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## Increasing the Added Value of Sambal Pecel Based on Local Wisdom Through Product Innovation and Flavor Diversification

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### Abstract

The management of sambal pecel as a traditional food product based on local wisdom in the Delta Sambiresik Permai 3 Housing Complex, Sambiresik Village, Gampengrejo District, Kediri Regency, still faces limitations in terms of flavor variety, production processes, and packaging, resulting in suboptimal added value and product competitiveness. This condition encourages the need for product innovation and flavor diversification accompanied by the application of appropriate technology and continuous assistance. The purpose of this activity is to increase the added value of pecel chili sauce through product innovation and flavor diversification based on local wisdom, as well as to improve the community's skills in a more hygienic and efficient production and packaging process. This community service activity was carried out over one semester through stages of observation, socialization, training, technology application, assistance and evaluation, as well as program sustainability. The results of the activity showed that the community was able to independently apply roasting techniques, develop flavor variations, and carry out modern packaging. In addition, the application of appropriate technology improved production efficiency and product quality consistency. This activity contributed to increasing the competitiveness of pecel sambal as an MSME product and supported the sustainability of local food businesses based on local wisdom.

**Keywords:** *Sambal Pecel, Product Innovation, Flavor Diversification, Local Wisdom*

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## INTRODUCTION

Traditional foods are part of a community's cultural heritage that are not only consumed as products, but also reflect local wisdom and regional identity that has been formed and passed down from generation to generation. In addition to fulfilling consumption needs, traditional foods also have economic potential that can be developed through management based on local wisdom to support community empowerment. The development of local food products can be done through innovation and product diversification supported by community or business assistance, thereby increasing the added value and competitiveness of MSME products (Nurmala et al., 2023).

One traditional food product with considerable economic potential is sambal pecel. Sambal pecel is a culinary specialty of East Java made from peanuts, chilies, palm sugar, and local spices, with a distinctive flavor that is widely known by the public. In addition to being consumed as a side dish, sambal pecel has also developed into a home industry and MSME product that utilizes traditional recipes and local ingredients. The development of traditional MSME-based products needs to be directed towards improving quality and creating added value as a strategy to increase competitiveness in a wider market (Irianto & Rozci, 2023).

In practice, managing pecel sambal as a home business still faces various limitations. Pecel sambal production is generally still carried out conventionally with limited flavor variations and simple packaging, so that the selling value of the product is not yet optimal. Limitations in product and packaging innovation are common problems often encountered by

traditional food MSMEs. Unattractive and unhygienic packaging also affects consumer perceptions of product quality and competitiveness in the market (Jabbar et al., 2025). Based on these conditions, in an effort to increase product added value, innovation and flavor diversification are relevant strategies to be applied to pecel chili sauce. Flavor diversification allows producers to offer product variations that suit increasingly diverse consumer preferences, such as different levels of spiciness and the addition of flavors based on local ingredients. In addition, flavor diversification has the potential to be a strategy to maintain the character of traditional products while increasing the competitiveness of food MSMEs amid market competition (Setyowati et al., 2024).

Based on initial observations in the Delta Sambiresik Permai 3 Housing Complex, Sambiresik Village, Gampengrejo District, Kediri Regency, it is known that the community has been independently producing pecel chili sauce as a home business, utilizing traditional recipes and local ingredients. However, the pecel chili sauce produced generally only has one flavor variant and is packaged simply without any attractive visual identity. The production process is also still carried out manually with simple equipment, so that the quality of the product is not consistent in terms of taste and hygiene.

This condition shows a gap between the potential of pecel chili sauce as a regional culinary product and the quality and selling value of the products produced by the community. If this condition is left unaddressed without any development efforts, sambal pecel risks losing its competitiveness amid increasing competition from similar products that have prioritized innovation in flavor, packaging, and the use of simple technology. In addition, limited product innovation can hinder business development and reduce opportunities for increasing community income.

Therefore, it is necessary to develop pecel sambal in a targeted manner through product innovation and flavor diversification, supported by the application of appropriate technology and improved packaging. This community service activity is designed as a form of community empowerment that aims to increase the production capacity and added value of sambal pecel based on local wisdom through product innovation and flavor diversification, supported by the application of appropriate technology and improved packaging. The approach to the activity was carried out through stages of observation, socialization, training, technology application, mentoring & evaluation, and program sustainability so that the community not only gained knowledge but was also able to apply it independently and sustainably.

The problems addressed in this community service activity include:

1. How can the application of innovation and flavor diversification in pecel sambal based on local wisdom increase the added value of pecel sambal MSME products in Sambiresik Village?
2. What is the role of assistance and the application of appropriate technology in improving the production quality and competitiveness of pecel sambal as a traditional food product based on MSMEs?

The objectives of this community service activity include:

1. To determine how the application of innovation and flavor diversification of sambal pecel based on local wisdom can increase the added value of sambal pecel MSME products in Sambiresik Village.
2. To determine how mentoring and the application of appropriate technology can improve the production quality and competitiveness of sambal pecel as a traditional food product based on MSMEs.

## RESEARCH METHODS

This community service was carried out in Kediri Regency, specifically in the Delta Sambiresik Permai 3 Housing Complex, Sambiresik Village, Gampengrejo District.

### 1. Pre-Activity (Observation and Coordination)

In the initial stage, the community service team first conducted field observations at the Delta Sambiresik Permai 3 Housing Complex to identify the initial conditions of sambal pecel production, the potential of the community, and the problems faced. In addition, coordination was carried out with residents regarding the form of activities, program requirements, and agreements on the implementation of community service. This stage formed the basis for the preparation of community service activities so that the program implemented was in accordance with the conditions and needs of the community.

### 2. Program Socialization

Program socialization is the initial stage of community service activities, which plays an important role in providing residents with an understanding of the objectives of the activities and the potential that can be developed through the service program (Ekowati, 2024). In line with this, the socialization stage in this activity was carried out to introduce the program to residents and explain the main objectives of the activities. At this stage, the community service team also explains several benefits of the program, mentions problems that have arisen in the production process, and discusses opportunities that can be developed through flavor and packaging innovations.

### 3. Training (Product Innovation & Flavor Diversification)

This training stage was conducted through hands-on practice so that residents could understand and participate in the process. Residents were introduced to innovations in the sambal pecel production process using the roasting method. The community service team demonstrated and explained how to make sambal pecel using the roasting technique and how to develop flavor variations based on local ingredients. At this stage, the community was also given training on modern packaging using pouches with attractive and distinctive packaging designs for each flavor variant.

### 4. Technology Application

Along with training, residents will also be introduced to and guided in using technology that can help them improve the quality and efficiency of sambal pecel production. The technology introduced to residents includes tools for grinding nuts, which can make the production process more effective, and sealing machines that can be used to package sambal pecel in pouches to make it more hygienic and durable.

### 5. Assistance and Evaluation

Assistance is provided to ensure that the community is able to independently implement all stages of production. At this stage, the community service team assists residents in the production process and provides guidance, improvements, and tips to ensure that the sambal pecel production remains consistent and of high quality. Evaluation is conducted through direct observation and discussions with partners to assess improvements in skills, product quality, and the success of the innovations implemented compared to before the community service program. Through this mentoring and evaluation, residents are expected to be fully prepared to independently produce innovative pecel chili sauce in their own homes.

## 6. Program Sustainability

Program sustainability is achieved by establishing communication between the community service team and residents after the main activities have ended. The team continues to provide assistance, such as helping to expand marketing and assisting residents in using social media or marketplaces to promote their products. In this way, innovations in the taste and packaging of sambal pecel can continue to develop, so that residents will hopefully be able to maintain their own businesses and reap longer-term economic benefits.

## RESULTS AND DISCUSSION

This community service program, themed product innovation and flavor diversification, was carried out in the Delta Sambiresik Permai 3 Housing Complex, Sambiresik Village, Gampengrejo District, Kediri Regency. This program was aimed at the community living around the housing complex as an effort to help improve the residents' abilities and skills in developing existing pecel sambal products. Based on the initial conditions, the production of sambal pecel was still limited and only produced when orders were received. Therefore, innovation was needed to add value to the product and enable it to compete in the market. This community service activity focused on product innovation through flavor diversification (spicy, extra spicy, sweet and spicy, and lime leaf) and packaging innovation using pouches to make the product more attractive and hygienic. This was done to improve the quality of the sambal pecel product and increase its market value.

This community service began with a socialization activity for the community surrounding the housing complex. Socialization is the initial stage in community service activities, which aims to provide partners with an understanding of the objectives of the activity and the potential that can be developed through the community service program. At this stage, the community service team conveyed the importance of product innovation based on local wisdom, flavor diversification, and increasing the added value of pecel sambal products. This socialization also explained the raw materials, processing methods, flavor determination, and more modern packaging. Residents responded positively and showed their readiness to participate in the entire series of community service activities.



Figure 2. Socialization and Preparation Activities for the Community Service Program

The next stage is training and hands-on practice in making pecel sambal, which includes innovation in the production process and flavor diversification. Innovation is carried out through the application of roasting techniques in the processing of peanuts. The roasting technique produces a healthier pecel sambal product because it does not use oil and is able to maintain its distinctive flavor.

In addition, residents are also introduced to flavor diversification, such as spicy, extra spicy, sweet and spicy, and lime leaf variants to tailor the product to diverse consumer preferences. In this activity, the team plays an active role in providing direct assistance so that residents are able to follow all stages of sambal pecel processing and packaging properly and correctly and will later be able to practice it independently.



Figure 3. Training and Assistance Process for Making and Packaging Pecel Chili Sauce

To improve production efficiency and quality, this community service activity implemented appropriate technology in the form of sambal pecel grinding machines and sealing machines. The results of this technology implementation showed that the production process became more efficient and produced a more consistent sambal pecel texture. The use of sealing machines also improved packaging quality, making the product more hygienic and giving it a longer shelf life.



Figure 4. Application of Appropriate Technology Using Grinding Machines and Sealers

In terms of product packaging, pecel sambal has been upgraded from simple packaging to pouches equipped with label stickers containing product identity information and expiration dates. Each pouch is packaged with a weight of 100 grams according to the scale, so this change not only improves the appearance to be more professional and attractive, but also increases consumer confidence.



Figure 5. Sambal Pecel Product in Pouch Packaging with Label Sticker

The results of follow-up assistance show that residents are able to independently implement all stages of sambal pecel production with more consistent quality than before the community service activity. Residents have been able to operate production equipment properly, apply roasting techniques appropriately, and carry out packaging in accordance with hygiene standards. Evaluation through discussions showed an increase in residents' understanding of flavor innovation, product quality, and the importance of packaging in increasing market appeal. In addition, business assistance also included calculating the Cost of Goods Manufactured (COGM) to provide a detailed analysis of production costs, which is presented in the following table.

Table 1. Calculation of the Cost of Goods Manufactured (COGM) for Pecel Sambal

| Cost of Production SAMBAL PECEL (20 Pcs)   |             |        |
|--------------------------------------------|-------------|--------|
| Raw Material Costs                         |             |        |
| Purchase                                   | Total Price |        |
| Peanuts                                    | Rp          | 31.000 |
| Curly chili peppers                        | Rp          | 10.000 |
| Small chili peppers                        | Rp          | 10.000 |
| Onion 1/4                                  | Rp          | 7.500  |
| Coconut sugar                              | Rp          | 12.000 |
| Brown sugar                                | Rp          | 4.000  |
| Tamarind                                   | Rp          | 6.000  |
| Cooking oil (42.800:30 days)               | Rp          | 1.427  |
| Pouch (20x300)                             | Rp          | 6.000  |
| Stickers (20x350)                          | Rp          | 7.000  |
| <b>Total</b>                               | Rp          | 94.927 |
| Direct Labor Costs                         |             |        |
| Wages (2 people x 2 hours x 4.000)         | Rp          | 16.000 |
| Factory Operating Costs                    |             |        |
| Electricity (150.000:30 days x 4/24 hours) | Rp          | 833    |
| LPG (20.000:30 days)                       | Rp          | 667    |
| <b>Total Factory Operating Costs</b>       | RP          | 1.500  |

Based on the calculations, the cost price of sambal pecel is Rp5,600 per package. This cost price information serves as a basis for partners in determining a more rational selling price and supporting business sustainability.

Overall, the results of the activity show that the application of product innovation through roasting techniques and flavor diversification can increase the added value of pecel sambal as a traditional food product based on local wisdom, in line with community service which states that the diversification of processed products based on local wisdom can have a positive socio-economic impact and encourage community empowerment in the development of local food businesses (Heryadi et al., 2022). In addition, the application of appropriate technology in the form of simple production tools has been proven to increase the efficiency of the production process and the operational skills of residents in managing MSME businesses, so that this practical training and mentoring approach is effective in strengthening the independence of residents and the sustainability of micro, small, and medium enterprises in the local food sector (Gustalika et al., 2025).

## CONCLUSION

Community service activities carried out in the Delta Sambiresik Permai 3 Housing Complex, Sambiresik Village, Gampengrejo District, Kediri Regency, show that product innovation and flavor diversification of pecel sambal based on local wisdom can increase the added value of MSME products. The application of roasting techniques, flavor variation development, and packaging improvements have resulted in sambal pecel with better quality, more attractive appearance, and increased competitiveness. Assistance and the application of appropriate technology played an important role in improving the community's skills in the production and packaging of sambal pecel in a more hygienic and efficient manner. The community was able to independently apply innovations with more consistent product quality compared to before the community service activity.

Overall, this activity not only improves the quality and market value of sambal pecel as a traditional food product based on local wisdom but also contributes to community empowerment and supports the sustainability of local food SMEs.

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