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Processing Cow's Milk into Milk Pudding as an Effort to Improve the Economy Of The Community in Kemiri Village, Puspo Sub-District, Pasuruan District

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A B S T R A C T

Milk pudding-making training is one of the solutions to improve the skills of the Kemiri Village community in processing fresh cow's milk into value-added products, especially milk pudding. The method employed was a two-day interactive training session involving groups of mothers in the village, where participants were taught pudding-making techniques, the selection of high-quality ingredients, and marketing strategies. The results of the training showed an increase in the community's knowledge and skills in processing milk, which has the potential to increase their income. This study concludes that through this training, the community can not only optimally utilise local resources but also create new, sustainable business opportunities and improve the economic welfare of families in Kemiri Village.

Contribution to Sustainable Development Goals (SDGs):

SDG 1: No Poverty

SDG 2: Zero Hunger

SDG 5: Gender Equality

SDG 8: Decent Work and Economic Growth

SDG 12: Responsible Consumption and Production

SDG 17: Partnerships for the Goals

1. INTRODUCTION

1.1. Research Background

Indonesia has great potential for developing agribusiness, which can be seen from the availability of resources that have not been fully utilised. One of the sub-sectors that can be developed is animal husbandry, as the livestock sub-sector plays a crucial role in meeting the community's animal food needs. It is known that the nutritional content of livestock products and their processed products has a better nutritional value compared to protein derived from plants (Nabati). To achieve the goal of livestock development that meets the community's dietary needs, livestock development must be directed towards the development of more

advanced livestock through the use of appropriate technology, efficiency, and sustainable production methods, thereby increasing farmers' income and standard of living [1].

Milk, as the main product of cows, buffaloes, horses, goats, and camels, has a very complete and balanced nutritional content, including high-quality protein, fat, various important vitamins such as vitamin B2, B12, and vitamin D, as well as minerals such as calcium and phosphorus that are needed by the body. The protein and fat content in milk help meet daily energy needs, while the vitamins and minerals support optimal body function. Another advantage of milk is its high calcium content, which plays a crucial role in bone and tooth development, making it a highly recommended food for children, adolescents, adults, and older individuals. In addition to its role in supporting physical development and health, milk also serves as a food source that



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helps increase endurance. These benefits make milk a functional food that is important to consume regularly. For children, milk consumption is particularly important as it supports their cognitive and motor development. For adults, milk can help prevent osteoporosis and maintain bone health, particularly in older age. Fresh milk is a highly nutritious food because it contains a variety of essential nutrients, including protein, fat, carbohydrates, minerals, and vitamins, that the human body needs. The nutritional value of milk makes it highly favoured by microorganisms, which encourage microbial growth and development. As a result, milk can become unfit for consumption in a short time if not handled correctly and adequately [2].

Kemiri Village has great potential in dairy milk production as most households in the village keep dairy cows that are milked daily. The result is abundant and consistent fresh milk production throughout the year. Every morning and evening, farmers in this village collect fresh milk, which is then directly deposited into the Village Unit Cooperative (KUD), where the milk is sold without further processing. If processed into value-added products, fresh milk can provide a higher income for the community. Unfortunately, the lack of skills in processing livestock products has made the Kemiri Village community dependent on selling raw milk to the KUD. Processed milk products, such as pudding, yoghurt, or cheese, can attract a broader market and have a higher selling value.

Additionally, with increasing public interest in healthy and nutritious food products, the market opportunity for dairy products is substantial. Seeing this opportunity, students are present to provide solutions for the Kemiri Village community. The Kemiri Village community is given training to process fresh milk into pudding. This product is relatively easy to make but has great added value potential, such as training in making pudding from milk.

This training aims to introduce the community of Kemiri Village to milk-based pudding-making techniques, to provide new skills that can enhance the added value of the abundant fresh milk products in this village. Through innovative yet straightforward processing, the community is expected not only to produce products with higher selling value but also to provide a variety of nutritious foods that are easily accessible and favoured by many people. Milk pudding is renowned as one of the desserts favoured by both children and adults, thanks to its soft texture and diverse range of flavours. Thus, people can create puddings in various flavours and with different additives, such as fresh fruits or chocolate, which will increase the product's appeal in the eyes of consumers.

In addition to increasing the value of dairy products, the training also aims to open up new business opportunities for the community. By utilising fresh milk from self-produced dairy cows, the Kemiri Village community can create processed products that are not only delicious and healthy but also have great potential for widespread marketing. This type of food-based small business can serve as an alternative income source for farming families, increase their family income, and reduce their dependence on selling raw milk. Another advantage of this milk pudding business is that the manufacturing process is straightforward and does not require sophisticated tools, making it possible for every family to prepare it at home with basic equipment.

Through this training activity, it is hoped that the Kemiri Village community can utilise the potential of its abundant milk

resources more optimally, thereby creating new, sustainable, and competitive business opportunities. By learning milk processing techniques for value-added products such as pudding, the community will not only gain more diverse cooking skills but also open up opportunities to increase family income through processed products that can be sold. This training is expected to have a positive impact on the village economy, as the improvement of community skills in processing milk will provide higher economic value to local commodities that have previously been sold only in raw milk form.

2. MATERIALS AND METHODS

The method of implementing the training on making pudding from milk was carried out in Kemiri Village, Puspo District, Pasuruan Regency. This training was carried out by involving the people of Jawar Hamlet, especially a group of mothers who have potential in milk processing. In this training, participants were taught how to select high-quality ingredients, develop pudding-making techniques, and implement marketing strategies for processed products. The teaching method used was interactive and practical, where participants not only listened to the theory but also directly practiced making pudding under the guidance of the speaker. This activity aims to enhance the community's skills in processing fresh milk into value-added products, with the expectation of increasing their income. Thus, this training does not only focus on technical aspects, but also includes the development of creativity and innovation in dairy products.

3. RESULT AND DISCUSSION

3.1. Abundance of cow's milk in Kemiri village

Kemiri Village is known as a village where the majority of the population manages cattle farms, resulting in abundant cow's milk production. This condition presents significant potential for developing various dairy products, including cheese, yoghurt, milk pudding, and other value-added products that can enhance the economic well-being of the local community. By optimally utilizing fresh milk raw materials, Kemiri Village can provide quality products that are not only in demand by the local community, but also have competitiveness in a wider market.

However, the main obstacle faced today is the limited utilization of fresh milk. Most of the milk production is only collected at the Village Unit Cooperative (KUD) without further processing into other products. This means that a significant amount of potential has not been fully realised, both in terms of increasing income and adding value through the diversification of processed milk products. Optimising milk processing in Kemiri Village, for example, through socialisation and training in producing processed products, will be highly beneficial for improving the local economy while creating new job opportunities.

One of the processed cow's milk products that can be developed is milk pudding. Milk pudding was chosen because it presents a high business opportunity, especially in the Kemiri village area, which has the potential for abundant raw cow's milk materials. Making it is also quite easy and does not require large capital, so it is expected to increase the household economic income of the Kemiri village community. Thus, pudding products can be a delicious and healthy choice for consumers, as well as a

stable source of income for the dairy food business. Milk pudding is made using fresh cow's milk as the main ingredient, because the use of pure cow's milk provides natural delicacy and higher nutritional content compared to processed milk or instant milk. Pudding is often served as a delicious and healthy dessert.

Milk pudding offers various health benefits due to the nutrients contained in milk, its primary ingredient. Milk pudding is rich in calcium, which plays an important role in maintaining healthy bones and teeth, and helps prevent osteoporosis. In addition to calcium, milk pudding also contains protein which is beneficial for repairing and building body tissues, making it a nutritious snack option for growing children and adults. Its soft texture and sweet taste make milk pudding easy to consume by all ages, including children and the elderly. This pudding can also be topped with fresh fruits, which will increase its fibre content as well as vitamin C, both of which are beneficial for boosting the immune system. By consuming milk pudding, people not only get a delicious snack but also get essential nutrients in a balanced diet.

3.2. *Socialization of Cow's Milk Processed Products*

This socialisation activity, which involved processing cow's milk into pudding, was held with the main objective of providing a broader and deeper understanding to the community, especially to women's groups in Jawar Village, on how to optimise the potential of cow's milk through innovative processing. This activity aims to create added value from dairy products produced by the local community, so that they can provide greater economic benefits. Not only did the community receive material on the importance of increasing the economic value of cow's milk products, but they also had the opportunity to learn directly by participating in practical training on how to make milk-based pudding. This training is expected to open the community's insight into various creative and innovative ways of utilizing cow's milk.

This socialization was carried out based on the findings of observations made by students, which showed that in Kemiri Village, cow's milk processing still lacks the adoption of innovations. As a result of this lack of innovation, the economic potential that can be developed from cow's milk products is not optimal and still has significant room for improvement. Therefore, through this activity, it is hoped that the community will be encouraged to be more courageous in developing cow's milk-based products that have a higher selling value, such as milk pudding. By utilizing these opportunities, the people of Kemiri Village can help drive local economic growth through innovative and competitive processed products.

During the activity, the community was invited to watch a video tutorial on making milk pudding as an initial example. Following this, a hands-on practice session was conducted to allow participants to better understand the process in real-time. Not only that, but this socialisation also provided valuable insights into effective marketing strategies. This is important so that the community cannot only produce quality dairy products but also effectively market them, enabling them to compete in a broader market.

3.3. *Milk Pudding Making Practice*

Making milk pudding from fresh cow's milk begins with selecting high-quality, fresh milk that retains its optimal nutritional content. Fresh milk is chosen for its higher nutritional content,

including protein, calcium, and vitamins, compared to processed milk. The first step in making this pudding is to filter the milk to ensure that no impurities or particles are included in the process. After that, the milk is heated to almost boiling to ensure that the bacteria in it are killed, making it safe for consumption. This process also helps extend the pudding's durability.

Next, to create a soft and chewy pudding texture, ingredients such as sugar, agar-agar powder and vanilla are added to the heated milk. Stir the mixture evenly until the ingredients are completely dissolved in the milk. Sugar provides sweetness, while vanilla adds a fragrant aroma to the pudding. The agar-agar serves as a thickening agent, which gives the pudding a firm yet creamy consistency when eaten. The mixture is continuously stirred and heated until it reaches the desired consistency.

Once the milk and agar-agar mixture is evenly distributed and boiling, it is then poured into the pudding mould and cooled at room temperature for a few minutes. Once slightly cooled, the pudding moulds are placed in the refrigerator to achieve a firmer texture. After a few hours, the milk pudding is ready to be served chilled, which gives it a fresh and creamy sensation. This milk pudding, made from fresh cow's milk, can be consumed directly or garnished with fresh fruits, grated chocolate, or caramel sauce, according to taste. This not only enriches the taste but also adds nutritional value to the dish.

3.4. *Pricing of Milk Pudding*

Pricing milk pudding in a small business requires careful calculation to keep the product affordable for consumers while also generating sufficient profit for the business owner. The price of milk pudding is usually determined based on the cost of the main raw materials, such as fresh milk, sugar, and agar-agar, as well as other additives. Additionally, other production costs, such as gas, electricity, packaging, and labour, must also be considered. Small businesses usually

have relatively small profit margins, so it is important to set a price that can cover all operational costs and still provide a profit. In addition to considering costs, prices should also be adjusted to the purchasing power of the market and the prices of similar products from competitors. Competitive and realistic pricing will attract more customers while ensuring the business remains sustainable in the long run.

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3.6. Marketing of Milk Pudding Products

One of the aspects discussed in this activity is an effective marketing strategy to expand the market for dairy products. This material was provided with the aim of enabling the community to understand the importance of marketing in enhancing product competitiveness. Some simple strategies suggested include using social media for promotion, making attractive packaging, and determining a competitive yet profitable selling price. Through this session, the Jawar Village community is expected to be better prepared to market their products outside the village, even in a wider market.

Marketing that is also socialised is marketing through social media platforms. Marketing through social media is one of the most effective strategies for small businesses to increase sales of milk pudding. Platforms such as Instagram, Facebook, and TikTok are ideal for visually displaying products through attractive photos and videos, thereby attracting potential consumers. Through engaging posts, small businesses can showcase different flavors, packaging, or appetizing ways of serving milk pudding. This helps the product become more widely recognized, and can even attract the attention of a larger audience beyond the local area.

In addition to product display, social media also facilitates direct interaction with consumers, such as responding to questions, taking orders, or even collecting testimonials. With features such as stories, live streaming, and comments, businesses can build a more personalized and immediate relationship with customers, which can increase trust in the product. Fast and responsive interactions make consumers feel valued, which can strengthen their loyalty to the brand and encourage repeat purchases.

Social media also opens up opportunities for small businesses to collaborate with influencers or use affordable paid advertising. Collaborating with influencers or food bloggers, for example, can significantly increase product exposure in a short period. Additionally, paid ads on social media that can be tailored to specific target demographics will increase the likelihood of products being seen by the right audience, such as housewives, teenagers, or urbanites who are often seeking healthy snacks. With targeted marketing, social media can effectively increase the visibility and sales of milk pudding without incurring huge marketing costs.

4. CONCLUSION

The socialisation and training activities on processing cow's milk into pudding in Kemiri Village yielded positive results, improving the community's insights and skills in utilising the potential of local resources. Kemiri Village, which has an abundance of cow's milk production, now has the opportunity to improve its local economy through value-added processed

products, such as milk pudding. This program not only helps the community understand how to utilise fresh milk as a high-quality raw material but also provides knowledge on how to market the product to a broader audience through social media. With more optimal utilization of cow's milk, the Kemiri Village community can develop products that have higher economic value and good competitiveness.

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