

The Role of Agricultural Extension Media to Increase Knowledge of Corn Farmers in Tidore Islands District of North Maluku, Indonesia

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Abstract: *This study aims to determine the role of media in promoting knowledge of agricultural extension corn farmers. This research is a qualitative research that produces descriptive data in the form of speech or writing and behavior of the people being observed. While the measured variables consist of; 1) the role of agricultural extension media before using the media (variable X1); 2) the role of the media using the media after the agricultural extension (variable X2). To measure the role of agricultural extension media in improving knowledge of corn farmers has used equation T test to the standard criteria, namely: know (score 3), enough to know (score 2) and do not know (score 1). The results showed a significance level of 0.000 and test results-T amounted to 18 252, thus, the results are in accordance with the criteria that if the level of significance of not more than 0.05, then the result is significant. The use of agricultural extension media is very influential on the level of knowledge of farmers from the extension submitted by extension. Besides having a degree of influence, the use of the media also has a significant relationship to the level of knowledge of farmers.*

Keywords: Agricultural extension, the role of media, increased knowledge, corn farmers

1. Introduction

The agricultural sector until now still has a strategic role in national development, both for economic growth and equitable development. For the Indonesian nation, agriculture is not just farming, producing crops. Agriculture has become part of the culture, as well as the arteries of life most people. No exaggeration to say, reciprocation of the Indonesian nation relies heavily on building a successful agricultural sector.

Agricultural extension has a highly strategic function, especially in the construction of the main perpetrators of resources or farmers and entrepreneurs agribusiness quality. As education activities, agricultural extension is an effort to help create a conducive learning environment for farmers and their families as well as perpetrators of agribusiness. For that it is necessary gradual development of the role and position of agricultural extension which, among other education providers (consultants) including agribusiness consultant, rural mediator, enabler and defender of farmers, independent professionals and specific expertise.

One of the activities in the implementation of agricultural extension is the delivery of information and agricultural technology to users, information technology and agriculture can be delivered directly or indirectly by using media outreach. Various media extensions can be used to package the information and technology that will be delivered to farmers as users of technologies such as print media, visual media and audio-visual media, media in the form of physical objects or real objects.

In line with the above theme, the role of agricultural extension in the Regional District of North Oba through the Central Office of Agricultural Extension (BPP), particularly in the village of Akekolano that contribute to the welfare of

farmers from upstream to downstream. In 2007, agricultural extension workers provide counseling has been using the media to increase the knowledge of farmers. The media type is always in use by the agricultural extension workers to do counseling is a visual medium (laptop and slide / media impressions) to motivate farmers with modern agricultural technology, so that farmers can increase production of high to provide for the family.

Based on the previous description, the problem with this research is how the role of media education so as to improve knowledge of a corn farmer in the village of Tidore Islands Akekolano District of North Maluku province. While the purpose of this study was to determine the role of media in promoting knowledge of agricultural extension maize farmers.

2. Literature Review

2.1. Definition of Agricultural Extension

Agricultural Extension is individual conducting agricultural extension activities. Judging from their functional positions, then there are several definitions of the Agricultural Extension personnel include: (1). Agricultural Extension Civil Servants Civil Servants are given tasks, responsibilities, authority and rights in full by the competent authority on the scope of the organizational units of agriculture to agricultural extension activities, (2). Agricultural Extension Swakarsa is a successful farmer in his farm with his own conscience that is willing and able to become an Agricultural Extension, and (3). Private Agricultural Extension is an individual who comes from the business world agriculture and other communities doing agricultural extension activities (Ministry of Agriculture, 2006). Furthermore, Setiana L. (2004), the function of education is to bridge the gap between the common practice is run by the farmers with the knowledge

and technology that is always evolving into the needs of farmers. Thus, the extension is a two-way link between the knowledge and experience of farmers notified commonly done by farmers and new experiences that happen to those experts and real conditions experienced by farmers.

2.2. The Role of Agricultural Extension

The role of Agricultural Extension in the development of the agricultural community is needed. In the sense that it is the role of Agricultural Extension Agricultural Extension with a role as a consultant guides, facilitators and mediators for farmers. In the long term perspective of the Agricultural Extension is no longer a government apparatus, but belong to farmers and institutions. For that, it gradually takes development role and position for Agriculture, which include: education providers (consultants) including consultants agribusiness, mediator countryside, enabler and defender of farmers, professionals and has specific expertise (Ministry of Agriculture, 2002).

2.3. Extension Materials

Sumardi in Kartono (2008) defines that the matter of extension is extension materials to be delivered to the main actors (farmers) and businesses in various forms, which include: information, technology, social engineering, management, economics, law and environmental sustainability. Extension materials according Moehar (2006) adjusted on the identification of regional problems, media and approaches developed so that the activities of applied knowledge independently (kajiwidya) aim to get the right things with the problems of farmers will be more effective so that the determination of the material is technically feasible, economically profitable and socially acceptable.

2.4. Media

Media outreach is an object that is packaged in a manner to facilitate the delivery of material. In general the media are an intermediary. Media is anything that can be used to distribute messages, from the sender to the receiver so that it can stimulate the mind, feelings, concerns and interests as well as the attention of the target such that the learning process occurs.

2.5. The Fuction of Media

Very spacious function according to some experts, among others: 1) educative function, its main function is to educate, because the effect of education, 2) the social function, for giving authentic information in life will be able to provide the same concept to everyone, 3) the function economically, in an advanced society, carried out intensive use of media, especially in the fields of trade and industry did not hesitate to pull out a big enough budget to promote the company, 4) the political function, which referred to political development, 5) the function of art and culture, developments in the field of culture easily spread all over the world.

2.6. Media Outreach

Sumardi in Kartono (2008), stating that agricultural extension media is a communication tool to move the extension materials on key players and businesses that aims to clarify the understanding of the material presented extension. Furthermore, Mardikanto (2003), media education can be classified based on the five senses and the target number of extensions, and the type of media used. Type of medium used to convey messages such as: media objects / real situation (demonstration of the way, the original object, and laboratory), media objects / situations clone (mode, mock-ups, simulations and miniature), media projection (OHP, slides, and TV), printed media (newspapers, magazines, journals, posters, brochures and folders) and recorded media (tapes and VCD).

Padmowihardjo (2002), defines agricultural extension media is anything that can be used to distribute and deliver the message and can stimulate the mind so that learning occurs in self-learners. Media outreach is referred to as tools of agricultural extension can be seen, heard, felt, and kissed with a view to streamline and facilitate communication between resources and recipient information.

3. Methodology

This research is a qualitative research Explaining that qualitative research is a research procedure that produces descriptive data in the form of speech or writing and behavior of the people being observed. A qualitative approach is expected to produce an in-depth description of the speech, writing, or observable behavior of an individual, group, community, or certain organizations in a particular context setting that were examined from the standpoint of complete, comprehensive, and holistic (Bogdan and Taylor, 1992). While the measured variables consist of; 1) the role of agricultural extension media before using the media (variable X1); 2) the role of the media using the media after the agricultural extension (variable X2).

The population used is Akekolano village farmers and the sample used is a corn farmer. Sampling was done by purposive included in the working area of the Agricultural Extension Center (BPP) Oba District of the North with the consideration that the village Akekolano is central to the development of corn. Respondent conducted Quota Sampling for respondents selected are the ones who must answer all sides to support research activities. Respondents who are determined to satisfy a predetermined amount that farmers amounted to 30 people.

The data collection is done by the method of is held observation systematic recording to obtain a clearer picture and have been of clues to the object to be examined, and the questionnaire, which is a way of collecting data by delivering or distributing a list of questions and or a statement to the respondent in order for the respondent to provide responses to questions or statements that have been prepared to support the research.

The collected data were analyzed qualitatively. Qualitative analysis is an analysis that provides a description and explanation of the research object based on theory and a subjective analysis of the respondents of the tabulation process data and data obtained from secondary data sources. To achieve the desired objectives, the data obtained is then tabulated and analyzed using statistical test is an analysis tool that is both mathematical-statistical calculation based on the results of data collection and analysis of questionnaires.

To measure the role of agricultural extension media in improving knowledge of corn farmers using the formula to test with a standard level of the role are: knowing (value 3), enough to know (score 2) and do not know the (value of 1). Analyzing the implementation of media relations, agricultural extension with the level of knowledge of farmers using the following formula (Santos, 2002).

$$T = (X1 - X2) / sd\sqrt{n} \quad (1)$$

Where:

- X1 = Farmers do not use media
- X2 = Farmers already use media
- Sd = Standard Deviation
- n = Number of Respondents

Criteria of T-test to determine the role of media education in improving knowledge of corn farmers are as follows:

- Receive (Ho), If T arithmetic > T table, means there is a significant influence of the media on the level of knowledge of agricultural extension corn farmers.
- Reject (H1), if T arithmetic < T table, means there is no significant influence of the media's role of agricultural extension services to farmers' knowledge of the tiers of corn.

4. Results and Discussion

Based on the results of measurements of the average value of farmers' knowledge before and after using SPSS media and processed, it can be seen in the table below.

Table 1: The average value of the respondents' knowledge and results the SPSS data

respondents	Before using media	After using media
Corn farmers	41	90
Paired samples test	T test results	Significance (P)
	-18,252	.000

Source: Author, 2014

Table 1 shows that the corn farmers' knowledge before using the media by agricultural extension workers are 41 and after the use of media by agricultural extension knowledge of farmers are 90 then it can automatically be known that the knowledge of farmers before using media outreach there is still a lack of knowledge on agriculture corn. When viewed from the farmers after receiving counseling through the media has been a significant increase in knowledge, that there is an increased knowledge of farmers' groups in the village Akekolano by 49%. It is clear that farmers in the Akekolano after getting extension of agricultural extension by using the media, farmers really understand the way of land preparation

until after harvest. See the above results that showed a significance level of 0000 and the results of his test T-18 252, of these results in accordance with the criteria that if a significant level of no more than 0.05, then the result is significant. Likewise with T-test criteria is if the result of T-count is greater than the T-table then the result is an effect. With these criteria, it can be concluded that the role of media education affects the level of knowledge of farmers with its T-test results that count T-18.252 > 2.045 T-table means that the results are in the reception area of Ho.

Media agricultural extension is a very important part of which is used to stimulate the knowledge of farmers on the results of counseling. So that the media is expected to contribute to increasing farmers' knowledge. Because the level of knowledge of farmers also affects the way of farming as well as the process undertaken by farmers who would later lead to the results that will be achieved by farmers.

Farmers in the village Akekolano still largely traditional farmers, who is still using simple equipment in the plant. So it is still a much-needed guidance and increase farmers' knowledge of traditional farming practices towards the community of professional farmers are able to produce results that maximal. Because the average results obtained society is still far from the target set. This is caused by the level of knowledge of farmers are still minimal. For it takes the role of agricultural extension workers to provide counseling to the media that can be accepted and absorbed by the community for the implementation of the field later.

Based on the incident above, according to the results of data analysis on a group of farmers in the village of Akekolano related to the level of farmers' knowledge before and after using media outreach using media outreach. The results show that an increase or change in farmers' knowledge of prior to using the media with an average score of 1, and an increase after using a medium with an average score of 3. It can be concluded that there are differences in the level of knowledge of farmers on the results of counseling with using the media and before the media.

In addition to having differences, the role of media is very influential on the level of knowledge of farmers. This is consistent with the result that there is that the value of T-count 18.252 while the T-table 2.045. So T-count is greater than the T-table. It can be concluded that the use of agricultural extension media greatly influences the level of knowledge of farmers on the results delivered by extension extension. Besides having a degree of influence, the use of the media also has a significant relationship to the level of farmers' knowledge. This is consistent with the results showing that the significance level of .000 was brought 0.05. This means that the results have a relationship because under the limit provision significance level of 0.05.

Based deployment questionnaire / questionnaire conducted on 30 respondents in Desa Akekolano accordance with the order of questions, it can be obtained as follows.

Based on Table 1, it seems clear that a significant difference between before using the media and after using the media,

when seen in the way of land preparation, there were 24 respondents who answered do not know, this shows that there is still a lack of knowledge of farmers before using media, because before use media, in terms of land preparation, weeding farmers only, made a hole and planted, it shows still very limited knowledge of farmers.

After using the media, there are 28 respondents who answered knew. This shows already there has been an increased knowledge of farmers after using the media. Where farmers are used to in terms of land preparation only clean, after using the media there is an increase or additional knowledge, for example in terms of minimum soil preparation to get better corn growth.

Judging from land processing techniques before using the media, there are 28 respondents who answered do not know, this is clearly due to the media before using corn farmers do not know how effective land management. If seen after using the media there were 30 respondents who answered knew.

It is obvious that after using the media, then the farmers know the stages that must be made in land management, including that carried out by the farmer was tilling perfect, which is to improve the texture and structure of soil, eradicate weeds and pests in the soil, improves aeration and drainage of the soil, encourage the activity of soil microorganisms, dispose of toxic gases from the soil and various other steps taken by the farmers after the use of the media to get the land produce optimal.

If you paid attention to the superior seed, then 15 farmers do not know the answer and the 15 answer quite know, in general the seed they can that the results of harvesting and then later became a nursery so that the result is less than the maximum. It is clear that before it gets extended from the extension services is still very minimal knowledge of farmers with superior seed.

After receiving the knowledge of education through the medium of the 28 farmers and two farmers replied know enough to know the answer, then an increase farmers' knowledge on how to find out about the superior seed. If you look at how to plant, there were 20 respondents who answered do not know. This shows that prior to using the media of farmers lack knowledge of certain techniques in the planting of corn, in the sense that farmers do not pay attention to the depth of the soil should be prepared before planting, because that is in the minds of the farmers' group that the most important is the seed that has been being prepared to be discharged embedded.

After using the media there are 28 respondents who answered knows, this shows that an increase in knowledge, in the sense that after using a medium farmers' groups have learned certain ways in the process of planting, for example, in the preparation of the planting hole with the drill as deep as 3-5 cm, subsequently entered seed corn grain as much as 1-3 / hole, and the hole immediately covered with soil. On the ground moist enough drill hole depth of 3 cm, while in the dry soil as deep as 5 cm. Preparations others that have been done by the farmers.

While the technique of plant maintenance, there are 18 respondents who answered do not know, this shows that there are still many farmers who do not know the specific techniques performed in the process plant maintenance, minimal things do farmers' groups like grass that is around the plant corn which he said could disrupt the growth process of corn.

After using the media there were 27 respondents who answered knows, this shows that there is an increase of farmers after the use of media, knowledge of farmers who were once like grass Area plant, so now they know the techniques of maintenance, for example, in the thinning plants, carried out by farmers in this crop thinning is when the corn was about 2-3 weeks after planting. To obtain the growth and production of maize optimized, then the number of plants needs to be reduced or made more tenuous, and how thinning is done by the farmers is by uprooting plants that grow less good to be left. And various other techniques performed by corn farmers in the village Akekolano after using media.

Seen on stitching techniques, there were 24 respondents who answered do not know, it happens that before using the media farmer groups do not know what is meant by stitching, and do not know which of the techniques are performed in the process of stitching.

After using the media there were 26 respondents who answered knows, this shows that an increase in the knowledge of farmers, who basically do not know the technique of stitching and after using the media, at least they already know the technique, for example, they make a hole with a drill in place seed rot or abnormal growth, and then seed the seed which included as many as 1-3 grains while covered with earth, and farmers' groups to flush after doing embroidery.

On irrigation practices are 16 respondents who answered do not know, this shows that there are enough farmers' groups already understand how the provision of water in mice, although mouse there are several techniques that have not been known, for example, the moisture content required in accordance with the age of the corn crop.

After using the media there were 29 respondents who answered knows, this means that after using media almost all farmers' groups have learned the techniques of irrigation, maximum that should be done, for example, already there is increasing understanding that in the process of growing corn requires enough water, and besides that there are others, such as increased knowledge of the techniques of watering, and watering is done by farmers after applying the media is they always water the plant corn in the morning and evening as much as 1-2 times a day, especially if it does not rain, and corn plants grown irrigation can be reduced to obtain maximum results.

If you look at the technique of weeding there were 21 respondents who answered do not know, it happens that before using the medium farmers' groups do not really know

what is meant by weeding, and does not know which of the techniques are performed in the process of weeding, which is carried out only limited pruning grass. After using the media there were 23 respondents who answered knows, this means that after using the media has been increasing farmers' knowledge of maize, because after using the media, farmers know some techniques that need to be done in a system of weeding maize. For example, the presence of weeds can be a competitor in terms of maize crop needs nutrients, water and sunlight even weeds can be used as pests.

Therefore, after using the media there is additional knowledge corn farmers or technical performed in competing weeds in a way that is initially land on the hole, then weeds removed and collected banal, then weeds removed and collected in the hole to be dumped in order to become compost, then the loose soil was placed on a field near the base of the stems of corn plants to form small mounds. There was some other knowledge enhancement for farmers after using media outreach.

While the technique of fertilization there are 19 respondents who answered do not know, this means that there are enough farmers to know what is meant by fertilization, but in terms of technical good fertilization, there is the knowledge of farmers are still minimal, because before using the media, farmers in terms of administration or fertilization process, farmers do not know what type of fertilizer at the right to use anti fertility and dosage levels are required for corn.

After using the media there are 28 respondents who answered knew, here can be determined that there is an increasing farmers' knowledge is significant, because after using the media, a corn farmer in the village Akekolano know how good fertilization and how the levels of fertilizer should be given to corn crops in accordance the age of the corn. How to plant protection there were 20 respondents who answered do not know, this shows that prior to using the media, which is carried out by farmers' groups to provide protection in the case of plants, they only clean the grass around the existing corn plants which they can disturb the plants. after using the media there were 26 respondents who answered knows, this means increased knowledge of existing farmers.

It is obvious that after the use of the media, has directly increased knowledge, once their knowledge was limited crop, after using the media increased knowledge in the form of implementing an integrated controller. For example, planting healthy seeds, planting simultaneously, improve soil drainage, utilizing the natural enemies of pests or parasitic diseases, regulate crop rotation, pull the plants attacked by heavy and assorted increase other knowledge acquired by the farmers' groups after using media,

In pest control techniques, there are 28 respondents who answered do not know, this shows that prior to using the media there is still a lack of knowledge of farmers, for prior use of media outreach, which is known by the farmers in terms of pest control are just spraying the corn plants were exposed to pests with drugs they say we can eradicate these pests. After using the media there were 29 respondents who answered knew.

Judging from these data could have known that after the use of the media, an increase of knowledge, in the sense that almost all corn growers already know the procedures for effective pest control. For example the increase as a deterrent caterpillar land, where the efforts made by the farmers was observed as early as possible by calculating the caterpillar population of each crop, then prevention efforts carried out by planting simultaneously on a single stretch of crop rotation, and spilled into some crops on land pests for several times, then subsequent control by chemical means. Besides, also after using the media there is an increased knowledge of farmers in terms of prevention of other pests.

Judging from how to control the disease, there were 26 respondents who answered do not know, this shows that there is still a lack of knowledge of farmers in terms of disease prevention that exist in maize, because prior to using the media, which is carried out by farmers in terms of prevention of disease in corn just kept provide fertilizer, because there is no other knowledge. After using the media there were 29 respondents who answered knows, this shows that after using the media an increase farmers' knowledge is very high, in the sense that almost all farmers' groups have been able to know the techniques that need to be done in controlling diseases in plant maize.

How to control the disease are carried out by the farmer prior to using the media is only fertilizer, and after using the media there is an increase in terms of disease control, for example partner who have used their media always make observations to the disease as rare early to determine appropriate controls, then prevention by planting before the rainy season or the beginning until the time a lot of rain the age of the corn crop is already more than five weeks, planting improved varieties of the disease found in corn plants. Besides, also after using the media, there is an increased knowledge of other knowledge in the prevention of disease in maize.

Post-harvest handling of the 25 respondents who answered do not know, it shows that prior to using the media, in terms of post-harvest handling, the farmer when he saw corn skin had started to turn yellow, they went to harvest corn, dried, and then sold without thinking things the other, it shows that there is still a lack of knowledge of farmers before using the media. After using the media there are 28 respondents who answered knows, because after using the media, farmers no longer use a practical way but to follow the phases, for example, they always pay attention to the age-old gauge 7-8 weeks after coming out Bangui, husk cubs already yellow or yellowish white, if cob shelled corn kernels will appear yellow, white or pink camera and shiny appearance, and if the seed is pressed by hand does not leave scars literacy and seeds seemed to have solidified, and water content in the seeds has reached its provisions. That increase in knowledge gained by the farmer groups after using the media.

5. Conclusion

Based on the discussion above, it can be concluded that the use of agricultural extension media greatly influences the level of farmers' knowledge of the results submitted by

extension. Besides having a degree of influence, the use of the media also has a significant relationship to the level of farmers' knowledge.

6. Recommendation

Village farmers Akekolano in particular in order to continue to improve the knowledge about farming is good and right to continue to follow the counsel conducted by a team from the Department of Agriculture panel, because the farmers' knowledge is very influential on the way as well as the cultivation process until the post-harvest handling. Counselor to continue intensely provide counseling to farmers through the media and to develop Integrated Pest Management Field School (SLPHT).

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