

## Application of Meat Post-Harvest Technology By The Housewife Group In Kendari City

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**Abstract.** Community service aims to provide a comprehensive understanding for the housewife group in Gunungjati Sub-District around Kendari City Market regarding the management of healthy food and livestock products. This activity is expected to provide knowledge and skills related to fresh meat and its processing to obtain food diversification, increase nutritional value, longer shelf life, and added economic value. The method used was training and direct demonstration related to fresh, preserved, and rotten meat as well as the processing of nuggets and sausage. Various meats can be used to make nuggets and sausages such as chicken, beef and buffalo meat. Training materials were related to the importance of consuming fresh meat, the importance of choosing uncontaminated meat with preservatives, and processed livestock products in the form of nuggets and sausages with benefits for human health and can be a source of family income. This activity has a positive impact to make people creative with meat-based ingredients and motivates them to create a business field. The types of meat that have been used for the development of sausage and nugget products are beef, rejected chicken meat and broiler chicken meat

**Keyword:** Technology application, postharvest, meat processing, housewife group

**Abstrak.** Kegiatan pengabdian masyarakat ini bertujuan memberikan pemahaman yang komprehensif bagi kelompok wanita yang berada di Kelurahan Gunugjati sekitar Pasar Kota Kendari tentang tatalaksana pangan sehat dan produk-produk hasil ternak. Kegiatan Bimbingan ipteks ini diharapkan memberikan pengetahuan dan keterampilan terkait daging segar dan pengolahannya untuk mendapatkan diversifikasi pangan, peningkatan nilai gizi, daya simpan yang lebih lama dan nilai tambah secara ekonomi. Metode yang digunakan pada kegiatan Bimbingan ipteks ini berupa penyuluhan dan demonstrasi langsung bersama para sasaran kegiatan terkait pengetahuan daging segar, berpengawet dan busuk serta bimbingan teknis keterampilan pengolahan nugget dan sosis. Berbagai jenis daging dapat digunakan untuk pembuatan nugget dan sosis seperti daging ayam, daging sapi, dan daging kerbau. Materi penyuluhan terkait pentingnya mengkonsumsi daging segar, pentingnya memilih daging yang tidak terkontaminasi dengan bahan pengawet, bimbingan terkait produk-produk olahan hasil ternak berupa pengolahan nugget dan sosis yang bermanfaat bagi kesehatan manusia dan bisa menjadi sumber pendapatan keluarga. Bimbingan teknis yang telah dilaksanakan pada kegiatan Bimbingan ipteks ini memberikan dampak positif terhadap kelompok ternak terutama semangat untuk berkreasi dengan bahan dasar daging serta motivasi peserta untuk menjadikan lapangan usaha. Jenis daging yang telah digunakan

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*untuk pengembangan produk sosis dan nugget adalah daging sapi, daging ayam afkir dan daging ayam broiler*

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## 1. Introduction

Kendari City has a traditional market in the city centre as the largest daily market, which was established in 1964 when Southeast Sulawesi Province separated from South Sulawesi province [1]. From a socio-economic point of view, people in Kendari City are generally classified as poor. Most of the residents are port workers and vegetable traders in the market. According to the initial survey, the economic situation was caused by a lack of job opportunities and reduced public interest in opening a business. Housewives have not been able to apply creative ideas to open a business because the ability of human resources is still low. The housewife group at the productive age requires an activity to improve skills to be applied in opening a business.

The potential around the central market location is quite a lot, such as chicken traders, fish traders, and vegetable traders. In the morning, the prices for various products on the market are usually high, but by late afternoon some products that are easily damaged, such as meat, start to get cheap, while fish can be frozen for longer at a fairly stable price. Freezing chicken meat sold the next day sometimes reduces buyer interest so that the selling price drops. Likewise, vegetable products in the afternoon usually begin to wither and the selling price is cheaper. Chicken meat at low prices can be made into processed products to increase selling prices and maintain product quality. Chicken meat is susceptible to damage which is characterized by early signs of rot and physical quality damage if it is not processed further [2-3]. Utilization of unsold chicken meat per trader of around 10 Kg per trader in the Kendari city market has quite promising potential. The manufacture of processed products is a way to increase selling prices and maintain meat from spoilage by processing it into nuggets and sausage. Nuggets and sausage are preferred products and can be sold in the market as a side business for housewives in their productive age.

The solution to these problems is to increase knowledge and skills through training. The training aims to apply livestock product processing skills as a business idea to run so that products can be marketed. These products can be sold to increase the income of housewives. The goals of community service are 1) to train and assist housewives in their productive age to improve their knowledge and skills by doing positive activities through business development in the livestock product sector; 2) to increase the income of a productive age housewife with a side business; 3) technology transfer in terms of improving skills in the manufacture of processed livestock products such as nuggets and sausages.

## **2. Method**

Community service includes training as a medium for transferring information, knowledge, and technology for the use of low-quality meat to housewives as well as introducing sausage and nuggets products. The practical training was attended by 7 participants from the group of housewives. The training was held in one of the residents' houses to listen to the presentations from the presenters. The training practice is carried out after the presentation of the community service team material accompanied by a question and answer or discussion. In this activity, there was a question-and-answer interaction regarding the introduction of meat and processed products. The demonstration of nuggets and sausage production was started with the preparation of raw materials, namely ground beef and starch as a filler. The other ingredients were spices and ice cubes. Then, the panel test was carried out to find out the taste of the product made. Collecting data about increasing knowledge and skills using direct observation in practice. After 6 months, data collection activities through a questionnaire were carried out to find out the increase in skills in making nuggets in the group of housewives.

### **2.1 Procedures for Making Nuggets**

The ingredients needed to make nuggets are boneless chicken meat purchased in the afternoon, garlic, salt, pepper, tapioca flour, and bread flour [4-8]. 400 grams of boneless chicken are cut into small pieces and then ground until smooth, then added 6 g of garlic, 4 g of pepper, 6 g of salt, 1 g of nutmeg, 1 block of broth, 20 g of wheat flour, 20 g of starch, then mix until even. The dough is placed on a baking sheet lined with plastic and steamed in boiling water for 20 minutes. Once cool, slice, then put in the egg yolks that have been stirred, and then put on the breadcrumbs. Finally, fry at a temperature of 120-140°C for 2 minutes or until golden brown.

### **2.2 Procedures for Making Sausage**

Ingredients and tools for making sausages are chicken meat, shallots, garlic, pepper, granulated sugar, nutmeg, flavouring, table salt, cornstarch, skim milk, ice cubes, casing, thread, scales, mill knife, pan, and stove. Chicken meat is washed with clean water to remove dirt and blood then drain. Grind the chicken with 2% salt then add 2 grams of onion, 3 pieces of garlic, 1 teaspoon of pepper, 1 teaspoon of sugar, and seasoning. Mix the cornstarch with skim milk powder in a ratio of 1: 3. Grind the chicken meat until tender along with the ingredients before adding ice cubes. Put the sausage mixture into the casing and tie it with twine. Boil in water at 70°C for 25 minutes or at 80°C for 15 minutes [5].

### **2.3 Measurement of Activity Achievement**

Indicators of achievement of activity targets using data collection through the initial activity questionnaire and the final activity questionnaire. Data was also obtained from observations every month through discussions and interviews which were recorded in a note book. Data used such as monthly income, business profits, use of production materials, and increase in production volume.

### **3. Results and Discussion**

#### **3.1 Improved Knowledge and Skills in Producing Nugget and Sausage**

The housewife group was first introduced to knowledge about meat. The housewife group was trained to be able to distinguish red fresh meat from tainted meat or tainted meat with preservatives. Moreover, meat with preservatives has been widely circulated in the market and will have a negative impact, especially on the human body. Processes to improve knowledge about processed meat products are available on the market such as sausage, meatballs, corned beef, shredded, and nuggets. This method aims to directly introduce processed products from meat, so that knowledge can be increased

Improved skills and knowledge can be seen from the questionnaire data. The results of the data show that the 7 participants in the training, all participants can practice making nuggets and sausages. Assistance has been carried out after the practice of making sausages and nuggets to find out the entrepreneurial potential of housewives. Based on questionnaire data, 7 housewives are skilled in making nuggets and sausages for sale in the traditional market in Kendari city. Sausages and nuggets are meat-based food products that are easy to make and have a good taste, so they are popular, so they are easy to market. The group of housewives got the idea of entrepreneurship and quite a large profit from the sale of nuggets and sausages. Nuggets and sausages have the aroma and taste of fresh herbs, thereby increasing product sales to consumers

The presenters gave new insights to the participants and the presenters also encouraged to develop the processed meat business as a healthy food. Presenters gave some tips to advance the business so that it can grow economically. Then, the presenters gave information that nuggets and sausages are also affected by the concentration of fillers such as wheat flour, starch, and sago. This is based on a study by [10] on producing nuggets from rabbit meat with different binders so that the taste and quality are also different.

#### **3.2 Technology Transfer on Meat Processing**

This training method aimed to introduce directly processed products derived from meat. In this activity, there was a question and answer session between participants and presenters regarding processed products from livestock. The presenters gave new insights to the participants and the presenters also encouraged to develop the processed meat business as a healthy food. The technology in processing livestock products has been well adopted by the housewife group who can make sausage and nuggets. Nuggets can also be varied with various vegetables so that they are more attractive to consumers. In this community service, the housewife group can make various interesting creations with taste liked. Based on the questionnaire data, 7 housewives are skilled at making sausages and nuggets and the products have even been packaged into frozen food so they last longer for marketing.

Processing meat into food products and having a sale value through several stages. Some of the steps that have been carried out by the community service team include practice, counseling, mentoring, and final data collection through questionnaires. Some of the technological transfers used are the manufacture of nuggets and sausages using spices so as to improve the physical and organoleptic qualities during storage. Native chicken meat has also been used with the application of marination technology so that the nuggets and sausages are of fairly good quality [11]. The application of marination technology using sour seasonings such as kandis acid and star fruit has also been carried out to improve the quality of rejected chicken meat.

### 3.3 Increased Income of Housewife Group

Producing nuggets and sausages are an integral part of making the housewife group understand processed products from livestock. This activity aims to motivate the housewife group to be more creative in developing a business that so far has only been an ordinary trader to become a producer and distributor of healthy food on a household scale. Additional ingredients used are fillers, binders, and spices, in addition to improving the taste, it also reduces production costs. The fillers in making sausages and nuggets are wheat flour and starch. Fillers are non-meat ingredients to give the desired model and shape [12].



**Figure 1.** Training and practice of making nugget and sausage by housewife group

The presenters gave some tips to advance the business so that it can grow economically. Then, the presenters gave information that nuggets and sausages are also affected by the concentration of fillers such as wheat flour, starch, and sago. This is based on a study by [13] on producing nuggets from rabbit meat with different binders so that the taste and quality are also different. Based on the questionnaire after 2 months, 7 housewives have run a business by selling nuggets and sausage to vegetable traders in the nearest market with quite promising income. The profits from the sale of sausage and nuggets can increase the income and scale of their business. Based on the results of the questionnaire, the profit from selling sausages and nuggets is between IDR 100,000 and IDR 200,000 per day. Sausage and nugget products were developed into frozen food

so they are durable and practical for sale. The addition of production volume in 3-6 months of activity also increases so that the profits also increase. Based on questionnaire data, 7 housewives have developed frozen food entrepreneurs. Housewives have succeeded in entrepreneurship to increase income and income.

#### 4. Conclusion

Based on the community service carried out, it can be concluded that the participants were very enthusiastic about participating in the training on fresh meat and the practice of processing meat into nuggets and sausage. The housewife group increased their knowledge and skills in processing livestock products into nuggets and sausages, indicating that there was a transfer of technology applied to a business that could increase income.

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