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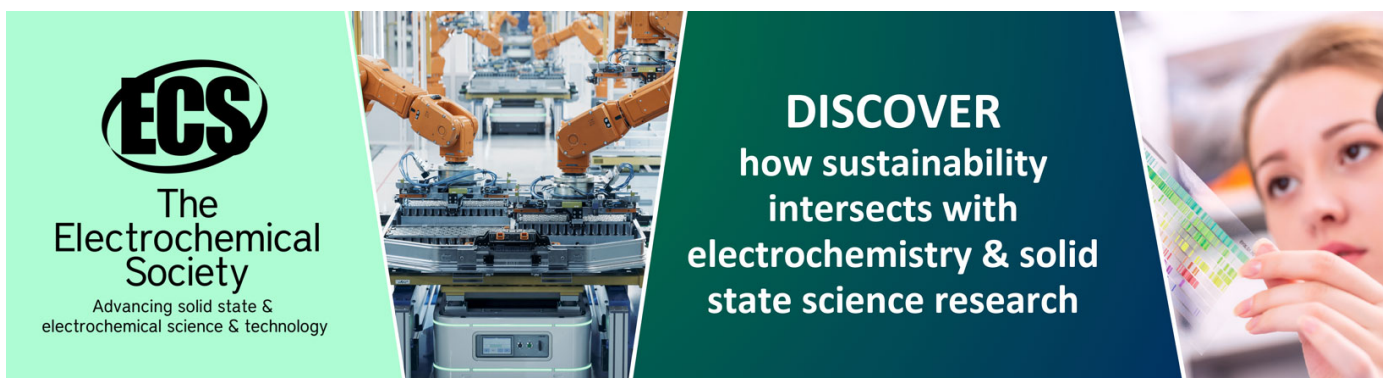
The effect of agricultural technology-based counseling on rice farmers' knowledge in Manjalling Village, Ujung Loe District, Bulukumba Regency

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The effect of agricultural technology-based counseling on rice farmers' knowledge in Manjalling Village, Ujung Loe District, Bulukumba Regency

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Abstract. The Effect of Agricultural Technology-Based Counseling on Rice Farmers' Knowledge in Manjalling Village, Ujung Loe District, Bulukumba Regency. This study aimed to determine the effect of agricultural technology-based counseling on farmers' knowledge in Manjalling Village, Ujungloe District, Bulukumba Regency. Determination of the sample using the method of simple random sampling (sampling with a simple random), the researchers chose randomly from the population who do not know how to use technology that was 174 farmers, and the research sample was 15% so the sample taken as many as 25 farmers. Data collection methods used observation, interviews, and documentation. Data analysis was conducted using qualitative analysis and simple linear regression. Based on the results of research conducted it can be concluded that the R square value indicated that technology-based counseling had an effect of 0.543, this states that technology-based counseling affected the knowledge of rice farmers by 54.3%. This proves that the effect of technology-based counseling on rice farmers' knowledge in the medium category and the remaining 45.70% is explained by other factors or variables that are not known and are not included in this regression analysis

1. Introduction

Agriculture is one of the main sectors that supports people's lives, because the agricultural sector is the livelihood of the majority of Indonesia's population. Departing from this, agriculture is one of the pillars of the national economy [1]. Agriculture in the future is expected to make a greater contribution in order to reduce inequality and expand employment opportunities, and be able to take advantage of economic opportunities that occur as a result of globalization. For this reason, it is necessary to have quality and reliable agricultural human resources. One effort to improve agricultural human resources, one of which is through agricultural technology extension activities.

Agricultural counseling is a non-formal education for farmers which includes activities in expert knowledge and skills of extension workers to farmers and their families that take place through the teaching and learning process [2,3]. Agricultural extension workers must be competent agricultural experts, in addition to being able to guide farmers, extension workers also provide motivation, provide



information and increase farmers' awareness so that they can encourage their interest in learning in dealing with problems in the field. Agricultural extension is a necessity as well as an obligation of the Government to implement it. Empowerment through the implementation of agricultural extension is needed to change the mindset, attitude and use behavior building a better farmer life and livelihood in a sustainable manner. It is undeniable that until now agricultural extension is still the foundation and mainstay of farmers as a source of agricultural information.

Farmers are the main actors in agricultural production activities as well as parts of Indonesian society that need to improve their welfare and intelligence, one of the efforts to increase intelligence is carried out through extension activities. With the extension, it is hoped that all agricultural information that develops can be absorbed and received by farmers, more information utilized by farmers, the more effective the counseling is.

The subjects of agricultural development are farmers, farming communities in general and farmer groups in particular. As one component in the agribusiness system, the role of farmers is crucial in the success of extension. Although extension agents have worked together with farmers / farmer groups in carrying out development in the agricultural sector, government policies are still in favor of the extension workers. Theoretically the development of farmer groups is carried out by raising awareness of farmers, where the existence of farmer groups is done for farmers.

The manifestation of extension activities in the development of farmer groups can be reflected by regular group member meetings and mutual assistance activities accompanied by extension workers. Through counseling activities it is expected that the development of farmers has the ability to improve their lives, form healthy opinions, and make effective decisions. Besides that through counseling activities can improve the development of farmer groups both in terms of quality and in terms of quantity, there is a good relationship with relevant agencies, increased production, and finally an economic increase for farmers.

Agriculture and counseling are facing a number of serious problems that are not easy to solve, especially in our own area where natural conditions are very potential for agricultural land. Agricultural Counseling is an important and strategic activity that cannot be separated from development in the agricultural sector, agricultural extension staff as the spearhead of agricultural development at the field level also determines the development of farming systems run by farmers / farmer groups. One indicator of the role of agricultural instructors is the development of farmer groups, which is demonstrated through their ability both in technical terms and the management of the farms that are run.

The development of the era of globalization is so rapid, making all aspects of life affected. Likewise the life of the farming community is felt to be changing due to the influence of globalization. All professions immediately create a new system that can sustain people's lives to face the overwhelming invasion of the effects of globalization.

The development of the use of agricultural technology is very rapid in an effort to improve the quality and quantity of production in line with advances in agricultural science and technology to meet food as one of the basic needs of human life that continues to grow. The application of agricultural technology both in pre-harvest and post-harvest activities, is a determinant in achieving adequate food quantity and quality of food. Agricultural technology has played a role in increasing the efficiency and productivity of food commodity farming in developed countries and developing countries including Indonesia.

The rapid development of technology in this world as well as developments in the field of agricultural technology that is already a lot of modern tools used in agriculture, in addition to saving human energy, the use of this technology is also to streamline harvest time, planting. In the use of agricultural technology, many impacts will affect farmers, the plants themselves and the soil. However, in Manjalling village, Ujunloe savings in Bulukumba Regency use of agricultural technology is still very little, this causes low farmer knowledge in the application of modern agricultural technology. Bulukumba Regency Ujungloe

Subdistrict, Manjalling Village. At the Regency level, it is carried out by the Extension Service Agency (Law No. 16 of 2006), this Agency is named, the Agency for Food Security and the Agricultural Extension Service for Forestry Fisheries (BP5K).

Field counselors play an important role in introducing agricultural technology to farmers. The role of extension workers is basically not only to introduce agricultural technology to farmers, but also to increase the capacity of farmers to be able to independently run their businesses.

One effort to conduct agricultural technology-based counseling to the farming community is to identify the availability of agricultural technology information systems through a survey and assessment. Agricultural technology developed by incorporating local knowledge sources will ensure the sustainability of its application by farmers, there are still many farmers in Manjalling Village who do not really know how to use pre-harvest or post-harvest technology tools.

The researcher then felt interested to study and discuss further about the problem as outlined in the form of a Research Proposal entitled "The Effect of Agricultural Technology-Based Counseling on Rice Farmer Knowledge in Manjalling Village, Ujungloe District, Bulukumba Regency". Based on this background, the problem of this research was formulated. How was the influence of Agricultural Technology-Based Counseling on the Knowledge of Rice Farmers in Manjalling Village, Ujungloe District, Bulukumba Regency?

2. Research methods

2.1. Research location and time

This research was carried out for two months. The research location was in Manjalling Village, Ujungloe District, Bulukumba Regency, with the consideration that the location is suitable for the research.

2.2. Sample/informant determination technique

2.2.1. Population. Population is a generalization area consisting of objects/subjects that have certain qualities and characteristics, determined by researchers to be studied and then drawn conclusions [4]. At the of study, the population in Manjalling Village, Ujungloe District, Bulukumba Regency is 174.

2.2.2. Samples. The sample is a portion of the population to represent the entire population [3]. To produce a representative sample strived so that each population object in the study represents the same opportunity to be an element of the population, so there is a need for the sampling method to be taken there is no definite provision, but "If the subject is less than 100, it is better to take all so the research is population research, then if the number of subjects is large, we can take between 10-15% or 20-25% or more [5]. Determination of the sample used the method of simple random sampling (sampling with a simple random), the researchers chose randomly from the population who do not know how to use technology that is 174 farmers, and the research sample is 15% so the sample taken as many as 25 farmers.

2.3. Data types and sources

The type of data used in this study is qualitative data. This type of research is descriptive qualitative data that aims to make a systematic, factual and accurate description, picture or painting of the facts, properties and relationships between the phenomena investigated.

2.4. Sources of data used in this study consisted

2.4.1. *Primary data is data obtained directly from the source of the research object.* The primary data source is interviews with respondents about the effect of technology-based counseling on agriculture in Manjalling Village, Ujungloe District, Bulukumba Regency.

2.4.2. *Secondary data is data obtained in the form of ready-made notes and reports from relevant agencies such as village offices.*

2.5. Data collection techniques

The data collection techniques in this study include:

2.5.1. *Observation (observation).* Observation is to make direct observations on rice farmers regarding agricultural technology in Bulukumba District, Ujungloe District, Manjalling Village.

2.5.2. *Interview (interview).* Interview is a data collection technique through asking questions directly to respondents (farmers), which in this study is used to obtain information on the identity of respondents. To facilitate the interview process a questionnaire / list of questions was given to each farmer.

2.6. Documentation

Collecting data by taking data from records, image documentation and existing administration.

2.7. Data analysis techniques

2.7.1. *Qualitative data analysis.* Qualitative data analysis is research that intends to understand phenomena about what is experienced by research subjects such as behavior, perception, motivation, action, etc.

2.7.2. *Simple Linear Regression.* Simple regression is based on functional or causal relationships between an independent Variable with

a dependent variable. The general equation of simple linear regression is:

$$Y = a + bX \quad (1)$$

Where:

$\hat{Y}$ = Subject in the predicted dependent variable

a = Price of Y if $X = 0$ (constant price)

b = direction number or regression coefficient, which shows the number of increase or decrease in the dependent variable based on the independent variable. If b (+) then rises, and if (-) there is a decrease.

X = Subject on the Independent variable that has a certain value Technically the price of b is tangent of (comparison).

3. Results and discussion

3.1. Identity of respondent farmers

The respondent farmer's identity includes age, education level, farming experience, land area and the number of family dependents. As for this journal, the respondent's identity is briefly explained that among other things, the age of the respondent greatly influences his physical abilities in working and thinking. Younger farmers have greater capacity than older farmers. Young people tend to accept new things that are recommended to add experience, so they quickly get valuable new experiences in farming. While the

elderly have the capacity to manage the farming business better and be very careful in acting, because there are already many experiences felt by the family. The more a person's age increases the greater the supply of his labor and when the farmer is still in his productive age, the higher the age the greater the responsibility for his and his family's needs, although at some point the supply will decrease with age more and more.

There are 25 respondents aged between 37-42 with a total of 8 percent with 32% and 43-48 with 5 people with a percentage of 20%, while the category that has the most age of the total respondents is age 49-54 with 9 people with a percentage of 36% and the category that has the smallest age is 55-60 totaling 3 people with a percentage of 12%. If you look at the age aspect this means that there are only a small number of productive farmers in Manjalling Village who have a business in managing their agricultural land. Most of them are not productive in agricultural management activities, if we look at the age factor. The age of the respondent farmers is mostly at the unproductive age to work and is also at the saturation point to do business in supporting their lives due to the physical and energy that is not strong enough to work and to be directly involved with various activities that support the progress and management of their farming takes time which is old.

3.2. Effects of agricultural technology-based counseling on the farmers' knowledge

3.2.1. Determination test (R square)

The coefficient of determination (R square) aimed to find out how much the ability of counseling variables based on agricultural technology can explain the variable (rice farmers). Here are the results of the determination (R Square).

Table 1 Results of the model summary determination test

Model	R	R Square	Adjusted R Square	Std. Erros of The Estimate
1	.737 ^a	.543	.523	5.08367

Based on the table above it is known that the R square value of 0.543 (54.3%), this shows using the regression model obtained where the independent variable, counseling, has an influence on rice farmers according to the coefficient interval of 0.40 - 0.599 which is categorized while the remaining 45.70% is explained by other factors or variables that are unknown and are not included in this regression analysis.

3.2.2. Simple linear regression test results

This linear regression method is intended to find out how much the influence of agricultural technology-based counseling or counseling on rice farmers. For this reason, the authors present the results of a simple linear regression test

Table 2 Simple linear regression equation

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
1 (Constant)	-23.294	7.020		-3.318	.003
X	11.037	2.112	.737	5.225	.000

In this output, the coefficient of the regression equation is stated.

In this case, the simple regression equation used is:

$$Y = a + Bx \quad (2)$$

Where :

Y = rice farmers

X = Agricultural technology based counseling or counseling

From the output obtained a regression equation model $Y = -23,294 + 11,037 X$. Which is where $a = -23,294$ means that on average if there is no increase in the amount of counseling, then the level of knowledge of farmers in Manjalling Village Ujungloe Subdistrict, Bulukumba Regency. Will experience a decrease of 11.307%.

4. Conclusions

Based on the results of research conducted it can be concluded that the R square value was found that technology-based counseling had an effect of 0.543, this states that technology-based counseling affected the knowledge of rice farmers by 54.3%. This proves that the effect of technology-based counseling on rice farmers' knowledge in the medium category and the remaining 45.70% is explained by other factors or variables that are not known and are not included in this regression analysis. In order for all farmers to increase their productivity, extension workers should be more active in the process of adopting technology for farmers. And the government should pay more attention to farmers, especially in the provision of technology.

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