THE INFLUENCE OF SOCIAL SYSTEM ON THE ADOPTION OF PGPR NK GROW INNOVATION ON FEMALE FARMERS IN KWT SEMI LESTARI, SANANREJO VILLAGE, TUREN DISTRICT, MALANG REGENCY

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Abstract: The main challenges of agriculture are climate change, limited land, and increasing demand for food. One innovation to deal with climate change and realize food security is by utilizing soil-fertilizing bacteria to increase production not only on agricultural land but also in yards. The dissemination of this innovation also needs to be done to the family level, especially women who cultivate vegetables in their yards.
The objectives of this study are, (1) To describe the social system in the process of diffusion of PGPR Nk Grow innovation (2) To describe the response of female farmers to the role of the social system and (3) To analyze the influence of the social system on the adoption of innovation. The study was conducted at KWT Semi Lestari, Sananrejo Village, Turen District, Malang Regency. The data analysis technique used qualitative descriptive analysis followed by quantitative.
The results showed that the social system that played a role in the process of diffusion of innovation included female farmers, innovation creators, community leaders, village government, and agricultural extension workers. Female farmers stated that the members of the social system who played the most important role were the Head of KWT and agricultural extension workers. The response to the role of this social system also influenced the level of innovation adoption. Female farmers who felt the positive role of members of the social system decided to adopt unconditionally while female farmers who felt less of the role of the social system decided to adopt on condition.

Keywords: *Diffusion of innovation, social systems, women farmers, adoption.*

INTRODUCTION

The role of agriculture is very strategic in supporting the national economy, especially to realize food security, increase competitiveness, absorb labor and alleviate poverty. The main challenges of the agricultural sector include climate change, limited land, increasing demand for food, technology and farmer education, and employment. In addition, problems such as post-harvest, input prices, and capital availability are also significant challenges. One of the solutions needed to face the challenges in the agricultural sector is to create innovation and disseminate the innovation so that it can be used by farmers and the community in the agricultural sector. One of the innovations to deal with climate change and realize food security is by utilizing soil-fertilizing bacteria to increase land fertility in efforts to increase production not only on agricultural land but also in the yard around the house.

The dissemination of this innovation is not only carried out to farmers who cultivate in rice fields but also to the family level, especially women who can cultivate vegetables around the house. The dissemination of innovation to female farmers carried out in the Women Farmers Groups (KWT) Semi Lestari, Sananrejo Village, Turen District by involving the social system around the KWT. In this study, the influence of the social system on the process of diffusion and adoption of the PGPR Nk Grow innovation on female farmers in the KWT Semi Lestari, Sananrejo Village, Turen District will be seen.

Thus, the objectives of this study include, (1) Describing the social system involved in the process of diffusion of the PGPR Nk Grow innovation (2) Describing the response of female farmers to the social system and (3) Analyzing the influence of the social system on the adoption of the PGPR Nk Grow innovation.

METHOD

This study uses a mixed method that begins with qualitative descriptive analysis to describe the social system in the process of adopting the PGPR Nk Grow innovation. The participants in this study were members of the social system in the KWT Semi Lestari, Sananrejo Village, Turen District, Malang Regency. The selection of

respondents was carried out by purposive sampling to be more specific to the problems studied. This sampling method is more suitable for use in the early stages of exploratory studies (Ardial, 2015). In this study, the purposive sampling method was used to select a sampling of respondents from members and administrators of KWT as many as 30 KWT members. Informants for qualitative research are from elements of the Women Farmers group, innovation creators, village government, community leaders, and agricultural extension workers.

Primary data were collected through direct interviews with respondents. Secondary data were obtained through written library sources including reports, books, notes or photos that are related to the problems studied. Quantitative data analysis was used to see the response of Women Farmers to the role of members of the social system in the process of innovation diffusion and to see how the social system influences the decision to adopt innovation. Data for each variable were obtained through a questionnaire distributed to female farmers. The questionnaire distributed was in the form of questions where each respondent chose the available answers. Alternative statements were made using a Likert scale with a value of 1-5.

RESULT

1. Social System

The role of women farmers in the dissemination of the PGPR Nk Grow innovation is to provide demonstration plots and planting land for members. In addition to providing demonstration plots, KWT Semi Lestari also plays a role as a provider of nursery facilities and manages them so that the needs of members' seeds can be met from these nursery facilities and the seeds produced are also good seeds for planting. Through these nursery facilities, PGPR Nk Grow was first implemented or tested. The management and members of KWT Semi Lestari also play a role in arranging the planting around or in front of

the house. The members, assisted by their husbands, make shelves for planting, fill polybags together and arrange the polybags together.

The Group Leader in this case is the KWT Leader who is part of KWT Semi Lestari itself. The leader in the PGPR Nk Grow innovation diffusion process plays a role as an opinion leader. In addition to being an opinion leader, the KWT leader plays a role as the person in charge of activities. The Head of KWT Semi Lestari, Mrs. Sri Setyowati, is responsible for everything from nursery facilities, demonstration plots to members' yards. To carry out her responsibilities, the KWT chairperson always reminds her members to maintain plants, especially those in the members' yards, at least water them once a day. In terms of maintenance, sometimes she also takes action herself to water the plants at night because the availability of water at night is quite adequate. Before being distributed to members, the innovation is first tested by the KWT chairperson.

The Leader of KWT Semi Lestari also serves as the Leader of the RW so that she has a high influence and is recognized by the community. The Leader of the Semi Lestari KWT is also active in various activities carried out by the village government and sub-district government so that she often seeks information from outside the region. The Leader of the Semi Lestari KWT also plays a role as a norm compiler. The norms that exist in society have different binding powers. The norms that exist in the women's farmer group include watering plants every day, being on duty in the demonstration plot, planting after harvest, pulling out grass in each member's yard, and community service twice a month. In practice, most of these norms are carried out by KWT members and administrators. In order for community life to be orderly, norms are needed that were initially formed unintentionally, but then in their development were created consciously. The norms that exist in society have varying binding powers (Syarbaini and Rusdiyanta, 2009).

The innovation creator plays a role in creating innovation and providing examples of successful innovation in other places. The

innovation creator has gone through various stages in innovation development starting from identifying problems and needs, conducting basic and applied research, implementing development, implementing innovation commercialization, conducting diffusion and adoption processes and finally getting the consequences of innovation so that the PGPR Nk Grow innovation can be widely known by the community, especially in Turen District, Malang Regency.

In the process of PGPR Nk Grow innovation diffusion in KWT Semi Lestari, the innovation creator has not shown its maximum role to all KWT members. This is because the innovation creator has played its role optimally during the creation or making of innovation starting from identifying problems, conducting research and development, to the innovation commercialization process. So that at the stage of innovation diffusion and adoption, the innovation creator gives its role to other stakeholders, namely agricultural extension workers and the head of KWT. The innovation creator has only met with the head of KWT three times and met with the demonstration plot section to explain the benefits of the innovation. However, through these two people, the innovation creator hopes to convey the benefits and how to use the PGPR Nk Grow innovation, especially for vegetable plants, to other KWT members.

Community leaders in this case are the Head of RT (Neighborhood Association) and BPD (Village Consultative Body). In the process of PGPR Nk Grow innovation diffusion, these community leaders play a role in motivating the adoption of innovation and supervising the implementation of the norms that have been prepared. In the diffusion innovation process, the RT head plays a role in coordinating and conditioning residents, especially young people and husbands of KWT members, to be willing to work together and work together starting from mixing planting media, filling polybags, making shelves, to plant maintenance such as watering and arranging plants after harvest to separate damaged plants. In addition to the RT

administrators, there are also BPD members in the KWT Semi Lestari environment. These BPD members always motivate members to grow vegetables organically to make them healthy, one of which is by using PGPR Nk Grow in cultivating their vegetable plants and not using chemical fertilizers at all. Motivation is carried out individually or during KWT meetings and conveyed to members. The BPD members also always remind members to obey the norms or rules that have been made, such as watering plants on time, pulling weeds and cleaning the environment around the plantation, observing plants for pests and diseases and carrying out harvesting on time. In addition to the RT administrators and BPD members, in the KWT Semi Lestari environment there are also religious figures, namely the administrators of the MWC NU Turen District who also have an Islamic Kindergarten and Al Quran Learning Park (TPA) which happen to be close to the KWT demonstration plot location. Community leaders who are also religious and educational figures support all KWT activities, especially those related to the demonstration plot because it is close to the school they manage, so road access to the demonstration plot land is provided. In addition, around the TPA and school, vegetables are also planted so that they can blend with the plants in the environment.

The Village Government through the hamlet head actively monitors the activities carried out in the Semi Lestari KWT. The hamlet head is also active in assisting the KWT in building seed houses or nursery facilities with the assistance of the Head of Development. The Village Government, especially the Village Head, is also always active in attending KWT meetings from the beginning to its development. In every meeting, the Village Head always emphasizes the importance of utilizing the yard as a source of family food and the importance of healthy vegetables in supporting family health. The Head of Sananrejo Village always hopes that the vegetables planted by female farmers are organic vegetables so that they are healthier and have a high selling value. The Head of the Village supports and directs

the use of organic fertilizers or nutrients, both solid and liquid nutrients, and supports nutrients in the form of PGPR Nk Grow which have been introduced by agricultural extension workers so that they can be applied as optimally as possible.

Agricultural extension workers act as agents of change who bring and introduce innovation to the social system starting from the head and members of KWT, community leaders to the village government. According to Roger and Shoemaker (1997) in Vitayala (2017), people who carry out the task of realizing social change efforts are called agents of change. These change agents are professional officers who influence the innovation decisions of clients (the community being fostered) in the direction desired by the change institution. This person can be a psychologist, extension worker, politician, social worker, teacher, lecturer, religious leader, business person, public relations expert and so on. Agents of change are also defined as individuals who influence innovation decision-making in accordance with the objectives. Agricultural extension workers also play a role in explaining how to apply or use innovation, the time of application and the dosage of application so that PGPR Nk Grow can provide maximum results for plants. Agricultural extension workers also actively communicate with the head of KWT as an opinion leader so that the programs and technologies brought can be accepted by KWT. Agricultural extension workers work together with local community leaders such as RT heads and religious leaders so that the dissemination of information to targets can be carried out better and are able to build trust through interpersonal communication with KWT members.

2. PGPR Nk Grow Innovation

The PGPR Nk Grow innovation was created by a farmer from Tumpukrenteng Village, Turen District, Malang Regency named Mr. Nurkholis. According to Vitayala, 2017, the innovation development process has five stages, namely identifying problems and needs,

conducting basic and applied research, implementing development, implementing innovation commercialization, conducting diffusion and adoption processes, and finally getting the consequences of innovation. In the first stage of innovation creation, are identifying problems and needs, Mr. Nurkholis had seen the problem is decreasing land fertility, so Mr. Nurkholis thought about making soil-fertilizing bacteria. The first soil-fertilizing bacteria made were MOL or local microorganisms by utilizing materials available around the house like fruits, coffee leaves, and bamboo roots. The results of the creation were then applied to his rice plants and eggplant vegetables and the harvest results obtained increased compared to only using chemical fertilizers.

The second stage of innovation development is basic and applied research, where according to Rogers (1996) in Vitayala (2017), before a form of innovation is diffused, research should be carried out first to find out whether the type of innovation applied is in accordance with existing needs and conditions. The research carried out can start from the very basic ones, for example from the technological aspect, then the aspect of technological application. The basic research stage carried out by Mr. Nurkholis was to apply the results of the soil seed solution to Mr. Nurkholis' own eggplant planting land of 2000m^2. The trial showed good results, as evidenced by the eggplant plants being able to be harvested 48 times in one planting. The next trial was carried out on long bean plants, but the results were not good because the long beans were only fertile on the tree but the fruit was not optimal. After knowing the shortcomings of this innovation, Mr. Nurkholis carried out the third stage of innovation making, namely the development stage.

Rogers (1996) in Vitayala (2017) stated that development is basically based on research results. This research and development stage is important in the innovation development process because at this stage an innovation is in the process of bringing together new ideas that promise success with the potential needs of adopters. In this

research and development process, Mr. Nurkholis finally added other ingredients to improve the chemical content of the bacteria so that when tested on rice and corn plants, maximum results were obtained and were able to save 40% of chemical fertilizers. The research and development stages carried out by Mr. Nurkholis were quite long, even collaborating with Brawijaya University so that the nutrient content of the PGPR Nk Grow soil improvement bacteria innovation was obtained before entering the commercialization stage. The commercialization stage is the stage where an innovation result is produced, packaged, marketed and distributed as an innovation product (Rogers, 1996 in Vitayala, 2017).

The commercialization stage was carried out by Mr. Nurkholis starting from the first year of mentoring at Brawijaya University Malang by creating a brand for soil-fertilizing and improving bacteria. Through a series of discussions, it was finally decided that this bacteria would be given the name or brand Nk Grow. The name Nk Grow is the identity of the owner's name, namely Nk which is short for Nurkholis, the maker or creator of the soil-improving bacteria innovation, while Grow comes from English which means growing. Mr. Nurkholis as the creator of PGPR Nk Grow himself is very confident that the use of PGPR Nk Grow can continue to be used by the community because currently the fertility of agricultural land is starting to decrease and chemical fertilizer subsidies are also being reduced by the government. Thus, the addition of organic materials, both solid and liquid, to the soil is very necessary so that in the future PGPR Nk Grow is expected to be able to solve the problems of farmers and continue to be used by farmers. The final stage of innovation development is called consequences. According to Roger (1996) in Vitayala (2017), this stage will be known as the consequences or benefits of innovation.

3. The Influence of Social Systems on Innovation Adoption Decisions

The survey results showed that 16 people or 53% of respondents (KWT) decided to adopt innovation with conditions including being given assistance or mixed with chemical fertilizers and 14 people or 47% of respondents (KWT) decided to adopt innovation without conditions because they already knew the benefits and believed in what was conveyed by agricultural extension workers and KWT heads. Female farmers adopted innovation based on recommendations from agricultural extension workers and also KWT heads when receiving PGPR Nk Grow assistance, if PGPR assistance was not provided, female farmers were reluctant to adopt the innovation. This is in accordance with research conducted by Indraningsih (2013), where adopter farmers were willing to adopt technology depending on the capital they had, for this reason intervention or the role of the local government is needed in providing capital for farming activities.

Female farmers as members of KWT Semi Lestari have opinions or responses regarding the role of each social system involved in the diffusion of the PGPR Nk Grow innovation. Female farmers' responses to the role of each member of the social system influence the decision to adopt the PGPR Nk Grow innovation. The results of the study regarding the response to the role of the KWT leader in the process of diffusion of the PGPR Nk Grow innovation can be seen in Table 1.

Table 1. The Response to The Role Of The KWT Leader in The Diffusion Innovation Process of The PGPR Nk Grow

No.	Response to the Role of the KWT Leader	Number of Respondents	P (%)	Unconditional Adoption	Conditional Adoption
1	Very important role	8	26,67	7	1
2	Playing a role	12	40	7	5
3	Less Role	7	23,3	0	7

4	Not playing a role	3	10	0	3
5	Totally Ineffective	0	0	0	0
	TOTAL	30	100	14	16

Based on the data in Table 1. it can be seen that the response of female farmers to the role of the KWT leader influences the adoption of innovation. Members who feel the role of the KWT leader by giving a very important and important response amount to 66.67% and most will adopt the innovation unconditionally while members who feel less of the role of the KWT leader will adopt it with conditions. From the entire system in the Semi Lestari KWT, the KWT leader is the first to implement the PGPR Nk Grow innovation in her yard. After implementing the innovation, the KWT leader can explain it to the members regarding the advantages and disadvantages of the innovation so that she can be called an opinion leader.

The results of the study on the role of innovation creators in the PGPR Nk Grow innovation diffusion process can be seen in Table 2.

Table 2. The Response to The Role Of The Innovation creators in The Diffusion Innovation Process of The PGPR Nk Grow

No.	**Response to the Role of the Innovation Creators**	**Number of Respondents**	**P. (%)**	**Unconditional Adoption**	**Conditional Adoption**
1	Very important role	4	13,33	4	0
2	Playing a role	7	23,33	6	1
3	Less Role	7	23,33	2	5
4	Not playing a role	9	30	1	8
5	Totally	3	10	1	2

	Ineffective				
	TOTAL	30	100	14	16

Based on the data in Table 2. It can be seen that the response to the role of the innovation creator affects the adoption of innovation. Members who feel the role of the innovation creator will adopt the innovation unconditionally while members who do not feel the role of the innovation creator will adopt it conditionally. The innovation creator plays a role in creating innovation and providing examples of successful innovation in other places. In the process of innovation diffusion of PGPR Nk Grow in KWT Semi Lestari, the innovation creator has not shown a maximum role to all KWT members. This is because the innovation creator has carried out his role optimally during the creation or manufacture of innovation starting from identifying problems, conducting research and development, to the process of commercializing innovation. So that at the stage of diffusion and adoption of innovation, the innovation creator gives his role to other stakeholders, namely agricultural extension workers and the head of KWT.

Community leaders as part of the social system also have an influence on the decision to adopt the PGPR Nk Grow innovation. The results of the study on the role of community leaders in the process of diffusion of the PGPR Nk Grow innovation can be seen in Table 3.

Table 3. The Response to The Role Of The Community leaders in The Diffusion Innovation Process of The PGPR Nk Grow

No	Response to The Role Of The Community Leaders	Number of Respondents	P. (%)	Unconditional Adoption	Conditional Adoption
1	Very important role	0	0	0	0
2	Playing a role	11	36,67	8	3
3	Less Role	14	46,67	5	9
4	Not playing	5	16,67	1	4

	a role				
5	Totally Ineffective	0	0	0	0
	TOTAL	30	100	14	16

Based on the data in Table 3. it can be seen that the response to the role of community leaders influences the adoption of innovation. Members who feel the role of community leaders will adopt innovation unconditionally while members who feel less of the role of community leaders will adopt with conditions. Community leaders as supporters in the spread of this innovation also influence the decision to adopt innovation because these community leaders are also used as advisors and places to ask for advice by female farmers.

In the process of PGPR Nk Grow innovation diffusion, the village government through the hamlet head actively monitors and provides assistance to activities carried out in KWT Semi Lestari starting from the application of PGPR Nk Grow in nursery facilities, demonstration plots to members' yards. The results of the study on the role of the village government in the process of PGPR Nk Grow innovation diffusion can be seen in Table 4.

Table 4. The Response to The Role Of The Village Government in The Diffusion Innovation Process of The PGPR Nk Grow

No	Response to the Role of the Village Government	Number of Respondents	P. (%)	Unconditional Adoption	Conditional Adoption
1	Very important role	1	3,33	1	0
2	Playing a role	14	46,67	10	4
3	Less Role	13	43,33	10	3
4	Not playing a role	2	6,67	0	2
5	Totally Ineffective	0	0	0	0
	TOTAL	30	100	21	9

Based on the data in Table 4, it can be seen that the response to the role of the village government influences the adoption of innovation. Members who feel the role of the village government will adopt the innovation unconditionally, while members who do not feel the role of the KWT leader will adopt it with conditions. The role of the village government in the diffusion of the PGPR Nk Grow innovation includes providing motivation to members to always produce natural vegetables without pesticides and chemical fertilizers. The village head also actively buys organic vegetable harvests so that the Women Farmers group is more active in planting healthy vegetables.

Agricultural extension workers are also members of the social system who have an important role as agents of change. The results of research on the role of agricultural extension workers in the process of diffusion of PGPR Nk Grow innovation can be seen in Table 5.

Table 5. The Response to The Role Of The Agricultural Extension Wrokers in The Diffusion Innovation Process of The PGPR Nk Grow

No.	Response to the Role of the Agricultural Extension Workers	Number of Respondents	P. (%)	Unconditional Adoption	Conditional Adoption
1	Very important role	12	40	10	2
2	Playing a role	7	23,33	4	3
3	Less Role	11	36,67	11	0
4	Not playing a role	0	0	0	0
5	Totally Ineffective	0	0	0	0
	TOTAL	12	40	10	2

Based on the data in Table 5. It can be seen that the response to the role of agricultural extension workers affects the adoption of innovation. Members who feel the role of agricultural extension workers will adopt innovation unconditionally while members who do not feel the role of agricultural extension workers will adopt with

conditions. Agricultural extension workers act as agents of change who bring and introduce innovation to the social system starting from the head and members of the KWT, community leaders to the village government.

According to Roger and Shoemaker (1997) in Vitayala (2017), people who carry out the task of realizing social change efforts are called agents of change. These change agents are professional officers who influence client innovation decisions (the community being fostered) in the direction desired by the change institution. This person can be a psychologist, extension worker, politician, social worker, teacher, lecturer, religious leader, business person, public relations expert and so on. Agricultural extension workers as change agents or convey innovation to farmers using existing communication channels, both extension media and extension methods that are appropriate and in accordance with farmers' expectations.

DISCUSSION

According to (Rogers, 2003), there are four elements of innovation diffusion, namely innovation characteristics, communication channels, social systems and time. The social system in the innovation diffusion process is a group of several units/units that are interconnected to solve common problems in achieving common goals. These units or units can be individuals, groups, organizations, or subsystems. The existence of common goals is the main bond in a social system. Based on research conducted by Dewi et al (2023), there are several stakeholders in the social system involved in the P2L Program at KWT Semi Lestari, Sananrejo Village, Turen District, namely members and administrators of KWT Semi Lestari itself, the village government, the village PKK driving team, the sub-district government, the sub-district PKK driving team, community leaders, vegetable traders, agricultural extension workers and the district office. These stakeholders have their respective roles and interests.

In the process of PGPR Nk Grow innovation diffusion at KWT Semi Lestari, not all of the above stakeholders play a role. There are several important stakeholders involved in the PGPR Nk Grow innovation diffusion process, including the Semi Lestari Women Farmers Group (KWT) itself, which consists of group members and administrators, village government, community leaders, agricultural extension workers and the makers or creators of the innovation. According to Handono et al. (2020), participation can be seen as a comprehensive process in community empowerment, starting from the roots, trunk, branches, leaves. This means that it is necessary to look at the root of the problem, who the target is who has the problem, stakeholders or stakeholders involved, and other inhibiting or supporting factors.

Adoption is the process of accepting innovation and/or behavioral changes in the form of: knowledge (cognitive), attitude (affective), or skills (psychomotoric) in a person after receiving the innovation conveyed by the extension worker by the target community (Mardikanto, 2010). Meanwhile, according to Soekartawi (2005), innovation adoption is a process of social change with the presence of new discoveries that are communicated to other parties, then adopted by the community or social system. Innovation is an idea that is considered new by someone, it can be new technology, new organizational methods, new agricultural product marketing methods and so on. The adoption process is a process that occurs from the first time someone hears something new until that person adopts (accepts, applies, uses) the new thing.

According to Roger (2003), there are factors that influence the diffusion of innovation in addition to the characteristics of the innovation itself, including communication channels and social systems. In this study, most members of the Women Farmers group adopted innovation with conditions. This is because the innovation was introduced through a program by agricultural extension workers and was given free of charge. As in the study conducted by Safitri and

Cahyono (2017), it was stated that the spread of the Mi-Lo biological agent was assisted by technical assistance and funds from Brawijaya University. In addition, the atmosphere of the farmer groups participating in this program was relatively conducive, as seen from the large number of farmer group members who had positive perceptions of the new technology. Further evaluation results showed that the farmers participating in the program not only assessed the technical aspects, but they also considered the economic, socio-cultural, and even political aspects or their suitability to national and regional development policies.

The response of female farmers to the role of the KWT leader influences the decision to adopt the PGPR Nk Grow innovation. According to Vitayala (2017), the characteristics of opinion leaders include being recognized by community members, having a higher level of cosmopolitanism and socio-economic status, and having good interpersonal communication. KWT members who often establish interpersonal communication with the KWT leader will feel the role of the KWT leader and get more information about PGPR Nk Grow so that they have a tendency to adopt unconditionally.

The response of female farmers to the role of innovation creators and community leaders also influenced the decision to adopt the PGPR Nk Grow innovation. This is in accordance with Markiewicz's research (2015), when there was little specialization in market sectors, support organizations started to be treated more as selectors of information and change agents for innovations.

The response of female farmers to the role of the village government also influences the decision to adopt the PGPR Nk Grow innovation. According to Jamaludin (2015), the role of the village government like this is one of the roles in the Control Function, namely the village government is able to direct the activities of its members in a focused and deep manner. Effective coordination allows for the achievement of common goals optimally in carrying out the leader's control function which can be realized through guidance,

direction, coordination and supervision activities. This is in line with research conducted by Ardyanti et al (2023), that effective involvement with stakeholders including the Regional Government and Village Government is very important for the success of a program.

Agricultural extension workers are also members of the social system who have an important role as agents of change. According to Rogers (1995) in Romadi (2023), there are several factors that can support the success of a change agent, including efforts to promote innovation, being more client-oriented, collaborating with the community and the credibility of the change agent itself. A person's acceptance of a message (innovation) depends on the credibility of the source (change agent) that sends the message. The higher the credibility of the change agent, the greater its ability to influence clients. Ideally, there is a match between the change agent and its clients, the object of innovation, the recipient client (adopter) and the media used to convey the message. A change agent may have the technical ability to utilize the media used but is not credible in the eyes of his clients, but there is also someone who is credible but the media used cannot be accessed by his clients because it is not based on the conditions and characteristics of the target/client. As in research conducted by Cahyono and Agunga (2016), extension workers very firmly conveyed the importance of communication to build relationships and increase farmer participation.

According to Rogers (1996) in Vitayala (2017), in a social system there are two types of social structures, namely formal structures and informal structures. Formal structure is used in formal social system units, such as government offices, while informal structure is used in a network of interpersonal relationships by members of a system. In this study, those included in the formal structure are the village government and agricultural extension workers, while the informal structure includes the head, administrators and members of the KWT, innovation creators, and

community leaders. Both formal and informal structures have their respective roles so that they can influence the decision to adopt women farmers' PGPR Nk Grow innovation.

CONCLUSION

The results of the study showed that the social system that plays a role in the process of innovation diffusion PGPR Nk Grow includes female farmers, innovation creators, community leaders, village government, and agricultural extension workers. Female farmers as respondents stated that the KWT head plays a role in the process of innovation diffusion PGPR Nk Grow where 66.67% of respondents stated that the KWT head plays a very important role and plays a role in the innovation diffusion process. While 36.67 respondents stated that innovation creators play a very important role and play a role, 36.67% of respondents also stated that community leaders play a very important role and play a role, 50% of respondents stated that the village government plays a very important role and plays a role in the innovation diffusion process while 63.33% of respondents stated that agricultural extension workers play a role in the process of innovation diffusion PGPR Nk Grow.

It can be concluded that the members of the social system who play the most important role in the process of innovation diffusion PGPR Nk Grow are the KWT Head and agricultural extension workers. The response to the role of this social system also affects the level of innovation adoption. Female farmers who felt the positive role of members of the social system decided to adopt unconditionally, while female farmers who felt less of the role of the social system decided to adopt on the condition that PGPR Nk Grow was given free of charge or that chemical fertilizer was added when used on plants.

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