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# Empowerment of Women Farmer Groups in Salamrejo Village Kulon Progo Regency Through Independent Production Of Organic Fertilizer

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**Abstract**

*Inorganic fertilizer has some weaknesses in its application, which is not good for plant growth, not environmentally friendly, and has a fairly high price. The use of inorganic fertilizers, especially on the household scale, can be replaced with organic fertilizers that can be made independently. In addition to being good for plant growth, the costs incurred to make it are quite cheap. The purpose of this activity is so that the group of farmers in each hamlet can utilize the resources that exist around it that can increase the productivity of agricultural crops and reduce the costs incurred for crop production activities by producing organic fertilizers independently and limiting the use of chemical fertilizers. The method carried out in this activity is counseling (education-agriculture) about the manufacture of MOL (Micro Organisms Local) and the utilization of organic waste around the residence to be made into liquid organic fertilizer. The results of the activities obtained in the form of increased knowledge of the members of women farmer group about the function of making MOL (Micro Organisms Local) and how to make liquid organic fertilizer by utilizing organic waste that is around the place of residence so as to reduce the use of inorganic fertilizers and save the cost of farming. This community service activity is proven to solve the problems of the members of the women farmer group and utilize the resources that exist around it that can increase the productivity of agricultural crops and reduce the costs incurred for crop production activities.*

Keywords: KWT, organic fertilizer, MOL, Empowerment, Salamrejo

## I. INTRODUCTION

Kulon Progo Regency has several local government programs, one of which is the Gempar Program (Movement to grow corps in the yard) for the utilization of the yard. Planting food crops in this yard in the kind of horticultural plants, namely spinach, eggplant, beans, tomatoes, etc. Kulon Progo's Local Government Program is in line with research result Senjawati et al. (2019), which shows that the priority for the development of Salamrejo Village is the optimization of TPS 3R with activities such as sorting waste, cultivating maggot by utilizing wet organic waste, making organic fertilizers for the business development of women farmer groups (KWT) in horticultural cultivation.

Many people still use inorganic fertilizers for their crops. The increase in the price of fertilizers which continues to increase and the dosage of using inorganic (chemical) fertilizers is getting bigger in each production process which will burden the production costs and will damage the physical and

chemical properties of the soil including the damage to the microorganism in the soil (Mutaqin et al., 2014). Organic fertilizers play a very important role in increasing agricultural production both in quality and quantity, reducing environmental pollution, and improving land quality in a sustainable manner (Matenggomena, 2013).

Based on this, the selection of The Farmer Women's Group (KWT) as a partner in this devotional activity is very appropriate. The target of this community service program is a group of peasant women in every hamlet in Salamrejo Village. KWT needs activities that are able to overcome their constraints in the production of organic fertilizer independently. Fertilizer applied in the production of yard plants is good as organic fertilizer derived from materials that are easy to find in the environment around the place of residence. Liquid organic fertilizer is a compound fertilizer, even called complete fertilizer, because it contains several nutrients, both macro and micro (Lingga and Marsono, 2004).

Organic plant cultivation will be carried out based on local resources by utilizing the potential of the surrounding environment. The use of fertilizers also utilizes organic waste, leaf litter from surrounding plants, and other organic waste (Suhastyo, 2017). However, no woman farmer group knows how to make organic fertilizers, especially organic fertilizers that have the right composition and are good for plant growth.

To make compost or other organic fertilizers, a decomposition process of organic materials is needed so that decomposers are needed. Various kinds of decomposer materials are widely available in the market, such as EM4, but the price of these products is certainly quite high. The main advantage of using MOL is that it is cheap and can even be without cost by utilizing available materials. Based on the analysis of the situation, it can be concluded that the main problems faced by the partners, namely the people of Salamrejo Village, have not been able to make liquid organic fertilizer independently by utilizing organic waste in the vicinity and a lack of knowledge and techniques regarding the composition of the mixture to make organic fertilizer. Making organic fertilizers is a priority solution that must be completed in the near future.

The specific objective of this activity is so that the women farmer groups in each hamlet can take advantage of the resources that are around them, which can increase the productivity of agricultural crops and reduce costs incurred for plant production activities by producing organic fertilizers independently and limiting the use of chemical fertilizers.

# II. LITERATURE REVIEW

Empowerment has the meaning of generating resources, opportunities, knowledge, and skills for people to increase their capacity in determining their future (Suparjan and Suyatno, 2003). The empowerment of these four aspects (cognitive, concative, affective, and psychomotor) will contribute to the creation of the independence of the aspired society, because thus in society there will be the adequacy of insight equipped with adequate skill skills, strengthened by a sense of need for development and conscious behavior of its needs, to achieve the independence of society required a process.

Through the learning process, people will gradually gain the ability/power over time, thus will accumulate adequate ability to deliver their independence. What is expected of empowerment, which is a visualization of social development, is expected to realize a good community and an ideal society (Ambar, 2004). Three main efforts in community empowerment are: 1) creating an atmosphere that allows the potential of society to develop (enabling), 2). Strengthening the potential of the community

(empowering) and 3) protecting and defending the interests of the community. It is the 3 (three) main pillars of community empowerment as a model of people-based development (Nugraha, 2016).

# III. METHODOLOGY

The stages/methods in the implementation of activities are structured to facilitate achieving the targets/ objectives. In order for each process to run well, the delivery of innovations to participants is taken through the stages of explanation, discussion, practice, and assistance stage (Sofyan et al., 2017; Lestari et al., 2019). The stages and methods to be carried out include counseling the manufacture of MOL and organic fertilizer, training in the practice of making MOL (Micro Organisms Local) and liquid organic fertilizer.

Counseling Making MOL (Micro Organism Local) and Organic Fertilizer
Counseling activities are carried out with exposure that contains information and knowledge about the types of organic fertilizers, fertilizer content, fertilizer benefits, and how to make them. This counseling activity will invite an expert source in the field of fertilizer manufacturing. This activity will invite related village devices and members of the farmer women's group in Salamrejo Village.

Training on Making MOL (Micro Organisms Local)
This training activity is carried out by teaching the steps of making MOL (Micro Organism Local) and followed by the trainees with live practice. This counseling activity will invite speakers who are self-help counselors who come from Salamrejo Village and have experienced in community mentoring activities. Participants of the activities to be invited are representatives of each women farmer group and village administrators.

Training on Making Liquid Organic Fertilizer
This training activity is carried out by teaching the manufacture of liquid organic fertilizer and followed by the trainees with direct practice. This counseling activity will invite speakers who are experts in the field of plant cultivation and experienced in community mentoring activities. Participants of the activities to be invited are representatives of each women farmer group and village administrators.

# IV. FINDING AND DISCUSSION

Counseling of MOL Making (Micro Organism Local )and Organic Fertilizer
Counseling Activities for Mol Manufacture (Micro Organisms Local) and Organic Fertilizers are located in Bale Langit Salamrejo Village, Sentolo District, Kulon Progo Regency. This activity was attended by representatives from all community groups in Salamrejo Village, namely KWT Sehat Ceria, KWT Mawar Merah, KWT Sukamaju Salam, KWT Lestari Makmur, KWT Pesona Alam Sejahtera, BUMDES, TPS3R, and Village Government. This counseling activity aims to provide information and knowledge to residents about the purpose and purpose of making MOL (Micro Organisms Local), types of organic fertilizers, fertilizer content, fertilizer benefits, and how to make them.

Figure 1. Counseling of MOL Making (Micro Organism Local) and Organic Fertilizer

Counseling participants have a high enthusiasm for the materials delivered, especially related to the manufacture of liquid fertilizer. To motivate residents to practice the manufacture of organic fertilizer, the service team asked each KWT to make three types of fertilizer, namely liquid fertilizer, solid fertilizer, and MOL. Fertilizer made will be monitored by the service team, but before that will be done training on the manufacture of MOL and liquid organic fertilizer first for each KWT representative. This aims that by practicing it directly then, the science obtained will be more easily absorbed by participants, and participants can make it back independently.

MOL Manufacturing Training (Micro Organisms Local)
Training on the Manufacture of MOL (Micro Organisms Local) has been conducted in the House of the Head of Klebakan Hamlet, Salamrejo Village Sentolo District Kulon Progo Regency. MOL implementation practice is guided by counselors from the village. This activity was attended by representatives of five (5) groups of women farmer groups in Salamrejo Village and representatives from BUMDES and village administrators. This training activity aims to teach how to make MOL (Micro Organisms Local) so that group representatives can transmit to their group members and practice them together independently.

Figure 2. MOL Manufacturing Practice guided by Salamrejo Village Self-Help Counselor

MOL is used to be the decomposer material required during the decomposition process of organic materials when making organic fertilizers. The main advantage of MOL use is that it can even be

without cost by utilizing the materials available. More easily, the materials selected in this training are the easiest materials to be found around the KWT location (Nugraha, 2016). The material used in the practice of making MOL consists of 3 types of components, namely tape 250 grams, 1 liter of water, Palm Sugar 40 grams, or three molasses lids. The practice materials come from self-help groups as well as service teams.

The practice was well followed by all participants. Each KWT makes two MOL samples of different compositions. Different compositions are located on the type of glucose used i.e., experiment 1 using java sugar and experiment 2 using molasses (cane drops). The function of providing java sugar and sugar cane drops as the composition of MOL making is the same as a source of energy for microorganisms that are spontaneous (easier to eat them) (8village, 2017). In this practice, two uses of ingredients, namely java sugar and sugar cane drop, aim to give the trainees the option that the two alternatives are the same so that the practice can independently use ingredients that are easy to obtain by them.

Liquid Organic Fertilizer Manufacturing Training

Liquid organic fertilizer is a solution made from the decomposition of organic materials from plant residues, animal manure, and humans, which contain more than one element of nutrients. Among the types of liquid organic fertilizers are liquid manure, solid waste and biogas-making liquid, and liquid fertilizer from organic waste (Hadisuwito, 2007). Training on the manufacture of liquid organic fertilizer has been carried out at the Klebakan Village Head House, Salamrejo Village of Kulon Progo Regency. Implementation practices are guided by experts in the field of agricultural cultivation. This activity was attended by representatives of five (5) women farmer groups in Salamrejo Village and representatives from BUMDES and village administrators. This training utilizes food waste that exists in the community. Each KWT contributes to bringing the ingredients to practice. The composition used in the practice of making liquid fertilizer is 3 kg of fruit waste, 5 liters of stained water, 5 liters of coconut water, 1 1/2 liter molasses, and EM-4 1/2 liters. This fruit waste can be replaced using kitchen waste or other organic waste. Organic waste is a type of waste that is mostly composed of organic compounds (plant residuals, animals, or feces). This garbage is easily deciphered by living bodies, especially microorganisms (Moerdjoko and Widyatmoko, 2002).

In this practice, the waste of rotten fruit is used to help speed up the process of remodeling the material then, and the fruit needs to be cut into smaller sizes first. After that, pieces of fruit are put in a barrel/bucket as a fermentation medium. Then put other materials in the form of stained water, coconut water, molasses, and EM-4 according to the measure.

Figure 3. The practice of Making Liquid Organic Fertilizer by KWT guided by Ir. Heti Herastuti, MP

The ingredients that have been mixed are closed and stored so that the fermentation process runs properly for approximately 2-4 weeks. It is recommended during the storage process to ferment the stirring material every two days. Then when ready to harvest, the liquid produced in the process of making fertilizer filtered using fabric so that solid materials do not participate in the container so that it is easy in the application to plants. Liquid fertilizer can be applied directly to plants by pouring it into the soil or by spraying it onto plants.

Enthusiastic women farmer groups in carrying out all series of events in this community service activity and want to try to apply it in the cultivation activities of the yard crops can realize independence in the production of fertilizer for the household itself can even provide preparation for the village level.

# V. CONCLUSION

All members of the women farmer groups in Salamrejo Village, Kulon Progo Regency, as counseling participants, showed activeness shown with interactive attitude and high interest to carry out the results of science obtained from counseling. In addition, there is an increase in the knowledge of the members of the farmer's women's group about the function of making MOL (Micro Local Organisms) and how to make liquid organic fertilizer by utilizing the organic waste that exists around the place of residence so as to reduce the use of inorganic fertilizers and save the cost of farming. This community service activity is proven to solve the problems of the members of the farmer women's group and utilize the resources that exist around it that can increase the productivity of agricultural crops and reduce the costs incurred for crop production activities.

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