p < 0.001$), group pressure ($\beta = 0.054$, $p = 0.003$), and group effectiveness ($\beta = 0.105$, $p < 0.001$). Meanwhile, cohesiveness ($\beta = 0.023$, $p = 0.388$) and group atmosphere ($\beta = 0.023$, $p = 0.388$) showed no significant effect. The resulting regression equation is:

$$Y = 1.925 + 0.153X_1 + 0.119X_2 + 0.181X_3 + 0.136X_4 + 0.054X_7 + 0.105X_8$$

where: Y = GAP Implementation X_1 = Group Purpose X_2 = Group Structure X_3 = Group Task Function X_4 = Coaching X_7 = Group Pressure X_8 = Group Effectiveness

3.3 Influence of Group Objectives on GAP Implementation

Group objectives have a positive and significant effect on GAP implementation with a regression coefficient of 0.153 ($p < 0.001$). This indicates that the clearer and more understood the group objectives are by the members, the higher the level of GAP implementation. This finding is in line with Johnson et al. (2023) who found that clarity of shared goals increases the cohesiveness and commitment of members in implementing agricultural innovations. Furthermore, Johnson et al. (2023) emphasized that the adoption of sustainable agricultural practices is not only influenced by technological characteristics alone, but also by social processes within the group, including how collective goals are articulated and communicated to all members. The success of GAP implementation in farmer groups in Sukajaya sub-district is largely determined by the extent to which members understand and accept the common goals of the group. When farmers have the same perception of the goals of GAP implementation, they will be more motivated to adopt good and sustainable agricultural practices. Firdaus & Asri (2020) reinforce this argument by stating that the purpose of group dynamics, among others, is to sensitize members to collective values, generate a sense of solidarity, and create open communication which in turn supports the achievement of common goals.

The results showed a high mean value on the group objectives variable (3.0752), indicating a harmonized understanding of objectives among farmer group members in Sukajaya sub-district. This condition creates a strong foundation for consistent implementation of GAP. As stated by Santosa (2006), a group goal is a future state that is desired by group members, so that they perform various group tasks to achieve it. In the context of GAP implementation, clear goals such as increasing red chili productivity, reducing pesticide use, or improving product quality, provide a clear direction for group activities. Firdaus & Asri (2020) added another dimension by emphasizing that the purpose of group dynamics does not only focus on achieving concrete results, but also on developing members' capacity. He identified that the objectives of group dynamics include respect for others' opinions, solidarity among members, open communication, and goodwill. Research in Sukajaya sub-district confirmed that farmer groups that successfully integrated these dimensions in their collective objectives showed higher levels of GAP implementation. Damanik (2013) enriches the understanding of group goals by emphasizing that goals should be set through a participatory process involving all members. Member involvement in goal formulation, as evident from the high score on the member involvement indicator (X1.1) in this study, strengthens the sense of ownership and commitment to the common goal. When farmers feel that the group's objectives reflect their aspirations and needs, they will be more motivated to implement GAP practices that may require significant changes in traditional farming methods. Rahmadani D. R. Efendi & Sasmita (2024) added that clarity of purpose also serves as a social control mechanism, where group members encourage each other to behave in accordance with shared expectations. In Sukajaya sub-district, the shared goal of implementing GAP has created positive social pressure (as reflected in the group pressure variable with $\beta = 0.054$) that encourages members to adopt sustainable agricultural practices. Overall, the findings of this study confirm the central position of group goals in the successful implementation of GAP in red chili cultivation in Sukajaya sub-district. The implication is that interventions to improve GAP implementation should prioritize the facilitation of participatory goal formulation processes, effective communication of goals, and periodic evaluation of goal achievement to ensure farmer groups remain on track in implementing good and sustainable agricultural practices.

3.4 Effect of Group Structure on GAP Implementation

Group structure had a positive and significant effect on GAP implementation with a regression coefficient of 0.119 ($p < 0.001$). This finding suggests that a clear organizational structure, with an orderly division of roles and responsibilities, contributes to the successful implementation of GAP. Shaw (1954) defines group structure as the patterns of relationships among various positions in a group structure, with three important elements of position, status and role that need to be considered. The results of this study are consistent with Hilmiati (2020) who states that a good group structure can facilitate the success of agricultural innovations through effective coordination. Hilmiati emphasized that an organized structure must be accompanied by transparency, regular meetings, and increased farmer income to achieve sustainability of innovation implementation. Maulina et al. (2021) also found that clarity of roles and responsibilities in the group structure greatly influenced the successful adoption of new technologies. In Sukajaya sub-district, a well-organized farmer group structure has become a supporting factor in the implementation of GAP in red chili cultivation. Statistical analysis shows that the indicators of member roles (X2.1) and performance (X2.2) have a significant contribution to the effectiveness of the group structure. This is in line with the research of Sheilla et al. (2016) who emphasized that clear and structured tasks in groups can increase the effectiveness of communication and member involvement. Damanik (2013) adds that a group structure that includes a clear hierarchy, communication flow and decision-making mechanism increases the operational efficiency of the group. In the context of GAP implementation, a good structure allows the flow of information and technical knowledge about sustainable agricultural practices to run more smoothly, thus facilitating the adoption process by all group members.

3.5 Effect of Group Task Function on GAP Implementation

Group task functions had the greatest influence on GAP implementation, with a regression coefficient of 0.181 ($p < 0.001$). This suggests that a clear division of tasks and effective implementation of group functions are key to the successful implementation of GAP. According to Hackman (1968), the task function is a set of tasks that must be carried out by each group member in accordance with their respective functions based on their position in the group structure. The task function includes activities such as providing information, coordinating, facilitating participation, and aligning activities needed to achieve group goals. The results showed that the indicators of satisfaction (X3.1) and management (X3.2) contributed significantly to the effectiveness of the task function in encouraging GAP implementation. This indicates that group members who are satisfied with the distribution and implementation of tasks, and supported by good group management, are more likely to adopt GAP practices consistently. Sheilla et al. (2016) emphasized that structured tasks and clear functions in farmer groups can increase the effectiveness of communication and member involvement in achieving common goals. Their research on farmer groups in the East African Highlands region showed that clear task organization is a key factor in the successful adoption of new agricultural technologies. In Sukajaya sub-district, farmer groups with a clear division of tasks showed higher levels of GAP implementation. Farmers who understand their responsibilities within the group tend to be more consistent in applying GAP practices, such as proper fertilizer use, integrated pest control, and standard post-harvest handling. Arifin (2015) reinforces these findings by emphasizing that well-defined task functions create pleasant conditions within the group, which in turn increases members' motivation to achieve common goals.

3.6 Effect of Coaching on GAP Implementation

Coaching has a positive and significant effect on GAP implementation with a regression coefficient of 0.136 ($p < 0.001$). These results emphasize the importance of coaching activities, such as training, extension, and mentoring in improving farmers' capacity to implement GAP. Coaching, as defined by Damanik (2013), is an effort to maintain group life that can be seen from the existence of activities to encourage member participation, the availability of facilities, and the growth of activities that encourage the active role of members. Wijayanto et al. (2019) argued that intensive coaching can improve farmers' skills and knowledge of the introduced agricultural technology. Their research shows that continuous practical training has a greater impact on the adoption of new technologies compared to one-time interventions. This finding was reinforced by Wulanjari et al. (2022) who emphasized that coaching includes not only technical training, but also the provision of access to resources, capital, and technological innovations that will foster the active role of members. In the context of farmer groups in Sukajaya Sub-district, coaching activities have played an important role in facilitating the transfer of knowledge and skills on GAP practices, such as the selection of superior varieties, land analysis, appropriate use of fertilizers and pesticides, and integrated pest and disease control. Statistical analysis shows that the indicators of behavior change (X4.1) and behavior development (X4.2) contribute significantly to the effectiveness of coaching, indicating that successful coaching activities are those that are able to encourage sustainable changes in farming behavior. The

suitability of coaching materials to the needs of farmers in Sukajaya Sub-district, the majority of whom have a low level of education (38.6% elementary school graduates), is an important factor in the successful implementation of GAP. This is in line with the findings of Sofia et al. (2022) who emphasized the importance of adjusting training methods and content to the characteristics of target farmers to increase the effectiveness of knowledge transfer and adoption of agricultural innovations.

3.7 Influence of Group Cohesiveness and Atmosphere on GAP Implementation

Interestingly, cohesiveness and group atmosphere did not show a significant influence on GAP adoption ($p = 0.388$). This finding indicates that in the context of adopting technical innovations such as GAP, instrumental and task-oriented factors play a more dominant role than socio-emotional factors. The statistical analysis showed that although cohesiveness is defined by Krech et al. (1962) as a group member's sense of attachment to the group, and group atmosphere relating to norms and socialization processes within the group, these two factors did not contribute significantly to the level of GAP adoption. This result is in line with the research of Nettle et al. (2022) who found that the successful adoption of agricultural innovations was more influenced by training methods and information characteristics than group cohesion. Their study on farmer groups in Australia showed that structured learning approaches and the quality of technical information had a greater impact on the adoption of sustainable agricultural practices compared to social ties within the group. Johnson et al. (2023) also observed that the adoption rate of sustainable agricultural practices was more influenced by the characteristics of technology and information sources than the socio-emotional aspects of the group. In Kecamatan Sukajaya, although group cohesiveness and atmosphere were rated positively (average 3.0497), these factors were not the main determinants of the level of GAP implementation. This shows that the implementation of GAP in red chili cultivation is more determined by technical and structural factors. This phenomenon can be explained by the diffusion of innovations theory, which emphasizes that the adoption of new technologies, especially those that require significant changes in practices such as GAP, is more influenced by perceptions of the relative advantages, compatibility and complexity of the innovation than by social dynamics within the group.

3.8 Effect of Group Pressure on GAP Implementation

Group pressure has a positive and significant effect on GAP implementation with a regression coefficient of 0.054 ($p = 0.003$). Despite having the lowest coefficient value among the significant variables, this finding indicates that peer pressure from group members can be a driving factor in the implementation of GAP. According to Santosa (2006), group pressure is anything that creates tension in the group to foster the urge to do something for the achievement of group goals. Sources of pressure can come from within the group such as conflict, authoritarianism, and competition or from outside (external pressure), such as challenges, attacks, sanctions, uniformity, and conformity. D. R. Efendi & Sasmita (2024) stated that group pressure can encourage members to adopt the expected behavior, even though it sometimes conflicts with individual preferences. Their research revealed that one strategy to encourage group members' compliance is to increase pressure on individuals, either through rewards or punishments. In the context of GAP implementation, positive social pressure can facilitate changes in agricultural practices from conventional methods towards more sustainable practices. In Sukajaya sub-district, carefully measured group pressure has helped farmers to be more consistent in applying GAP practices, especially on aspects that may be considered complicated or require a change in habits, such as the judicious use of pesticides and the application of recommended cropping systems. Statistical analysis showed that indicators of difficulty (X7.1) and strategy (X7.2) contributed to the effectiveness of group pressure in promoting GAP adoption, indicating that pressure accompanied by clear strategies can help members overcome difficulties in adopting new practices.

3.9 Effect of Group Effectiveness on GAP Implementation

Group effectiveness has a positive and significant effect on GAP implementation with a regression coefficient of 0.105 ($p < 0.001$). This finding suggests that the group's ability to achieve goals and produce changes that satisfy its members plays an important role in encouraging the implementation of GAP. Santosa (2006) defines group effectiveness as the success of the group to achieve its goals, which can be seen in the achievement of conditions or changes (physical or non-physical) that satisfy its members. Effectiveness can be seen in terms of productivity, morale, and member satisfaction. Zander (2018) asserts that an effective group will improve group dynamics, and conversely, a dynamic group will improve its effectiveness. His research shows a reciprocal relationship between effectiveness and group dynamics, where improvements in one aspect will simultaneously improve the other. In the context of GAP implementation, effective farmer groups are not only able to achieve productivity and sustainability goals, but also fulfill the social and psychological needs of their members. In Sukajaya sub-district, farmer groups that are able to organize resources, manage conflict and achieve expected results show

higher levels of GAP implementation. Statistical analysis showed that indicators of system influence (X8.1) and leadership (X8.2) contributed significantly to group effectiveness. This indicates that a good working system and effective leadership are crucial components in creating effective farmer groups in implementing GAP. Good group effectiveness reflects members' satisfaction with the results achieved, which in turn strengthens their motivation to continue implementing GAP practices. This phenomenon is in line with motivation theory, which emphasizes that individuals tend to repeat behaviors that produce satisfaction and positive reinforcement. When farmers see that the implementation of GAP provides real results in increasing productivity and sustainability of red chili farming, they will be more motivated to maintain and even improve the quality of GAP implementation.

3.10 Research Implications

The findings of this study have important implications for the development of strategies to improve the application of GAP in red chili cultivation in Sukajaya District in particular, and other areas in general. First, strengthening task functions should be a top priority, given that this variable has the greatest influence on GAP implementation ($\beta = 0.181$). A clear division of tasks and an effective coordination mechanism will improve GAP implementation more systematically. Hackman (1968) emphasizes that well-defined task functions create conducive conditions for group members to carry out their responsibilities, which in this context is the consistent implementation of GAP practices. Secondly, the formulation of clear and measurable group objectives, involving all members, will increase farmers' understanding and commitment to GAP implementation. Johnson et al. (2023) assert that well-articulated goals can increase the cohesiveness and commitment of members in the adoption of agricultural innovations. A participatory goal formulation process, as suggested by Damanik (2013), will strengthen members' sense of ownership of the GAP implementation program. Third, strengthening the organizational structure of farmer groups and intensive coaching programs need to be carried out to support the transfer of knowledge and skills on GAP practices. Hilmiati (2020) and Wijayanto et al. (2019) emphasized the importance of an organized structure and continuous coaching in the successful adoption of new agricultural technologies. A clear structure and effective coaching will facilitate the flow of information and technical knowledge on GAP to all group members.

Fourth, group pressure needs to be managed wisely, for example through social incentive mechanisms and constructive monitoring systems. D. R. Efendi & Sasmita (2024) showed that positive social pressure can facilitate the adoption of expected behavior in a group context. In Sukajaya sub-district, careful and measurable group pressure can be an incentive for farmers to implement aspects of GAP that may be considered complicated or require a change in habits. Finally, improving group effectiveness through the development of clear performance indicators and optimizing resource management will support the sustainability of GAP implementation in the long term. Zander (2018) emphasizes the reciprocal relationship between group effectiveness and dynamics, where improvements in one aspect will enhance the other, creating a positive cycle in group development and innovation implementation. Overall, the results showed that a farmer group development approach that focuses on instrumental and task-oriented aspects will be more effective in encouraging the application of GAP in red chili cultivation, compared to an approach that only emphasizes the socio-emotional aspects of the group. This finding is in line with the research of Nettle et al. (2022) and Johnson et al. (2023) that emphasize the dominant role of technical and structural factors in the adoption of sustainable agricultural practices.

4. CONCLUSION

This study analyzes the influence of farmer group dynamics on the application of Good Agricultural Practices (GAP) in red chili cultivation in Sukajaya District, Bogor Regency. Based on the results of the analysis and discussion, several important conclusions can be drawn. First, farmer group dynamics have a significant influence on the implementation of GAP in red chili with a contribution of 72.2% ($R^2 = 0.722$), indicating that factors in group dynamics play an important role in encouraging the implementation of good and sustainable agricultural practices. Second, of the eight elements of group dynamics studied, six elements proved to have a positive and significant effect on the implementation of GAP with different levels of significance: group task function ($\beta = 0.181$, $p < 0.001$), group objectives ($\beta = 0.153$, $p < 0.001$), coaching ($\beta = 0.136$, $p < 0.001$), group structure ($\beta = 0.119$, $p < 0.001$), group effectiveness ($\beta = 0.105$, $p < 0.001$), and group pressure ($\beta = 0.054$, $p = 0.003$). These findings underscore the importance of instrumental and task-oriented aspects in promoting the adoption of agricultural innovations. Third, group cohesiveness and group atmosphere showed no significant influence on GAP adoption ($p = 0.388$), suggesting that socio-emotional factors have a more limited role in the context of technical agricultural practice adoption compared to factors related to tasks and responsibilities. Fourth, group task functions emerged as the strongest predictor of GAP adoption, emphasizing the importance of clear task division, effective coordination and systematic execution of group functions for successful GAP implementation. Overall, this study reveals that effective farmer

group dynamics, especially those that focus on instrumental aspects such as task functions, group goals, and organizational structure, play a crucial role in promoting the adoption and implementation of GAP in red chili cultivation. These findings have important implications for the development of policies and programs aimed at improving sustainable agricultural practices through strengthening farmer institutions. This study makes theoretical contributions to the literature on group dynamics and diffusion of agricultural innovations, and provides practical insights for the development of more effective farmer group empowerment strategies. Recommendations for future research include the exploration of factors beyond group dynamics that influence GAP implementation, longitudinal analysis to understand changes in group dynamics over time, and the development of intervention models that can optimize elements of group dynamics to encourage sustainable agricultural practices. Based on the results of the study that showed a significant effect of farmer group dynamics on the application of GAP in red chili cultivation in Sukajaya District, the following strategic recommendations were developed. Strengthening the group task function as the strongest predictor ($\beta = 0.181$) needs to be prioritized through the development of a more structured task-sharing system, leadership training for administrators, and implementation of a regular monitoring system. This will ensure that each member understands his or her responsibilities in implementing GAP consistently and systematically.

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