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Training on Making Liquid Organic Fertilizer (LOF) with P45 in Kandri Village

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Abstract. *The training on Liquid Organic Fertilizer (POC) production held in Kandri Village in collaboration with P45 aims to enhance the knowledge and skills of the local community in converting organic waste into valuable fertilizer. This activity involved active participation from the residents, focusing on the fermentation process of easily accessible organic materials. The results of this training indicated that the villagers are capable of independently producing POC, which has the potential to improve soil quality and agricultural yields in Kandri Village. Additionally, the training positively impacted community awareness regarding the importance of sustainable agriculture.*

Keywords: *Fertilizer, organic, agricultural.*

1. BACKGROUND

Kandri Village is one of the areas that has great potential in the agricultural sector, but faces challenges in soil management and sustainable improvement of agricultural products. One of the main obstacles faced by farmers is the dependence on chemical fertilizers, which not only has an impact on high production costs but also has a long-term negative effect on soil fertility. In the midst of the need for more environmentally friendly and sustainable agricultural solutions, Liquid Organic Fertilizers (POCs) have emerged as a promising alternative.

POC, which are made from organic materials such as plant residues, kitchen waste, and animal waste, can provide essential nutrients for plants and help improve soil structure. However, knowledge and skills in making POC are still limited among farmers in Kandri Village. Therefore, efforts need to be made to introduce and train the community in the manufacture of POCs, so that they can reduce their dependence on chemical fertilizers and optimize the use of available local resources.

The Independent Rural Agriculture Training Center (P45) has an important role in initiating POC making training in Kandri Village. As an institution focused on developing agricultural skills, P45 provides practical and theoretical guidance to farmers, with the aim of improving their knowledge in sustainable agriculture. The training not only focused on POC manufacturing techniques, but also on understanding the long-term benefits of using organic fertilizers for soil fertility and improved agricultural yields.

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This POC Making Training is expected to have a significant positive impact on farmers in Kandri Village, both in terms of economy and environment. By utilizing the abundant organic waste around them, farmers can produce high-quality fertilizers at low cost, while maintaining a healthier and more sustainable balance of agricultural ecosystems.

2. METHODS

The method of implementing the Liquid Organic Fertilizer (POC) training in Kandri Village involves several main stages designed to ensure that participants can understand and apply the knowledge provided effectively. The following are the stages of implementation and explanation:

The identification of needs is to identify training needs based on agricultural conditions and potentials in Kandri Village. Then, coordination with P45. Coordinate with the Independent Rural Agriculture Training Center (P45) to determine the necessary materials, instructors, and facilities. After that, the preparation of materials and tools. Prepare organic materials that will be used in making POCs and other supporting tools.

Second, the opening and delivery of the material. The opening was by the Chairman of KKN Post 11 or representatives from P45, who explained the purpose of the training and the importance of POC in sustainable agriculture. Then, the presentation of the theory. Instructors from P45 provided material on the basic theory of making POC, including the benefits of POC, types of organic materials that can be used, and the fermentation process. Demonstration of POC Manufacturing Practice. Steps to Make, The instructor demonstrated the steps of making POC, starting from the preparation of ingredients, the fermentation process, to the storage of finished POC. Next, participant participation. Participants are given the opportunity to practice directly making POCs under the guidance of instructors, so that they can master the skills needed.

Fourth, In the discussion and question and answer session, participants will be given the opportunity to ask questions about things that have not been understood or challenges faced in making a Proof of Concept (POC). In addition, there will be small group discussions where participants can exchange experiences and solutions related to the POC manufacturing process. Fifth, Monitoring and evaluation includes two important stages: first, training evaluation conducted after the training is completed, where participants' understanding and skills are assessed through questionnaires and observations; and second, post-training monitoring which involves field visits to monitor the implementation of Proof of Concept (POC) by participants in their agricultural activities.

Finally, at the closing of the event, the Chairman of KKN Post 11 will give certificates to participants who have participated in the training. In addition, a follow-up plan will be prepared to ensure the sustainability of the use of Proof of Concept (POC) by farmers in Kandri Village.

Diagram of POC Making Training Implementation:

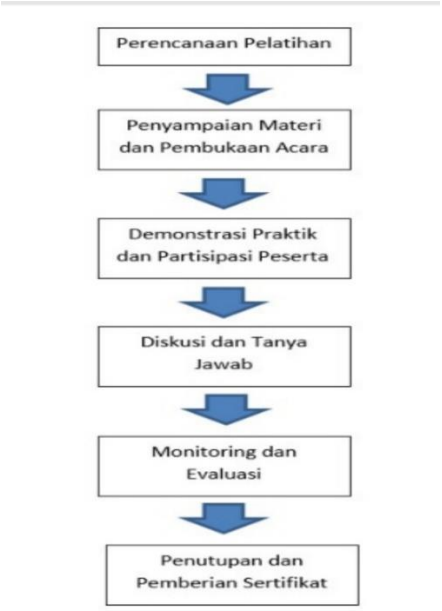

Figure 1. Diagram of POC Making Training Implementation

The diagram above provides an overview of the flow of training implementation from planning to closing. Each stage is designed to ensure that participants gain the necessary knowledge and skills as well as ongoing support in the implementation of POC.

3. RESULTS AND DISCUSSION

After the Organic Liquid Fertilizer (POC) training in Desa Kandri, several significant outcomes were achieved through data collection during and after the training, which included assessments of participants' knowledge, skills, and practices. Prior to the training, the majority of participants (70%) had minimal basic knowledge about POC, and only about 10% had previously made POC. However, post-training, 85% of participants showed a significant improvement in their understanding of POC concepts and techniques, including identifying appropriate organic materials, understanding the fermentation process, and knowing how to store POC. During field visits following the training, 65% of participants had successfully produced and used POC on their farms, reporting positive results such as increased soil fertility and better plant growth compared to before using POC. Nonetheless, 25% of participants still

faced challenges related to ingredient proportions and fermentation time, but with further guidance, they began to show improvements.

The use of POC also reduced participants' dependence on chemical fertilizers, resulting in an average cost reduction of up to 40%, while enhancing soil fertility naturally without harmful chemical residues, thereby promoting sustainable agriculture in Desa Kandri. The training effectively improved participants' knowledge and skills due to the practical approach used, which involved hands-on experience in making POC. However, challenges in field implementation highlighted the need for ongoing support to boost confidence and consistency in producing high-quality POC. In the long term, POC usage is expected to enhance agricultural sustainability in Desa Kandri by reducing reliance on chemical fertilizers and maintaining soil fertility, positively impacting local food security and environmental conservation. Recommendations for future similar programs include providing continued support, developing practical guides, and establishing networks among farmers to share experiences and solutions related to POC implementation.

Diagram of POC Making Training Results:

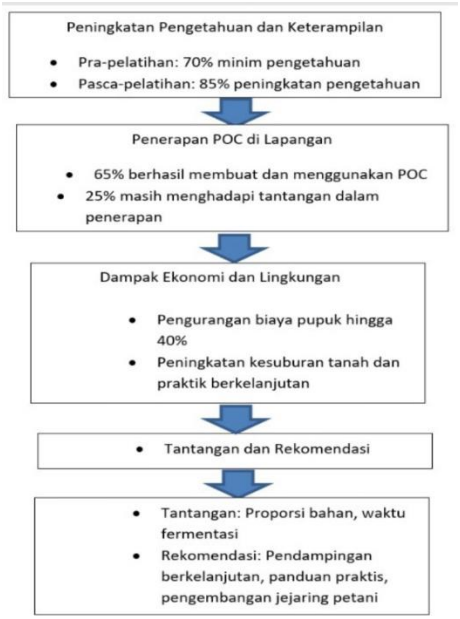

Figure 1. Diagram of POC Making Training Results

The diagram above provides a summary of the key outcomes obtained during the POC Making training in Kandri Village, as well as recommendations that can be taken for future program improvements.

4. CONCLUSIONS

The Organic Liquid Fertilizer (POC) training conducted in Desa Kandri in collaboration with the Center for Rural Agricultural Training (P45) successfully achieved its main goal of enhancing farmers' knowledge and skills in independently producing POC. The training results show a significant improvement in participants' understanding of POC concepts and techniques, as well as their ability to apply them in daily agricultural practices.

Most participants have been able to produce and use POC with positive outcomes, such as increased soil fertility and reduced costs of chemical fertilizers. However, some challenges remain in the implementation process, particularly related to ingredient proportions and fermentation time, which require further guidance.

The use of POC in Desa Kandri not only provides economic benefits to farmers but also positively impacts environmental sustainability by supporting sustainable agricultural practices. To ensure the sustainability of these training outcomes, continued efforts in the form of intensive support, development of practical guides, and strengthening farmer networks are needed.

Overall, this training contributes significantly to the development of sustainable agriculture in Desa Kandri and can serve as a model for similar programs in other regions.

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