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Influence of Agricultural Extension Role on Adoption of Durian Cultivation Innovation in Cepoko Mulyo Farmer Group

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ABSTRACT

Indonesia's agricultural sector faces challenges in low innovation adoption at the farmer level, particularly in the horticulture subsector. In Gunungpati District, Semarang City, the productive durian tree population declined drastically from 9,042 trees in 2022 to only 2,862 trees in 2024, indicating serious obstacles in the application of cultivation innovations. This study aimed to identify the socioeconomic characteristics of farmer group members, describe the form and intensity of agricultural extension agents' roles, analyze the level of durian cultivation innovation adoption, and analyze the influence of extension agents' roles on innovation adoption at Cepoko Mulyo Farmer Group in Gunungpati District, Semarang City. The study was conducted from January to May 2026 using a survey method with a census technique involving 37 active farmer group members as respondents. Primary data were collected through structured questionnaires that had been tested for validity and reliability (Cronbach's Alpha for variable X = 0.906; variable Y = 0.890), and analyzed using descriptive analysis and simple linear regression. Results showed that the majority of farmers were aged above 55 years (64.8%), had primary school education (67.6%), and managed sharecropping land of less than 2,000 m² (64.9%). The intensity of extension agents' roles was low, with 56.8% of respondents interacting only 0–1 time per year. The level of innovation adoption was in the moderate category (59.5%). Regression analysis produced the equation $Y = 18.736 + 0.441X$ with a t-value of 3.014 (sig. $0.005 < 0.05$), proving that the role of agricultural extension agents has a positive and significant effect on durian cultivation innovation adoption. The R^2 value of 0.206 indicates that the extension agents' role contributes 20.6%, while the remaining 79.4% is influenced by other factors such as free seedling assistance and the area's identity as a durian production center.

Keywords: agricultural extension, innovation adoption, durian cultivation, farmer group

INTRODUCTION

Indonesia's agricultural sector contributes about 12.5 percent to the national Gross Domestic Product and absorbs nearly 30 percent of the workforce. However, the 2023 Agricultural Census noted that 53.16 percent of farmers still use conventional methods, and of the 6.7 million horticultural farming households, only 1.92 million have adopted at least one form of agricultural innovation. This condition reflects a serious gap between the availability of technological innovations and the ability of farmers to adopt them. The gap is evident in Gunungpati District,

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Semarang City, where the productive durian tree population has plummeted from 9,042 trees in 2022 to only 2,862 trees in 2024 (Semarang City Agriculture Office, 2024). This condition indicates that there are serious obstacles in the maintenance and control of pests that should be overcome through effective counseling assistance.

Fitriani and Putra (2019) explained that the effectiveness of extension is measured by changes in farmers' behavior in implementing innovation. In 2023, the Ministry of Agriculture noted that there are 45,182 active extension workers throughout Indonesia, with a ratio of 1 extension worker serving 574 farmers. This ratio is still far from ideal, which is 1:250 as recommended by FAO, so the effectiveness of extension at the farmer group level is highly dependent on the quality of social interaction and local institutional support (Yandi, 2023).

Agricultural extension is a non-formal education that aims to change the behavior of farmers through improving knowledge, skills, and attitudes. Fitriana and Setiawan (2023) emphasized that the role of extension workers includes the functions of educators, facilitators, motivators, communicators, and dynamizers. In the framework of *Rogers' (2003) theory of Diffusion of Innovations*, the adoption of innovation is a gradual process that is greatly influenced by the intensity of the role of the change agent. Rahman et al. (2021) proved that groups with counseling frequencies below 4 times per year showed a 40–50 percent lower adoption rate than high-intensity groups. Subejo (2020) added that for farmers with a middle to lower economic level, physical assistance has proven to be a more effective stimulus for adoption than oral education alone. Meanwhile, Wahyudi and Subejo (2023) remind that horizontal social ties between farmers are often more dominant in influencing adoption decisions than vertical communication from extension workers. The Cepoko Mulyo Farmers Group in Cepoko Village, Gunungpati District, is a relevant research locus because it has active counseling activities with complete durian cultivation innovation materials and faces complex adoption dynamics. This study aims to: (1) identify the socio-economic characteristics of members of farmer groups; (2) describe the form and intensity of the role of agricultural extension workers; (3) analyzing the adoption rate of durian cultivation innovations; and (4) analyze the influence of the role of agricultural extension workers on the adoption of durian cultivation innovations in the Cepoko Mulyo Farmers Group, Gunungpati District, Semarang City.

RESEARCH METHODS

The research was carried out in the Cepoko Mulyo Farmers Group, Cepoko Village, Gunungpati District, Semarang City. The selection of the location was carried out *purposively* with the consideration that this group specifically manages 4.5 hectares of productive land with a focus on durian commodities and has active counseling activities from the Field Agricultural Extension Officer (PPL) of BPP Gunungpati. The research was carried out from January 2026, covering the instrument preparation stage, primary data collection, and data processing and analysis. This research is a quantitative research with a survey approach. According to Singarimbun and Effendi (2019), survey research takes samples from one population and uses questionnaires as a primary data collection tool.

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The research population is all active members of the Cepoko Mulyo Farmers Group which totals 37 people. Considering that the population is relatively small and still within the scope of the study, the sampling technique uses the census method (*total sampling*), where all members of the population are made respondents. According to Kurniati (2021), census techniques are very effective in small populations under 100 people to minimize the rate of data generalization errors. Primary data was collected in three ways, namely structured interviews using questionnaires, field observations, and documentation. The questionnaire consists of 15 statements for each variable with a *Likert scale* of 5 categories, and has gone through validity and reliability tests. The validity test was carried out by comparing the calculated r value (*Pearson Correlation*) with the r of the table of 0.632 (N=10, α=5%), resulting in 12 valid items for each variable. The reliability test using *Cronbach's Alpha* yielded a value of 0.906 for variable X and 0.890 for variable Y, so that all instruments were declared reliable. Secondary data was obtained from the Gunungpati BPP report, the Semarang City Agriculture Office, and BPS publications. Data were analyzed using descriptive analysis and simple linear regression analysis with the help of IBM SPSS.

RESULTS AND DISCUSSION

The respondents in this study are members of the Cepoko Mulyo Farmers Group. The social and economic characteristics of the respondents are presented in Table 1 and Table 2.

Table 1. Social Characteristics of Respondents

Category		Number (People)	Percentage (%)
Gender	Female	3	8,1
	Male	34	91,9
Age	35-44 years old	2	5,4
	45-54 years old	11	29,8
	55-64 years old	12	32,4
	>64 years old	12	32,4
Education	Elementary School	25	67,6
	Junior High School	2	5,4
	Senior High School	8	21,6
	College	2	5,4
Farming experience	<10 years	5	13,5
	10-20 years	24	64,9
	21-30 years	2	5,4
	>30 years	6	16,2

Source: Primary Data Analysis (2026)

Based on Table 1, respondents are dominated by men (91.9%), reflecting that the management of durian farming is still patriarchal where men play the main role as technical decision-makers. This is in line with BPS data (2021) which states that Indonesia's agricultural

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sector is structurally still dominated by male heads of households, especially in commodities that require a large intensity of physical labor. The majority of farmers are over 55 years old (64.8%), indicating the phenomenon of *aging farmers* that is increasingly real. Yunita et al. (2022) stated that the age factor correlates with the effectiveness of extension performance, where senior farmers need a more personal approach to increase the absorption of innovation materials. The level of education is dominated by elementary school graduates (67.6%), but this limited formal education does not necessarily reflect low technical skills, considering that 64.9% of respondents have had farming experience for 10-20 years. According to Suharyanto *et al.* (2019), the level of formal education directly contributes to farmers' cognitive capacity in evaluating the risks of innovation before applying it to their land. However, this low formal education is substituted by the maturity of field experience. Husaini (2019) explained that capacity building through non-formal education such as Field Schools is important to cover the limitations of formal education of farmers.

Table 2. Economic Characteristics of Respondents

Category		Number (People)	Persentase (%)
Land Area	<2.000 m^2	24	64,9
	2.000-5.000 m^2	8	21,6
	>5.000 m^2	5	13,5
Revenue	<1.000.000	13	35,1
	1.000.000-2.000.000	22	59,5
	>2.000.000	2	5,4
Land Ownership	Own Property	13	35,1
	Revenue sharing	24	64,9
Activeness	Routine	12	32,4
	Rare	25	67,6

Source: Primary Data Analysis (2026)

Table 2 shows that 64.9% of respondents manage narrow plots of land under 2,000 m² with profit-sharing status. This limited land and ownership status cause farmers to be conservative in adopting technologies that require long-term investment. The certainty of land tenure status is positively correlated with the courage of farmers in bearing the risks of new technologies. The majority of farmers (59.5%) earn income from durian farming only between Rp1,000,000 to Rp2,000,000 per year, confirming that durian is still a by-commodity, not the main source of income. The level of activity in participating in counseling is also relatively low, with 67.6% of farmers only attending 1-2 times per year, indicating that formal interaction with extension workers has not been a priority for farmers.

Form and Intensity of the Role of Agricultural Extension Workers

The role of extension workers is realized through education, facilitation, and consultation functions so that farmers are able to solve obstacles in the field and increase production capacity (Kurniawan and Santoso, 2021). Field Agricultural Extension Workers (PPL) play a key role as agents *of change* who are tasked with bridging modern technology packages with real farming

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practices at the village level. The effectiveness of extension workers' attendance is measured through a conceptual assessment that divides the role into five main indicator dimensions, namely the role of educator, facilitator, communicator, dynamizer, and motivator (Kurniawan and Santoso, 2021). Based on the results of the tabulation of the actual score of the questionnaire instrument in the Cepoko Mulyo Farmers Group, it was found that there was a very striking gap between these dimensions, where the role of the facilitator managed to achieve the highest achievement, while the role of the educator fell to the position of the lowest average score. Based on the results of in-depth interviews and qualitative data about the Cepoko Mulyo Group, the form of the role of extension workers at the research site can be grouped into;

1. Educator

The role of extension workers as educators has declined in the position of the lowest average score (predominantly below a score of 3.00) due to the shallowness of the depth of knowledge *transfer* disseminated in the field. Cognitive mentoring activities have been monotonous and only stop at the outer skin, such as the procedure for making initial planting holes and releasing polybags of aid seedlings. Extension workers have never touched the aspect of advanced agricultural technology innovation that is urgently needed in the maintenance of superior durians. As a result, farmers have never been provided with clinical training on the standardization of macro-micro-balanced fertilization formulas adapted to the vegetative or generative growth phases of trees, canopy *pruning* techniques to regulate productive branches, or growth regulator (ZPT) application techniques to stimulate *off-season cropping*). The limitation of this knowledge dissemination makes farmers perceive the function of extension educators as very minimal because it does not provide additional new competencies to boost the quality of fruit production. Extenssion worker contribution can be highlighted in the extension service as one of the constructs combining the adoption theory to improve the understanding (Abu-Bakar, et al., 2025).

2. Dinamisator

Extension workers still face severe structural obstacles in moving farmer group organizations to coherence with the Standard Operating Procedures (SOP) for cultivation. Extension workers rarely initiate participatory group discussion forums that involve all levels of members equally, so group dynamics tend to be passive. Coupled with the characteristics of *aging farmers* where the majority of members are over 55.00 years old, the formal counseling method that is lectures in the room causes social saturation, making it difficult for the mass mobilization process to carry out modern plantation governance reforms.

3. Communicator (Problem Solver)

The role of extension workers as communicators or problem solvers is also considered to have not run optimally. When farmers face serious obstacles in the form of stem borer caterpillar pest infestations (*Batocera rufomaculata*) and root rot disease attacks due to upas fungus that trigger massive leaf loss, extension workers are unable to provide specific clinical diagnoses per farmland. The communication channels built tend to be asymmetrical and one-way, where extension workers only distribute questionnaires or theoretical leaflets and suggest the use of

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chemical pesticides in general without directly reviewing the infected garden area. As a result of this blockage of problem-solving communication channels, most farmers choose to ignore formal directives and revert to traditional methods in order to save their crops. Lower adoption levels of SA technologies may be attributed to inadequate information, missing knowledge, lack of awareness of the technologies, and lack of perceived practical value (Chuang et al., 2020).

4. Facilitator

The actualization of the role of extension workers as facilitators recorded the highest average score because extension workers were considered very responsive and succeeded in acting as a bureaucratic bridge in providing physical production facilities for farmers. Extension workers actively assist the group management in compiling the administrative file of the Definitive Plan for Group Needs (RDKK), so that the Cepoko Mulyo Farmer Group periodically receives the distribution of physical stimulants in the form of free labeled Montong durian seed assistance packages, subsidized NPK fertilizers, to agricultural machinery such as *power sprayers*. The main reason for this dimension to achieve the highest appreciation is closely related to the economic characteristics of the respondents, the majority of whom are side workers with limited capital. The assistance of free goods brings real direct economic benefits because it cuts the cost of independent investment to buy superior Montong seeds which are relatively expensive in the market (Subejo, 2020).

5. Motivator

The role of extension workers as motivators is considered to be going quite well, especially in the initial phase of the reintroduction of the Montong durian horticultural commodity in Cepoko Village. Active extension workers provide psychological encouragement so that farmers are willing to use their vacant yard land as a base for annual crop investment. However, the motivational energy that is blown does not have long-term consistency because the moral assistance is only intensively carried out during the distribution of free seedlings, then slowly dims when the plants enter the second and third year of maintenance phases. As a result, farmers lose their guiding figures and let their durian plants grow wild without intensive maintenance management.

The Importance of the Role of Agricultural Extension Workers

The intensity of the role of extension workers can be measured based on the frequency of meetings, the activeness in Field School (SL) activities, and the extent to which farmers feel helped. Based on respondent interviews, the intensity of mentoring is classified as follows:

Table 1. Distribution of respondents based on the intensity of counseling meetings

Intensity Category	Frequency (A year)	Quantity	Percentage
		--people--	--%--
Low	0-1 kali	21	56,8
Medium	2-3 kali	13	35,1
Height	>3 kali	3	8,1

Primary Data Analytics (2026)

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Based on table 7, the objective reality is that there is still a lack of intensity of meetings at the research site, where most of the respondents, namely 56.76% (21 people) are in the low intensity category with a frequency of visits only 0-1 times a year. Real facts in the field reveal the main obstacle that the low frequency of visits or counseling occurs because the coordination flow carried out by PPL often only runs asymmetrically and stops at the level of the Chairman of the Farmer Group. Extension officers tend to assume that by visiting the administrator's house, giving brief oral instructions, or leaving information materials, the obligation to coach all institutional members is considered to have been fulfilled automatically. This condition triggers information *blocking* at the grassroots level. As a result of the personal busyness of the administrators who also have a burden of side jobs, technical messages and invitations for Field School activities from extension workers often settle in the house of the group leader and are not disseminated evenly to ordinary members. This broken communication chain resulted in the majority of members rarely seeing the physical presence of extension workers directly in their land areas, so that the intensity of extension felt by most farmers was very minimal and less effective.

This low number explains why the role of extension workers does not have a dominant influence on farmers' decisions. Some of the reasons underlying the majority of farmers (43.3%) rarely attend Field School because their energy and time focus is divided into food crops (rice/palawija). Durian for most farmers in Cepoko Mulyo is not the main income , but a long-term investment that is considered to be able to grow naturally, so they feel that they do not need to consult intensively with extension workers. The limited number of Field Agricultural Extension Workers (PPL) in Gunungpati District causes the ratio of assistance to be not ideal. One extension worker must foster many groups, so that attendance at the Cepoko Mulyo Farmers Group is not routine every month. The lack of use of demonstration plot land (demonstration plot) reduces the intensity of technical learning. Senior farmers with an elementary/junior high school education background need hands-on practice more than theory. The low intensity of this field practice makes the transfer of durian cultivation technology hampered.

Adoption Rate of Durian Cultivation Innovation

The analysis of innovation adoption aims to measure the extent to which members of the Cepoko Mulyo Farmers Group have applied the recommended durian cultivation method. The adoption of innovations in this study is not only seen from the decision of farmers to use technology, but also the sustainability and accuracy of its application in the field (Rogers, 2003).

Based on the Rogers innovation stage, farmers in the Cepoko Mulyo Farmers Group are generally at the *implementation* stage. This is evidenced by interview data showing that most farmers have planted superior durian varieties (Montong). However, this application is not completely comprehensive in all technical aspects of cultivation.

Farmers tend to apply innovations in aspects that provide quick results, such as the use of labeled seeds. However, in maintenance aspects such as *pruning* and intensive HPT control, the level of implementation still varies. This is because durian for the majority of farmers is not yet the main source of income, but a side commodity that is planted because it utilizes the potential of the existing land.

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The slow technological transformation in the aspect of maintaining annual crops is rooted in the obstacles of the local farming culture sub-culture. The majority of farmers in the Cepoko Mulyo Farmers Group are still trapped in the traditional farmer mindset that tends to be passive and short-term oriented to physical assistance (*subsistence-gratitude oriented mindset*). The structure of rural sociology in the research area constructs the paradigm of thinking that agricultural modernization is the full responsibility of the government through the provision of free goods, while farmers only act as *passive* receivers.

This dependency mentality triggers reactive-pragmatic technology adoption behavior. Members of farmer groups will show very high enthusiasm to gather if the Gunungpati BPP or the Agriculture Office comes with a load of free physical stimulus that has direct economic value, such as the distribution of free Montong seeds or subsidized fertilizer assistance. However, when extension workers come with abstract "science" or treatment technology packages that demand changes in farming behavior and cognitive work discipline (such as training on calculating balanced fertilization doses or SOPs for handling root diseases), farmers give rise to a saturated, passive, and reluctant attitude to absorb the new knowledge. They hold firmly to the traditional principle of thinking that durian trees are plantation plants that will bear fruit on their own based on natural factors, so they do not require complicated scientific maintenance management.

The majority of farmers in the Cepoko Mulyo Farmers Group can be categorized as *Early Majority* . This characteristic can be seen from the tendency of farmers who have just dared to adopt after seeing real support (seed assistance) and evidence of success from other farmers in the region. Not all farmers in the group have carried out comprehensive cultivation innovations. There are about 24.3% of farmers categorized as *Laggards* (especially in the senior age group with elementary education) who still retain local varieties. They show high cultural resistance by maintaining the local durian trees of their ancestors that are no longer productive, and are reluctant to switch to new superior varieties because they consider Montong's durian maintenance techniques too complicated and high risk to their small economic stability.

Factors Inhibiting Adoption in Cepoko Mulyo Farmer Group

Based on field data, the low adoption rate is influenced by several significant factors like specific technical assistance to farmers is still lacking. Farmers still feel confused about facing the problem of caterpillars and root diseases because the guidance received is too general. Limited capital and farmer manpower, the adoption of intensive durian cultivation innovations requires considerable operational costs and manpower, while the majority of farmers focus their resources more on food crops (rice/palawija). As many as 78.38% of respondents put durian farming only as a side job, their cash capital resources and productive time were used up to work in the non-farming sector (such as construction workers or daily odd jobs) in order to secure cash flow for daily household needs. As a result, durian farming is managed in a modest manner without any intensive maintenance. Low economic status and old age, the average age of farmers over 50 years old decreases their motivation to learn new techniques that are considered complicated, so they prefer conventional cultivation methods that "just go along with the environment's habits."

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The innovation adoption score in this study is calculated based on the total implementation indicators (Y). Based on the results of the data processing, the average adoption score is in the medium category.

Table 8. Analysis of the Adoption of Durian Cultivation Innovation Score

Indicator Score	Category	Percentage
		--%--
Low (12-28)	Only participate / Not yet applied	16,22
Medium (29-44)	Implement some innovations	59,46
Height (45-60)	Implementing All Innovations	24,32
Total		100

Primary Data Analytics (2026)

The result of the implementation of this innovation is the beginning of changing the profile of farmers' gardens from local durian to superior durian varieties (Montong). However, in terms of crop quality, it has not shown a uniform standard due to differences in maintenance intensity. Some farmers adopted this innovation not because of a strong desire to make technical updates, but rather because of efforts to maintain *the top of mind* of Cepoko Village as a durian center and take advantage of the available seed assistance. This "just go along" motivation explains why adoption is not followed by an in-depth increase in technical knowledge (such as an understanding of fertilization labels or SOPs).

The Influence of the Role of Agricultural Extension Workers on the Adoption of Durian Cultivation Innovation

Prior to the regression analysis, all instruments had gone through validity and reliability tests. Of the 15 statements in each variable, 12 valid items were obtained for variable X (Role of Extension Workers) and 12 valid items for variable Y (Innovation Adoption), with *Cronbach's Alpha values* of 0.906 and 0.890 respectively — well above the minimum limit of 0.60 (Ghozali, 2018). The classical assumption test shows that the data is normally distributed (*Asymp. Sig.* K-S = 0.200 > 0.05), free of heteroscedasticity (*scatterplot points* spread randomly), and have a linear relationship (*Significance Deviation from Linearity* = 0.922 > 0.05), so that simple linear regression analysis can be validly performed.

Based on the results of data processing, regression equations were obtained:

$$Y = 18{,}736 + 0{,}441\ X + e$$

The constant value of 18.736 shows that the adoption rate of farmers' innovations is already at a moderate level even without intensive extension intervention. This is influenced by long farming experience, where 64.9% of respondents have farmed for 10-20 years so that they have basic technical independence in durian cultivation. A positive regression coefficient of 0.441 shows that any improvement in the quality of the role of extension workers will be followed by an increase in innovation adoption by 44.1%, confirming the direction of influence that is in the same direction between the two variables.

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Based on Table 6, the F-calculated value of 9.085 with a significance of 0.005 < 0.05 indicates that the regression model is feasible to use (*goodness of fit*). Based on Table 7, the t-calculated value of 3.014 with a significance of 0.005 < 0.05 proves that H0 is rejected and H1 is accepted: the role of agricultural extension workers has a positive and significant effect on the adoption of durian cultivation innovations in the Cepoko Mulyo Farmers Group. These findings are consistent with the results of research by Wardoyo et al. (2021) which show that the role of extension workers as educators and facilitators has a significant effect on the speed of innovation adoption by group member farmers.

The *R Square value* of 0.206 shows that the variable role of extension workers contributes 20.54% to the variance of innovation adoption in Cepoko Mulyo Village. In the context of this region, the magnitude of the influence of these other factors is strongly suspected to be related to the limitation of production factors, especially the land area, 60% of which is a narrow yard. Limited planting space limits farmers from adopting innovations such as setting ideal planting distances or mechanization of agriculture. Previous research confirms that the effectiveness of extension is often hit by structural constraints such as access to capital and land availability, which are significantly more dominant in determining farmers' final decisions (Hapsari et al., 2020). The amount of residual influence (79.4%) indicates that there are other factors that are more dominant in influencing farmers' decisions to adopt innovation. The main factor is the status of the Cepoko Village area as a durian center (*top of mind*). In accordance with Subejo (2020), in the condition of farmers who have mature farming experience, dependence on extension workers tends to decrease because they rely more on physical evidence and the success of fellow group members. Farmers adopt superior varieties (Montong) not solely because of the encouragement of extension workers, but because of environmental and market demands that require them to follow commodity trends in their regions. According to Wahyudi and Subejo (2023), in farming communities that have a strong attachment to regional identity, the influence of the social environment is often stronger than the influence of formal change agents.

Another factor that fills the 79.4% is the availability of free seed assistance from the government. Based on the results of interviews, durian farming for farmers in the Cepoko Mulyo Farmers Group is mostly a side business with a relatively low average income (IDR 1,000,000 - IDR 2,000,000 per year). This economic condition makes farmers pragmatic; They will adopt innovations (plant new varieties) if there is the help of physical means of production. As explained by Subejo (2020), the adoption of innovations in farmers with limited capital is often reactive to the assistance of physical stimulus rather than the result of the technical learning process independently. Internal factors such as age, farming experience, and education level also make a large immeasurable contribution to this regression model. The majority of senior farmers (age >50 years) at the research site tended to have information independence through viral *patterns* or interactions between fellow farmers. This is supported by social data that shows the level of dependence on extension workers who are in the low category (40.5%). Farmers rely more on personal experience and observation of the success of neighbors in managing durian orchards, so the role of extension workers is only considered as a complement to basic technical information.

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The low R2 value is also a reflection of the low intensity of counseling meetings (56.8% of respondents only meet 0-1 times a year). With a minimal frequency of interaction, the educational role of extension workers cannot penetrate deeply into the cognitive system of farmers to change cultivation behavior completely. As a result, farmers have adopted it partially (only replacing seeds) but have not implemented intensive cultivation SOPs. This is in line with research by Suharyanto et al. (2021) which states that the effectiveness of extension in encouraging the adoption of innovation will be significantly reduced if it is not followed by intensive and sustainable assistance at the land level.

The low contribution of extension workers (20.54%) is directly proportional to the fact that the intensity of PPL visits is minimal, where 56.76% of respondents rarely meet extension workers because of asymmetrical coordination that often only stops on the terrace of the Farmer Group Chairman's house. Statistical results prove that the final decision of 37.00 farmers in adopting Montong durian technology is influenced by three dominant field factors that move freely beyond the control of formal extension workers, which are described as follows:

1) Farmers' Personal Experience and Empirical Intuition

Based on social characteristics data, the majority of respondents (64.86%) have mature farming experience in the span of 10-20 years. This dozen years of empirical experience forms a *solid local knowledge system* in the cognitive memory of farmers. They have gone through various cycles of failure and success of independent farming, thus creating a strong technical intuition regarding the character of the soil, microclimate, and seasonal nature of durian in Cepoko Village. Consequently, their level of dependence on formal extension counselors decreased (40.54% in the low category). Farmers are more likely to trust the instinctive calculations of personal *trial-and-error experiments* in their own fields than to adopt new abstract theories from the outside that are not necessarily adaptive to the real conditions of their land.

2) Horizontal Diffusion through *Viral Tick Communication Channels* (Word to Mouth)

The sociological structure of the culture of rural Javanese communities places informal social interaction as the most effective and trusted medium of disseminating information. The process of adopting Montong durian maintenance technology at the research site is widespread not because of formal instruction in the extension classroom, but because of *the social proof/imitation effect* through a horizontal network between garden neighbors. Casual word-of-mouth chats in garden huts or informal post-worship forums have a much higher power of persuasion. When a farmer witnesses firsthand the success of his neighbor's orchard to harvest the giant and hard-selling Montong durian, the technical information will be immediately absorbed and imitated voluntarily without the need to wait for commands from PPL.

3) Self-Sufficient Financial Economic Motivation and Market Signal Pressure

The main driving factors that most trigger the adoption of the Montong variety are purely controlled by the laws of the market and the economic rationality of the farmer. Farmers in Cepoko Village are clearly aware that local durian has a low and fluctuating selling value, while Montong durian holds a premium position with a very high selling price in the urban center of Semarang City. It is this promising signal of financial profitability that triggers the personal economic motivation of farmers to secure their long-term household income. The urgency to meet the economic needs of families in the midst of the status of the majority of them who are side workers

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(78.38% of laborers, handymen, traders) forces farmers to make decisions to adopt independently as a form of financial investment, with or without continuous assistance from agricultural extension officers.

CONCLUSION

Based on the results of research and discussion on the influence of the role of agricultural extension workers on the adoption of durian cultivation innovations in the Cepoko Mulyo Farmers Group, Cepoko Village, Gunungpati District, it can be concluded that the form and intensity of the role of agricultural extension workers are uneven. The role of facilitators achieved the highest achievement because the response officers in distributing free physical assistance (Montong seeds and subsidized fertilizers). On the other hand, the role of educators has fallen to the lowest position due to the shallowness of the material dissemination in the field. In terms of intensity, 56.76% of respondents were in the low category (1 time a year) due to stagnant coordination at the level of Farmer Group Chairmen only. The adoption rate of durian cultivation innovation is dominant in the medium category of 59.46% (partial implementation phase). Farmers are very responsive to planting superior seeds with government assistance, but very low in implementing advanced maintenance standards (*Good Agricultural Practices*) such as canopy pruning, macro-micronutrient balanced fertilization, and OPT control. This is influenced by the sub-culture of traditional farming culture that is passive and only expects physical assistance (*subsistence-gratitude oriented*).

The role of agricultural extension workers partially has a positive and significant effect on the adoption of innovation. Based on these findings, it is suggested: (1) BPP Gunungpati needs to shift the extension strategy from the classical lecture method to a demonstration plot (*demonstration plot*) that is more in accordance with the characteristics of senior farmers; (2) extension workers need to provide specific technical guidance in the post-natal phase, not only in the phase of distribution of seed assistance; and (3) further research is suggested to examine the variables of economic motivation, the strength of group leaders' opinions, and marketing access to expand the scope of analysis of the adoption of durian cultivation innovations.

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