

The Role of Agricultural Extension Workers in Urban Agriculture Development During the Covid-19 Pandemic in Yogyakarta City, Indonesia

Retno Wulandari^{1,2*}, Roso Witjaksono¹, and Ratih Ineke Wati¹

¹ Program of Extension and Development Communication, School of Post Graduate Studies, Universitas Gadjah Mada, 55284, Jl. Teknik Utara, Pogung, Sinduadi, Mlati, Sleman, Yogyakarta, Indonesia

² Department of Agribusiness, Universitas Muhammadiyah Yogyakarta, 55183 Jalan Brawijaya, Kasihan, Bantul, Yogyakarta, Indonesia

*Corresponding author. Email: retno.wulandari@umy.ac.id

ABSTRACT

To support urban agricultural development, the role of an extension worker is needed, where this role is needed to build farmer attitudes and participation towards, especially during the Covid 19 pandemic. The aims of this study were to describe urban agricultural activities carried out by farmers and to analyze the role of agricultural extension agents in urban agricultural development in Yogyakarta City, Indonesia. The study was conducted in the city of Yogyakarta, using a survey method of 48 group members from all districts in the city of Yogyakarta who were selected by the *Multistage Random Sampling* method. The data was collected by conducting interviews using a structured and in-depth interview guide. Quantitative descriptive analysis was used to describe urban agricultural activities and to determine the role of agricultural extension agents in urban agricultural development. The results showed that urban agricultural activities carried out by urban farmers during the pandemic were the use of urban yards through the Vegetable Village Program launched by the Yogyakarta City Agricultural Service. The implementation of the program is carried out through farmer groups to have group gardens, nurseries, and vegetable aisles. The role of agricultural extension agents is as a motivator, facilitator, educator, and communicator, and each of these roles is classified as good. Overall, the role of agricultural extension agents is in a good category. The role of agricultural extension agents is very much needed because during the Covid 19 pandemic there was an increase in agricultural activities using urban yards.

Keywords: urban agriculture, development, role of agricultural extension workers, covid 19 pandemic

1. INTRODUCTION

During the COVID-19 pandemic, every household must be able to use their yard as a sustainable food source to increase their availability, accessibility, utilization, and income. In conditions like today, the benefits of using yard land are felt, so that food security does not only concern the adequacy of food ingredients, but also about the ability to produce their own food by utilizing local resources. This is a strategic effort not only to meet the food and nutritional needs of the family, but also to increase

household income, especially in the current pandemic conditions.[1].

Urban agriculture is very important for people in urban areas, with limited land, people can maximize agricultural activities to obtain results from these agricultural activities [2]. Utilization of urban yards can ensure the availability of fresh and nutritious food, thereby increasing the intake of vegetables and fruit, and can save the food budget [3].

Urban Agriculture is defined as the cultivation, processing, marketing, and distribution of food,

forestry and horticultural products that occurs in and around urban areas. Urban agricultural activities have the potential to encourage development in urban areas from the perspective of the environment, economy, and access to food which directly and indirectly have an impact on people's welfare [4][5]. The magnitude of the market opportunity is in line with the growth of urban communities, the close distance between producers and consumers, the issue of global climate change, the increasing awareness of the environment and healthy lifestyles, as well as the high rate of urbanization of workers from rural to urban areas [6].

In contrast to agricultural systems in rural areas, urban farming systems have a very high complexity. This is caused by several things, such as very diverse factor variability, very high dynamics, minimal organization, commitment to other jobs, and community resources who do not have experience in these fields (agriculture, animal husbandry, fisheries, and product processing). Therefore, the innovation system and innovation recommendations that are usually applied in rural areas cannot be fully implemented in urban areas. The availability of appropriate technical innovations with urban characteristics, effective, efficient, low income and high yields are prerequisites that must be met [7].

The activity of utilizing urban yards is one of the choices of people in urban areas because it makes urban areas look cool and green [8]. Basically, the success of an agricultural development is not only seen from the condition of its agricultural resources, but is also determined by the role of agricultural extension workers who rely on the quality of human resources, so that the results obtained are able to develop on existing technology and innovation [9]. The role of extension workers is very important because they are able to change the mindset and way of working of people about the world of agriculture who are less familiar with digital technology in the modern era like today.

Agricultural instructors are officers given the mandate by the government to foster and guide farmers or the community about the world of agriculture. The task of guidance carried out by extension workers aims to improve the quality of the human resources of the farmers so that the insights possessed by the farmers become wider [10]. The activities carried out by the community certainly cannot be separated from the role of agricultural extension workers, because with the extension all activities related to agriculture can become more measurable and directed [11]. Counseling given to the

community is a form of self-reliance process which will be played directly by the community without an extension worker, so that the achievements obtained come from the community's own efforts.

Agricultural Extension Officers (PPL) are officers from the Agricultural Extension Center (BPP) who are assigned to provide direction, guidance, and counseling in the field of agriculture on a sub-district administration basis. Extension workers are tasked with providing encouragement to farmers to want to change their way of thinking, work and way of life that is more in line with the times, the development of more advanced agricultural technology. Thus, an agricultural extensionist in carrying out his duties has four roles, namely as a motivator, facilitator, educator and communicator.

In the city of Yogyakarta, only 3,250 hectares of agricultural land are available, with an area of 54 hectares of paddy fields and 3,196 hectares of non-rice fields, meaning that people do more agricultural activities from home by farming through pots, polybags, or other planting media [12]. The role of extension workers in the city of Yogyakarta is very important for farmers in urban areas, with the existence of extension workers agricultural activities will be more easily assisted. In the city of Yogyakarta, there are extension workers who have been divided into each sub-district, as the task of the Yogyakarta City Agriculture and Food Service to foster and guide urban agricultural activities in each farmer group. Basically, agricultural extension workers in the city of Yogyakarta have a role and capacity according to their capabilities in the field of agriculture, this role is described in extension activities with the aim of helping members of farmer groups develop urban yards in each region. Based on the description above, how is the implementation of urban agriculture in the city of Yogyakarta and how is the role of agricultural extension workers in the development of urban agriculture in the city of Yogyakarta.

2. RESEARCH METHOD

This research was conducted in Yogyakarta City in Indonesia by taking locations in three districts of Kraton, Danurejan, and Mantrijeron, with 48 respondents randomly taken from six farmer groups, two groups in each district. The respondents were people using their yards for farming vegetables, fruit plants, ornamental plants, medicinal plants, and members of farmer groups.

Table 1. Item Statement of The Role of Agricultural Extension Worker

| Motivator | Facilitator | Educator | Communicator | Score |
|--|---|--|--|--------------|
| Encourages farmers to promote agribusiness in urban agricultural development | Help members to get good harvests in urban agriculture | Provide training to farmer groups on crop cultivation | Able to communicate well to farmers | 1 - 5 |
| Encourages farmers to follow the extension of urban agriculture | Helps members to get a good capital knowledge and funds for development in urban agriculture | Gives an idea to farmers on crop cultivation | Convey extension materials in a clear and easily understood | 1 - 5 |
| Encourage group members to stay with urban agriculture groups | Assist members to attend trainings held by government or private institutions to urban agricultural development | Practice directly after giving ideas. | master agricultural extension materials well workers | 1 - 5 |
| Support activities organized by urban agricultural | Help groups collaborate with government agencies or agricultural services | Demonstrate how to select production inputs good (seeds, fertilizers, pesticides, equipment) | Convey extension materials with medium farms | 1 - 5 |
| Support activities issued by the government on policy implementation system of urban agriculture | Helped the group to cooperate with other farmer groups | Demonstrated how to care for plants and methods of controlling pests and weeds | Convey solutions to complaints from members of farmer groups | 1 - 5 |

This study employed a quantitative descriptive research method with a survey technique. Primary data were collected by interview using a structured questionnaire. The role of agricultural extension worker consists of four indicators: motivator, facilitator, educator, and communicator. The role of the extension worker is known from the perception of farmers in assessing the extension worker in carrying out his duties as a motivator, facilitator, educator, and communicator. Table 1 showed that the role of agricultural extension worker was measured using a Likert Scale of items with a score of 1 to 5, namely Very Often, Often, Sometimes, Rarely, Never. The answers were calculated, and percentages were utilized to categorize not good, fairly good and good levels.

3. RESULT AND DISCUSSION

3.1 Demographics of Respondents

To find out the role of extension workers in urban agriculture development in Yogyakarta, it is necessary to know the characteristics of respondents as members of farmer groups. Characteristics of respondents who do urban farming include gender, age, education, farming experience and yard area. Table 2 showed that gender of respondents 80% is dominated by women. Age is dominated by productive age between 36 to 61 years. Education is dominated by high school education as much as 62.5% and university education

as much as 33.33%. For farming experience 81.25% is dominated by experience between 0 to 8 years, this shows that respondents do not have experience in carrying out agricultural activities. Eighty percent more of the respondents have a yard area between 10 to 68 m², this shows that the area of the yard owned by the respondent includes a narrow yard.

Table 2. Demographics of Respondents

| Item | Frequency (People) | Percentage (%) |
|-----------------------------|--------------------|----------------|
| Gender | | |
| Man | 9 | 18.75 |
| Woman | 39 | 81.25 |
| Total | 48 | 100.00 |
| Age (Year) | | |
| 23 - 35 | 7 | 14.58 |
| 36 - 48 | 14 | 29.17 |
| 49 - 61 | 19 | 39.58 |
| 62 - 73 | 7 | 14.58 |
| 74 - 86 | 1 | 2.08 |
| Total | 48 | 100.00 |
| Education | | |
| Elementary School | 1 | 2.08 |
| Junior High School | 1 | 2.08 |
| Senior High School | 30 | 62.5 |
| University | 16 | 33.33 |
| Total | 48 | 100.00 |
| Farming Experience (years) | | |
| 0-8 | 39 | 81.25 |
| 9-17 | 6 | 12.50 |
| 18-26 | 0 | 0 |
| 27-35 | 2 | 4.17 |
| 36-40 | 1 | 2.08 |
| Total | 48 | 100.00 |
| Yard Area (m ²) | | |
| 10 - 68 | 39 | 81.25 |
| 69 - 127 | 6 | 12.5 |
| 128 - 186 | 1 | 2.08 |
| 187 - 245 | 1 | 2.08 |
| 246 - 300 | 1 | 2.08 |
| Total | 48 | 100.00 |

3.2 Development of Urban Agriculture through the Vegetable Village Program

The Urban Yard Land Utilization Model in the City of Yogyakarta is carried out through the Vegetable Village Program. The Yogyakarta City Government through the Department of Agriculture and Food has established a Model of Yard Land Utilization through the Vegetable Village Program, aimed at accelerating food diversification, and strengthening community food security. With the suggestion that the use of the yard is very appropriate to meet the food and nutrition of the family, considering that so far the yard has not been used optimally. Whereas the yard has the potential to be

developed as a food producer, in improving family nutrition while increasing family income [13].

Utilization of the implementation of courtyard through the concept of *Family Farming Integrated System* especially in at district level and *Sub-village Committees* is integrated with a variety of other activities to realize an increase in food supply and economic development of the region through community empowerment through *agriculture*. In addition to meeting the nutritional needs of the community, this movement is also aimed at increasing the diversity and quality of people's food consumption so that it is more diverse, nutritionally balanced and safe to support healthy, active and productive lives.

The Yard-based Vegetable Village Program can run because it is supported by an institution, in the form of a Farmer's Group, an Adult Farmer's Group or a Women's Farmer's Group in one area. The group is tasked with organizing and managing urban farming systems within the village. Each group has a name according to the agreement and an address according to its area. One group consists of a minimum of 20 people and has an organizational and management structure. One indicator of the success of the Vegetable Village Program is the increased activity of group members. The form of group activities can be in the form of regular meetings of group members, division of tasks, administrative records and bookkeeping and routine community service. In the implementation of the Vegetable Village Program, the following facilities and infrastructure are needed, including:

a. Seed Storage

Vegetable seeds in the form of seeds, both packaged and non-packaged, must be stored in a special place. The storage area must be protected from direct heat and rain. Incoming seed must be recorded in a seed stock inventory book containing information on the type of plant, origin, quantity, date of entry and expiration date. In the use of seeds, the FIFO system applies (*first in first out*) or seeds that are stored first must be used first.

b. Nursery House

Nursery house is a building specially designed for nurseries so that it can produce healthy seeds in a relatively fast time. The benefits of seed houses include controlled microclimate conditions for plant growth by maintaining temperature. Consider light transmission, regulate humidity and protect against pests and diseases.

c. Group Gardens

The increasingly narrow planting area in urban areas should not reduce the enthusiasm of residents to grow vegetables. New planting sites can be formed or created by maximizing the existing land. Group gardens can be in the form of house yards, land owned by residents, public facilities or vacant land used to grow vegetables. Figure 1 showed that group gardens are placed in places that are easily accessible and have access to water sources and sufficient sunlight.



Figure 1. Group Garden

d. Vegetable Aisle

Figure 2 showed that the vegetable aisle is carried out by utilizing walls, walls, or alleys along the road to grow various types of vegetables. Types of plants that can be planted directly on the ground or in planter bags, polybags, and pots to be placed along alleys or roads are usually in the form of fruit vegetable plants such as chili, eggplant, tomatoes, and others. while on the wall, usually leafy vegetable plants such as using wall planter, gutter pots, wall pots or used bottles.



Figure 2. Vegetable Aisle

3.3 The Role of Agricultural Extension Worker in Urban Agriculture Development

The task of agricultural extension workers is to help farmers provide information, experience, and achieve results that are expected to make farmers better and more creative than before. In addition, in order to provide good counseling and be accepted by farmers, extension workers must have basic knowledge of cultivation methods, be able to understand the challenges of the farmer's situation and be willing to listen and understand the complaints submitted by farmers. In addition, extension workers must have the ability to be fair to one another, patient, fully understanding and caring, and humble. The existence of agricultural extension workers in the use of urban yards in the city of Yogyakarta has a great contribution, as can be seen from the increase and increase in agricultural production. The following are the roles carried out by agricultural extension workers in the use of urban yards.

a. The Role of the Agricultural Extension Worker as a Motivator

The role of an extension worker as a motivator is very much needed by all farmer groups in rural and urban areas. Extension workers must be able to motivate farmers to always move in utilizing urban yards. Agricultural instructors motivate group members to achieve the results desired by their groups, indicating that the involvement of the extension workers is quite large in providing motivation and enthusiasm in the use of urban yards [14]. The following is a scoring table for the role of the instructor as a motivator in Table 3.

Table 3. Motivator Scoring

| No | Indicator | Score Interval | Average Score | Category |
|-------|---|----------------|---------------|----------|
| 1 | Encourage farmers to promote agribusiness in the use of urban yards | 1 - 5 | 4.04 | Good |
| 2 | Encourage farmers to take part in counseling about urban yards | 1 - 5 | 4.88 | |
| 3 | Encourage group members to stay with urban agriculture groups | 1 - 5 | 4.24 | |
| 4 | Support activities organized by groups | 1 - 5 | 4.15 | |
| 5 | Support activities issued by the government regarding urban yard policies | 1 - 5 | 3.94 | |
| Total | | 5 – 30 | 21.25 | |

Measurement:

Not Good = 1 – 9.99

Fairly Good = 10 – 19.9

Good = 20 - 30

In the first indicator which states that extension workers encourage farmers to advance agribusiness in urban agricultural development got a score of 4.04 with good description. This indicator shows that the extension workers really motivate the members of the farmer groups to always develop and advance the group by providing counseling in the field of agribusiness. The group members also considered that the instructor's steps in this way were acceptable to all members of the farmer group.

In the second indicator, which states that extension workers encourage farmers to take part in extension on urban agriculture, they get a score of 4.88 with good information. This indicator explains that the extension worker does encourage and motivate group members to always attend training with the aim of gaining experience in terms of *skills* and mentality to develop the use of urban yards, especially in their respective farmer groups.

In the third indicator, which mentions that extension workers encourage group members to stay with urban agricultural agribusiness groups, which gets a score of 4.24 with good information. This indicator shows that farmers feel the encouragement and motivation of the extension workers to always join associations outside the farmer group. This also has a positive impact on group members to gain more knowledge about the use of urban yards.

The next indicator is that extension workers support activities arranged by urban agricultural agribusinesses, which get a score of 4.15 with good information. This indicator explains that the step of the extension agent to provide motivation about the activities of the farmer group is appropriate where the support is received by the farmers. The activities

carried out also refer to the empowerment program for the use of urban yards.

The last indicator is that extension workers support activities issued by the government on policies for implementing urban farming systems, which get a score of 3.94 with good information. This indicator explains that the role of extension workers is appropriate and accepted by farmers. Extension workers provide motivation and support for group members to always carry out urban yard utilization activities with reference to government policies.

From all indicators, it can be concluded that the role of the instructor as a motivator to group members is appropriate, this is indicated by the final score of 21.25 with good information. Farmers also accepted the steps taken by extension workers to provide directions for utilizing urban yards in accordance with government recommendations [15].

b. The Role of the Agricultural Extension Worker as a Facilitator

The role of the facilitator carried out by the extension worker is as a person who can help the community so that the community is willing to participate in farming activities, a person who is able to hear and understand the aspirations of the community, is able to provide support, is able to provide facilities to the community. Extension workers also facilitate farmers on matters relating to the use of urban yards that are occupied by farmers so that farmers carry out plant cultivation appropriately. The following is data on the role of the instructor as a facilitator in Table 4.

Table 4. Facilitators Scoring

| No | Indicator | Score Interval | Average Score | Category |
|----|--|----------------|---------------|----------|
| 1 | Help members to get good agricultural inputs in urban agriculture | 1 - 5 | 4.28 | Good |
| 2 | Assist members in obtaining capital, both knowledge and funds for development in urban agriculture | 1 - 5 | 4.24 | |
| 3 | Assist members to participate in training held by government agencies for the use of urban yards | 1 - 5 | 4.21 | |
| 4 | Helps the group collaborate with government agencies or the agricultural service | 1 - 5 | 3,80 | |
| 5 | Helps the group collaborate with the group other farmers | 1 - 5 | 4.60 | |
| | Total | 5 - 30 | 21.13 | |

Measurement:

Not Good = 1 – 9.99

Fairly Good = 10 – 19.9

Good = 20 - 30

In the first indicator which states that extension workers help members to get good agricultural inputs in urban agriculture, which obtained a score of 4.28 in the good category. This indicator shows that farmer group members are greatly assisted in obtaining agricultural inputs. Extension workers help or methods so that group members can easily apply for production input assistance for the use of urban yards.

In the second indicator which states that extension workers help members to obtain capital, both knowledge and funds for development in urban agriculture, which scores 4.24 with good performance. This indicator explains that farmers are indeed helped in terms of knowledge and finance for the use of urban yards. The farmers also hope that the extension workers will always provide facilities to advance the group.

The next indicator is that extension workers assist members in participating in training held by government or private institutions for urban agricultural development, which scores 4.21 with a fairly good description. This indicator shows that in helping farmers to take part in training held by government institutions, extension workers are not facilitating, which is constrained by several factors, one of which is during a pandemic season like this the government also does not hold training methods because to anticipate the emergence of crowds.

The next indicator is that the extension worker helps the group to collaborate with government agencies or the agricultural service, which gets a score of 3.80 with a fairly good category. This indicator explains that in assisting cooperation with agricultural institutions or dinars, farmers are not facilitated by extension workers. The lack of assistance is also caused by the situation and conditions in the current

pandemic, agricultural institutions or agencies limit direct activities with farmers.

The last indicator states that the extension worker helps the group collaborate with other farmer groups, which gets a score of 4.60 with good information. This indicator explains that the steps taken by the extension workers in helping farmer groups cooperate with other farmer groups are strongly felt by group members. Farmer group members feel that cooperation with other farmer groups is also necessary to help each group progress.

From all existing indicators, it can be concluded that the role of the extension worker as a facilitator for farmer group members is quite good, with a final score of 21.13. Extension workers have advantages and disadvantages in providing facilitation for group progress due to the current situation [16] and the current pandemic condition and because of the government's rules that must comply with existing health protocols.

c. The Role of the Agricultural Extension Worker as an Educator

The role of the agricultural instructor is as an educator, which means that the extension provides farmers or farmer groups with information related to farmers' farming. With the extension, it is hoped that there will be a change in attitude from those who do not want to be willing, there is a change in knowledge from those who do not know to know. The instructor will provide information related to agriculture so that farmer groups and the community know about new innovations in the agricultural world. The following is a scoring table for the role of the instructor as an educator in Table 5.

Table 5. Educators Scoring

| No | Indicator | Score Interval | Average Score | Category |
|-------------|---|----------------|---------------|----------|
| 1 | Provide training to farmer groups on plant cultivation | 1 - 5 | 4.30 | Good |
| 2 | Workers give ideas to farmers about plant cultivation | 1 - 5 | 4.97 | |
| 3 | Practice directly after giving ideas | 1 - 5 | 4.68 | |
| 4 | Demonstrate how to choose good inputs (seeds, fertilizers), pesticides, equipment | 1 - 5 | 4.80 | |
| 5 | Demonstrate how to care for plants and how to control pests and weeds | 1 - 5 | 4.85 | |
| Total Score | | 5 - 30 | 23.60 | |

Measurement:

- Not Good = 1 – 9.99
- Fairly Good = 10 – 19.9
- Good = 20 - 30

On the first indicator mentions that extension workers provide training to farmer groups on plant cultivation, which obtained a score of 4.30 in the good category. The indicator explains that farmer group members are highly educated and receive training provided by extension workers on plant cultivation. Farmer group members also expect the extension workers to always provide counseling with the latest material.

The second indicator states that the extension worker gives ideas to farmers about plant cultivation, which gets a score of 4.97 with a good category. This indicator explains that extension workers always provide ideas about plant cultivation to members of farmer groups. The ideas or ideas conveyed by the extension workers are the latest information about the use of urban yards which will add knowledge to members of farmer groups [17].

The third indicator states that the instructor practices directly after giving an idea or ideas, which gets a score of 4.68 with a fairly good description. This indicator explains that in providing training, extension workers rarely practice the material given to members of farmer groups [18]. The practice of new things is needed by members of the farmer group to advance the group and the region.

The next indicator is the extension worker demonstrating how to choose good inputs (seeds, fertilizers, pesticides, equipment), which obtained a score of 4.80 in the good category. This indicator shows that in choosing or buying inputs, the best price and quality must be considered. Farmers are greatly helped by the steps given by the extension workers to select good and superior production inputs.

The last indicator is the extension worker demonstrating how to take care of plants and how to control pests and weeds, which got a score of 4.85 in the good category. This indicator shows that the instructor's steps in providing education on plant care are highly accepted by members of the farmer groups. Group members do need these procedures in order to produce plants that grow and develop properly.

From all existing indicators, it can be concluded that the role of extension workers as educators is very much needed by members of farmer groups, this is supported by a total score of 23.60 good information. Extension workers are also expected to be able to provide the latest information and innovations regarding the use of urban yards because it increases the knowledge of group members to advance urban yards [19].

d. The role of the extension worker as a communicator

The role of the extension worker as a communicator is also needed by farmers in urban areas, because with good communication, farmers will easily understand the meaning of the instructor's direction. Extension workers as communicators are planning the communication process in accordance with the program being run, both individually and in groups. In delivering the material, the instructor uses language that is easy to understand so that there are no misunderstandings [20]. The following is the scoring data for the role of the instructor as a communicator in Table 6.

Table 6. Communicator Scoring

| No | Indicator | Score Interval | Average Score | Category |
|----|--|----------------|---------------|----------|
| 1 | Able to communicate well to farmers | 1 - 5 | 4.85 | Good |
| 2 | Conveys the extension material clearly and easily to understand | 1 - 5 | 4.85 | |
| 3 | Mastered the agricultural extension material well | 1 - 5 | 4.98 | |
| 4 | Delivered the extension material using agricultural media | 1 - 5 | 4.98 | |
| 5 | Hear complaints from members of farmer groups about urban agriculture problems | 1 - 5 | 4.81 | |
| | | 5 - 30 | 24.47 | |

Measurement:

Not Good = 1 – 9.99
 Fairly Good = 10 – 19.9
 Good = 20 – 30

The first indicator states that the instructor is able to communicate listen n is good for farmers, who get a score of 4.85 with good information. This indicator shows that when communicating with extension workers, farmers can receive the message conveyed. The resulting communication comes from the professionalism of an extension worker in the world of agricultural extension. The second indicator states that the extension worker conveys the extension material clearly and easily, which gets a score of 4.85 with good composure. This indicator shows that in delivering the extension, the material for the extension agent is easily understood by members of the farmer group so that the knowledge gained is conveyed clearly. Group members always expect intense communication with extension workers to learn the use of urban yards [19]. The next indicator is that the instructor has mastered the agricultural extension material well, which got a score of 4.98 with good information. This indicator shows that in providing counseling, the instructor is very well versed in the material presented. Extension materials are based on information on plant cultivation and others, so that information obtained by members of farmer groups can be absorbed as a whole. The fourth indicator is the extension worker delivering extension material using agricultural media, which gets a score of 4.98 with good information. This indicator shows that the extension carried out by farmers is very useful by adding the use of planting media directly, so that the message conveyed can be accepted by all members of the farmer group. Farmer group members expect the extension workers to also provide the latest material on the use of urban yards. In the fifth indicator, the extension worker hears the complaints of members of the farmer group about urban agricultural problems, which gets a score of 4.81 with good information. This indicator shows that,

when members of a farmer group experience some problems regarding the use of urban yards, extension workers can help with these problems. The extension agent's steps in this regard are also aimed at bringing closer communication relations with members of farmer groups.

From all the indicators mentioned in the role of the extension worker as a communicator, it can be concluded that, in delivering the extension material on the use of urban yards, the members of the farmer group understand the message very well so that it can be applied to the utilization of urban yards [21]. This was obtained from the scoring table which obtained 24.47 with good information. The role of extension workers as a whole is important for both members and farmer groups. Guidance and direction from extension workers are needed to take advantage of the empty yard. In each farmer group, the extension worker always provides extension information in accordance with the direction of the Yogyakarta City Agriculture and Food Service so that the extension material can be accepted by members and farmer groups. In farmer groups in each sub-district there is also a group leader who has the status of a self-help extension worker.

4. CONCLUSION

The role of agricultural extension workers in the development of urban agriculture in the city of Yogyakarta shows that the role of extension workers as motivators, facilitators, educators and communicators is included in the good category. This shows that the respondents have a good perception of the role of agricultural extension workers in the development of urban agriculture in the city of Yogyakarta. More attention that extension workers are expected to be more active in guiding farmer groups

so that the implementation of urban farming can run well

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