

The Role of Agricultural Extensioners in the Development of Tomato Farming in the Neighborhood of Folarora City of Tidore Islands

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Abstract

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The agricultural sector plays an important role in the Indonesian economy. One of the potential agricultural sectors to be developed is tomato cultivation. The development of the productivity of tomato farming in Folarora Village requires the support of quality human resources through agricultural extension. The existence of tomato farmers is inseparable from the role of agricultural extension workers who are at BPP (Agricultural Extension Center) Tidore Islands City which aims to improve tomato farming. The purpose of this study was to determine the function of the motivator carried out by extension agents for the development of tomato farming, to know the function of the facilitator carried out by extension agents for the development of tomato farming and to find out the function of mediators carried out by extension agents for the development of tomato farming. The research methodology used is descriptive qualitative research. Data uses two types of data sources, namely primary data and secondary data. Data collection techniques in this study were observation, structured and unstructured interviews and secondary data tracking. The data analysis techniques used in this study were data reduction (data editing), data display (data presentation) and conclusion drawing / verification. The results showed that the role of extension agents as a motivator includes motivation in increasing the development of tomato farming, motivation in increasing profits, motivation in solving the problems encountered. The role of extension workers is as a facilitator in fulfilling the advice and infrastructure of tomato farming, facilitating tomato farming farmers to form farmer groups or form agricultural cooperatives consisting of these farmers. The role of the extension worker as a mediator connects or serves farmers with the government.

Keywords: Role Extension, Agriculture, Development, Farming, Tomatoes

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INTRODUCTION

The agricultural sector plays an important role in the Indonesian economy. This can be measured by the market share of the agricultural sector in the formation of gross domestic product (PBD), providing employment, a source of income for the majority of Indonesian people, alleviating poverty, and creating national income through foreign exchange income from non-oil and gas exports. Food security, suppliers of raw materials, markets, potential and conducive conditions for the development of other sectors (Budiman, 2013).

One of the agricultural sectors that has the potential to be developed is tomato cultivation, because tomatoes are an important commodity because they have economic potential to be developed and also as a multi-purpose commodity,

functioning as vegetables, seasonings, table fruit, increasing appetite, drinks, to ingredients cosmetics and medicines (Harischandra, 2020). Tomatoes are one of the horticultural commodities that have high value and are very important in supporting the availability of food and nutritional adequacy of the community.

Tomatoes are much-loved by people because they taste good, fresh and a little sour and contain lots of Vitamins A, C and a little Vitamin B (Vika, 2013). Tomatoes are plants that are easily damaged (perishable) and have a relatively short shelf life in ordinary storage, which affects the freshness level of tomatoes. Postharvest losses for tomatoes in Indonesia reach 20-50% (Prajawati, 2006). Considering that tomatoes are perishable commodities, to simplify the transportation process and to reduce the risk of damage, packaging is carried out as an effort to reduce yield loss both in quantity and quality.

Based on data from the Central Bureau of Statistics for the City of Tidore Islands in 2017 the land area is around 1,550.37 Ha, consisting of 72% of which is plantation land, fields and forests. Tidore District, Folarora Village with a population of 711 people and an area of 121.00 Ha. Most of the residents work as farmers, especially tomato farmers, totaling 32 people.

Support the development of tomato farming Based on the problems above, the authors are interested in conducting research on agricultural extension agents. In order to determine the effect of "The Role of Agricultural Extension in the Development of Tomato Farming in Folaora Village, Tidore City Islands".

RESEARCH METHODOLOGY

The type of research used is research that is descriptive qualitative about the opinions of extension workers and farmers in the Folarora Village in order to develop tomato plants.

The data used in this study uses two types of data sources, namely primary data and secondary data. In secondary data using the results of interviews carried out directly (face to face) to all informants who the researchers made as sources at different times according to the time of the informants themselves. Secondary data is in accordance with public service standards, books, journals, articles related to research topics regarding the role of agricultural extension workers in the development of tomato farming.

Data collection techniques in this study were observation, structured and unstructured interviews and secondary data tracking.

Determination of informants in this study was carried out using a non-probability method using purposive sampling, namely the technique of determining informants using certain considerations. The consideration is that all informants are farmers. The total number of tomato farmers was 64 people while the number of farmers who were used as research informants was 32 people besides that in the Folarora Village there was 1 extension worker in this study there was also a key informant. The selection of the key informant was based on the consideration that in addition to knowing about agriculture in the Folarora Village, he was also a community leader in the research location.

The data analysis techniques used in this study were data reduction (data editing), data display (data presentation) and conclusion drawing / verification.

RESULTS AND DISCUSSION

Table 1.
Age Level of Respondents in Folarora Village 2022.

1. Age

No	Age	Amount	Percentage
1	18 - 39 year	13	40,62
2	40 – 54 year	15	46, 87
3	55 – 69 year	4	12,25
amount		32	100%

Primary Data After Processing 2022

Based on Table 1 above, it shows that there are 13 respondents or 40.62% of the ages between 18 and 69 years of age, between 40 and 54 years of age, 15 respondents or 46.87% of respondents, between 55 and 69 years of age. as many as 4 respondents or 12.25%

Table 2. Respondents' Education Level in Folarora Village, 2022

2. Level of Education

No	Category	Total	Percentage
1	SD	5	15,62
2	SMP	4	12,5
3	SMA	18	56,25
4	Sarjana(S1)	5	15,62
Amount		32	100%

source: Primary data after Processing, 2022

Based on table 2, it shows that of the 32 total respondents who have an elementary school education level, there are 5 respondents or 15.62%, respondents who have a junior high school education level are 4 respondents or 12.5%, respondents who have a high school level are 18 respondents or 56.25 % and respondents who had a higher education level were 5 respondents or 15.62% The majority of the education level of farming developers was high school, each of which was 56.25%.

3. Land Area

Table 3. Area of Land owned by Respondents in Folarora Village, 2022

No	Name	Land area	Percentage
1	Soninga Senin	2.500m ²	250.000%
2	Zainudin harun	2.500m ²	250.000%
3	Komarudin idris	2.500m ²	250.000%
4	M jen malik	2.500m ²	250.000%
5	Julkarnain ali	2.500m ²	250.000%

6	Abbas idris	2.500m ²	250.000%
7	Yusril abubakar	2.500m ²	250.000%
8	Faisal malik	2.500m ²	250.000%
9	Daud ismail	2.500m ²	250.000%
10	Ibrahim ismail	2.500m ²	250.000%
11	Mahmud idris	2.500m ²	250.000%
12	Yusuf komarudin	2.500m ²	250.000%
13	Ishak usman	2.500m ²	250.000%
14	Yusuf Ibrahim	2.500m ²	250.000%
15	Hata sahril	2.500m ²	250.000%
16	Rusdi	2.500m ²	250.000%
17	Ridwan umar	2.500m ²	250.000%
18	Abubakar senin	2.500m ²	250.000%
19	Samaun wahab	2.500m ²	250.000%
20	Ismail salama	2.500m ²	250.000%
21	Muhammad hasan	2.500m ²	250.000%
22	Garwan naser	2.500m ²	250.000%
23	Aswat m. nur	2.500m ²	250.000%
24	Abubakar hasan	2.500m ²	250.000%
25	Gani Muhammad	2.500m ²	250.000%
26	Masril idris	2.500m ²	250.000%
27	Abjan laha	2.500m ²	250.000%
28	Latif Ibrahim	2.500m ²	250.000%
29	Samsudin umar	2.500m ²	250.000%
30	Tamrin usman	2.500m ²	250.000%
31	Abd rahman salama	2.500m ²	250.000%
32	Ridwan	2.500m ²	250.000%
	Amount	8.0 (ha)	250.032%

Source: Primary Data After Processing 2022

Based on table 3, it shows that the area of land use in the Folarora sub-district is all the same, namely with an area of 2,500m² or 250,000%.

4. Experience in Doing Business

Table 4.
Respondents' Farming Experience in Folarora Village, 2022

long trying (years)	Num er of souls	Percentage
1-6	21	65,62%
7-10	11	34,37%
Amount	32	100%

Primary Data After Processing 2022

Table 4 shows that 21 respondent farmers with a percentage of 65.62% have been farming for 1-6 years and 11 respondent farmers with a percentage of 34.37%) have been farming for 7-10 years and farming experience is closely related to farmer age. Farmers who are older have more experience and often participate in extension activities compared to farmers who are younger. conversely, farmers with relatively little experience tend to more easily absorb new technologies and more quickly try these new technologies on the farms they manage. Thus, the experience of farming will reflect a person's behavior in farming activities.

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5. Number of Family Dependents

Table 5. Number of Respondents' Family Dependents in Folarora Village, 2022 di Kelurahan Folarora, 2022.

Family Dependents O (soul)	Number of souls	percentage
1-3	4	43,75%
4-6	8	56,25%
Amount	2	100%

Primary Data After Processing 2022

Table 5 shows that there are variations in the number of dependents of the respondent's farming families. Of the 32 farmer respondents, 14 people had a smaller number of families with a percentage of 43.75% with a smaller cost of living, while 18 respondents had a larger number of families with a percentage of 56.25% with a higher cost of living.

DISCUSSION

1. The Role of Agricultural Extension in Tomato Farming Development

The role of agricultural extension workers in the development of tomato farming in the Folarora sub-district, Tidore sub-district, Tidore city, to determine the level of the role of agricultural extension workers in addressing the constraints faced by farmers in increasing tomato farming in the folarora sub-district, Tidore sub-district, Tidore City Islands

2. The Role of the Extension As a Facilitator

The extension worker's role as a facilitator of activities carried out is to help farmers make applications for assistance, including compiling programs for submitting subsidized fertilizers, and helping farmers to facilitate farming activities.

So that in the process of farming activities, farmers do not experience many difficulties, because the supporting facilities and infrastructure for farming activities are already qualified.

The problem we often face is the lack of stock of tomato seeds at Tidore farmer leaders so that our tomato seeds are always ordered online, as stated by Mr. Abubakar Monday as follows:

When we had problems with a shortage of seeds, he always provided us with a solution, for example by submitting a proposal for seed assistance to the Agriculture Service (Abubakar Monday, 53 years old, interview 14 December 2022).

One of the problems often faced by tomato farmers is the lack of superior seeds which results in less than optimal quality of tomato yields. However, with the existence of agricultural extension workers who provide solutions to overcome this problem, tomato farming farmers feel very helped. The solutions provided, for example, submit proposals for assistance from the agricultural office to provide superior seeds for tomato farmers.

We as farmers in the village of Folarora often hold meetings with extension workers to solve problems in tomato farming. such that

Extension officers also often hold meetings with us to hear about problems related to tomato farming and together find solutions (Yusuf Komarudin 37 years, interview 14 December 2022)

It's good to know the problems experienced by tomato farmers, so agricultural extension officers always schedule meetings with tomato farmers approximately 16 times a month. From these meetings, extension agents usually provide solutions to overcome the problems faced by tomato farmers.

The Tidore city government often provides assistance to us as farmers in Folarora Village, Tidore City, as stated by Mr. Zainudin harun;

Extension agents actively channel farmer assistance from the government to tomato farming. (Zainudin harun, 33 years interview 15 December 2022)

Agricultural extension agents play an important role as a liaison between the government and farmers. One of them is when there is an assistance program from the local government, extension workers play an active role in distributing the assistance to tomato farmers.

3. Extension As a Motivator

The role of the extension worker as a motivator for the activities carried out is that the instructor gives encouragement to farmers when farmers experience problems in the planting process, for example the problem faced is unsatisfactory yields because they are influenced by many factors, namely seeds that are not good enough, plant pests, Uncertain natural factors that cause tomato yields are not

optimal. In providing motivation, extension workers also provide solutions to farmers to problems that are being faced by farmers.

Extension officers in the Folarora sub-district always provide us with a little knowledge on farming methods that are similar to those of the former

The agricultural extension officers in the Folarora Village always provide motivation in the form of good farming techniques to us. (Yusuf Ibrahim, 54 years)

In addition to providing verbal support, extension workers also provide support through actions, for example, by providing examples of good farming techniques to tomato farmers so they can be motivated to develop good farming techniques.

The extension workers encouraged us to keep trying to farm to meet our daily needs as stated by Mr. Muhammad hasan;

Agricultural extension workers often provide information regarding tomato farming opportunities to stimulate us to be more active in farming (Muhammad Hasan, 44 years interview, December 16, 2022)

Another form of motivation is wages for providing information related to tomato farming opportunities which of course aims to motivate farmers to be even more active in farming and be able to take advantage of these farming opportunities.

4. Extension As Mediator

The role of extension agents as mediators is one of the extension agents' abilities in this case to provide related information to farmers and to solve problems faced by farmers such as pests and diseases that attack tomatoes and tomato leaves, and programs run by extension agents, namely the problem of supplying tomato fertilizer.

In every meeting with extension workers, extension workers often provide information about the programs made by the Agriculture Service related to agriculture in the Forarora Village, as stated by Mr. Komarudin Idris;

Extension agents actively socialize government programs related to the development of tomato farming. (komarudin Idris, 52 years interview 17 December 2022)

The local government through the Department of Agriculture is of course also trying to develop agricultural businesses, one of which is the tomato farming itself. Therefore, the agriculture service designed programs for tomato farming developers which were socialized through agricultural extension workers in Folarora Village, Tidore Islands City.

We, as farmers, often get less than optimal tomato yields because some of our agricultural produce is always attacked by pests and diseases. However, we are grateful that the extension workers in the Folarora Village can reduce rotten tomatoes, as stated by Mr. Garwan Naser;

We often experience production results that are less than optimal due to pest attacks that are difficult to overcome. However, the presence of extension workers who often provide pest control solutions can help us solve this problem (Garwan Naser, 32 years interview, December 17, 2022).

One of the factors that causes frequent tomato harvests that are less than optimal is due to pest attacks. Pest and disease attacks were also experienced by tomato farmers in the Folarora sub-district, fortunately there were agricultural extension workers who swiftly provided solutions to overcome these problems so that they could maximize the tomato yields from the farmers.

Limited supply of fertilizers so that extension agents provide us with a solution for increasing the fertilizer provided by the Government to us as tomato farmers in Folarora Village, Tidore City, as stated by Mr. Yuanur;

In addition to the problem of pests and diseases, we are also often faced with the problem of limited fertilizers. And when we consulted this with the extension worker, he provided us with a solution to increase the use of tomato solid fertilizer (yuanur, 27 years interview, December 18, 2022)

Many problems are often faced by tomato farmers, for example pest attacks on tomato leaves and limited availability of fertilizers. The problem that is quite urgent faced by tomato farmers is the problem of limited supply of fertilizer, therefore the extension worker provides a solution to tomato farmers, namely by giving advice on saving the use of fertilizers.

CONCLUSION

1. 1 The role of extension agents as a motivator includes motivation in increasing the development of tomato farming, motivation in increasing profits, motivation in solving the problems encountered.
2. 2 The role of extension agents as facilitators in fulfilling the advice and infrastructure of tomato farming, facilitating tomato farming farmers to form farmer groups or form agricultural cooperatives consisting of these farmers
3. 3 The role of the extension worker as a mediator connects or serves farmers with the government.

Suggestion

1. 1 Form a farmer group for the business of tomato plants or more broadly, form a cooperative of tomato plant farmers to make it easier for tomato plant farmers to overcome the problems of fulfilling agricultural infrastructure, management, and marketing with the guidance of extension workers.
2. 2 Suggesting that extension agents be more proactive and more active in motivating, facilitating and mediating the needs of tomato growers.
3. 3 Suggests that the directly related agencies that carry out the coaching develop programs that are more pro-interested to the interests of tomato

farmers in the Folarora Village so that the role of extension workers is more productive in the Folarora Village

DAFTAR PUSTAKA

- Anwar 2016. *Kajian Pertumbuhan Tomat Terhadap Zat Pengatur Tumbuh Pada Macam Konsentrasi dan Waktu pemberian. Jurnal saintis 8 : 1-1.*
- Abi Musa Al Asyari. 2018 *Peran Penyuluh Pertanian Lapangan (ppl) Dalam Program Pertanian Organik di Kelurahan Dadaprejo, Kecamatan Junrejo, Kota Batu.*
- Bp3k-Gumbasa.2013.*Tugas Pokok Dan Fungsi Penyuluh Pertanian.* <http://bp3k-gumbasa.blogspot.com/2013/03/tugas-pokok-dan-fungsi-penyuluh.html>. Diakses tanggal 30 April 2014..
- Budiman, M.A. 2013. *Makalah Sektor Pertanian Dalam Konsep Pendapatan Nasional. 2013.* Jatinagor : UNPAD.
- Cahyono, B. 2008. *Tomat: Usaha Tani dan Penanganan Pascapanen.* Kanisius, Yogyakarta.
- Departemen Pertanian. 2006. *Undang-Undang Republik Indonesia Nomor 16 Tahun 2006. Tentang Sistem Penyuluhan Pertanian, Perikanan dan Kehutanan.* Jakarta.
- Erwadi, Doli. 2012. *Peran Penyuluh Pertanian Dalam Mengaktifkan Kelompok Tani Di Kecamatan Lubuk Alung.* Universitas Andalas. Padang.
- Ismaryati Hamid. 2014. *Teknik informan Pertanian.* Fakultas Pertanian UNS. Solo.
- Ilham. 2010. *Ekonomi Pertanian dan Pembangunan.* Bumi Aksara. Jakarta.
- Klaudiana Nogolete keraf. 2022. *Prospek Pengembangan Tanaman Tomat (Sollanum lycopesicum L.) di Desa Ladogahar Kecamatan Nita Kabupaten Sikka”* : <https://jurnal.peneliti.net/index.php/JIWP>