

MAKING OYSTER MUSHROOM CHIPS AND NUGGET FOR NON-PRODUCTIVE COMMUNITY IN MULYAHARJA SUBDISTRICT, SOUTH BOGOR

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Abstract

Mulyaharja Village is an area with an area of 477,005 Ha with a population that is quite dense as many as 16,475 people with a very rapid population development. It is known that around 40% of the people in the Mulyaharja neighborhood are categorized as uncertain income. Uncertain people are non-productive people, the majority of them are housewives who are members of the Family welfare improvement group. In an effort to improve the welfare of the Mulyaharja community the Chemistry Study Program of the Faculty of Mathematics and Natural Sciences provides an alternative program of making products such as chips and nuggets from oyster mushrooms. This program can provide added value when viewed from 2 different sides. First, through the processing of oyster mushrooms, it can overcome the welfare problems of farmers because their crops can be processed into products that have a higher selling value. Second, it can overcome the problem of people with uncertain income to become entrepreneurs of products from oyster mushrooms. The outputs will be generated from this program is a community empowerment model, including the opening of insights from non-productive people regarding oyster mushroom business opportunities, producing skilled workers in making chips and oyster mushroom nuggets, producing high quality products and ready to be marketed and open the opportunity to be recommended to become a small independent business that has more potential so that it can increase the income of the people who have an impact on improving welfare. In addition, the expected outcomes are in the form of scientific works in the form of journal publications..

Keywords: family welfare improvement, Oyster Mushroom products, community empowerment model.



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I. INTRODUCTION

Mulyaharja is one of the villages in South Bogor City, West Java, Indonesia. It is geographically located in a very strategic location, close to Bogor City Center with a distance of about 8 km and takes a travel time of about 15 minutes. It's near to the center of Bogor which has led to a very rapid increase in facilities and infrastructure. In fact, it has not been matched by an increase in the original population so that the development of the region is only enjoyed by immigrant communities outside the Bogor area. It has an area of 477,005 ha with a fairly dense population of 16,475 people. It is totally 4,461 families (2011) who are scattered in 15 and 55 neighborhoods with very rapid community development. All aspects of this development have an impact on the economy of the Mulyaharja Village community on a micro basis. The high demand is not followed by an equivalent of satisfying needs. The population continues to grow rapidly, but the development of living facilities and employment is not as fast as the development of the

population itself. This makes the economy in Mulyaharja Village move very slowly.

The educational background of Mulyaharja Urban Village residents is very low, namely 2.26% not graduating from elementary school, 5.49% graduating from elementary school, 5.64% graduating from junior high school, 4.20% graduating from high school, and only 7.07% successfully completing diplomas and undergraduate degrees, while 75.34% have not felt the school bench. Based on this very low educational background, it turns out that residents of Mulyaharja who work as traders and entrepreneurs are dominated by small traders and small entrepreneurs. Most of them earn irregular income because of limited educational and skills backgrounds, they are non-productive communities, but even so, the Village government facilitates them especially housewives who do not work to join the Family Welfare Improvement group so that they are active when there are extension activities from outside agencies, especially those related to entrepreneurship.

Mulyaharja Village is a potential area for producing oyster mushrooms. There are many home-grown oyster mushrooms, which use the yard in front of or behind the house as a garden for planting oyster mushrooms. This is because of a highland area which is \pm 1500 m above sea level, so that oyster mushrooms can flourish in this area. In addition, mushroom farming is relatively simple (Gunawan and Agustina, [1]). Oyster mushrooms are usually maintained with sterile sawdust growing media which is packaged in plastic bags (Gunawan [2]).

The number of oyster mushroom farmers in Mulyaharja Village did not have the ability in packaging management and the marketing of their products. This resulted in the accumulation of yields, but the farmers themselves did not know where to sell their crops. So that finally, the oyster mushrooms were rotten before they arrived at the consumers. It takes an effort for the oyster mushroom farmers to process their own produce into products that have a higher selling value both in the local, regional and national market.

Oyster mushrooms are nutritious foods with high protein content (around 10.5-30.4%), rich in vitamins and minerals, low in carbohydrates, fats and calories (Sumarmi [3]). The composition and nutritional content of every 100 grams of oyster mushrooms are 367 calories, 10.5-30.4% protein, 56.6% carbohydrates, 1.7-2.2% fat, 0.20 mg thiamine, 4.7-4.9 mg riboflavin, 77.2 mg niacin, and 314.0 mg calcium (Sumarmi [3], Pradnyamitha [4]). The highest main minerals are Potassium, Phosphorus, Sodium, Calcium, and Magnesium. The concentration of K, P, Na, Ca and Mg reaches 56-70% of the total ash with K content reaching 45%. Metallic mineral microelements in oyster needles contain low content, so this fungus is safe for consumption every day (Sumarmi [3]).

Based on this, in effort to improve the welfare of the Mulyaharja community, the Mathematic and Science Faculty, especially Chemistry Study Program provides an alternative program to improve the skills of making oyster mushroom chips and nuggets. The program to improve the skills of making oyster mushroom chips and nuggets can provide added value if viewed from two different sides. First, through processing vegetable commodities produced in Mulyaharja Village, it can overcome the welfare problems of vegetable farmers because the vegetables produced can be preserved and have high selling value. Secondly, it can overcome the problem of irregular income residents to become oyster mushroom chips and nuggets entrepreneurs. This program is to improve the skills and well-being of non-productive people who are members of PKK mothers through home industry efforts to make oyster mushroom chips and nuggets.

II. METHODS

1. Providing skills training in making oyster mushroom chips and nuggets

One way to make chips is to use a vacuum frying which works by inserting oyster mushrooms fried in it with medium cooking oil. The cooking oil heating is set at low temperatures (80-85°C). The source of heat used comes from LPG gas. To speed up the frying, the water or fruit content is extracted by the vacuum frying. It is carried out by using a special pump with electric power. The temperature of it is always automatically controlled, it is always kept low so the chips don't burn and the chips has original color. The temperature can be adjusted as desired and the device is arranged so that everyone can operate it easily.

The training method of making oyster mushroom chips and nuggets involved 2 partner groups, each of which consisted of 5 women from the group of Family Welfare Improvement at Mulyaharja Village, carried out through several stages, namely:

- The training will be held at the Chemistry Laboratory of the Chemistry Study Program, FMIPA Pakuan University. The initial stage of the training begins with the provision of material to add insight into partners about oyster mushrooms and its products. In giving this material, they will also be given insights on how to make oyster mushroom nuggets and chips and how to proximate the oyster mushroom chips produced. This initial stage will be carried out for approximately the first month.
- The second stage was carried out in the second month, namely training on making oyster mushroom chips and nuggets. In this training theory will be given on how to choose good raw materials and how to make good oyster mushroom chips and nuggets, resulting in quality export products.
- The third month will be evaluated whether partners can produce the highest quality products. If there are still partners who have not succeeded, the second phase will be repeated, namely retraining until the partners succeed.
- The fourth stage was carried out in the fourth month, namely the proximate analysis of the products produced which included water, ash, carbohydrates, fats, proteins, and minerals.
- The fifth month has been done by testing the expiration time of the product produced during storage.

2. Providing packaging and labeling training

Packaging is a coordinated system to prepare goods to be ready to be transported, distributed, stored, sold and used. The presence of a container or wrapper can help prevent or reduce damage, protect the products that are inside, protect from the dangers of pollution and physical disorders. In addition, packaging functions to place a processing product or industrial

product so that it has forms that facilitate storage, transportation, and distribution. In terms of promotion of containers or wrappers, it functions as a stimulus or attraction to buyers. Because of that the shape, color, and decoration of the packaging need to be considered in its planning (Jaswin [5]).

Good packaging for oyster mushroom chips and nugget products can be done by using plastic or aluminum packaging through a process of sealing. Then they are vacuumed so they are not easily damaged because they are protected from air and microbes, and labeled with an attractive product image, manufacturer, product weight, composition of nutritional value, and product age (production date and expiration date).

3. Starting to make network marketing to various market lines

The community service program that will be implemented in the first year reaches the stage of starting to make network marketing. Opportunities for marketing oyster mushroom chips and nuggets produced from home industries can be marketed in small shops to supermarkets. For the long term, this product can be marketed extensively even to exports that require special marketing strategies.

In each stage of this implementation, participation from both parties is needed from the proponent team, in this case, the Chemistry Study Program and from the partners, namely the Mulyaharja Urban Village community represented by Family Welfare Improvement groups. The role of the proposing team is to guide and provide supervision to the partners so that each stage of implementation can run well and can be followed by partners. While the role or participation and contribution of partners is to prepare raw materials, facilities and infrastructure used during training, and are expected to have a sense of curiosity and high enthusiasm in accepting each lesson given by the proposing team. So that later at the end of the program, they, the partners, can apply it in their daily lives to create oyster mushroom nuggets and chips businesses whose products can be sold to local, regional and national areas.

In the short term, the success of this community partnership program is to increase public interest in making the best quality oyster mushroom chips and nuggets. In the long term, it is increasing the income of non-productive people through entrepreneurship of oyster mushroom chips and nuggets. The program will be continued, if there are still partners wants to be assisted for 6 months. In the first 3 months, there will be a performance evaluation of the partners. If the partners still need guidance then assistance will continue until the next 3 months. But if it is sufficiently independent, the next program is just monitoring.

III. RESULTS AND DISCUSSION

On February 28, 2018 the first meeting was held between the Research Team and the Head of the Village, the Secretary of the Village Head, and the Chair of the Family Welfare Improvement in Mulyaharja Subdistrict, South Bogor District.



Figure 1. Meeting with the chief of Mulyaharja Urban Village, South Bogor District

In this meeting several things were discussed, namely as follows:

1. The training material that will be provided to Family Welfare Improvement group in Mulyaharja Sub-district, South Bogor District, is not only about making oyster mushroom chips products but other products that can be made with oyster mushroom raw materials such as nuggets.
2. The number of Family Welfare Improvement cadres who will be involved in the training will be 20 people representing each RW, then 20 people will be divided into 4 groups according to the interest of the products they will learn.
3. The initial stage of training is starting with giving material about the benefits and content contained in oyster mushrooms, cultivation methods, and products that can be made from oyster mushrooms.
4. The second stage is training to make oyster mushroom chips and nuggets. A module will be provided which contains material and how to make the product so that after the training the participants are able to practice it themselves. Therefore, later the performance evaluation of partners will be held so that partners can produce the best quality of the products. If the partner has not succeeded, it will be assisted again until the partners succeed in producing a quality product.

On March 2, 2018, the service team conducted a survey to the place of mushroom farmers who will later provide the raw material for oyster mushrooms for training, although currently, the production of oyster mushrooms produced is decreasing.



Figure 2. Survey of the oyster mushroom farmers

On March 19, 2018, held at the Mulyaharja Village Hall, South Bogor Sub-District, Bogor City, socialization of Community Service Program for the Partnership was conducted which was attended by 20 participants who were representatives of each Citizens Association. In the meeting discussed the benefits, advantages, and content contained in oyster mushrooms, cultivation methods, and products that can be made from oyster mushrooms.



Figure 3. Socialization

On May 8, June 25, and July 21, 2018, a training was held at one of the houses of Family Welfare Improvement cadres namely Ibu Hj. Imas is located not far from Mulyaharja Village.



Figure 4. Training Program

On August 28, 2018, the service team participated in the exhibition of products produced at Balitbang Kemenhan, Pondok Labu, South Jakarta. This activity is intended to showcase products that have been produced by various agencies both government, private, and tertiary institutions, and this activity is a place to promote these products. It is hoped that by participating in this activity, the oyster mushroom nuggets and chips produced by Family Welfare Improvement cadres at Mulyaharja Village women can be more widely known, not only in Mulyaharja Village.



Figure 5. Exhibition Activity

IV. CONCLUSION

With the production of oyster mushroom chips and oyster mushroom nuggets by Family Welfare Improvement cadres at Mulyaharja Subdistrict, South Bogor District, the following results were obtained:

1. Oyster mushrooms can be used as a variety of food products of high economic value compared to their initial raw materials.
2. Oyster mushroom nuggets can be a highly nutritious product and suitable for dieters.
3. Mass production is expected to be able to help especially oyster mushroom farmers generally in improving the family economy.
4. Production, packaging, product analysis, and marketing processes are still in the monitoring of the research team.

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