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Innovation in the Processing of "Balinese Arak" based on Bananas, Specially Asah Duren Village, Pekutatan District, Jembrana Regency, to Support Ecotourism Development

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ABSTRACT

The body needs a lot of nutrients from bananas, which have a lot of nutritional content. Natural bananas contain no fat, cholesterol, or sodium. Bananas can be processed into processed products such as wine or "Balinese Arak," made from bananas. The following is a nutritional description of bananas. "Balinese Arak," an alcoholic beverage made from fermented bananas, is one of the most valuable banana derivative products. Appropriate steps are needed to solve the problems faced by farmer women's groups. One effort that can be made is to encourage people to learn food processing techniques and to make "Balinese Arak" from bananas. Partners fully understand how to properly process banana-based "Arak Bali" products

INTRODUCTION

The processing of food ingredients is currently increasing and developing among Indonesian along with the rapid development of technology and knowledge. Banana raw materials are very easy to find because the growth process does not need special treatment, and the price is also relatively cheap, so there are many enthusiasts of bananas. Bananas are one of the ingredients that are used as the main ingredient in preparing various foods; even before they are processed, they can be consumed, taste good, and contain vitamins. (Suyanto et al., 2020). Banana is a fruit that comes from Southeast Asia. This fruit plant then spread to Africa, South America, and Central America. Currently, banana cultivation is carried out intensively to meet both domestic and export needs. Indonesia is the 7th largest banana producer in the world, with a production contribution of 5.97%. (Susanti, 2014) This is supported by an average increase in banana production of 4.16% per year. (Rohmah, 2016) The abundant availability of bananas encourages society and industry to process bananas into various processed products to extend their shelf life and increase their value (Raharja et al., 2018).

Bananas have very good nutritional content, including providing enough energy compared to other fruits. Bananas contain various nutrients that are needed by the body. (Ekayani, I. A. P Hemy; Suriani & Cok Istri R.; Sudria, 2020) states that bananas are naturally free of fat, cholesterol, and sodium. According to Bazirake (2008), bananas can be processed into processed products such as banana-based "Balinese Arak". The following is a description of the nutrients contained in bananas. One of the high-value banana derivative products is "Balinese Arak". "Balinese Arak" is an alcoholic drink made from fermented fruit. However, bananas contain various pectin, starch, and xylan polysaccharides, which can cause the color to become cloudy and thick (Hardini et al., 2022). Balinese people know the fermentation method for making arak using microorganisms. Balinese arak is produced by fermenting sap and then distilling it, and it has an alcohol content of 15–45% (Sukadana, 2017). In the manufacturing process, the Balinese usually only add lau (coconut fiber and bayur tree bark) to the sap as a natural starter. From these facts, it is estimated that in the sea there are microorganisms capable of converting sugars into ethanol (Simatupang et al., 2019).

The Governor of Bali has ratified Governor of Bali Regulation Number 1 of 2020, which regulates the management of Balinese fermented and/or distilled beverages. Through the governor's regulation, "Balinese Arak," which used to be circulated illegally, is now legal and gets legal protection while still following the methods and governance that have been regulated in the policy. This fact certainly opens up enormous opportunities for Arak craftsmen to produce, disseminate, and promote the existence of Arak as a traditional Balinese drink. In addition, Balinese Arak has the potential to be used as a marketed commodity for tourists visiting Bali (Ni Wayan Widhiasthini, Nyoman Sri Subawa, 2022).

Community empowerment is one of the efforts to facilitate local communities in planning, deciding, and managing their own resources so that, in the end, they have the ability and independence to do so economically, ecologically, and socially in a sustainable manner. (Pramono et al., 2020) Through this empowerment, the community can develop opportunities to show characteristics and be independent to develop their potential. This will affect the fulfillment of family life needs, especially the proper fulfillment of food in quantity and quality, which is difficult to achieve. The impact caused by the limited quantity and quality of food consumed by farming families is the insufficient food needs of family members (Muhammad Rosyidi et al., 2022). Lack of understanding and awareness to produce creativity and innovation causes many resources to not be optimally utilized, which can increase family income. As said by Alma (2018) (Buchari, 2018), innovation always brings economic development and change. Innovation is not just an extraordinary invention; it is an invention that makes economic resources more productive.

Ordinary food ingredients will have more value when processed or served in a certain way. As Sediaoetama (2004) (AD, 2004) said, society gives different social values to certain types of food and food ingredients. Certain basic food ingredients may have low social value, but this value increases when processed or served in a certain way. Siswono (2002) said that boredom can be prevented by-products with the same basic ingredients if presented in different shapes, flavors, and appearances (Intisari & Rosnina, 2019). Asah Duren Village is a village that also produces bananas, besides being a producer of coconut, cloves, coffee, and durian. Asah Duren is one of eight villages located in Pekutatan District, Jembrana Regency, Bali Province. The area of Asahduren Village is 6.13 km2, or around 4.73% of the total area of Pekutatan District and 0.73% of the total area of Jembrana Regency (BPS, 2019). Most of the people of Asah Duren Village have their main livelihood as farmers. The population of Asah Duren Village consists of 892 households, of which 1882 are men and 1830 are women. Asah Duren Village is divided into 4 hamlets, namely Prestasi Hamlet, Asah Duren Hamlet, Temukus Hamlet, and Segah Hamlet.

Based on the results of the initial visit and discussion with the community, it was found that the problem that most farmers complained about was the problem of processing banana production, which has high economic value and is hygienic. One of the problems with processing banana production was experienced by the Kusuma Dewi Farmer Women's Group. The main cause of the existing problems is that farmers do not yet have the knowledge and expertise to process banana products into "Balinese Arak" which has high economic value and is hygienic. Members of the Kusuma Dewi Women's Farmers Group who are partners also do not understand how to market "Balinese Arak" bananas, so they need training and assistance.

IMPLEMENTATION AND METHODS

The implementation of Community Service Program activities at the Kusuma Dewi Farmers Group, Asahduren Village, Pekutatan District, Jembrana Regency involves several related parties. The agencies involved included the Community Service Institute (LPM) of Warmadewa University, the Faculty of Agriculture, Asahduren Village, and the Kusuma Dewi Farmer Women's Group.

The method of implementing this program is by giving theory and practice, which is delivered directly between group members and trainers with group participants totaling 23 (twenty-three) people, with the methods that have been implemented, namely:

1) location surveys for the implementation of extension activities and processing;
2) interviews and questions and answers regarding problems faced by partners, as well as planning activities that show steps for solutions to problems faced;
3) Partners will be given materials prepared by the team in the form of leaflets and given counseling on the types of local resources that can be utilized, making "Balinese Arak" based on bananas, online marketing methods, and business management;
4) delivery of equipment and repair of business premises to partners to support the processing of banana-based "Arak Bali" production.

The stages carried out in the implementation of community service activities include:

a) Survey and determination of service locations and determination of the number of participants;
b) Handling of problems faced by farmers;
c) Identification of needs and expectations of farmer groups;
d) solutions given to the problems encountered;
e) Implementation of activities through the provision of theory and practice.
f) Monitoring and evaluation of activities and results

RESULTS AND DISCUSSION

The implementation of this activity had an impact on the team of the Kusuma Dewi Women's Farming Group in Asah Duren Village, Jembrana, Negara, Bali, namely a group consisting of 23 representatives from members of the Kusuma Dewi Farmers' Women's Group who were able to independently process the banana-based "Balinese Arak" product, which was ready to be marketed. With the diversification of food products, the banana-based "Balinese Arak" products have added value and can increase the income of the Kusuma Dewi Women's Farmer Group Team in Asah Duren Village. The banana-based "Balinese Arak" product can be processed by all groups and has various benefits for society. The PKM implementation team also donated banana-based "Balinese Arak" product processing equipment to support partners in starting to produce banana-based "Balinese Arak" products and marketing them so that they become another source of income. Thus, this activity can certainly improve the welfare of

the community, especially the Kusuma Dewi Farmer Women's Group, Asah Duren Village, Jembrana, Negara, Bali.

Partner Contribution to Executor

Community Partnership Program activities regarding the banana-based "Balinese Arak" product by the Kusuma Dewi Farmers Group, Asah Duren Village, Jembrana were carried out on Monday, July 10, 2023, in the form of counseling or theoretical studies to provide an understanding of appropriate technology material. The processing of the banana-based "Balinese Arak" product, packaging techniques, and marketing techniques was attended by 23 representatives from Kusuma Dewi Women Farmers Group, Asah Duren Village, Jembrana. All partners (100%) actively participate in activities, and partners expect continuous assistance in processing waste into innovative compost fertilizer products.

Figure.1 Presentation of material by resource persons

Figure.2 Handover of donated tools and materials by the PKM Team of the Food Science and Technology Study Program, Faculty of Agriculture, Warmadewa University, to Partners of the Kusuma Dewi Farmers Group, Asah Duren Village, Jembarana, Negara

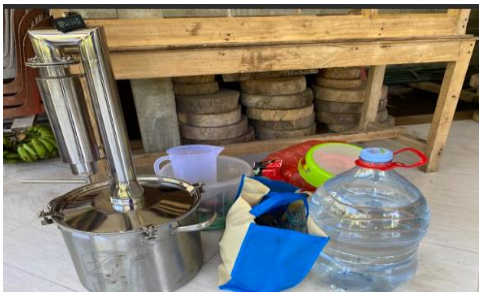

Figure.3 Donation of tools from the PKM Team of the Food Science and Technology Study Program, Faculty of Agriculture, Warmadewa University, to Partners of the Kusuma Dewi Farmers Group, Asah Duren Village, Jembarana, Negara

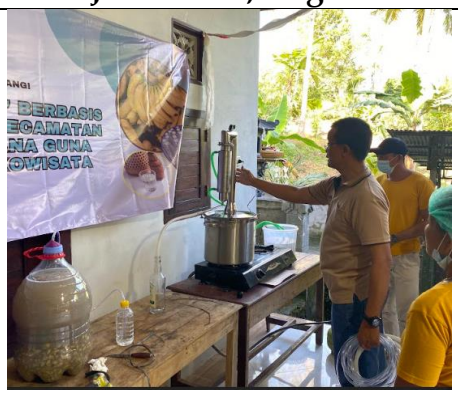

Figure.4 Practical training conducted by partners of the Kusuma Dewi Farmers' Group, Desa Asah Duren, Jembarana, Negara

Figure.5 Practical training conducted by partners of the Kusuma Dewi Farmers' Group, Desa Asah Duren, Jembarana, Negara

Figure.6 Practical training conducted by partners of the Kusuma Dewi Farmers' Group, Desa Asah Duren, Jembarana, Negara

Figure.7 Photo with the PKM Team of the Food Science and Technology Study Program, Faculty of Agriculture, Warmadewa University with Partners of the Kusuma Dewi Farmer Women's Group, Asah Duren Village, Jembrana, Negara

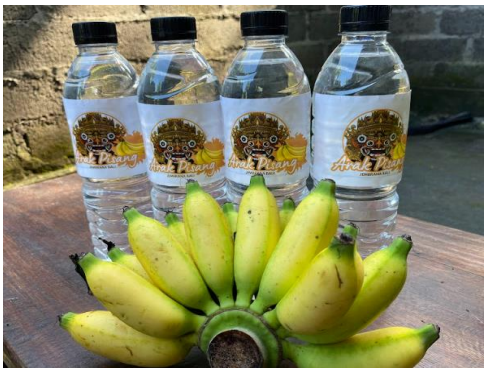

Figure.8 Product results "Balinese Arak" based on bananas

Banana (Musa) is a plant that has many fertile bodies in Indonesia. It has plant characteristics that can grow in tropical and subtropical climates (Sunandar et al., 2017). In Indonesia, there are approximately 200 types of bananas scattered throughout the island. (Arifki & Barliana, 2018) Bananas are one of the leading national fruit products that are easy to find in every home and can be consumed by children and the elderly (Siagian, S. C., Nugraheni, M., & Hasibuan, 2019), so they can be a valuable source of additional income if processed properly. Bananas can be consumed directly or processed again into food or snacks with various processing methods to produce a variety of flavors that are still delicious to consume. Bananas also have a lot of nutritional content and health benefits. Bananas in Talagasari Village are plants that are widely planted by residents, along with coconut and cloves. Planted bananas such as sticky rice bananas (uli bananas), ambon bananas, plantains, and others.

These bananas are usually sold to collectors as well as consumed daily, but consumption is limited to simple preparations such as steaming, frying, and making chips. Selling bananas in their intact form (unprocessed) makes the selling value of bananas low, and the way of processing that is usually done by the community makes people bored. (Dewantari et al., 2022).

Until now, bananas were generally only consumed in fresh or boiled form. One of the efforts to provide added value from banana commodities is to process bananas into processed food that is more varied, both from the fruit and semi-finished products in the form of banana flour. The increased creativity of banana-based food is expected to open up new business opportunities, especially for the community and especially health cadres in Lambara Village. The goal to be achieved from this community service activity is to increase participants' knowledge in making various cakes based on banana flour, provide skills on how to make various cakes based on bananas, and provide skills on how to calculate nutritional value, production costs, and selling marketing prices (Rahman et al., 2020).

Inhibiting Factors

During the composting training process, PKM ran smoothly because there were no obstacles.

Supporting Factors

Kusuma Dewi Farmers' Group from Asah Duren Village, Jembrana, was very interested in learning about the process of making the product "Balinese Arak," made from bananas. The participants were excited to practice making banana-based products independently until they started marketing them.

Solution and Follow-Up

Communication with the group leaders and village officials made it possible for extension activities and hands-on practice to run smoothly.

Strategic Steps for Further Realization

Furthermore, the PKM team will continue to assist in the processing of "Balinese Arak" banana products into high-quality and competitive products worldwide. The next plan is that the implementation team will work closely with the group to obtain a P-IRT permit so that the product can be marketed more broadly.

CONCLUSIONS AND RECOMMENDATIONS

Community service activities have been successful. The Kusuma Dewi Farmers' Group in Asah Duren Village, Jembrana, has successfully implemented the "Balinese Arak" banana processing method independently. Partners fully understand how to properly process banana-based "Arak Bali" products. To improve the quality of the product "Balinese Arak" made from bananas, the community, especially the Kusuma Dewi Farmers' Group in Asah Duren Village, Jembrana, must regularly process this product.

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