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COMMUNITY MOVEMENT IN INDEPENDENT VEGETABLE GROWING TO INCREASE HOUSEHOLD FOOD SECURITY DURING THE PANDEMIC

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Abstract: The increase in the Covid-19 second wave in Indonesia has made the government implement a stricter policy to implement Community Activity Restrictions (PPKM). This activity aims to provide actionable solutions to maintain family food security through the community movement to grow vegetables. The method used in this activity is the Participatory Rural Appraisal (PRA) method which begins with FGD, counseling, and field practice. The activity implementer can become a facilitator and directly facilitate the community carrying out activities. The empowerment program was carried out in Kepuharjo Village, Malang Regency, with the main target being housewives. As a result of this activity, participants who attended the FGD and the facilitator decided to create a community movement in independent vegetable growing to stay productive during the pandemic. Community movement was conducted for two weeks, during which the activity implementation team provided all materials, planting media, and seeds. During the two weeks running, 53 housewives grew vegetables independently. Based on the evaluation results, this activity is very effective and efficient for household food fulfillment. Ninety-seven percent of homemakers say that they can increase their food needs with this movement, so they don't have to buy. Of course, it has an impact on saving household expenses. As many as 90 percent of homemakers do this activity and repeat it after harvest. So that the continuity of this activity can run well, besides decreasing spending, this activity can also improve health by producing healthier vegetables.

Keywords: Household food security, covid-19 pandemic, Participatory Rural Appraisal (PRA), community movement

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INTRODUCTION

In 2020, Covid-19 shook the world, including Indonesia. Covid 19 also has a significant impact on the entire order of life of the community. The Indonesian government has also done many ways in dealing with Covid 19. They started from improving public discipline in carrying out health protocols to self-quarantine policies. What efforts are made can reduce the number affected by covid-19. At this time, the public is asked to be disciplined in implementing health protocols that include 3M, namely using masks, maintaining distance, and washing hands with soap in running water for 20 seconds.

At a pandemic like this, Malang City is one of the cities that confirms covid-19 sufferers are pretty high. Covid 19 sufferers in Malang city were first detected in March 2020. At that time, the transmission was so fast that Malang City became one of the cities with the highest red zone in East Java. Seeing the increasingly severe condition of covid-19 then began the rapid movement of mass tests carried out in various places, the operation obediently used masks in public areas. This is done to suppress the transmission of covid 19 in Malang City.

Social restrictions imposed by the government make the community's daily activities become disturbed. The wider community also feels the impact, one of which is shopping to the market to meet the kitchen's daily needs. Although the market is still allowed, it does not rule out the possibility of crowds that endanger the transmission of Covid 19 among the community. This is due to the emergence of new clusters of covid-19 spread through the market, both traditional and modern markets.

In addition, social restrictions also cause the activity of delivering foodstuffs, including vegetables, to other areas hampered, causing a decrease in vegetable supply. The decline in the supply of this vegetable, if it continues, will have an impact on food emergencies. Therefore, innovation is needed so that the people of Kepuharjo Village can still eat vegetables without the need to shop at the market. Innovation that can be implemented is growing vegetables in polybags.

Growing vegetables in polybags are helpful so that homemakers can take advantage of vacant land in the yard (Rusdijati, Raliby, & Ifitah, 2017) and do not need to go to the market to prevent the potential spread of covid-19. Growing your vegetables ensures that the vegetables grown are organic and pesticide-free vegetables. The nutritional content of vegetables cannot be obtained from animal food sources (Syafrizar & Welis, 2008). The fiber in vegetables is beneficial for smoothing metabolism (Maryoto, 2008). In addition, the nutritional content of vegetables can strengthen the body to reduce the risk of contracting the disease (Jahari & Sumarno, 2001).

In this pandemic period, nutrition to boost immunity is needed. Vegetables such as mustard, tomatoes, lettuce, chili, and so on can be grown in polybags. Planting vegetables in polybags can also be done in narrow land and cemented yards. Vegetables can thrive in polybags with a suitable planting medium (Paeru & Dewi, 2015). Planting media serves to maximize root growth, uphold plants, and provide water and air space (Bilderback, Warren, Owen, & Albano, 2005). Growing vegetables in polybags have been shown to improve food security and effectively as a source of nutritional fulfillment by the community in Grinding Village (Hanna, Fatih, Nursyafitri, Inayah, & Wening, 2020). Vegetables grown in polybags are usually annual vegetables with a short harvest (Setyaningrum & Saparinto, 2011).

This training is conducted to provide solutions to improve family food security during pandemics and increase the knowledge of PKK mothers about farming methods in narrow lands. PKK stands for Empowerment and Family Welfare, is a community institution at the Village/sub-village level whose role is to accommodate the aspirations of the village community in the field of empowering family welfare at the RT/RW level (the smallest part of a village). (Peraturan Menteri Dalam Negeri RI, 2020). The PKK team consists of women, both housewives and working mothers.

The results of this study are expected so that the people of Kepuharjo Village can grow vegetables to minimize the expenditure of food

needs to create food security in the pandemic period. In addition, growing vegetables in polybags are expected to reduce people's mobility outside the home to help prevent transmission of the virus.

METHOD

The method used in this activity is the Participatory Rural Appraisal (PRA) method which begins with FGD, counseling, field practice, and evaluation. The community is invited to actively participate in training activities with the PRA method. People can also share, analyze environmental needs, and discuss efforts to improve food security during the covid-19 pandemic. Implementers of activities can be facilitators and directly facilitate the community's carrying out activities through this method. The empowerment program is carried out in Kepuharjo Village, Malang Regency, with the main target being housewives. The stages in community service activities are as follows:

- a. Focus group Discussion (FGD)
Before conducting FGD, the devotional team first observed the problems and potential that exist in South Kepuh Hamlet. Furthermore, the service team organized FGD with the Kepuharjo Village community of PKK mothers and Karang Taruna. This plant cultivation training activity was held on Sunday, July 4, 2021, in Kepuharjo Village, South Kepuh Hamlet, Karangploso Subdistrict, Malang Regency, East Java. Fifteen participants attended the training. Restrictions on the number of participants are carried out because it is a pandemic period to avoid crowds of citizens. The participants participated in this training while keeping in mind health protocols.
- b. Counselling
The second stage is to counsel, namely by providing counseling to FGD participants. Finally, an offline extension of vegetable planting activities with polybag media is carried out. The material presented is about planting good and correct vegetables using polybag media, practicing directly, explaining how to care for producing with

this medium, and educating the public to be creative using polybag media.

- c. Field practice
Once the trainee knows, then the next stage is field practice. Field practice is done by providing examples in advance of how to plant on the proper media and polybag size. Then, the community tried to plant independently in polybags. Tools and materials are all provided by the UM Devotion Team. After that, the community can practice growing vegetables in polybags and placing them in empty land in his house's yard. This activity is called the Planting Community Movement, held for two weeks as a trial.
- d. Evaluation
The evaluation was conducted after PKK mothers moved to grow vegetables in polybags independently. Starting from two weeks after training and planting vegetables independently. Evaluation is carried out through questionnaires distributed through google form to trainees and see firsthand the progress of vegetable planting that has been done.

RESULTS AND DISCUSSION

Training activities to grow vegetables in polybags have been successfully carried out following the stages, including the following:

- a. Focus Group Discussion (FGD)
The UM Service Team has been observing the problems faced by the people of Kepuharjo Village and its potential. The trial found is that during the covid-19 pandemic, people have to go to the market to buy kitchen needs, especially vegetables, even though transactions in the market can transmit the virus. At the same time, the potential is that the community has a yard that has not been appropriately managed. Syamsi, Anggraini, & Ramses (2019) stated that the yard could be used to grow daily vegetable consumption to save expenses. Similarly, Khomah & Fajarningsih (2016) also found that yard land is a potential that has not been optimized for utilization to

reduce household expenditure. Thus, FGD was organized between the Devotion Team, PKK mothers, and Karang Taruna.

The FGD discussed the problem of vegetable needs during the pandemic, and the solution is vegetable planting training. FGD also discussed the methods used, planting media, and the type of vegetables to be grown. As a result, the method used is a polybag with producing media in a mixture of trash, soil, and animal waste. Polybags were chosen because they can be placed in people's homes and take advantage of narrow land. In line with Brata, Yahya, Nugroho, Rahayu, & Eningingtyas (2020), which proves that polybags can be used on limited land and do not cost a lot of money. Furthermore, the vegetables that will be grown are fast-growing, the treatment is easy, and can be harvested every day, such as kale, mustard, chili, and lettuce. As done by Faturrohman, Sukmawati, Purnawati, & Pratama (2020) where vegetables in polybags, especially chilies, can thrive, and people become more productive in small-scale agricultural activities.

b. Counseling

On Sunday, July 4, 2021, the UM Devotion Team provided counseling and training on how to grow vegetables using polybags. This activity aims to provide skills and education on the importance of maintaining food consumed during pandemics and being an alternative for homemakers in meeting kitchen needs without leaving the house when PPKM is like this. In addition, it invites the people of Kepuharjo Village to maintain a healthy lifestyle by paying attention to foodstuffs consumed by utilizing narrow lands such as housing with polybag media that are quite practical and the cost is very affordable.

Conveyed also about the benefits of cultivation and planting in polybags is easy in terms of care, easy to select between fertile seeds or seeds that are dwarfed or less productive, do not require much land, quickly moved to agricultural land and others. The team also conveyed the

advantages with polybag media not knowing the season then, so it is sure to be harvested at any time. Various types of vegetables can be in polybags, but the types used in this work program are chili seeds, mustard, and lettuce. Lettuce and chili is a type of vegetable plant that does not have difficulty in terms of planting it and, seen in terms of care, is also a vegetable that is not quickly exposed to pests.

The Devotional Team also provides material about selecting planting media, seed seedlings, repotting, care and fertilization, and harvesting. This is done to equip trainees before stepping into the next stage, namely field practice. Again, participants listen and pay close attention. Participants' enthusiasm is seen from the question and answer process after the delivery of the material.

c. Field practice

- *Stage of preparation and selection of seedlings*

The first thing to do determines the seedlings used in the preparation stage. Before deciding the seedlings to be used, participants are introduced to the kinds of seeds to be planted. Participants recommend buying good and good seeds to get good results. Seeds can be purchased at the farm shop. Next is to prepare tools and materials, among others: polybags, sprays, soil, compost/ animal feces, trash, seeding containers, and shovels. Things that need to be considered in the preparation period are determining the planting media to be used, the vegetable type to be planted, and where the planting media will be used. Good planting media is a planting medium with physical, chemical, and biological properties balanced with plants' needs (Pasir & Hakim, 2014).

In Figure 1, you can see examples of good plant seeds to plant. Good seeds for sowing are usually sold in airtight packaging. Airtight packaging is essential to maintain the quality of plant seeds to produce healthy and quality plants. Furthermore, a shelf used for placing polybags is also displayed. Placing polybags on bamboo

shelves helps prevent plants from predatory animals, such as chickens, snails, grasshoppers, and other animals that can interfere with plant growth. Figure 1 also shows a suitable planting medium for sowing seeds to enlargement. In this activity, ready-to-use planting media are used because they already have a complete composition, such as soil, husks, and fertilizers.



Source: Author Documentation, 2021

Figure 1. Preparation of Seedling Tools and Material

- Seed seeding

After choosing the seed and preparing the tools and materials, the next stage is seed seeding. Seeds sown include lettuce, mustard, chili, tomato, and eggplant. The seeds seeding stage is to mix the soil, trash, and compost/manure with a ratio of 1: 1: 1, then mix well. After that, the mixture of materials was put into a polybag about 3/4 polybag. Next, in the middle of the planting media is made a hole as deep as 2 cm to plant the vegetable seed prepared. Finally, the fix is covered with trash.

The seed seeding stage strengthens the plant and thrives when moved. Vegetables that have been grown about 3-7 days since seeding and are four-leafy are ready to be transferred to polybag planting media.

- Implementation stage

The audience here is PKK's team of Kepuharjo Village. They were directed to practice directly using planting steps that have been provided by participating in planting training. Demos start from polybag preparation, then filled with soil and compost mixture, inserting vegetable seeds that have been rejuvenated, then sprayed using enough water. The participants follow steps/ tutorials where the demo described is accompanied by direct guidance and examples of planting methods. This demo was conducted to clarify how good and correct moving chili seeds, eggplant, mustard, and lettuce into polybag media.

Figure 2 is a demonstration activity on sowing seeds, transferring seeds from seedling media to polybags, and caring for vegetables until harvest. The Devotion Team also provides tips and tricks so that plants thrive and give maximum results. After completing the demonstration, the Devotion Team invites participants to practice what they have learned directly.



Source: Author Documentation, 2021

Figure 2. Vegetable Planting Training Demo with Polybag Media

- *Maintenance stage*

The final stage is pen assisting and an explanation of how to maintain vegetables transferred to polybags. The audience's thing at home is to fertilize, water with enough water, and ensure the availability of enough sunlight for photosynthesis. Using polybags makes cultivating plants/vegetables easier to care for, especially in overcoming pests and diseases, saving space and planting places, and producing quality vegetables. Plants cultivated in polybags have better resistance than grown with other media. This is because supervision can be done individually with polybag media, and the nutrients provided to the plant will be absorbed directly by the roots. Therefore, proper nutrition and water for plants must be considered at this stage so that the expected results are maximum.

d. *Evaluation*

The enthusiastic spirit of PKK mothers by following the whole series of activities to grow vegetables is boosting the high interest in this work program. PKK mothers brought home the training results in vegetable plants in polybags. These PKK teams are also re-practicing their knowledge at home, so they now have more than one pot of vegetables. During the two-week walk, 53 housewives grew vegetables independently.

Figure 3 is an evaluation activity of the empowerment program that has been carried out. The service team conducted an oral evaluation through discussions and questions and answers with PKK women. From this evaluation activity, it will be known whether the training program that has been implemented has been successful or not.

Based on the evaluation results, this activity is very effective and efficient for household food fulfillment. Ninety-seven percent of homemakers say they can increase their food needs with this movement, so they don't have to buy. Of course, it has an impact on saving household spending. They were supported by Iskandar & Indriani (2018) ,

which also proves that crop cultivation in the yard can increase families' efficient cost of living. As many as 90 percent of homemakers do this activity and repeat it after harvest. So that the sustainability of this activity can run well, in addition to reducing spending, this activity can also improve health by producing healthier vegetables



Source: Author Documentation, 2021

Figure 3. Evaluation of devotional activities

Thus, this holy activity is declared successful, where the community, especially PKK mothers in Kepuharjo Village, has implemented a movement to grow vegetables independently in polybags. These PKK mothers already have skills in planting to become more productive, especially after the pandemic. As empowerment was carried out by Ismiasih, Trimerani, & Uktoro (2021) , training in horticultural crop cultivation increases vegetable production and community productivity in the new normal. Polybags-the polybags are placed in the yard of each house. In addition to obtaining economic benefits, namely reducing vegetable spending in the market, mothers also managed to produce organic vegetables free of pesticides to be healthier. The fulfillment of vegetable needs at home without making transactions with other

parties shows that PKK mothers have managed to meet their vegetable needs independently. This means that PKK mothers already have food security so that if one-day vegetable stocks are scarce, PKK mothers do not need to worry and can still eat vegetables. Moreover, in harmony with Sulastri, Manik, Srigustini, & Dewi (2021), gardening training can produce various types of vegetables for family food needs. Another impact of planting vegetables in this polybag is that oxygen levels in the home environment also increase. She was supported by Hastawan, Trihardini, Susilowati, & Hidayatun (2020), where organic vegetable cultivation also contributed to developing a conservative attitude, namely caring for the environment. Good oxygen levels will also improve health and increase the body's immunity. Food security is also included in realizing the PKK's main program, namely food availability and environmental sustainability. In the future, it is expected that the awareness of planting this is contagious to other hamlets in Kepuharjo Village.

CONCLUSIONS

From the results of the implementation of activities that have been carried out, it can be concluded that the method of planting vegetables using polybags is straightforward to apply to various types of vegetables. PKK mothers in Kepuharjo Village have successfully adopted polybag methods in growing vegetables as an alternative to meeting kitchen needs. Awareness and skills to grow vegetables in this polybag is one form of food security, both in standard times and in pandemic times. As a result, PKK mothers managed to save money on shopping for vegetables at the market.

Training to plant vegetables in polybag media in the future can be carried out sustainably by PKK women in Kepuharjo Village because they already have the knowledge and skills in growing vegetables. However, suppose increasing vegetables independently are

continuously carried out and developed in the future. In that case, the people of Kepuharjo Village can meet the vegetable needs and even the food needs of the village community.

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