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The Effect of Competence, Motivation andIndependence on The Performance of Agricultural Extension Worker in Palembang City, South Sumatra, Indonesia

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Abstract:
Agricultural development requires extension worker to be able to guide farmers to be able to understand agricultural technology in increasing their farming productivity, and to position themselves as educators, facilitators, motivators and dynamicator which will have an impact on farmer behavior. Research objectives: (1)Analyzing the performance of agricultural extension worker in the program of activities made by extension worker in rice farming, (2) Analyzing the effect of competence, motivation,and independence on the performance of agricultural extension worker which can change the behavior of farmers in rice farming. The study used a survey method with data collection through interviews and filling out questionnaires, with analysisdescriptive statistics and analysis multiple regression. The research population were agricultural extension worker and rice farmers in Palembang City. The sample of extension worker were 13 people and farmers were 80 people. This paper concludes that the performance of the agricultural extension worker in the activity program made by them in carry out rice farming as measured by 6 indicators are already in the medium criteria and the factors that affect the performance of the agricultural instructor are the competence, motivation and independence factors.This is indicated by the F_{count} value of 42,043 and p value of 0.000 and the coefficient of determination (R^2square) of 0.609, which means that 60.9% of the variation in the performance of agricultural extension worker can be explained by the three independent variables, they're Competence, Motivation, and Independence, while the remaining 39, 1% was influenced by other variables that were not included in the research model.

Keywords:*Agricultural Extension, competence, motivation, self-independence, Agricultural Extension Worker' Performance*

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I. Introduction

In some areas, agriculture is still the prime mover to increase farm productivity and community income. From this agricultural development requires extension worker to be able to guide or educate farmers to be able to understand agricultural technology to increase their farming productivity. With this way, extension worker can help local governments to increase their original income.

In this case, evaluation of the performance of agricultural extension worker as a form of accountability to providers local and national public funds and regional development policy makers that required. The performance of agricultural extension workeris focused on problem solving that faced by farmers in carrying out their farming.

The existence of information about the performance of agricultural extension worker was to maintain the work motivation of the extension worker, because the extension worker who focus on work performance will not only maintain achievements, but will concerned with the achievements that will be or has been achieved. Good performance of agricultural extension workeris also useful for their supervisors, among others, to promote agricultural extension workerbecome a higher level, then get a bigger salary and have greater responsibility.

Agricultural extension worker had main tasks and functions that must be carried out to achieve good performance. Extension worker who have good performance can put their position as educators, facilitators, motivators and dynamicator which will give impact on farmers' behavior in farming. Therefore, extension worker must have skills such as communicating, having extensive knowledge, being able to be independent and able to adapt themselves to the characteristics of farmers. The performance of agricultural extension worker is expected to be a reference for policy makers and providers and also the public to increase competence in

motivating agricultural extension worker to help local governments increase PAD. According to Wibowo (2007), Lippit (2017), and Bahua (2010) the factors that influence the performance of the extension worker are competence, motivation, and independence of the extension worker which each of these factors have value that will give impact for the agricultural extension worker' performance.

From a source obtained at Detak-Palembang.Com (2019) that the Palembang City Government has maintained agricultural land so that it is not converted into a housing development area, it will also launch a large of budget for the agricultural sector both from the Palembang City Government and from the Provincial Government and Central government. The Head of Balai Besar Litbang Pasca Panen of the Ministry of Agriculture of the Republic of Indonesia (2019), stated that Palembang City was launched by the Indonesian Ministry of Agriculture to become a national food barn, considering that from a metropolitan city in Indonesia, Palembang has the largest agricultural land. Agricultural land in Palembang City has been spread over four sub-districts, namely Gandus District, Kalidoni District, Plaju District and Kertapati District. The city government will seek agricultural land to be planted twice a year, as well as speed up the process of land cultivation. Based on BPS data (2020) rice production in Palembang City reached 23,204 tons with a rice area of4,078 hectares in 2018.

Agricultural extension worker should try to develop programs through learning systems that lead to increase productivity of rice farming and sustainable conservation of agricultural ecosystems. So that rice farming in Palembang City can continue to grow as planned by the Palembang City Government.

The benefits that can be obtained by knowing the performance of agricultural extension worker include: (a). the arrangement of agricultural extension worker' programs in accordance with the needs of farmers, (b). the arrangement of agricultural extension worker' plans in their own respective working areas, (c). carry out the development of agricultural technology information evenly in accordance with the needs of farmers, (d). the realization of mutually beneficial business partnerships between farmers and entrepreneurs and (e). increasing the income and welfare of farmers in each region (Sapar, 2011).

This study aims to: (1) Analyze the performance of agricultural extension worker in the program of activities made by them in carrying out rice farming in Palembang City, (2) Analyze effect of competence, motivation, and self-independence on the performance of agricultural extension worker in changing the behavior of farmers in rice farming in Palembang City.

II. Methods of Research

This research was held in Palembang City. The location determination was chosen deliberately because want to see urban areas which were assumed to be working on agribusiness-oriented rice farming, which was represented by UPTD BPP whose fostered farmers carry out rice farming. This research was held from June to September 2020.

The method used in this research was a survey method. Data were collected through interviews and filling out questionnaires. Sampling using Simple Random Sampling technique. This method was a random sampling technique or element, which each population has an equal chance of being selected as a sample. This research was held in 3 UPTD BPP namely Sekojo, Sebrang Ulu and Gandus. Then, from 80 of the 428 population. Determination of the sample on rice farmers in this study using the Slovin formula, as follows:

$$n = \frac{N}{1 + Ne^2} = \frac{428}{1 + 428\,(0{,}01)^2} = 80.1 = 80$$

Where :

n =Number of samples
N =Number of population
e^2 = Fault tolerance limit

The number was obtained from the calculation of the Slovin formula was 80.1 rounded up to 80, so that the determination of the size of the sample farmer for a population of 428 with an error rate of 10 percent, obtained a sample in this study of 80 farmers with the consideration that members of the population were farmers who grew rice.

There were two variables in this study, namely (X) and (Y), the variable (X) include: the extension worker' competence, the extension worker' motivation and the extension worker' independence. Meanwhile, the variable (Y) include: the performance of agricultural extension worker. In detail, the indicators for the X and Y variables were shown in Table 1. Furthermore, the question items were measured by giving a score of 1,2 and 3 representing low, medium, and high achievements. The total answers to the indicators/variables were categorized into 3 criteria based on the class interval formula and the value of the criteria for each indicator was shown in Table 2.

The collected data in this study were primary data and secondary data, both qualitative and quantitative.

Data were analyzed descriptively and with inferential statistics using parametric statistics. To analyze the relation between variables carried out by the test Multiple linear regression.

Table 1. Measurement of Variables (X) and (Y)

Variable		Indicator	Question
Agricultural Extension worker' Competence (X1)	1.	Social action skills	1-2
	2.	Ability to plan outreach programs	3-4
	3.	Ability to utilize local resources	5-6
	4.	Ability to manage extension information	7-8
	5.	Ability to build relationships between extension worker and farmers	9-10
	6.	Organizational management skills	11-12
	7.	Management ability in business orientation	13-14
	8.	Technical expertise	15-16
Agricultural Extension worker' Motivation (X2)	1.	Achievement	1-2
	2.	Affiliated	3-4
	3.	Power	5-6
	4.	Self -Potential Development	7-8
	5.	Farmer's Confession	9-10
Independency of Extension worker (X3)	1.	Economy	1-2
	2.	Emotional	3-4
	3.	Social	5-6
	4.	Culture	7-8
Variable		Indicator	Question
Agricultural extension worker' performance (Y)	1.	Main activity of counseling	1-2
	2.	Agricultural extension planning data	3-4
	3.	Agricultural extension program planning	5-6
	4.	Preparation of counseling materials	7-8
	5.	Application of counseling methods	9-10
	6.	Farmer self-help development	11-12

Table 2. Class Interval Valuesfor Measuring Variables X and Y

No	Variable/ Indicator	First Items	Min	Max	NR	PI	Criteria		
							R	S	T
1.	Agricultural Extension Worker' Competence	16	16	48	32	10.6	16-26.67	26.68-37.35	37.36-48
2.	Agricultural Extension Worker' Motivation	10	10	30	20	6.6	10-16.67	16.68-23.35	23.36-30
3.	Independence of Agricultural Extension Worker	8	8	24	16	5.3	8-13.30	13,40-18,70	18.80-24

No	Variable/ Indicator	First Items	Min	Max	NR	PI	Criteria		
							R	S	T
1.	Agricultural Extension Performance	12	12	36	24	8	12-20	21-28	29-36

III. Results and Discussion

1.1 Agricultural Extension

In this study, agricultural extension worker in Palembang City were agricultural extension worker with civil official servant status who were under the coordination of the Department of Agriculture and Food Security and worked in Palembang City. In this study, agricultural extension worker tended to be able to become a forum for rice farmers to increase their efficiency in farming, especially rice in order to improve their welfare.

1.1.2 Agricultural Extension Worker' Identity

There were 13 agricultural extension worker who were taken in this study in the city of Palembang. This agricultural extension workerwho fostered rice farmers in Palembang city. This agricultural extension worker had the status of a Civil Official Servant (PNS). The identity of agricultural extension worker in this study were classified by age and level of education.

1.1.2.1 Age and Education Level of Agricultural Extension Worker

Age level tend to have an influence on productivity in work. The age of the agricultural extension worker in this study ranged from 35 to 65 years with the average age of the agricultural extension worker in the three of UPTD BPP Palembang City was 30-50 years.

The theoretical level of education also tended to affect a person's performance at work, including agricultural extension worker. This was because agricultural extension worker in applying their knowledge and the knowledge to rice farmers if they had an adequate educational background would help share knowledge to farmers in order to achieve the expected goals, both in farming and in managing their farming. In Table 3, it can be seen the details of the age level and education level of agricultural extension worker in Palembang City.

Table 3. Identity of Agricultural Extension Worker by Age and Education Level

No	Age (years)	Number (Soul)	Percentage (%)
1	30-37	8	61.53
2	38-44	4	30.76
3	45-50	1	7.69
	amount	13	100
No	Level of education	Number (Soul)	Percentage (%)
1	high school	3	23.07
2	Diploma	3	23.07
3	Bachelor	6	46.15
4	Mater degree	1	7.69
	amount	13	100

Based on Table 3, it can be seen that the age of agricultural extension worker in Palembang City was between 30-37 years. The number of agricultural extension worker aged between 30 years to 37 years wa the biggest, a total of 8 extension worker with a percentage rate of 61.53 percent of the total agricultural extension worker.

The education level of agricultural extension worker still varies, but was dominated by the undergraduate education level (46.15%). This included sufficient to provide counseling or learning to rice farmers because the dominant extension worker had completed their education up to a bachelor's degree.

1.2 Factors Affecting Agricultural Extension Performance

The factors that affected the performance of agricultural extension worker in Palembang City were measured based on the farmer's assessment of the role of the extension worker who helped and served farmers. Factors that affected the performance of the extension worker were measured by three variables, namely competence, motivation and independence. The results of the measurement criteria of the factors were explained from each indicatorthe explanation as follows.

1.2.1 Competence of Agricultural ExtensionWorker

The competence was the basis of a person's performance or behavior at work. Which this competency was followed by knowledge or ability, personality, had good attitude values, and had leadership spirit. This wasshow how the behavior of agricultural extension worker can carry out their roles well or not. Table 4 below shows the results of calculations using the scoring method which assessed the competency variable of the extension worker which was one of the variables suspected of influencing the performance of the agricultural extension worker, as follows.

Table 4. Competencies of Agricultural Extension Worker

No	Measurement Component	Respondent's Answer			Total Score	Average	Criteria
		1	2	3			
1.	Social action skills						
a.	The ability of businesses to make changes in social situations	33	33	14	141	1.8	Medium
b.	Have a good attitude towards each other	31	34	15	144	1.8	Medium
						3.6	Medium
2.	Ability to plan extension worker' programs						
a.	Ability to make learning plans in farming	21	35	24	163	2.0	Medium
b.	Ability to formulate social formulas for collecting data on regional and agro-ecosystem potential	32	29	19	147	1.8	Medium
						3.9	Medium
3.	Ability to utilize local resources						
a.	Ability to collect data about local communities	27	34	19	152	1.9	Medium
b.	Ability to invite local farmers to participate in the program implemented	21	33	26	165	2.1	Medium
						4.0	Medium
4.	Ability to manage extension information						
a.	Available counseling media	15	43	22	167	2.1	Medium
b.	Ability to evaluate the results of the training	28	34	18	150	1.9	Medium
						4.0	Medium
5.	Ability to build relationships between extension worker and						

	farmers						
a.	Ability to understand and listen to farmers	17	43	20	163	2.0	Medium
b.	The ability to encourage and help farmers to move forward to achieve their goals	20	40	20	160	2.0	Medium
						4.0	Medium
6.	Organizational management skills						
a.	Ability to harmonize farmers or farmer groups that have different characters	25	33	22	157	2.0	Medium
b.	The ability to maintain an action in the program so that it becomes a common goal	29	33	18	149	1.9	Medium
						3.8	Medium
7.	Management ability in agribusiness orientation						
a.	Ability to apply business management in farming	28	40	12	144	1.8	Medium
b.	Ability to identify and make an inventory of sources of capital	23	39	18	155	1.9	Medium
						3.7	Medium
8.	Technical expertise						
a.	Ability to apply specific knowledge and methods in agriculture	22	34	24	162	2.0	Medium
b.	Understanding ability and proficiency in carrying out activities	26	31	23	157	2.0	Medium
						4.0	Medium
	Total Score				2476	31	Medium

From Table 4 it could be described that the competency factor measured from 8 indicators with each component of the measurement above showed that the extension worker' competence was in the moderate criteria, with a total score of 31 meaning that the extension worker' performance seen from the competence was fairly capable of doing the job as well forfarmers. This was in line with Lindung's research (2020), that motivation was included in the moderate criteria. The following was a description of the criteria for each variable forming the competence of the instructor as follows.

1. Social Action Ability

In the measurement component, making changes in social situations and good attitudes between each other had an average score of 3.6 with moderate criteria. Most of the farmers said that the extension worker had carried out social interactions between farmers by changing the work culture and with the knowledge possessed by the extension worker, they could apply where, when and how to behave.

2. Ability to Plan Extension Programs

The measurement component of learning plans in farming and compiling social formulations had an average score of 3.9 with moderate criteria. Most of the farmers said that the extension worker had planned program to form by implementing it without formulating it in stages and formulating data collection on the potential of this area they knew about it.

3. Ability to Utilize Local Resources

In the measurement component, collecting community data at the location and inviting local farmers to participate in the program carried out had an average score of 4.0 with moderate criteria. Most of the farmers said that the extension worker collected data from a few farmers they knew only and from secondary data and the extension worker tried to attract the attention of farmers to join the program which was created by embellishing the benefits of participating in the program.

4. Ability to Manage Extension Information

In the component of measuring the extension media and evaluating the results of the training, it had an average score of 4.0 with moderate criteria. In this case, most of the farmers said that the extension worker already had several facilities and infrastructure where the extension worker and farmers gathered and the results of the evaluation still needed to be improved, it would help the extension worker to develop more.

5. Ability to Build Relationships Between Extension Worker and Farmers

In the measurement component, understanding and listening to farmers and helping farmers achieve their goals had an average score of 4.0 with moderate criteria. Most of the farmers said that the extension worker already had a way of dealing with the farmers if they had problems, as well as the communication between the two and the knowledge possessed by the extension worker trying to build the farmers' confidence and desire to start farming.

6. Organizational Management Ability

In the measurement component, harmonizing farmers and maintaining an action in the program had a different character having an average score of 3.8 with moderate criteria. Most of the farmers said that the extension worker had harmonized between the farmers and the extension worker had tried to address something firmly and wisely to the farmers so that the goal was achieved.

7. Management Ability in Agribusiness Orientation

The measurement component of business management in farming and identifying capital had an average score of 3.7 with moderate criteria. Most of the farmers said that the extension worker had attended the trainings that

were held and that the extension worker had planned and invested a capital so that the capital would produce sufficient results for the needs of the assisted farmers program.

8. Skills Ability

In the measurement component, applying knowledge and methods in agriculture and understanding and skills had an average score of 4.0 with moderate criteria. Most of the farmers said that each of the extension worker had different abilities according to the mastery of the material they were mastered, so that the application of farmers was also different.

1.2.2 Motivation of Agricultural Extension Worker

Extension worker will work better and more enthusiastically if there was a motivation, which encouraged them to carry out their functions and roles as agricultural extension worker. Table 5 below shows the results of calculations using the scoring method which assesses the motivational variable of the instructor, which was one variable that was thought to affect the performance of the agricultural extension worker.

Table 5. Motivation of Agricultural Instructors

No	Measurement Component	Respondent's Answer			Total Score	Average	Criteria
		1	2	3			
1.	Achievement needs						
a.	Success rate in achievement	23	32	25	162	2.0	Medium
b.	Success rate to compete	24	44	12	148	1.9	Medium
						3.9	Medium
2.	Need for affiliation						
a.	Desire to be respected	26	43	11	145	1.8	Medium
b.	The desire to progress and not fail	22	34	24	162	2.0	Medium
						3.8	Medium
3.	Need for power						
a.	Desire to occupy important positions	28	37	15	147	1.8	Medium
b.	Desire to compete	23	47	10	147	1.8	Medium
						3.7	Medium
4.	Self potential development						
a.	Increase the work productivity of an extension worker	20	42	18	158	2.0	Medium
b.	Desire to participate (to participate)	18	43	19	161	2.0	Medium
						4.0	Medium
5.	Farmer's Confession						
a.	Farmers know that there are agricultural extension worker	24	40	16	152	1.9	Medium
b.	Programs fostered by extension worker and the timeframe for their implementation	17	42	21	164	2.1	Medium
						4.0	Medium
	Total Score				1546	19	Medium

Based on Table 5, it can be described that the motivational factors measured from the 5 indicators above with each indicator indicate that the motivation of the instructor was on the moderate criteria, with a total score of 19. This was in line with the research of Protect (2020), that motivation was included in medium criteria. The following was a description of the criteria for each variable forming the motivation of the extension worker and its meaning.

1. Achievement Needed

The component of measuring success in achievement and competition had an average score of 3.9 with moderate criteria. Most of the farmers stated that the agricultural extension worker had quite a lot of achievements by producing a fairly good performance and the extension worker had the willingness and enthusiasm but not high, because according to them doing their job well was enough and the willingness to compete was not too high be a priority.

2. Affiliate Needed

In the component of measuring the desire to be respected and to advance, the average score was 3.8 with moderate criteria. This meant that most of the farmers stated that the extension worker did not think they should be respected, but that did not mean they could be treated arbitrarily and to move forward the desire to continue learning was still present in them, although some of them were already mediocre in their work.

3. Power Needed

In the measurement component of the desire to occupy important and competitive positions, the average score was 3.7 with moderate criteria. Most of the farmers stated that the extension worker were not too interested in it, they preferred to carry out the position they were currently holding and also if they were too ambitious for an important position and did not want to compete.

4. Self -Potential Development

In the measurement component, increasing work productivity and participation had an average score of 4.0 with moderate criteria. This was because most of the farmers stated that in the work productivity of each of these extension worker under different supervision, the results obtained were different and in participating the extension worker tried to attend as a form of their contribution to these activities.

5. Farmer's Confession

In the measurement component, farmers knew that there were agricultural extension worker and the programs being fostered had an average score of 4.0 with moderate criteria. Most of the farmers stated that from the interaction and communication between the extension worker and the farmers it looked quite good. Therefore, the farmers already knew who the extension worker were and about 10 programs were being fostered and each of these programs was already running.

1.2.3 Independence of Agricultural Extension Workers

This independence was an attitude that prioritizes itself without having to help or interfere with others. This independence may be able to foster cooperative relationships between other parties so that they were mutually beneficial. Table 6 below shows the results of calculations using the scoring method that assessed the independence variable of the extension worker which was thought to affect the performance of the agricultural extension worker as follows.

Table 6. Independency of Agricultural Extension Worker

No	Measurement Component	Respondent's Answer			Total Score	Average	Criteria
		1	2	3			
1.	Economic independence						
a.	Able to find additional work	13	52	15	162	2.0	Medium
b.	Able to release dependence in determining work	21	51	8	147	1.8	Medium
						3.9	Medium
2.	Emotional independence						
a.	Breaking dependence on family authority, patron-client ties and rituals of local beliefs	26	39	15	149	1.9	Medium
b.	Develop cooperation in extension activities to farmers	27	45	8	141	1.8	Medium
						3.6	Medium
3.	Social independence						
a.	Build relationships with other parties	22	46	12	150	1.9	Medium
b.	Developing adaptation strategies	22	50	8	146	1.8	Medium
						3.7	Medium
4.	Cultural independence						
a.	Able to let go of traditional culture	19	44	17	158	2.0	Medium
b.	Creating a thriving culture	24	45	11	147	1.8	Low
						3.8	Medium
	Total Score				1200	15	Medium

Based on Table 6, it can be described that the independence factor measured from the 4 indicators with each of the indicators above shows that the independence of the extension worker was in the moderate criteria, with a total score of 15, meaning that the performance of the extension worker in terms of independence was not good enough for farmers. The following was a description of the criteria for each variable for the formation of the independence of the extension worker and its meaning.

1. Economic Independence

In the measurement component, looking for additional work and releasing dependence in work had an average score of 3.9 with moderate criteria. Most of the farmers stated that the extension worker were comfortable with their work and the environment they currently live in, as a result, they were less interested and unthinkable and the extension worker were consistent in assigning one job.

2. Emotional Independence

The measurement component of releasing dependence from family authority or patron-client ties and developing cooperation had an average score of 3.6 with moderate criteria. Most of the farmers stated that this was still attached to the previous culture with local beliefs in the local community and the relationship that exists between extension worker and farmers was quite harmonious, so developing cooperation between the two was not difficult.

3. Social Independence

The measurement component of building relationships with other parties and adaptation strategies had an average score of 3.7 with moderate criteria. Most of the farmers stated that with sufficient experience in interacting even though it was not often and they were still dependent on dealing with outsiders, developing adaptation strategies, extension worker were still waiting for instructions from their superiors.

4. Cultural Independence

The measurement component of releasing traditional culture and creating a developing culture had an average score of 3.8 with moderate criteria. This was because most of the farmers (44) stated that due to the environment in the target area of each extension, they still applied a fairly high traditional culture as a result, it is quite difficult for extension worker to let go of this culture and it was quite difficult to create a developing culture.

1.3 Agricultural Extension Worker' Performance

Performance was the result of work or achievements achieved. It was also the result of work that had a relationship with the sustainability of an organization and the satisfaction of farmers in providing direction, lessons and knowledge. From the results of research in the field through questionnaires and direct observation, the performance of agricultural extension workerwas included in the good category and during the field they hack anything that became their complaint about the farming they run. Table 7 below shows the results of measuring the performance of agricultural extension worker, as follows.

Table 7. Performance of Extension Worker in Rice Farmer Activities in Palembang City

No	Measurement Component	Respondent's Answer			Total Score	Average	Criteria
		1	2	3			
1.	Main Activities of Extension Worker						
a.	Practice and Guidance	25	43	12	147	1.8	Medium
b.	Visit	27	35	18	151	1.9	Medium
						3.7	Medium
2.	Agricultural Extension Worker' Planning Data						
a.	Regional potential data	19	36	25	166	2.1	Medium
b.	Monograph data	19	45	16	157	2.0	Medium
						4.1	Medium
3.	Agricultural Extension Worker' Program Planning						
a.	Make a learning plan in farming	21	41	18	157	2.0	Medium
b.	Formulate social formula data collection of regional and agroecosystem potential	20	44	16	156	2.0	Medium
						4.0	Medium
4.	Preparation of ExtensionWorker' Materials						
a.	Electronic media	14	50	16	162	2.0	Medium
b.	Print media	20	42	18	158	2.0	Medium
						4.0	Medium
5.	Application of Extension Worker' Method						
a.	Counseling forum	19	48	13	154	1.9	Medium
b.	Meeting (technical/field)	17	46	17	160	2.0	Medium
						3.9	Medium
6.	Farmer Self Development						
a.	Make cash	16	53	11	155	1.9	Medium
b.	Cultivating partnership	19	49	12	153	1.9	Medium
						3.8	Medium
	Total Score				1876	23	Medium

It can be seen in Table 7 that the performance of the agricultural extension worker in the activity program made by the extension worker for rice farmers obtained a total score of 23 with moderate criteria, meaning that in changing the behavior of rice farmers, it had been seen that the performance of the agricultural extension worker had been carried out well, the tasks and responsibilities had been carried out in accordance with the SOP (Standard Operating Procedure). The following description of the criteria of each variable for the formation of the independence of the extension worker and its meaning.

1. Main Activities of Extension Worker

The components of practice measurement and guidance and also visiting had an average score of 3.7 with moderate criteria. This meant that most of the farmers stated that they had received guidance from extension worker and had practiced and visited in carrying out rice farming activities.

2. Agricultural Extension Worker' Planning Data

In the measurement component of regional potential data and monograph data, the average score was 4.1 with moderate criteria. Most of the farmers said that the extension worker had planned and prepared data on the potential of the area and the monograph data had been selected by the extension worker and the area was suitable so that farming activities could be carried out.

3. Agricultural Extension Worker' Program Planning

The components of the measurement of learning plan and social formulations had an average score of 4.0 with moderate criteria. Most of the farmers said that the extension worker had planned a series of implementations such as the formulations related to the extension worker, what program would be formed, then the problems faced by the farmers and the solutions were sought.

4. Preparation of Extension Worker' Materials

The electronic and print media measurement components had an average score of 4.0 with moderate criteria. Most of the farmers stated that the extension worker already had media such as rooms and tables and chairs as a gathering place between the extension worker and farmers and that the extension worker had provided materials in the form of posters or brochures, making it easier and attracting the attention of farmers.

5. Application of Extension Worker' Method

The measurement component for the counseling forum and meeting (in the field) had an average score of 3.9 with moderate criteria. Most of the farmers stated that there had been a forum that became a place to discuss the problems of the program that was made and to be implemented and that the extension worker had held small discussions with farmers in the field about the problems they were experiencing.

6. Farmer Self Development

The measurement component of making cash and growing partnerships had an average score of 3.8 with moderate criteria. Most of the farmers said that the extension worker made this cash for the common use of the farmers and the extension worker thought to expand the interaction which would later be useful for the farmers.

From the explanation above, it could be concluded that when they went to the field, the extension worker protected their fostered farmers, if there was a problem with the way of their farming. There was also a good interaction between the extension worker and the farmer, and the farmers had gradually begun to understand the opinions or directions given by the extension worker, although not all of them had been. The extension worker also always checked the condition of their work location after that once a week held a meeting between the extension worker to evaluate the work of each agricultural instructor. This was in line with Sumarno's research (2019), that the performance of agricultural extension worker in the implementation of the UPSUS program includes good criteria.

1.4 Data Analysis Test

1.4.1 Analysis of Validity Test and Reliability Test

The analysis of the instrument test was carried out using a questionnaire instrument. By using validity and reliable tests, to detect the extent to which the performance of the questionnaire was consistent when measuring data. The purpose of the validity test and reliability test was to ensure that both measured and produced valid data.

According to Sugiyono (2008), as for a basic instrument for making a decision whether an item was valid or not, it could be seen by adding up the item scores and the total score (item score + total score). the instrument was valid, on the other hand if the correlation r wass below 0.30, it could be concluded that the instrument item was not valid so it must be repaired or discarded.

According to Arikunto (2008), if the variable under study had Cronbach's Alpha (α) > 0.60 then the variable was said to be reliable, whereas Cronbach's Alpha (α) < 0.60 was said to be unreliable.

1.4.1.1 Test the Validity and Reliability of Variables X and Y

The results of the validity and reliability tests can be explained as follows.

Table 8. Competency Validity and Reliability Test Results (X1)

Indicator	Pert. Items	Validity Correlation (r)	Information
X1.1	X1.1 a	0.478	Valid and Reliable
Social action skills	X1.1 b	0.810	Valid and Reliable
X1.2	X1.2 a	0.742	Valid and Reliable
Ability to plan extension worker programs	X1.2 b	0.485	Valid and Reliable
X1.3	X1.3 a	0.770	Valid and Reliable
Ability to utilize local resources	X1.3 b	0.736	Valid and Reliable
X1.4	X1.4 a	0.596	Valid and Reliable
Ability to manage extension worker information	X1.4 b	0.746	Valid and Reliable
X1.5	X1.5 a	0.700	Valid and Reliable
Ability to build relationships between extension worker and farmers	X1.5 b	0.645	Valid and Reliable
X1.6	X1.6 a	0.526	Valid and Reliable
Organizational management skills	X1.6 b	0.552	Valid and Reliable
X1.7	X1.7 a	0.682	Valid and Reliable
Management ability in agribusiness orientation	X1.7 b	0.639	Valid and Reliable
X1.8	X1.8 a	0.735	Valid and Reliable
Technical expertise	X1.8 b	0.753	Valid and Reliable

Table 9. Results of Motivational Validity and Reliability Test (X2)

Indicator	Pert. Items	Validity Correlation (r)	Information
X2.1	X2.1 a	0.652	Valid and Reliable
Achievement needs	X2.1 b	0.550	Valid and Reliable
X2.2	X2.2 a	0.532	Valid and Reliable
Need for affiliation	X2.2 b	0.677	Valid and Reliable
X2.3	X2.3 a	0.544	Valid and Reliable
Need for power	X2.3 b	0.571	Valid and Reliable
X2.4	X2.4 a	0.667	Valid and Reliable
Self potential development	X2.4 b	0.587	Valid and Reliable
X2.5	X2.5 a	0.722	Valid and Reliable
Farmer's Confession	X2.5 b	0.744	Valid and Reliable

Table 10. Validity and Reliability Test Results for Independence (X3)

Indicator	Pert. Items	Validity Correlation (r)	Information
X3.1	X3.1 a	0.730	Valid and Reliable
Economic independence	X3.1 b	0.756	Valid and Reliable
X3.2	X3.2 a	0.685	Valid and Reliable
Emotional independence	X3.2 b	0.655	Valid and Reliable
X3.3	X3.3 a	0.768	Valid and Reliable
Social independence	X3.3 b	0.746	Valid and Reliable
X3.4	X3.4 a	0.808	Valid and Reliable
Cultural independence	X3.4 b	0.798	Valid and Reliable

Table 11. Validity and Reliability Test Results of Extension Worker (Y1)

Indicator	Pert. Items	Validity Correlation (r)	Information
Y1.1	Y1.1 a	0.591	Valid and Reliable
Main Activities of Extension Worker	Y1.1 b	0.653	Valid and Reliable
Y1.2	Y1.2 a	0.527	Valid and Reliable
Agricultural Extension Worker' Planning Data	Y1.2 b	0.721	Valid and Reliable
Y1.3	Y1.3 a	0.779	Valid and Reliable
Agricultural Extension Worker' Program Planning	Y1.3 b	0.783	Valid and Reliable
Y1.4	Y1.4 a	0.708	Valid and Reliable
Preparation of Extension Worker' Materials	Y1.4 b	0.767	Valid and Reliable
Y1.5	Y1.5 a	0.784	Valid and Reliable
Application of Extension Worker' Method	Y1.5 b	0.739	Valid and Reliable
Y1.6	Y1.6 a	0.773	Valid and Reliable
Farmer Self Development	Y1.6 b	0.674	Valid and Reliable

From the results of the validity and reliability tests described in Tables 8-11, it showed that all instruments were valid and reliable. The result of correlation r showed all instruments more than 0.30 and on Cronbach's Alpha showed all instruments more than 0.60.

1.4.2 Classic assumption test

a). Non-Multicollinearity Test

According to Singgih Santoso (2009) this aimed to test whether the regression model found a correlation between independent variables. If there was a correlation, it was called a multicollinearity problem. A good regression model should not have a correlation between independent variables. To detect the presence of multicollinearity could be seen in the value of VIF (variance inflation factor). Guidelines for a model that was free of multicollinearity, namely the VIF value 4 or 5. From the analysis results, the VIF values for each variable could be seen in Table 12 as follows.

Table 12. Non-Multicolonierity Assumption Test Results

Independent variable	VIF	Information
Extension Worker' Competence (X1)	3,179	Non-Multi collinearity
Extension Worker' Motivation (X2)	3,685	Non-Multicollinearity
Independency Extension Worker (X3)	2,936	Non-Multicollinearity

From the test results in Table 12, it can be concluded that each independent variable had a VIF value of less than 4 or 5. So it can be seen that the regression model used was free of multicollinearity.

b). Heteroscedasticity Test

According to Mudrajad (2004), heteroscedasticity arise when the error of the observed model did not have a constant variance from one other observation, meaning that each observation had a different reliability due to changes in the underlying conditions not summarized in the model specifications. If the significant correlation result was less than 0.05, then the regression equation contained Heteroscedasticity and otherwise Homoscedasticity. The results of these tests can be seen in Table 13 as follows.

Table 13. Heteroscedasticity Assumption Test Results

Variable	R	sig	Information
Extension Competence (X1)	0.017	0.717	Homoscedasticity
Instructor's Motivation (X2)	0.032	0.884	Homoscedasticity
Independency Extension (X3)	0.033	0.275	Homoscedasticity

From the results in Table 13 it showed that the tested variables did not contain Heteroscedasticity but Homoscedasticity. This meant that there was no correlation between the size of the data and the residuals so that if the data was enlarged it did not cause an error that caused it to get bigger too.

c). Normality test

According to Sulhan (2011), the method used to test normality was to use the Kolmogorov-Smirnov test. If the significant value of the Kolmogorov-Smirnov test (KS) > 0.05, then the assumption of normality wasaccomplished.From the results of the analysis above, it was known that the significant value or probability was 0.200 greater than 0.05, so it can be stated that all data were normally distributed.

1.5 Hypothesis Test

Hypothesis was a temporary answer to the formulated problem. Therefore, this provisional answer must be tested empirically. Hypothesis testing in this study was carried out using multiple regression techniques for the first, second, and third hypotheses.

An explanation of the results of testing this hypothesis were as follows.

1.5.1 First Hypothesis Testing

The first hypothesis states that "Competence, Motivation, and Independence of Agricultural Extension Worker had a significant effect on the Performance of Agricultural Extension Worker in the Development of Rice Farming". To test this first hypothesis, multiple linear regression analysis was used. The results of the analysis obtained can be seen in Table 14 as follows.

Table 14. Regression Test Results X1, X2, X3 against Y

Variable	Coefficient	t-count	sig	Conclusion
Constant	3,469	1,883	0.064	Significantly influential
Extension workers' Competence	0.191	2,180	0.032	Significantly influential
Counselor Motivation	0.361	2,132	0.036	Significantly influential
Independency of Extension Worker	0.474	2,750	0.007	Significantly influential
F-count = 42,043				
R Square = 0.609				
Sig f = 0.000				
*Significant at = 5%				

With paying attention to the regression model and the results of multiple linear regression, the equations of the factors that affected the Performance of Agricultural Extension Worker were obtained as follows:

$$Y = 3.469 + 0.191X1 + 0.361X2 + 0.474X3$$

From Table 14 above, Fcount was 42,043 with a significant level of 0.000. This showed that the probability < the tolerable significant level (0.000 < 0.05), then Ha was accepted and H0 was rejected. This showed that there was a significant positive effect of Competence, Motivation, and Independence of Agricultural Extension Worker together on the Performance of Agricultural Extension Worker. Then to show what percentage of the influence of Competence, Motivation, and Independence of Agricultural Extension Worker together on the Performance of Agricultural Extension Worker, from the table above it can be seen that the coefficient of determination (R^2square) was 0.609, which meant that 60.9% of the variation in Agricultural Extension Worker' Performance can be explained by the three independent variables consisting of Competence, Motivation, and Independence of Agricultural Extension Worker, while the remaining 39,1% varians of Agricultural Extension Worker' Performance was influenced by other variable that not include in research model.

Thus the first hypothesis which stated"Competence, Motivation, and Independence of Agricultural Extension Worker together had a positive effect on the Performance of Agricultural Extension worker"was accepted.

This research aimed to examine the effect of the Competence, Motivation and Independence of Extension Worker on the Performance of Agricultural Extension Worker, the discussion of the results of this study were as follows:

1. The Effect of Competence, Motivation and Independence of Agricultural Extension Worker on Agricultural Extension WorkerPerformance

The research result supportedthe first hypothesisthat the variables of Competence, Motivation and Independence of Extension Worker had a positive effect together on the Performance of Agricultural Extension Worker. This was indicated by the Fcount value of 42,043 and the p value of 0.000. The results of this study were consistent with the results of research conducted by Elka Roza (2018) which stated that the role of the extension worker, the competence of the extension worker and the motivation of theextension worker had an influence on the level of performance of the instructor in Siak Regency. This indicated that the agricultural extension worker in the city of Palembang were running well and had functioning as expected.

IV. Conclusion

Based on the results of research that had been carried out in Palembang City, it can be concluded that, The performance of agricultural extension worker in changing the behavior of farmers to implement agribusiness-oriented rice farming activities as measured by 6 indicators was already in the medium criteria. The factors that affected the performance of agricultural instructors were competence, motivation and independence.Thesewere indicated by the Fcount value of 42,043 and the p value of 0.000 and the coefficient of determination (R^2square) of 0.609, which meant that 60.9% of the variation in Agricultural Extension Worker' Performance can be explained by the three independent variables, namely Competence, Motivation, and Independence, while the remaining 39, 1% were influenced by other variables that are not included in the research model.

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