

DIVERSIFICATION PRODUCTION AND CONSUMPTION OF MORINGA OLEIFERA BECOMING MORINGA LEAF EXTRACT CAPSULES AS AN ALTERNATIVE FOR FOOD RESILIENCE

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ABSTRACT

Since the occurrence of the COVID-19 pandemic at the end of 2019 until now, the world is threatened with a food crisis, including in Indonesia. The food crisis occurs as a result of the uncertainty of when the pandemic will end. This situation made the Indonesian government start to include food security as a priority program of the government. One of the food security programs declared by the Ministry of Agriculture is the food production and consumption program. Diversification of food production and consumption is the diversification of the types of food consumed and produced with the aim of improving the quality of human resources, developing agriculture in the food sector and improving community nutrition. In this regard, Anaka Village, Kawalu Sub-district is one of the areas in Tasikmalaya that has Moringa farming products, but the community around the plant only uses these agricultural products to make home-cooked food. Therefore, the purpose of this community service program is to provide knowledge and training regarding the production and consumption of Moringa Oleifera into Moringa leaf extract capsules with the hope that the community will be able to take advantage of the maximum Moringa crop yields and can have business opportunities to generate new sources of income to survive. living in the midst of a food crisis.

Keywords: Diversification Production And Consumption, Moringa Oleifera, Food resilience

A. Introduction

It has been more than a year since WHO (World Health Organization) announced that the new corona virus or COVID-19 was a pandemic on March 11, 2020 (Azizah, 2020). There have been 154 million positive cases with a death toll of 3.23 million. This pandemic is not only a health crisis but has covered almost all sectors including the food crisis. The food crisis as a result of the COVID-19 pandemic will end so there is a possibility of food availability, uncertainty, and access (LIPI, 2020). According to the World Food Organization (FAO) during the world pandemic, there is a threat of a food crisis, including Indonesia. In this regard, the Indonesian Government has made food security one of the priority programs of the Indonesian government.

The Ministry of Agriculture as the agency that has the authority to overcome this possible food crisis has prepared various strategies to face the challenges of food security during the pandemic. This food security improvement strategy is divided into several programs including: production

capacity building programs through food estates, food production and consumption programs, food reserve facilitation programs in various regions, programs to facilitate the marketing of Indonesian Farmer Shops, and several social safety network packages (LIPI). , 2020). Law No. 18/2012 concerning Food, food security is a condition for the fulfillment of food for the state until the availability of sufficient food availability, both in terms of quality, safe, diverse, nutritious, equitable and affordable and does not conflict with religion, belief, and culture of the community. to live a healthy, active and productive life in a sustainable manner. Food security includes physical dimensions (availability of food), economy (people's purchasing power), nutrition (fulfillment of individual nutritional needs according to nutritional needs), the value of cultural, and religious, food security (health), and time (sustainably available) (Saleh, 2021). The issue of food security is a new problem that needs to be resolved immediately so that it does not then cause an even bigger problem.

One of the food security programs formulated by the Ministry of Agriculture is a program to diversify food production and consumption. Diversification of food production and consumption is the diversification of the types of food consumed and produced with the aim of improving the quality of human resources, agricultural development in the food sector and improving community nutrition (Ariani & Ashari, 2016). This program is able to be one solution to the problem of food security during the pandemic considering that diversification of food production and consumption is able to provide many alternative food sources.

The people of Tasikmalaya City, especially those in Anaka Village, Kawalu District, have the opportunity to implement food security programs by diversifying food production and consumption, building food sovereignty and independence. This is because Kampung Anaka has quite a lot of Moringa Oleifera yields, but so far the agricultural produce has only been used by local people as food ingredients to make Moringa leaf vegetables even though according to

some research results prove that Moringa leaves have many benefits and are of high selling value when processed. appropriately. Moringa oleifera is a plant with many benefits and has a high source of protein and nutrition and contains more than 40 natural antioxidants (Hasanah et al., 2019). Moringa leaves also function to prevent hypertension, cancer, diabetes and increase immunity (Hasanah et al., 2019). The use of Moringa Oleifera that are not optimal in Anaka Village is the focus in the preparation of this proposal.

Based on the background and problems above, the proposing team is interested in participating in maintaining Indonesia's food security by diversifying food production and consumption by maximizing the yield of the Moringa Oleifera into Moringa leaf extract capsules as a dietary supplement with many benefits with a longer shelf life. and has a high selling value compared to only being processed into Moringa leaf vegetables. Partners in this program are the people of Kampung Anaka, Kawalu District, Tasikmalaya City. The limited knowledge of the

community regarding the processing of *Moringa Oleifera* to become an opportunity to diversify food production and consumption with many benefits for health and economic value so that it can become a business opportunity for the people of Kampung Anaka in the midst of the Covid-19 pandemic crisis. The following is an example of *Moringa* leaf extract capsules that have been circulating in the market with a long shelf life and high selling value;



Figure 1. Example of *Moringa* Leaf Extract Capsules

The diversification of *Moringa Oleifera* in to capsules as shown in Figure 1 inspired the proposer to be able to educate the community, especially the people of Kampung Anaka, to be able to see business opportunities from *Moringa Oleifera* resources so that they can become a source of food with many benefits and sources of income to survive and

maintain food resilience in this situation.

B. Method of Implementation

Community Service Program The Food Resilience Scheme (PbM-KP) is program to help overcome food resilience problems, through public awareness to build food self-sufficiency and create business opportunities for survival for the community in Anaka Village, Kawalu District, Tasikmalaya City. The method used in this service activity is through training and mentoring with the aim that partners really understand how to identify resources in the form of raw materials and are able to use them as business opportunities by increasing production and consumption diversification. In addition, through the PbM-KP program, the PbM-KP team will also ask for help from experts or practitioners who understand the process of processing *Moringa Oleifera* into *Moringa* capsules. Thus, the main problems faced by partners in creating added value are carried out using an approach method, identifying problems and justifying their solutions as shown in table 1 below:

Tabel 1. Main Problems and Justification for Solution

No	Main Problems	Justification for Solution
1	Limited knowledge about the importance of food resilience in the midst of this pandemic	Partners are given an explanation regarding food resilience by diversifying agricultural production and consumption
2	Limited knowledge to identify surrounding resources in the form of selling value raw materials	Partners are given an understanding of how to identify resources in the form of selling value raw materials
3	Limited knowledge and ability to be able to carry out Moringa Oleifera processing	Partners are given training to be able to process Moringa plants into Moringa Oleifera extract capsules.
4	Limited knowledge and ability to capture business opportunities and innovations through moringa oleifera processing	Partners are provided with assistance with various examples of packaging for Moringa oleifera extract capsules that have a long shelf life and high selling value

partners involved in the service, namely Parhan and Hasan Supardi. Parhan and Hasan are members of the Youth Organization of Kampung Anaka Village, Kawalu District, Tasikmalaya. At this meeting, the team and partners discussed the planned activities and technical activities to be carried out in the community service program for the food security scheme. In addition, we also discussed the willingness of the residents to participate in service activities and the equipment and materials that need to be prepared so that the implementation of the activities can run smoothly according to the plan.

The service activity with the title Diversification of Production and Consumption of Moringa Plants into Moringa Leaf Extract Capsules as an Alternative for Food Independence is divided into two stages. The first stage was held on August 31, while the second stage was held on September 8, 2021. Both stages of this activity were attended by at least 20 participants from the Kampung Anaka community, most of which were dominated by housewives.

C. Result and Discussion

The first step in this community service activity is to coordinate with



Figure 2. Coordination with Partners

The PbM Lecturer Team assisted by three students of the Management Study Program at the University of Siliwangi namely Alisa Nur Fajri, Sania Rahmi Kamila and Rizky Ramadhan carried out the first stage, namely in the form of training on the efficacy of Moringa leaves and various ways to use them, which was carried out by Mrs. Iis Sutarsih as a resource person. At this stage, the people of Kampung Anaka were given a thorough explanation of the health benefits of Moringa leaves and how to use them so that they could be stored longer in the form of processed food and how to increase the economic value of Moringa leaves.



Figure 3. Moringa Kampung Anaka Training Activities

The next stage of the second activity was assistance in processing Moringa leaves into Moringa capsules which was also assisted by Mrs. Iis Sutarsih as Mentor. In this activity, the people of Kampung Anaka practice directly processing Moringa leaves into Moringa flour and put it in an empty capsule shell and then packaged it into a capsule bottle. This mentoring activity went very well because it was supported by the high enthusiasm of the residents because for them the processing of Moringa leaves into Moringa capsules was able to become a promising business opportunity.



Figure 4. Moringa Processing Assistance Activities into Moringa Capsules



Figure 5. Moringa Processing Practices into Moringa Capsules by the Anaka Village Community



Figure 6. Results of Moringa Processing Assistance Products

Other activities besides training and mentoring in the manufacture of Moringa powder capsules, PbM Team also provides equipment that will be used by the people of Kampung Anaka to produce Moringa powder capsules independently. The provision of this equipment is expected to be one of the solutions for the community to be able to take advantage of the Moringa leaf harvest so that it can have a higher economic value and be able to improve the economy of the people of Kampung Anaka.



Figure 7. Symbolic Provision of Equipment

Meanwhile, Giyar as the coordinator of the training participants and mentoring of Moringa capsules revealed that the PbM Food Security Scheme at Siliwangi University has provided many benefits for the people of Kampung Anaka. According to him, through this training and assistance, the community in his village already has the knowledge and skills of processing Moringa leaves.

D. Conclusion

The purpose of this PbM-KP program is so that the community, especially the people of Kampung Anaka, Kawalu, Tasikmalaya City can take advantage of the Moringa crop yields into products that have higher economic value by processing them into capsules of Moringa powder so that they can be alternative food and provide business opportunities for them. The implementation of community service which includes training and counseling assistance adds knowledge and skills to the people of Kampung Anaka which provides economic and health benefits, especially during the COVID-19 pandemic. The training provided by the resource persons with a simple and

easy-to-understand approach can be well received by the people of Kampung Anaka. The mentoring activities were carried out quite well so that the people of Kampung Anaka were able to have the skills of processing Moringa plants into Moringa powder capsules independently.

E. SUGGESTIONS

Although this PbM-KP activity has been able to improve the knowledge and skills of the people of Kampung Anaka regarding processing Moringa plants into Moringa powder capsules. The team realized that this service program had limited manpower, time, and funds. In order to further increase the reach and even out the level of knowledge and skills of the people of Kampung Anaka regarding the processing of Moringa plants, support from the government is needed. The potential of Moringa derivative products to become a business opportunity for the village community of Kampung Anaka is quite high, therefore, it is hoped that the government can assist in paying attention to community groups who wish to open a moringa plant

processing business so that it can become one of the business opportunities that can improve the welfare of the community.

F. Acknowledgement

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