

## Community Service Regarding the Processing of Various Produced Afkir Bali Female Ducks in Tihingan Village, Banjarangkan District, Klungkung District

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### ABSTRACT

Based on the results of a survey at the partner location, it was discovered that the partner had no knowledge of making processed salted eggs and cull duck meat. Therefore, the community service team provided training and assistance in making salted eggs and processed cull duck meat as well as procuring equipment to support training activities. Training on processing cull duck meat and duck eggs has gone smoothly. Breeders have been able to produce salted eggs and meat from ungkep ducks and betutu ducks. From the activities, an increase in the economic value of duck eggs into salted eggs has been achieved by 36% and an increase in the economic value of cull duck meat by 30%. Farmers were very enthusiastic about participating in the activity because they gained new knowledge and skills in processing duck eggs and duck meat.

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## **INTRODUCTION**

Processing is generally intended not only to preserve meat, but also to vary taste, storage and increase benefits so that its commercial value increases. With the development of science and technology and business in the livestock sector, currently female Balinese ducks have started to become a favorite in livestock businesses in Indonesia, especially in Bali because the demand for duck meat and eggs is quite large. However, in its development there are obstacles faced by female Bali duck meat, namely the aroma which some consumers feel is rancid, the color of the meat is less attractive and tough and the carcass percentage is low. One of the things that needs to be considered when using duck meat is diversifying its processing so that it can provide added value for breeders or processors. Apart from that, to increase consumption of animal protein from livestock specifically female Bali ducks. Post-harvest handling of meat is important because it affects the nutritional content of the product and consumer safety. Some efforts that can be made are processing duck meat in the form of various kinds of dishes or preserves [3]. Diversifying processed duck meat is an effort to improve its distinctive taste, for example making shredded meat, sausages, meatballs, beef jerky and so on.

With so much consumer interest in consuming processed food quickly and long-lastingly, currently the term frozen food is known, which is the term for food that is frozen with the aim of preserving the food until it is ready to eat. Since ancient times, farmers, fishermen and hunters have preserved the fruits of their labor in unheated buildings during the winter. Freezing slows decomposition by converting the remaining water content into ice and inhibiting the growth of most bacterial species. Likewise, processed female Bali ducks can now be made in hygienic packaging and can be consumed by the public without having to process them themselves. One of the female Balinese duck breeders who supplies duck eggs in Klungkung Regency is Mr. I Wayan Budiasa. Mr Wayan's livestock business is located in Tihingan Village, Banjarangkan District, Klungkung Regency. Currently Mr Wayan has around 200 female Balinese ducks, the eggs are sold directly to the market or taken by collectors to be sent outside the Klungkung area. The lack of knowledge in producing processed female Bali duck egg products or processed female Bali duck products means they just sell them like that. So the income obtained is not optimal, and sometimes it is only enough to cover production costs.

Processing livestock products, especially female Bali duck eggs, is an alternative for increasing the nutritional value of society. The processing technology used is simple and can be applied at the farmer's production center. With post-harvest handling technology, namely processing the results, marketing can increase smoothness. Apart from getting added value, product processing activities also open up opportunities for agribusiness development in rural areas [6]. Mr. I Wayan Budiasa's housing management and management is quite good, supported by a sufficient number of duck livestock populations with not yet maximum profits. Apart from processed female Bali duck egg products, other preparations for female Bali ducks that are rejected as female Bali ducks for

meat if they are no longer productive can be made into ready-to-eat food, one of which is frozen food.

Mr Wayan's workforce is 8 people who come from people around his house. Marketing patterns rely on word of mouth information due to limited capabilities and understanding of the marketing system. Based on observations that have been made on the breeders of rejected female Balinese ducks, for the sake of their sustainability and existence, they are very worthy of receiving guidance and assistance from universities on an ongoing basis so that they can increase the capacity and quality of products related to the preservation of processed livestock, guidance and improvement of management, marketing and other aspects. others that are interrelated. In response to this issue, the community service project focused on the processing of afkir Bali female ducks was implemented in Tihingan Village. The primary aim of this initiative was to provide local farmers with the knowledge and tools needed to process surplus ducks into high-quality meat products, creating value-added opportunities and enhancing their economic livelihoods. The project also aimed to introduce sustainable agricultural practices by encouraging the ethical and efficient slaughtering and processing of these ducks.

This community service initiative, which includes training in humane slaughtering techniques, food safety, meat processing, and product marketing, seeks to empower local farmers, increase their income potential, and contribute to the economic development of the region. Additionally, by processing surplus ducks into consumable products, the project aims to reduce waste and promote more sustainable use of local agricultural resources. The following journal will explore the implementation, outcomes, and impact of the community service project regarding the processing of afkir Bali female ducks in Tihingan Village, highlighting the challenges, successes, and recommendations for future initiatives in similar rural communities.

## **IMPLEMENTATION AND METHODS**

The method for implementing community service activities will be carried out in several stages using the following methods:

1. Surveys, interviews and discussions with potential partner locations to find out partner situations and problems
2. Face-to-face method and providing direct counseling so that partners know, understand and master the process of making salted eggs and processed cull duck meat
3. Direct practice guided by instructors who are competent in their fields, so that partners can directly apply the methods provided.

## RESULTS AND DISCUSSION

### Results of Activity Implementation

Community service program activities with the title Assistance for Various Processed Processed Female Balinese Ducks in Tihingan Village, Banjarangkan District, Klungkung Regency have been carried out. The activity began with a location survey and looking at the condition of Mr. I Wayan Budiasa's duck farming business. Based on the survey results, the problem faced by partners is a lack of knowledge in processing duck eggs and rejected duck meat so that the selling value is low. Based on these problems, the team provided a training program for processing salted eggs and processing rejected duck meat into betutu duck and unkep duck.



Figure.1 Location Survey



Figure.2 Mr. I Wayan Budiasa's Female Bali Duck Farming Business

The team provided direct counseling and training on making salted eggs and processing rejected duck meat into unkep duck and betutu duck on Sunday 19 May 2024. Partners seemed enthusiastic about participating in the counseling and training. The number of training participants was 13 people.



Figure.3 Extension Activities



Figure.4 Training on Making Salted Eggs





**Figure.5 Training on Making Ungkep Duck and Betutu Duck**

The product produced in this activity is salted eggs which are made using 2 methods, namely the soaking method with salt water and the soaking method with a mixture of crushed ash salt or red brick powder. These two methods produce good quality salted eggs. Duck eggs are a source of animal protein which has a very delicious taste, is easy to digest and is highly nutritious. Duck eggs are generally large in size and the shell color is white to bluish green. The average weight of duck eggs is 60-75 g. The advantages of duck eggs compared to other poultry eggs include being rich in minerals, vitamin B6, pantothenic acid, thiamine, vitamin A, vitamin E, niacin and vitamin B12. Apart from its advantages, duck eggs also have disadvantages compared to other poultry eggs, namely that they have a high saturated fatty acid content which stimulates an increase in blood cholesterol levels. The cholesterol content of duck eggs is approximately 2 times higher than that of chicken eggs. Salted eggs are fresh eggs that are processed whole and preserved, as well as salted using the main ingredient salt. Salted eggs are a processed egg product that is very easy to make. In principle, the process of making salted eggs is salting. According to Astawan the salty taste of eggs is due to the osmosis process in eggs, namely that the NaCl salt is first converted into sodium ions ( $\text{Na}^+$ ) and chlorine ions ( $\text{Cl}^-$ ). The salt solution (NaCl) will enter the egg through the pores of the skin, into the white part, and finally into the egg yolk.

Making salted eggs requires a concentrated salt solution with a concentration of between 25%-40%. The higher the salt content in salted eggs, the greater the shelf life of the product. However, on the other hand, consumers will dislike it because it tastes too salty. Therefore, the right concentration or salt level must be sought which can provide optimal shelf life with an acceptable taste [16]. The quality standard for salted eggs (SNI 01-4277-1996) states that the salt content of salted eggs is at least 2%.



**Figure.6 Salted Egg Products Produced During Training**

Other products produced are ungkep duck and betutu duck. This technology was chosen because the process of making betutu and ungkep duck meat uses long heating so that the texture of the duck meat becomes soft. The betutu seasoning and ungkep seasoning used can also reduce the fishy smell of duck meat. Betutu duck and ungkep duck products produce tender and delicious duck meat. Betutu duck takes longer to cook, while ungkep duck uses a more intensive boiling process to remove the fishy smell and make the meat more tender.



**Figure.7 Bebek Betutu and Bebek Ungkep Products**

Rejected ducks are female livestock that are no longer productive in laying eggs. According to Ariansah, ducks are still very popular and widely used as food in Asia. Ducks can be developed as an alternative meat producer such as chicken. However, consumers do not like duck meat because its meat is tough, tough, has a fishy smell and is red in color. According to Chartrin et al, the fishy smell of duck meat is caused by the fat contained in it. Fat content is found mostly in the skin. As waterfowl, ducks have thick skin. Fat in poultry is mostly spread under the skin, the thickness of duck skin is partly caused by the spread of fat underneath.

Cull ducks have the advantages of high protein content and low calorie content, but have the disadvantages of having a fishy or rancid odor, being tough and having a relatively high fat content. The fat in duck meat contains 5 saturated fatty acids which easily undergo autoxidation, which causes a fishy or rancid odor and results in low consumption of duck meat compared to chicken. Duck meat is a source of meat with quite good nutritional content, but the unsaturated fat content is high, requiring people to be able to process it, the unsaturated fat content is around 60% of the total origin of meat fat and the meat has a red color that is easily oxidized .

Duck meat is dark meat because most of its composition consists of red fibers. A darker color than the normal color of chicken breast fillet indicates a high pH. The degree of acidity (pH) of meat above the isoelectric point (pH>5.2-5.4) results in the protein becoming more negatively charged. The high negative charge will increase the repulsive force between the proteins in the myofilaments which in turn will make it easier for the myofibrils to expand and retain water.

Duck meat has a tough texture so it needs proper processing. The processing chosen is betutu duck meat and ungkep duck meat. This technology was chosen because the process of making betutu and ungkep duck meat uses long heating so that the texture of the duck meat becomes soft. The betutu seasoning and ungkep seasoning used can also reduce the fishy smell of duck meat. *Bebek Betutu* requires a long grilling process (6-8 hours) to make the meat more tender and the spices to penetrate. This process can be done using a husk fire or an oven. *Ungkep duck* requires a longer boiling process (2-3 hours) over low heat to make the meat tender and not fishy. Using spices and lime juice also helps get rid of the fishy smell. Both produce tender and delicious duck meat, but the processing methods are different. *Betutu duck* takes longer to cook, while *ungkep duck* uses a more intensive boiling process to remove the fishy smell and make the meat more tender.

## **CONCLUSIONS AND RECOMMENDATIONS**

The conclusion from this activity is that the training activity for processing rejected duck meat and duck eggs has run smoothly. Breeders have been able to produce salted eggs and meat from ungkep ducks and betutu ducks. From the activities, an increase in the economic value of duck eggs into salted eggs has been achieved by 36% and an increase in the economic value of cull duck meat by 30%. Farmers were very enthusiastic about participating in the activity because they gained new knowledge and skills in processing duck eggs and duck meat.

The community service project focused on the processing of afkir Bali female ducks in Tihingan Village, Banjarangkan District, Klungkung Regency has proven to be a valuable initiative for both the local community and the economy. By introducing effective methods for processing surplus female ducks (afkir ducks), the project has not only helped to address the underutilization of these animals but also created new economic opportunities for farmers. The training provided to local farmers in humane slaughtering, meat processing, food safety, and product marketing has enhanced their skills and knowledge,

empowering them to create value-added products that can be sold in local markets.

Additionally, the establishment of a local processing facility has contributed to improved animal welfare, as it ensures a more efficient and ethical approach to slaughter. The project also emphasizes sustainable farming practices by encouraging the use of duck by-products and reducing waste. Overall, the project has successfully demonstrated how small-scale agricultural communities can enhance their productivity and income through the processing of local livestock. This initiative has not only improved the economic stability of the farmers involved but also strengthened the community's self-reliance and ability to meet the demands of the market. With the continued support and participation of the community, the project is expected to contribute to the long-term development and sustainability of duck farming in Tihingan Village and beyond.

The community service team will continue to accompany farmers in producing duck eggs and processed duck meat so that farmers can produce products regularly. The team will monitor and evaluate the products produced so that the farm can produce the best quality products. Ensure long-term support for the initiative by establishing a local cooperative or association for duck farmers and processors. This entity could help in pooling resources, marketing products, and negotiating better prices for duck products. A cooperative model can empower farmers to collectively address challenges, share resources, and build a sustainable market presence.

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