



## Empowerment of Farming Group in Manufacture of Organic Fertilizer and Pesticide based on Animal Stomach Organs Waste from Grass Plant

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### Abstract

The community service carried out in Rukti Basuki Village, Rumbia District, Central Lampung Regency. These activities took place at the house of the chairman of the Rukti Basuki village farmer group through outreach to the farming community both those who are members of farmer groups and individual farming communities regarding the manufacture of liquid organic fertilizer by utilizing organic materials, which is very easy to find around us like healthy grass. The objectives of this activity are 1) To provide understanding and skills for farming communities so they can make liquid organic fertilizer from grass-based ingredients; 2) Providing understanding so that farmers maximize the use of organic fertilizers rather than chemical fertilizers; 3) Providing skills to farmers to utilize the grass around us or on the land we plant into organic fertilizer which so far has been underused by farmers; and 4) Help increase farmers' income from the agricultural sector. The method used ABCD (Asset Base Community Development), based on the strengths and assets owned by the community. The results obtained from this counseling activity included: the farmers who participated in the counseling were able to produce liquid organic fertilizer from agricultural waste, the participants were able to pack it properly and were able to apply it.

**Keywords:** Liquid Organic Fertilizer, Empowerment of Farming Group, Grass Water

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## INTRODUCTION

Rukti Basuki Village, Rumbia District, Central Lampung Regency, Lampung Province has a Vision to "build Rukti Basuki Village with a Spirit of Togetherness and Mutual Cooperation." Then the Mission to realize this Vision is "Making the Rukti Basuki Village Community into a society that is devoted to God, making Rukti Basuki Village a Model Village and Unity in Diversity, and making the Rukti Basuki Village Community more secure, peaceful and peaceful. This village has a population of 3,820 men and 3,725 women, a total of 7,545 people. Of the total population, the majority of people depend on the agricultural sector. The economic potential of the people of Kampung Rukti Basuki which includes agriculture, plantations, trade and home industries is potential enough to be developed and support the increase in the welfare of the community (ARIF, 2023).

Figure 1 Location Map of Rukti Basuki Village, Kec. Rumbia Kab. Lampung Tengah



However, the farmers in Kampung Rukti Basuki have a problem difficulties in overcoming the level of soil fertility and eradicating weeds even though they have used many types of Chemical Products issued from the Manufacturer. In addition, the excessive use of chemical pesticides will cause pests and diseases to become resistant (Tandjung, 2003). The method of the farmers in Rukti Basuki Village is accustomed to using chemical products that are used to control parasites and pests that have a negative impact on their plants (Suwahyono, 2013). Even though they have used a lot of chemicals, pests and plant parasites that they plant still experience disturbances in their growth.

From here we have a pathway that can have a good influence on the agricultural sector of the Rukti Basuki Village community to utilize the wastes or materials available around the agricultural land and the environment they live in (Citizens' Settlements). Biological natural resources are a part or element of the environment, which includes the diversity or richness of biodiversity found in an area (Tandjung, 2003). From materials that are available in the natural surroundings, we can also use them for things that support needs or are the best solution in agriculture to minimize or reduce the amount of agricultural capital that farmers must prepare (Hasriyanty et al., 2018). This step is an innovation for farmers who initially still used old farming methods and made farmers change their way of farming with modern and environmentally friendly techniques. From the modern farming methods that we provide, they also provide positive values for the health of the people who usually consume or make crops from their fields and gardens as consumption materials that are more natural and good for the human body.

We can also do the process of utilizing waste and materials that are available around us by studying the process of processing these materials step by step, so that the waste or materials that are widely available can be beneficial for the crops of farmers (Wihardjo & Rahmayanti, 2021). From a meeting between Ma'arif Lampung University students and the Chairperson and Members of the Farmer Group in Kampung Rukti Basuki which aims to share insights that have

been mastered by the Students to teach procedures or step by step in the process of making Compost Media and Weed Killer from materials used farmers can use.

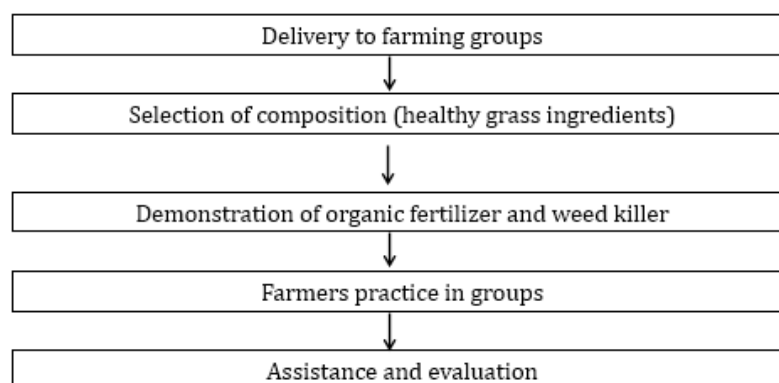
## METHOD

The implementation of this community service uses the ABCD (Asset Base Community Development) approach (Fitrianto et al., 2020). As an approach, the ABCD method is a critical type of approach that is included in the scope of community development based on the strengths and assets owned by the community (Hadi & Zaini, 2021). An approach that places great emphasis on community independence and the establishment of an order in which active citizens become actors and determinants of development (Salahuddin, 2015). In building assets, every learning community or organization must be able to appreciate the assets it has. Some of the community underestimates the assets they own (Maulana et al., 2021). To appreciate the assets owned, the community must know the resources they have. After identifying the resources owned, the community must consider potential assets to be involved in implementing development so that this becomes the key to the tradition born of an asset-based development and implementation approach (Dureau, 2013).

Several steps were taken to implement the ABCD (Asset Base Community Development) approach to community empowerment, including: Preparing; Discovery (Determine); Dream (future dream); Define (Mapping/Defining assets); Design (Designing/linking and mobilizing assets/action planning); Destiny (monitoring) (Handayani & Dewi, 2020).

The stages of the activities carried out are to empower farmer groups or the community to be able to make organic fertilizer independently or in groups. This service activity is carried out by visiting the location of the activity, namely the head of the Rukti Basuki village farmer group, Rumbia District, Central Lampung Regency. The farmer groups were invited to a resident's house, to undergo training for 1 day. Directly delivered material about the potential of natural ingredients that can be used as ingredients for liquid organic fertilizer and weed killer, then followed by giving samples or demonstrations by processing the materials to be used as liquid organic fertilizer and weed killer. After the farmers understand and are clear, the next stage is that farmers are given the opportunity to practice it themselves in the process of making liquid organic fertilizer and weed killer. For further steps of community service activities can be seen in Figure 2.

Figure 2 Service Activity Steps



## RESULT AND DISCUSSION

This Farmer Group Empowerment activity was carried out at the residence of the Chairperson of the Farmer Group named Mr. Tri Hariyadi. During the meeting, the students of Ma'arif Lampung University aimed to provide technical guidance to the Rukun Tani Group which had been formed in Kampung Rukti Basuki after knowing the constraints that occurred in the economic sector, namely in the community agricultural sector. In dealing with parasites and overcoming soil fertility, the community is sometimes overwhelmed, because there are so many chemical products that are used to deal with this that do not have a very effective impact, and even have a negative impact on the health of the crops they harvest for consumption.

Figure 3 provision of material regarding materials used to make environmentally



This training activity was held for 1 day and included delivering material (lectures) and observing natural raw materials around us, then practicing them directly (Wijaya & Salis, 2022). On that day assistance was given to farmers. The material given to farmer groups includes the negative impacts of using factory-made chemical fertilizers on the surrounding environment, the advantages of liquid organic fertilizers and vegetable pesticides compared to factory-made chemical fertilizers from an economic and environmental perspective, the potential for utilizing natural materials and household waste used for manufacturing liquid organic fertilizers and vegetable pesticides and methods of fertilizing and spraying them.

The ingredients used in making Environmentally Friendly Organic Fertilizer (Grass Killer) include 5 liters of water, 7 grains of yeast, 400 mg of vinegar, 1 pack of sunlight, and 800 grams of salt. Here's how to make it, namely: Mix well until homogeneous (mix well until frothy), spray as needed, and try not to get it on the plants. Note: Preferably on vacant land.

The materials used in the manufacture of Compost Media require 1 Bottle of Media (Compost), 10 kg of Animal Manure, and 10 kg of Pineapple/Starfruit waste. The way to make it is 1 put it in a large container in drum brackets until it is homogeneous, use a 15 liter clean tank mixed with 100 mg of media, spray it evenly, wait 1-2 months for the compost to be ready for use. The materials used in



the manufacture of Pest Control and Fruit Stimulation, namely Prepare healthy grass, then knead it until it is homogeneous with a size of 40 ml versus 15 liters of water per tank. Spray into the air (on the leaves) like dew water.

The farmers were given knowledge and skills on how to make Eco-Friendly organic fertilizers (Grass Killers), Compost Media, Pest Control and Fruit Stimulants. Participants were also given knowledge about how to apply it to vacant land. This homogeneity is very important for vacant land, so this organic (environmentally friendly) fertilizer is very good for use on vacant land that will be used for planting. The trick is to spray it on the plants with a dose of 1 liter of fertilizer plus 15 liters of water, done once on empty land.

Homogeneous elements are very important for vacant land for the process of planting plants, so organic (environmentally friendly) fertilizers are very well applied when planting plants on vacant land (Santi et al., 2018). The way to apply it is by spraying on vacant land once spraying on vacant land, with a dose of 15 liters of organic (environmentally friendly) fertilizer. To apply the Compost Media, it can be sprayed once on bare land that is attacked by pests and diseases. The trick is to spray it on the plantation area with a dose of 1 liter of compost media, add 15 liters of water and wait for 1-2 months for the compost to be ready to use.

Figure 4 Demonstration of Organic Fertilizer Making (Environmentally Friendly)



After being given knowledge and skills in making organic (environmentally friendly) fertilizers, demonstrations and practices were carried out. As for some documentation of service activities can be seen in Figure 4.

## DISCUSSION

The empowerment of farmer groups in the production of organic fertilizers and pesticides made from animal stomach waste and grass in Rukti Basuki Village consists of two stages, namely providing strengthening of knowledge about organic fertilizers and providing training in the manufacture of organic fertilizers and pesticides. Because with an understanding of good organic fertilizer raw

materials can make it easier for farmers to practice the manufacture of organic fertilizers and pesticides. Then in the evaluation of this activity a question and answer session was given to the farmer group. Among the questions raised included how much salt is used when making liquid organic fertilizer, how long does it take for the liquid organic fertilizer that is made to be applied to plants and what is the dosage.

This training activity is said to be effective or successful if at least 80% of the training participants are willing to practice making organic (environmentally friendly) fertilizer and applying it on their own land. Based on the questions raised by the trainees, they intend to make their own organic (environmentally friendly) fertilizer. Because the ingredients and manufacturing are quite easy, the farmer groups are very enthusiastic and happy with being given materials and practices in making environmentally friendly organic fertilizers. From this activity a product was produced in the form of organic (environmentally friendly) fertilizer (Compost Media) and Pest Management and Fruit Stimulant which were made by the participants in groups during the training. Based on this, this training activity has been effective and successful in efforts to empower farmers to be more independent in providing organic fertilizer (environmentally friendly), Compost Media and Pest Management and Fruit Stimulant.

Then the impact of this training on farmer groups in Rukti Basuki Village is that farmer groups can make organic fertilizers and pesticides made from waste animal stomach organs and from grass plants. Then the waste that is usually thrown away or not utilized and has a negative impact on the environment and grass that is considered useless now the waste and grass can be used and managed by farmers to be used as organic fertilizer and pesticides. It is hoped that with new knowledge about the management of waste from animal stomach organs and from grass plants to organic fertilizers and pesticides, farmers will be able to make good quality organic fertilizers and pesticides independently.

## **CONCLUSION**

Community service activities are carried out by providing training to farmer groups in Rukti Basuki Rumbia Village about making organic fertilizers with raw materials in the form of natural ingredients and also common household waste. The results of the implementation of activities show visible success with the active participation of the participants and the community is also interested in continuing the organic fertilizer production process.

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