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FACTORS INFLUENCING FARMERS' PERCEPTIONS OF AGRICULTURAL EXTENSION PERFORMANCE IN TAMAN DISTRICT PEMALANG DISTRICT

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ABSTRACT

A small number of agricultural extension workers and the budget for extension activities could affect farmers' perceptions of the performance of agricultural extension workers in Taman District, Pemalang Regency. The research was conducted to analyze farmers' perceptions of the performance of agricultural extension workers in Taman District, Pemalang Regency, and analyze the influencing factors. This research was conducted in January – February 2023 in Taman District, Pemalang Regency. The research method used was a survey with a proportionate stratified random sampling of 108 farmers. Data collection techniques in this study were observation, interviews, and documentation. The type of data was primary data including data on farmers' perceptions of the performance of agricultural extension agents and their factors, the identity of farmers and the identity of extension agents, regarding extension activities carried out, as well as their functions and duties and secondary data includes regional conditions and statistics and farmer documents. The analytical method used was descriptive analysis and multiple linear regression analysis. The results showed that farmers' perceptions of the performance of agricultural extension workers in Taman District, Pemalang Regency, obtained an average score of 1919 with an index score of 76.00% which means it was categorized excellent. The variables of farmer activity, farmer age, farmer education level, length of farming, and land area simultaneously influenced farmers' perceptions of the performance of agricultural extension agents in Taman District, Pemalang Regency.While only partially farmer activeness variable that influenced farmers' perceptions of the performance of agricultural extension workers in Taman District, Pemalang Regency. Suggestions that can be conveyed were that the government needs to increase the number of agricultural extension workers and provide a budget to improve their performance so that farmers can increase their prosperity.

Keywords: *agricultural extension workers, farmers characteristics, performance, perception*

BACKGROUND

From the past until now, the condition of farmers in Indonesia has yet to be thoroughly prosperous (Setiawan et al., 2019). This is because most farmers are elderly, so their ability to work is decreasing. The lack of good-quality farmers in Indonesia results in minimal income for farmers, so the welfare of farmers is still relatively low. The government's efforts to improve the welfare of farmers are by carrying out the duties of Agricultural Extension Officials (*Penyuluh Pertanian Lapangam* = PPL). Unfortunately, in the implementation of counselling, there are still many obstacles, such as lack of farmer participation, inadequate extension facilities and infrastructure,

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unorganized extension activities, extension agents not helping farmers in making the right decisions, inadequate knowledge of extension agents, extension agents not helping farmers to achieve goals, extension agents not providing education on modern farming methods. Extension workers lack discipline during counselling activities. This problem can affect farmers' perceptions of PPL performance.

The small number of extension workers is also a problem that can affect the performance of PPL, one of which is in the Taman Subdistrict. The PPL target area, which initially fostered one village, has now reached three to four villages. The main failure point of extension activities is the number of extension workers who can only visit some smallholders effectively and on time (Sennuga et al., 2020). The fact is that extension workers rarely hold outreach activities together. This is because there is no budget for extension activities.

This research was motivated by the small number of agricultural extension workers and there was no budget for extension activities which were feared to affect farmers' perceptions of the performance of agricultural extension workers in Taman District, Pemalang Regency. The performance of agricultural extension workers can be seen from the tasks they have carried out, which include nine indicators, namely 1) Regional potential data, 2) Extension programs, 3) Annual work plans, 4) Information technology, 5) Farmer institutions, 6) Farmer capacity, 7) Marketing, facilities, and financing, 8) Productivity and business scale, and 9) Income. These indicators are used as a reference in analyzing farmers' perceptions of agricultural extension performance which is then analyzed using descriptive analysis methods. Factors that can influence farmers' perceptions of the performance of agricultural extension workers are farmer activity, farmer age, farmer education level, length of farming, and land area which are then analyzed using multiple linear regression analysis.

Much research has been carried out on farmers' perceptions of agricultural extension performance, but each region has different characteristics. The difference between this study and previous research is in the characteristics of the respondents' research and the focus of the problem studied, namely related to farmers' perceptions of the performance of agricultural extension workers in Taman District and the factors that influence it, the use of variables in research analysis methods is also different. This is different from the research by Ibrahim et al. (2021), which focuses on the role and contribution of agricultural extension workers to farmers using indicators of initiators, motivators, educators, communicators, and facilitators in measuring farmer perceptions. In addition, it is also different from the research by Riwukore & Habaora (2019), which focuses on the performance profile of livestock extension workers which has an impact on improving the welfare of Balinese cattle breeders using indicator extension worker performance, materials, and methods, procurement of activities, availability of facilities and intensity of extension activities which analyzed by descriptive qualitative by using Likert scale alone as a data processing method. As according to research by Ali et al. (2018) namely focusing on the relationship between farmer perceptions and the performance of agricultural extension agents using indicators of cognitive aspects (knowledge), affective aspects (attitudes), and conative aspects (ability) were analyzed descriptively using the percentage formula and Pearson correlation analysis.

RESEARCH METHODS

The research was conducted in January – February 2023 in Taman District, Pemalang Regency. The selection of the research location was because farmers in Taman sub-district were

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farmers oftenly involved in extension activities. This utudy employed a survey method by using a descriptive approach. Thi sample collection technique in this study was a proportionate stratified random sampling method because the population in this study had heterogeneous and stratified elements. Proportionate stratified random sampling is a sampling technique when the population has heterogeneous members or elements and has a proportional stratum (Sugiyono, 2013). Sampling was carried out in Taman District by selecting three villages with the largest farmer populations in Taman Districtnamely Penggarit Village, Sokawangi Village, and Pener Village. Sampling in this study used the opinion of Arikunto (2013), which revealed that if the population was less than 100 people, all of them should be taken, and if the population was more than 100 people, 10-15% can be taken. Sampling uses a percentage of 12% to get maximum results within an effective time. The sample in this study can be seen in Table 1.

Table 1. Number of Research Samples in Taman District

No	Village	Number of Farmers	Percentage (%)	Sample
1.	Penggarit	290	12	35
2.	Sokawangi	334	12	40
3.	Pener	279	12	33
	Total	903		108

Source: BPP Taman District (2022)

Data collection techniques in this study were observation, interviews, and documentation. The types of data used were primary data and secondary data. Primary data was data obtained and collected from farmers using interview techniques and the help of a structured questionnaire (questionnaire). Primary data includes farmers' perceptions of the performance of agricultural extension agents in Taman District and its factors, the identity of farmers and extension workers regarding extension activities carried out, and their functions and duties. Secondary data was collected from BPP (Agricultural Extension Center), BPS (Central Statistics Agency), books, journals, and the Internet. Secondary data included regional conditions, statistics, and farmer documents such as the land area to support research.

The method of data analysis for the first purpose was to use descriptive analysis. Measurement of farmers' perceptions of agricultural extension performance was measured using the Likert scale concept. The Likert scale is a scale used to measure a person's perception, attitude, or opinion of an object by asking several questions or statements (Adiansyah, 2020). The data analysis method for the second purpose used Multiple Linear Regression analysis. Multiple linear regression is a regression model that involves more than one independent variable (Imron, 2020). This analysis determines the effect of farmer activity on farmer perceptions of agricultural extension performance. Other factors were included as control variables to determine the strength of these variables. These include the farmer's age, education level, length of farming, and land area. These control variables strongly influence farmers' perceptions in many aspects (Mariyono, 2019). A systematic multiple linear regression equation can be written as follows:

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + e$$

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Information:

Y : Farmer's perception of extension worker's performance (score)
α_0 : Constant
α_1-α_5 : Regression coefficient
X_1 : Activeness of farmers in groups
X_2 : Age of farmers
X_3 : Education level of farmers
X_4 : Experiences
X_5 : Land area
e : Error terms

RESULT AND DISCUSSION

Characteristics of Respondents

Characteristics of farmers in this study included farmer age, farmer education level, land area, length of farming, and farmer activity. The highest age of farmers in Taman District was in the age group of 51-60 years, with a total of 35 farmers and a percentage of 32.41%, while the least was in the age group <30 years, with a total of 1 farmer and a percentage of 0.93%. These results indicate that most farmers in Taman District were still in the productive age group. The reality in the field shows that the tendency of productive-age farmers gave farmers a high sense of curiosity, so they were more active in discussing agricultural issues with extension workers and other farmers. The ot productive age of farmers made it more difficult for them to understand agricultural information from both extension workers and other farmers. For example, during extension activities, unproductive farmers prefered to remain silent and only participated in extension activities because the information conveyed needs to be more critical. This is in line with the statement of Arvianti et al. (2019) that the number of farmers aged 20 years was still low, and the age dominated by farmers was over 40 years. According to BPS, the age of productive farmers ranges from 16-64 years who generally have more muscular physical and mental strength, so they are still enthusiastic about developing their farming business. Unproductive farmers prefer to remain silent and refrain from participating in extension activities because the information conveyed is unimportant.

The education level of the highest number of farmers in Taman Subdistrict was elementary school education for six years, with a total of 39 farmers and a percentage of 36.11%, while the least educated were Bachelor's level for 16 years, with a total of 11 farmers and a percentage of 10.19%. Limited fund was the main reason for not continuing their education, so most farmers still need secondary or higher education and have been working since a young age. The reality in the field shows that the tendency of farmers with primary education required much time to receive and understand agricultural extension materials, so agricultural extension agents should be able to adjust in delivering extension materials using simple, clear, and easy-to-understand language. Farmers with a higher education level tended to understand the extension material more quickly and often asked about agricultural problems encountered when there were extension activities. This is in line with the opinion of Mandang et al. (2020), who say that the level of formal education a farmer has will indicate a broad level of knowledge and insight for farmers to apply what they get to improve their farming business.

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The longest experienced farmers in Taman District were 21-30 years, with a total of 30 farmers and a percentage of 27.78%. While the least was 31-40 years, with a total of 13 farmers and a percentage of 12.04%. These results indicate that most Taman District farmers have farming experience. The reality in the field shows that experience in farming tends to prefer using their own experience or the experience of other farmers compared to theories in agricultural science for farming because it is difficult to understand and not suitable for the conditions of farming. Therefore, farmers participate in extension activities to share experiences with other farmers and get exposure to material from agricultural extension agents that can be adapted to farmers' problems. As for farmers who have little farming experience, they follow the advice of other farmers who have farming experience or choose other people to work on their farming land.

The largest land area is in Taman District, which is between 0.05 - 0.59 hectares with a total of 56 farmers and a percentage of 51.85%, while the minor land area was between 1.60 - 2.0 hectares with a total of 24 farmers and a percentage of 22.22%. The reality on the ground shows that farmers prefered to work on their own land to manage their farming. However, when the planting season and harvest season come, farmers prefered to use the services of farm labourers to work on their land because of the large area of land and limited time and energy for farmers who choosen to use the services of cultivators in their farming, namely farmers who have large land areas and adequate finances. Farming management carried out by farmers was accompanied by learning to understand the factors that can affect farming so that farmers took part in agricultural extension activities to increase their knowledge and skills. These results are related to Manyamsari & Mujiburrahmad's (2014) opinion saying that a land area of fewer than 0.1 hectares was considered small land, and a land area of between 0.1 to 0.2 hectares was considered medium land. A land area of more than 0.2 hectares was a large area, meaning that most farmers in the Taman sub-district held land areas in the broad category.

Table 2. Level of Farmer Activity in Taman District

Items	Statement	Total Score	Score Index (%)
1	Farmers participate in extension activities	408	75.55
2	Farmers communicate agricultural problems to extension workers	402	74.44
3	Farmers meet regularly with extension workers directly	341	63.14
4	Farmers provide criticism and suggestions to extension workers	375	69.44
5	Farmers come on time during extension activities	406	75.18
	Average	386	71.55

Source: Primary Data (2023)

Farmer activity in this study is the level of farmer activity that can be measured by looking at the participation of farmers in following the activities that have been carried out. The level of activity of farmers in Taman District can be seen in Table 2. Based on Table 2, it can be seen that the level of activity of farmers in Taman District obtained an average score of 386 with an index score of 71.55% which means as excellent category. This average value indicates that farmers in Taman District were active farmers because they participated in extension activities by actively interacing in discussions and questioning the problems they underwent regarding their farming business. In reality, active farmers in farmer groups and extension services were farmers familiar with the heads and members

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of farmer groups or agricultural extension workers. This is in line with the opinion of Koampa et al. (2015) that farmers' activeness in groups is formative participation by farmers in their participation both individually and as a group with full awareness and responsibility in the field of agricultural business.

Farmers' Perceptions of Agricultural Extension Performance in Taman District

Research on farmers' perceptions of the performance of agricultural extension workers in Taman District is a farmer's assessment of the process and results of carrying out the extension's duties with nine indicators, namely 1) Regional potential data, 2) Extension programs, 3) Annual work plans, 4) Information technology, 5) Institutions farmers, 6) Farmer capacity, 7) Marketing, facilities, and financing, 8) Productivity and business scale, and 9) Income.

Regional Potential Data

Farmers' perceptions of the performance of agricultural extension workers in Taman District regarding area potential data can be seen in Table 3.

Table 3. Regional Potential Data

Items	Statement	Total Score	Score Index (%)
1	Extension agents can explore the potential in the work area	418	77.40
2	Extension officers make extension programs based on the potential of the region	425	78.70
3	Extension agents can develop potential in the work area	423	78.33
4	Extension agents can analyze problems in the work area	427	79.07
5	Extension agents work with farmers to develop the potential of the region	440	81.48
	Average	427	79.00

Source: Primary Data (2023)

Based on Table 3, it can be seen that farmers' perceptions of the performance of agricultural extension workers in Taman District in terms of area potential data obtained an average score of 427 with an index score of 79.00% which means it is included in the excellent category. The average value indicates that the extension worker has recorded the potential in each target area. This is because the extension agents cooperate with local government agencies and farmer groups, making exploring and developing the potential in the target areas easier. This form of cooperation is a related superior commodity in each village, such as integrating the mango farming system with goat farming which is used as agro-tourism, and assisting farmers in developing Arumanis mango products or known as "*Mangga Istana*" because it was once presented at the state palace which is the superior product of Penggarit Village. In addition, the construction of irrigation canals also helps farmers to drain their agricultural lands. This is following Ningrum's (2014) opinion, which says that potential regional data consists of natural resources, human resources, social infrastructure, and artificial resources as the main actors in managing farms while supporting data for farming management consists of monographic data. In extension areas, agricultural commodities are managed by farmers, as well as the absorption of cultivation technology that farmers usually carry out.

Obstacles faced by extension workers record the potential of the area; that is, sometimes government policies are not in line with the reality on the ground, so extension agents have a role in

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accommodating the aspirations of farmers regarding the potential of the area to be developed and then channelled to the government to analyze existing problems. For example, in analyzing the problem of fruit flies and field mice pests, extension agents provide a solution by training to make fruit fly traps containing petrogenol liquid and using *Tyto alba* owls to reduce field mice. Farmers stated that extension agents had provided solutions to problems faced by farmers, but farmers wanted more. This condition is caused by several factors the minimum number of extension workers and the knowledge of farmers who still rely on their own experience in farming.

Extension Program

Farmers' perceptions of extension workers' performance in agriculture in Taman District in the aspect of the extension program can be seen in Table 4.

Table 4. Extension Program

Items	Statement	Total Score	Score Index (%)
1	Extension agents involve farmers in developing agricultural extension programs	381	70.55
2	Extension agents carry out activities following the agricultural extension program	420	77.77
3	Extension agents prepare extension materials according to the needs of farmers	428	79.25
4	The instructor evaluates the extension program that has been implemented	404	74.81
5	The extensionist delivered the extension program to the farmers	417	77.22
	Average	410	75.92

Source: Primary Data (2023)

Based on Table 4, it can be seen that the perception farmers on extension performance agriculture in the District of Taman in the aspect of the extension program obtained an average score that is 410 with an index score of 75.92%, which means it is included in the good category. This average value indicates that agricultural extension agents can carry out extension programs based on government policies. Preparationagricultural extension programs by extension workers are systematically and written every year, such as plans for groups' deficit needs, subsidized fertilizers' allocation, and data on sustainable agricultural land. This is in line with Iswardayati (2015), who says that extension workers implement programs designed to meet community needs as local or bottom-up activities and carry out activities to achieve national or top-down program objectives every year.

Extension programs are prepared by extension agents, namely by seeking approval from the regional Agriculture Service and only involving the heads of farmer groups so that sometimes farmers feel they are not meeting their needs. This discrepancy is caused by the farmer's need for more understanding of the counselling material and the limited time and budget to hold meetings with farmers. Some farmers said that the material delivered by extension workers related to the extension program was accessible for farmers to understand because the language used was straightforward, such as using the local language in the area. After all, some farmers did not understand Indonesian. These counselling materials include agricultural cultivation techniques, handling of pests and diseases, allocation of subsidized fertilizers, and land use planning and utilization because it is one of

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the Standard Operating Procedures (SOP) provided by the Department of Agriculture and established SOPs such as preparation of extension programs, implementation of extension programs, and evaluation of programs that have been implemented. This evaluation aims to determine whether the extension program that has been carried out is following the problems farmers face.

The Annual Work Plan

Farmers' perceptions of the performance of agricultural extension workers in Taman District in the annual work plan can be seen in Table 5.

Table 5. The Annual Work Plan

Items	Statement	Total Score	Score Index (%)
1	Extension agents provide information on annual work plans to farmers	364	67.40
2	Extension agents develop an annual work plan involving farmers	372	68.88
3	Extension agents can solve farmers' problems according to the annual work plan	397	73.51
4	Extension agents make an annual work plan according to the needs of farmers	432	80.00
5	Extension officers carry out their duties following the annual work plan	430	79.62
	Average	399	73.88

Source: Primary Data (2023)

Based on Table 5, it can be seen that farmers' perceptions of the performance of agricultural extension workers in Taman District in the aspect of the annual work plan obtained an average score of 399 with an index score of 73.88% which means it is included in the good category. This average value indicates that extension workers can compile and carry out an annual work plan for agricultural extension agents every year. The annual work plan is an agricultural extension work plan that the Department of Agriculture has determined. This is per the opinion of Lestari & Safitri (2022), which say that the Annual Agricultural Extension Work Plan (RKTPP) is one of the main tasks and functions of agricultural extension workers which is carried out two times a year or at least once a year.

The preparation of the annual work plan is carried out by accommodating the aspirations of farmers regarding their farming problems which are conveyed through the chairpersons of farmer groups. The aim is to make it easier for extension workers to help solve and channel farmers' problems to the government. The problems that farmers in the field often raise are related to the use of farm cards and the handling of plant pests. However, extension officers have also provided information related to agriculture by using superior quality seeds/seeds and Integrated Pest Management (IPM) against pests and diseases. The annual work plans carried out by extension workers are those that have received approval from the regional Agriculture Service, such as the Group Needs Deficit Plan (RDKK) for subsidized fertilizers.

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Information Technology

Farmers' perceptions of extension workers' performance in agriculture in Taman District in the aspect of information technology can be seen in Table 6.

Table 6. Information Technology

Items	Statement	Total Score	Score Index (%)
1	Extension officers provide training in using new technology to farmers	405	75.00
2	Extension agents make it easier for farmers to access information	431	79.81
3	Extension agents increase farmers' knowledge of the latest technological information	429	79.44
4	Extension officers provide technological information according to existing problems	429	79.44
5	Extension workers try to use technology in production	437	80.92
	Average	426	78.92

Source: Primary Data (2023)

Based on Table 6, it can be seen that the perception farmers on extension performance agriculture in the District of Taman in the aspect of information technology obtained an average score that is 426 with an index score of 78.92% which means it is included in the good category. This average value indicates that extension agents can provide information on agricultural technology to farmers. This information technology includes production technology and yields so that production results become higher quality and quantity. This is in line with the opinion of Ropiko & Safrianto (2022), who say that extension services now place more emphasis on technology transfer, namely making sure that farmers can increase their productivity and production, and emphasizing achieving rice production targets, both national, regional and local targets.

Most farmers say that they prefer to find information on their own by watching videos on Youtube or with the experiences of other farmers in accessing technical information. For example, in using the Combine Harvester harvesting machine, farmers prefer to learn from farmers who own and understand the harvesting machine to be more flexible and strengthen relationships with other farmers. Information obtained from extension agents is only related to government policies, such as fertilizer subsidies. The provision of technical information by agricultural extension workers in the field is adjusted by knowing which technology is suitable to be applied to farmers' farming conditions so that it is more effective than before. This is due to limited costs, knowledge of farmers, and advances in technology that are supported by the needs of farmers.

Farmer Institutions

Farmers' perceptions of extension workers' performance in agriculture in Taman District in the aspect of farmer institutions can be seen in Table 7.

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Table 7. Farmer Institutions

Items	Statement	Total Score	Score Index
1	Extension agents help farmers cooperate with government agencies	435	80.55
2	Extension officers develop farmer economic institutions	407	75.37
3	Extension officers develop farmer groups from the aspect of quality and quantity	438	81.11
4	Extension workers channel the problems that exist in farmers to the government	422	78.14
	Average	426	78.79

Source: Primary Data (2023)

Based on Table 7, it can be seen that the perception of farmers on extension performance agriculture in Taman District in the aspect of farmer institutions obtained an average score of 426 with an index score of 78.79% which means it is included in the good category. This average value indicates that extension agents can develop farmer institutions by bridging between the government and farmers through farmer groups regarding their farming problems to strengthen the farmers' interests. According to Regulation of the Minister of Agriculture of the Republic of Indonesia No. 67/2016, it is stated that farmer institutions are institutions that are developed from, by, and for farmers to strengthen and fight for the interests of farmers, which include farmer groups, combined farmer groups, agricultural commodity associations, and agricultural commodity councils national.

Extension agents become a place to collect the aspirations of farmers, which will later be conveyed to the local government. This aspiration arises when government policies are not in line with what farmers expect, for example, in the matter of fertilizer subsidies, seeds, and product selling prices. However, the imbalance between the small number of extension officers and the large number of farmer groups fostered by extension agents is the cause of the uneven development of a farmer group. The head of the farmer group carries out the development of this farmer group by inviting its members to cooperate with other farmers who aim to exchange information and improve farming, like collecting contributions of farmer group members each month, which are used for the needs of farmers collectively.

Farmer Capacity

Farmers' perceptions of extension workers' performance in agriculture in Taman District regarding farmer capacity can be seen in Table 8.

Table 8. Farmer Capacity

Items	Statement	Total Score	Score Index (%)
1	Extension officers provide training in increasing the capacity of farmers	408	75.55
2	Extension agents seek to increase the knowledge and skills of farmers	440	81.48
3	Extension agents develop the self-potential of farmers	428	79.25
4	Extension agents provide agribusiness training in extension activities	390	72.22
	Average	418	77.13

Source: Primary Data (2023)

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Based on Table 8, it can be seen that the perception of farmers on extension performance agriculture in Taman District in the aspect of farmer capacity obtained an average score of 418 with an index score of 77.13% which means it is included in the good category. This average value indicates that extension agents can increase farmers' capacity from knowledge and skills in carrying out farming activities. However, the limited farmer facilities provided by extension workers need to be improved in helping carry out sustainable agriculture. This is in line with the opinion of Sundari et al., (2015) who said that extension is a process of transformation from traditional agriculture to resilient agriculture that can utilize resources optimally, can make adjustments in the pattern and structure of its production to changes in attitudes, behaviour, knowledge and the skills of farmers and their families as a result of the teaching and learning process.

The capacity of farmers is increased by providing counselling and training materials to farmers related to farming. They provide counselling materials such as handling plant pests and diseases, while field practice such as making organic fertilizers and fruit fly traps. The lack of facilities and the small amount of budget owned by extension agents became a problem in providing training to farmers, resulting in training with makeshift equipment and materials. The facilities owned by extension agents are only limited to providing services such as a place to store farmer data, a learning centre, and consult on agricultural problems faced by farmers. The facilities that extension agents need to have are the absence of agricultural support tools to assist farmers in developing their farming businesses.

Marketing, Facilities, and Financing

Farmers' perceptions of extension workers' performance in agriculture in Taman District in the aspects of marketing, facilities, and financing can be seen in Table 9. Based on Table 9, it can be seen that the perception of farmers on extension performance in agriculture in Taman District in the aspects of marketing, facilities, and financing obtained an average score of 383 with an index score of 70.88% which means it is included in the excellent category. This average value indicates that extension agents can provide agricultural facilities both in terms of marketing and farming financing to farmers. Extension service facilities provided to farmers are every working hour starting from 07.00 WIB to 15.00 WIB at the Agricultural Extension Agency (Lit. *Balai Penyuluhan Pertanian* = BPP) Taman District office. According to Law No. 81 of 2020, farming financing is the provision of government or local government facilities through banking institutions or financing institutions for farming activities, starting from production facilities, production/cultivation, post-harvest handling, processing, product marketing, and/or supporting services.

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Table 9. Marketing, Facilities, and Financing

Items	Statement	Total Score	Score Index (%)
1	Extension agents provide suggestions for marketing their products	374	69.25
2	Extension agents facilitate farmers in terms of agricultural production facilities and infrastructure	409	75.74
3	Extension officers provide input on how to manage funds effectively and efficiently	379	70.18
4	Extension agents build relationships between farmers and business partners	400	74.07
5	Extension workers assist farmers in setting product prices in the market	352	65.18
	Average	383	70.88

Source: Primary Data (2023)

Fund management is one of the farmers' privacy they can manage, so extension agents cannot fully intervene in managing their farming. Marketing of products carried out by farmers is by choosing to establish their own relationships with farming partners both domestically and abroad because extension agents cannot regulate market prices and only build relationships between farmers and the government in agricultural matters, such as assisting with marketing permits to the Department of Agriculture. Besides that, the facilities provided by extension agents are also limited to service facilities, such as making farmer cards.

Productivity and Business Scale

Farmers' perceptions of extension workers' performance in agriculture in Taman District regarding productivity and business scale can be seen in Table 10. Based on Table 10, it can be seen that the perception of farmers on extension performance in agriculture in Taman District in the aspects of productivity and business scale obtained an average score of 409 with an index score of 77.04% which means it is included in the excellent category. This average value indicates that the extension worker can increase the productivity and scale of the farmer's business by providing agricultural information adapted to the farmer's problems. However, conditions in the field show that most farmers choose to improve and develop their own farming by exchanging information with other farmers. Farming development is carried out to increase productivity and business scale, which can influence farmers' perceptions. This follows the opinion of Hidayat et al. (2022), who said that if the scale of farming is large and the production is continuous, farmers will perceive that the implementation of farming has contributed to farmer income.

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Table 10. Productivity and Business Scale

Items	Statement	Total Score	Score Index (%)
1	Extension workers are trying to increase production with quantity and quality commodities	440	81.48
2	Extension agents work really to increase the productivity of farmers	406	75.18
3	Extension agents are able to raise the level of farmer's business	384	71.11
4	Extension officers encourage farmers to develop their businesses	434	80.37
	Average	409	77.04

Source: Primary Data (2023)

The productivity of farmers has been increased by extension agents, namely by providing agricultural materials related to land management and adapting to the problems farmers face so that they can help farmers from an intensification perspective. In addition, extension workers are also trying to increase farmer production from a mechanization perspective, namely by encouraging farmers to use agricultural types of machinery, such as rice field tractors, agricultural drones, and rice harvesters, commonly called combine harvester machines, so that the results are increasing. This condition is because extension agents want to change the way of thinking of farmers who still use traditional techniques in developing their farming business. The farmers develop farming by increasing the scale of farming at the international, national, and regional levels.

Income

Farmers' perceptions of extension workers' performance in agriculture in Taman District regarding income can be seen in Table 11.

Table 11. Income

Items	Statement	Total Score	Score Index (%)
1	Extension agents seek to increase farmers' income	421	77.96
2	Extension workers try to minimize farmers' production costs	401	74.25
3	Extension officers assist farmers in obtaining capital	325	60.18
4	Extension agents seek to improve the welfare of farmers	426	78.88
5	Extension agents try to increase the productivity of farmers	439	81.29
	Average	402	74.51

Source: Primary Data (2023)

Based on Table 11, it can be seen that the perception of farmers on extension performance in agriculture in the District of Taman in the aspect of income obtained an average score of 402 with an index score of 74.51%, which means it is included in the excellent category. This average value indicates that extension workers can increase farmers' income by reducing production costs and assisting them in obtaining capital. However, conditions in the field of extension agents only increase farmers' income by increasing farmer productivity. According to Law No. 16 of 2006, counselling is a learning process for critical actors and business actors so that they are willing and able to help and

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organize themselves in accessing market information, technology, capital, and other resources, to increase productivity, business efficiency, income, and welfare as well as increasing awareness in the preservation of environmental functions.

Most farmers say that they use their own capital in managing their farming because the land area is small and the productivity is negligible. However, some farmers also borrow capital from banks and non-banks to manage their farms because productivity increases. The use of farming costs is a private matter, so extension agents can only try to reduce production costs for farmers. Extension efforts to improve the welfare of farmers by providing services to farmers every working hour starting from 07.00 WIB to 15.00 WIB at the office of the Agricultural Extension Center (BPP) Taman District. These services are usually related to government-provided facilities, such as farmer cards to provide fertilizer subsidies and superior-quality seeds to increase farmer productivity. Farmers' perceptions of extension workers' agricultural performance in the Taman District can be seen in Table 12.

Table 12. Farmers' Perceptions of Extension Worker PerformanceAgriculture in Taman District.

No	Variable	Maximum Score	Total Score	Score Index (%)
1	Regional Potential Data	2,700	2,133	79.00
2	Extension Program	2,700	2,050	75.92
3	The annual work plan	2,700	1,995	73.88
4	Information technology	2,700	2,131	78.92
5	Farmer Institutions	2,160	1,702	78.79
6	Farmer Capacity	2,160	1,666	77.12
7	Marketing, Facilities, and Financing	2,700	1,914	70.88
8	Productivity and Business Scale	2,160	1,664	77.03
9	Income	2,700	2,012	74.51
	Average	-	1,919	76.00

Source: Primary Data (2023)

Based on Table 12, it can be seen that farmers' perceptions of the performance of agricultural extension workers in Taman District obtained an average score, namely 1.919, with an index score of 76,00% which means it is included in the good category. The average score indicates that the instructor is able to compile potential regional data, extension programs, and annual work plans, disseminate information on technology, develop farmer institutions, increase farmer capacity, improve marketing, facilities, and financing, increase productivity and business scale, and increase farmer income. The reality on the ground shows that:

1. Extension agents can record potential in the target area by collaborating between local government agencies and farmer groups, so it is easier to explore and develop potential in the target area.
2. Extension workers can carry out extension programs based on government policies arranged systematically and written every year.
3. Extension officers can compile and carry out an annual work plan for agricultural extension agents every year because the Department of Agriculture has determined it.
4. Enlightenment is able to provide information on agricultural technology to farmers, including production technology and yields so that production results become higher quality and quantity.

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5. Extension workers are able to develop farmer institutions by bridging the government and farmers regarding their farming problems to strengthen the interests of farmers.
6. Extension agents are able to increase the capacity of farmers from the aspect of skills in carrying out farming activities. However, the limited facilities provided by extension workers need to be improved in helping carry out sustainable agriculture.
7. The extension workers can provide facilities to farmers by providing services during working hours starting from 07.00 WIB to 15.00 WIB at the Agricultural Extension Office (BPP) Taman District office.
8. Extension agents can increase the productivity and scale of farmers' businesses by providing agricultural information tailored to farmers' problems. However, most farmers prefer to improve and develop their own farming by exchanging information with other farmers.
9. Extension agents can increase farmers' income by increasing farmers' productivity only.

Results of Multiple Linear Regression Analysis

The method of multiple linear regression analysis was used to determine whether or not the factors of farmer activity, age of farmer, level of education, farming experience, and land area affect farmer perceptions of agricultural extension performance. This follows Imron (2020), who says that multiple linear regression is a regression model involving more than one independent variable. This study's multiple linear regression analysis methods use the SPSS 26 For Windows program. The results of multiple linear regression analysis in this study can be seen in Table 13.

Table 13. Results of Multiple Linear Regression Analysis

Variable	Regression Coefficient	t-count	Significance	Information
Constant	102,346	8,218	0.000	Significant
Farmer activeness	3,431	9,786	0.000	Significant
Age	0.107	0.457	0.649	Not significant
Education	-0.179	-0.424	0.672	Not significant
Experiences	-0.188	-0.970	0.335	Not significant
Land area	-4,311	-1,748	0.084	Not significant

Source: Primary Data (2023)

Information:
F-count : 20.125
R^2 : 0.497
Significance : 0.05
t-table : 1.983
F-table : 2.303

Based on Table 13, the results of the multiple linear regression equation in this study can be seen as follows:

$$Y = 102.346 + 3.431X_1 + 0.107X_2 - 0.179X_3 - 0.188X_4 + 4.311\,X_5 + e$$

From the regression equation, it can be seen that the constant value is positive, which is equal to 102,346. It means that the average contribution of other variables outside the model can positively

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impact farmers' perceptions of the performance of agricultural extension workers. The coefficient of determination measures how well the regression line matches the actual data (goodness of fit). The coefficient of determination measures the percentage of the dependent variable's total variation of Y explained by the independent variables within the regression line. Based on multiple linear regression testing results, an R-square of 0.497 is obtained, which means that the percentage contribution of the independent variables to the dependent variable (Y) is 49.7%. In comparison, the remaining 50.3% is influenced by other variables outside the model, which were not included in the study. This is in line with the opinion of Saputri & Sulistyaningsih (2019), which say that the basis for decision-making in the coefficient of determination is that if the value of the coefficient of determination (R-squared) in an estimate is close to number one, then it can be said that the independent variable well explains the dependent variable. The results of the R square value are due to the high variation of each independent variable, namely farmer activity (X_1), farmer age (X_2), a farmer education level (X_3), length of farming (X_4), and land area (X_5) which are not in line with the direction of influence of the dependent variable (Y), namely farmers' perceptions of agricultural extension performance.

The F test is carried out to see simultaneously or together the effect of the independent variable (X) on the dependent variable (Y). The F test in this study was carried out by looking at the output of the SPSS application26 For Windows. Based on the results of the F test in multiple linear regression, it can be seen that the F-count value is 20,125 > F-table 2,303 with a significance value of 0.000 < a significance level of 0.05 or 5%, so it can be concluded that simultaneously (together) the independent variables of farmer activity (X_1), farmer's age (X_2), farmer's educational level (X_3), length of farming (X_4), and land area (X_5) affect the dependent variable (Y), namely farmers' perceptions of agricultural extension performance. This is in line with the opinion of Saputri & Sulistyaningsih, (2019) that the basis for decision-making on the F test is that if the calculated F is greater than the F table and the significance value is smaller than the level of error then H_0 is rejected, and H_1 is accepted, meaning that simultaneously the variable independent has a significant influence on the dependent variable, vice versa. The influence of the independent variables on the Y variable is caused by conditions in the field which indicate that there is a lack of extension activities due to limited budgetary costs and the small number of extension workers in fostering the assisted villages. In addition, farmers in Taman Subdistrict also have different knowledge, interests, and necessities of life in participating in extension activities, so the information received by each farmer is also different. This difference can affect farmers' perceptions of the performance of agricultural extension workers in the Taman District.

The t-test was conducted to partially see the effect of the independent variable on the dependent variable. The t-test in this study was carried out by looking at the significance value of each variable at the output using the regression results SPSS 26 For the Windows program and comparing it with the t table. According to Saputri & Sulistyaningsih (2019), the basis for decision-making in the t-test is that if the significance value is lower than the level of error and the t count is greater than t table, H0 is rejected (significant regression coefficient), which means that individually the independent variables have a significant influence on the dependent variable and vice versa. Based on the results of the t-test in multiple linear regression, it can be seen that:

1. The farmer activeness variable (X_1) partially influences farmers' perceptions of agricultural extension performance with a t-count of 9.786 > t-table of 1.983 with a significance level of 5% or 0.05. The value of the regression coefficient on variable X_1 is 3.431 with a significance of 0.000, which means that farmer activity influences farmers' perceptions of the performance of agricultural

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extension workers in Taman District. This is because farmers who are active in extension activities will improve the relationship between extension workers and farmers. The reality shows that farmers active in farmer groups and extension services are familiar with the heads and members of farmer groups or agricultural extension workers. Most farmers admit that they rarely participate in extension activities due to the lack of extension agents holding extension activities, and there is no invitation to attend. Extension activities are held 3 to 4 times a year through outreach to farmers. When they go to the field, the extension agents adjust to the existing conditions, both in terms of costs, the farmers' willingness, and the extension workers' busyness.

2. The age variable (X_2) does not partially affect farmers' perceptions of agricultural extension agents' performance, with a t-count of 0.457 < t-table of 1.983 with a significance level of 5% or 0.05. The value of the regression coefficient on the variable X_2 is 0.107 with a significance of 0.649, which means that the farmer's age does not affect farmers' perceptions of the performance of agricultural extension workers. This is due to the similarity of work as a farmer so that even though the age of the farmers is different, they can still work together in agriculture. The reality on the ground shows that most farmers in the Taman Subdistrict are in the productive age group and have more substantial energy and physical, so they are still enthusiastic about developing their farming business. This results in the tendency of productive-age farmers to make farmers have a high sense of curiosity, so they are more active in discussing agricultural issues. However, farmers exchange information more often with other farmers than with extension workers.
3. The education variable (X_3) does not partially affect farmers' perceptions of agricultural extension agents' performance, with a t-count of -0.424 < t-table of 1.983 with a significance level of 5% or 0.05. The regression coefficient value on variable X_3 is -179 with a significance of 0.672, which means that the education level of farmers does not affect farmers' perceptions of the performance of agricultural extension workers. This is because farmers are still willing to learn about agriculture so they can exchange information. The reality on the ground shows that most farmers in the Taman sub-district tend to have education at the primary level. Limited funds are the main reason for not continuing their education, so farmers still need to receive secondary or higher education and have been working since a young age. This tendency has resulted in farmers needing much time to receive and understand agricultural extension materials, so agricultural extension agents must be able to adjust in delivering extension materials using simple, clear, and easy-to-understand language.
4. The length of the farming variable (X_4) did not partially affect farmers' perceptions of agricultural extension agents' performance, with a t-count of -0.970 < t-table of 1.983 with a significance level of 5% or 0.05. The regression coefficient value on variable X_4 is -188 with a significance of 0.335, which means that the length of farming does not affect farmers' perceptions of the performance of agricultural extension workers. This is because farmers still share experiences with other farmers in farming. The reality on the ground shows that the majority of farmers in Taman District have long experience in farming and tend to prefer to use their own experience and the experience of other farmers compared to theories in farming science because it is difficult to understand and not in line with the conditions of their farming. Therefore, farmers participate in extension activities to share experiences with other farmers and get exposure to material from agricultural extension agents that can be adapted to farmers' problems.
5. The variable land area (X_5) does not affect farmers' perceptions of the performance of agricultural extension agents partially, with a t-count of -1.748 < t-table of 1.983 with a significance level of

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5% or 0.05. The regression coefficient value on variable X_5 is -4.311 with a significance of 0.084, which means that the area of farmers' land does not affect farmers' perceptions of the performance of agricultural extension workers. This is because farmers both receive subsidized seed and fertilizer assistance from extension workers, which are channelled through farmer groups, so farmers feel helped because they can reduce farming costs. The reality on the ground shows that most farmers in Taman District have landed in the broad category. Hence, farmers prefer to work on their own land to manage their farming. However, when the planting season and harvest season arrive, farmers prefer to use the services of farm labourers to work on their land because the land is considerable and has limited time and energy. Farming management carried out by farmers is accompanied by learning to understand the factors that can influence farming so that farmers participate in agricultural extension activities to increase farmer knowledge and skills.

CONCLUSION AND SUGGESTION

Based on the results of the research that has been done, it can be concluded that:

1. Farmers' perceptions of the performance of agricultural extension workers in Taman District, Pemalang Regency, obtained an average score of 1919 with an index score of 76.00%. This means that farmers' perceptions of the performance of agricultural extension workers in Taman District, Pemalang Regency, were in a good category.
2. Variable farmer activity partially affects farmers' perceptions of the performance of agricultural extension workers in Taman District, Pemalang Regency. However, the variables of farmer's age, farmer education level, length of farming, and land area partially did not affect farmers' perceptions of agricultural extensionist's performance in Taman District, Pemalang Regency, whereas if it is calculated the variables of farmer activity, farmer age, farmer education level, length of farming, and the land area had simultaneously affect farmers' perceptions of the performance of agricultural extension agents in Taman District, Pemalang Regency.

Based on the conclusions of the research results, the suggestions can be conveyed as follows. It is hoped that the local government this research can consider the welfare of farmers by increasing the number of extension workers and facilitating agricultural extension workers in terms of the budget for holding extension activities so that it has a more positive impact on farmers. Agricultural extension workers in Taman District, Pemalang Regency, are expected to continue to improve extension performance by involving and discussing with farmers regarding extension programs that are more attractive and needed by farmers so that they can provide benefits to farmers. Farmers in Taman District, Pemalang Regency, are expected to continue increasing their willingness and activeness by participating in extension activities and conveying existing problems to extension workers to receive information about more effective and efficient farming management.

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