PRIMA
Journal of Community Empowering and Services
ISSN 2579-5074 (Online)

PRIMA: *Journal of Community Empowering and Services* 9(2), 56-62, 2025
URL:https://jurnal.uns.ac.id/prima/issue/view/80205
DOI: https://doi.org/10.20961/prima.v9i2.80205

Home Industry Assistance Upgrades *Sambel Pecel Mbak Nur*'s Production Capacity and Product Quality

Dwi Ishartani*, Setyaningrum Ariviani, Siswanti, Gusti Fauza, Dimas Rahadian Aji Muhamad, Windi Atmaka

Department of Food Science & Technology, Faculty of Agriculture, Universitas Sebelas Maret, Jl. Ir. Sutami 36A Surakarta, Indonesia
**Corresponding Author* : dwiishartani@staff.uns.ac.id

ABSTRACT

Sambel pecel home industry, founded by Tri Nurhayati, sells *sambel pecel* (*pecel* sauce) products under the brand "Sambel Pecel Mbak Nur". As a newcomer, "Sambel Pecel Mbak Nur" already had quite a lot of enthusiasts. However, the production capacity had only reached 20 kgs/month due to constraints on the equipment. "Sambel Pecel Mbak Nur" had only a small capacity of the chopper, so the production process ran inefficiently. Excess oil of the product is also a problem, causing shorter product shelf life. Another problem was less attractive packaging and labelling, as it only used thin, clear, flat polypropylene plastic bags as primary packaging and thin, clear, flat polyethylene plastic as secondary packaging, with limited information on the label. The last problem faced was the limited demand and market reach. The aims of this program were to increase the production capacity of *sambel pecel*, improve product quality, improve product packaging and labelling, increase the number of sales, and expand marketing reach. This community service activity has introduced appropriate technology at the home industry "Sambel Pecel Mbak Nur" by introducing a larger capacity chopper and a spinner to drain excess oil. This activity has also improved the product packaging by introducing thick standing pouches, plastic, and thicker mica plastic as secondary packaging with a more informative label, so that the product is better protected and more attractive. Increased market reach has been attempted with digital marketing training. From the evaluation conducted, it can be seen that the introduction of appropriate technology and training in e-marketing was able to upgrade production capacity and product quality of "Sambel Pecel Mbak Nur".

Keywords **:** community service, digital marketing, food, labelling, packaging

INTRODUCTION

Small and medium enterprises are the basis of today's society's economy. In an effort to improve the national economy, MSMEs need to be developed so that they are more advanced. One of the development potentials in the economic field that is expected to be able to improve people's welfare and increase employment is the development of Micro, Small, and Medium Enterprises (MSMEs) (Kadeni & Srijani, 2020; Pujiono, 2016). One of the MSMEs that needs to get a lot of attention is MSMEs engaged in the food sector. Food MSMEs, especially micro or home industry businesses, are very vulnerable to competition from larger businesses due to limited control in the fields of production, packaging, and marketing. This problem was also experienced by home industry partners in Sukoharjo who are engaged in the production of *sambel pecel*. *Sambel pecel* originates from East Java, Indonesia. It is a kind of sauce or paste made from bird's eye chili pepper, garlic, lime, peanuts, and palm sugar, being crushed together and cooked (Setianingsih et al., 2021; Surya & Tedjakusuma, 2022). *Sambel pecel* can be simply prepared and presented as a sauce in various traditional foods, such as pecel itself, gado-gado, siomay, etc. Due to its ease of serving, preparation, and long shelf life, *sambel pecel* is usually bought by customers for household food supplies or souvenirs.

"Sambel Pecel Mbak Nur", the partner of this community service, is a home industry business located in Bulak Village, Mojolaban District, Sukoharjo Regency, Central Java Province. This business was founded in 2021 by

Copyright © 2025 PRIMA: *Journal of Community Empowering and Services*

Tri Nurhayati and her husband, who graduated from the Faculty of Agriculture at Universitas Sebelas Maret, and employed four close family members and relatives.

After a year of running the business, the demand for "Sambel Pecel Mbak Nur" had increased by up to twice, but the partner had not been able to meet the demand due to limited production capacity. "Sambel Pecel Mbak Nur" was only able to produce 20 kgs *sambel pecel*/month. Inadequate production equipment was the cause of this problem. "Sambel Pecel Mbak Nur" had only a household-scale chopper with a maximum capacity of 0.5 kg, which was used interchangeably for grinding peanuts and spices (Fig. 1). It led to time-consuming and ineffective processing of sambel pecel, thus "Sambel Pecel Mbak Nur" was unable to increase production capacity. Another production problem faced by partners was the excess oil in the product, which reduced shelf life and made the packaged product less attractive. The presence of excess oil in the *sambel pecel* could trigger an oxidation process, followed by the formation of a rancid odor, which shortens the shelf life of the product. Based on a simple test, *sambel pecel* produced by the partner had only 2.5 months of shelf life. It was shorter compared to other *sambel pecel* products in the market that had shelf life up to 4 months. Excess oil in the product came from the inadequate draining process of the deep-fried peanut. Deep-frying of peanuts, which uses a lot of oil, was intended to reach optimum cooking and to enhance taste and aroma. However, this process left excess oil in both fried peanuts and *sambel pecel*. A simple drain tool being used was not optimal to reduce the excess oil (Fig. 2). "Sambel Pecel Mbak Nur" once replaced the deep-frying process with roasting to avoid excess oil, but the taste, aroma, and texture of the resulting *sambel pecel* were not satisfactory. Thus, a solution was needed so the peanuts were well fried without much oil left in the product. A better tool to drain the deep-fried peanuts was needed to minimize excess oil.

Figure 1. Household scale chopper has limited production capacity

Figure 2. A simple draining process after the deep-frying process of peanuts induced excess oil

In addition to the poor draining process of fried peanuts, the unattractive appearance of *sambel pecel* products was also caused by packaging and labeling that were not designed properly. The packaging used was very simple, thus it could not maximally protect the product, and was unattractive. The plastic packaging being used was thin, clear, flat polypropylene plastic with a thickness of 0.02 mm as primary packaging and thin, clear, flat polyethylene plastic as secondary packaging. "Sambel Pecel Mbak Nur" only had one type of packaging variation, which was with a net weight of 200 grams. A label had been attached to the packaging plastic surface, but the information was incomplete, limited to product brand, choice of spiciness level, product image, expiration date, manufacturer's mobile number, and address. Some important information, such as product composition, net weight, production date and code, halal label, and method of presentation, had not been provided. The previous packaging and labelling of "Sambel Pecel Mbak Nur" are presented in Figure 3.

Copyright © 2025 PRIMA: *Journal of Community Empowering and Services*

Figure 3. Less attractive packaging and less informative labelling of "Sambel Pecel Mbak Nur" before assistance.

Marketing techniques were also a challenge for “Sambel Pecel Mbak Nur”. Even though the demand for the product had started to increase, the share of the product was not yet large. “Sambel Pecel Mbak Nur" had promoted the product but was still limited to friends, neighbors, and relatives through word of mouth and social media (WhatsApp Groups and Facebook). Limited promotions and marketing techniques had resulted in sub-optimal demand. “Sambel Pecel Mbak Nur" did not yet have marketing accounts at various marketplaces, such as Shopee, Bukalapak, Lazada, or Tokopedia. Based on discussion with “Sambel Pecel Mbak Nur” and exploration of the production site, the community activity team formulated activities to solve the problem faced by the partner. This community service aimed to: 1) increase the production capacity of sambel pecel, 2) improve product quality, 3) improve product packaging and labelling, 4) increase the number of sales, and 5) expand marketing reach.

METHOD

The community service activity was held from March 2022 to November 2022. The activity began with discussions between the community service team and partner “Sambel Pecel Mbak Nur” to ensure the schedule and activities to be carried out. Community service activity was carried out in five main activities, namely: 1) introduction of chopper and spinner, 2) packaging and labelling improvements, 3) marketing improvement through digital marketing, 4) community activities monitoring, 5) community activities evaluation.

Introduction of Chopper and Spinner

The chopper being introduced was an electric meat chopper from a Taiwan producer, Miao Hsien type MH-237, with a capacity of 120 kgs/hour (Fig. 4), and the electric spinner was made by a local producer with a capacity of 4 kgs/batch (Fig. 5). After the handover of the chopper and spinner, the partner was trained and assisted to operate the introduced processing equipment.

Figure 4. Chopper is being introduced with a larger capacity

Figure 5. Spinner is being introduced to drain oil from deep-fried peanuts

Counselling and Assistance of Packaging and Labelling

The activities were arranged through: 1) counselling of the importance of proper packaging and labelling in food products, 2) introduction of proper material and design for *sambel pecel* packaging, and 3) assistance with label design. The counselling activity on the importance of proper packaging and labelling in food products was followed by “Sambel Pecel Mbak Nur” employee. The packaging material being introduced was the packaging suggested by the team and, at the same time, agreed upon by the partner. Label design and material were concepted by the partner and assisted by the community service team to meet both regulations and attract consumer attention.

Training in Digital Marketing

The main materials in this training were the development and management of digital marketing and e-commerce. Partner received

Copyright © 2025 PRIMA: *Journal of Community Empowering and Services*

material as well as practiced marketing through social media and the marketplace. Partner was directly guided to create an account, manage an account, and create advertisements on the marketplace.

Community Activities Monitoring

Program monitoring was carried out through offline as well as online sessions. Offline monitoring was conducted once, while online monitoring was conducted three times during the community service activity. Monitoring was carried out to explore the technical problems of the equipment after they were implemented in the production process and also to provide solutions to these problems, as well as problems with new packaging techniques and digital marketing.

Community Activity Evaluation

Evaluation of the community activity achievements was conducted at the end of the program. Parameters being assessed were the number of limiting processing equipment, production capacity, time to grind ingredients, product quality, number of sales, market reach, and partner satisfaction.

RESULTS AND DISCUSSION

Improving Product Quality and Production Capacity through Chopper and Spinner Introduction

In this service, the partner had been introduced to two kinds of essential equipment, i.e., a chopper with a larger capacity and a spinner. A chopper with a larger capacity than the one owned by this partner is significantly increasing production efficiency. The grinding process of deep-fried peanuts and spices shifts from batch to continuous process. In addition, less time is required to grind those ingredients, resulting in a direct impact on increased production capacity (Table 1). Introduced chopper also produces better quality of *sambel pecel* with finer texture and more uniform size (Table 1). Product quality improvement is further strengthened by the use of a spinner, which optimally reduces excess oil in the final product of *sambel pecel* (Table 1). Similar work also reports the success of the spinner in reducing oil in fried food products (Juliyarsi et al., 2022; Kusnandar et al., 2023). In addition, the use of a spinner also makes it easier to grind the deep-fried peanuts so that not much oil is left behind and accumulates in the grinder, and allows for a faster draining process, with a large capacity. The partner is satisfied with both equipment performances. The process of handing over equipment to the partner "Sambel Pecel Mbak Nur" can be seen in Figure 6.

Figure 6. Handover of production equipment from the community service team to partners

Improving Packaging and Labelling Quality through Counselling and Assistance

During the counselling activity, the partner was given counseling regarding the types of food packaging and their characteristics, types of packaging that are suitable for *sambel pecel* products, labelling regulations for processed food, and attractive labelling. Partner was also shown several alternative types of *sambel pecel* packaging and labelling that have been circulating in the market. After training, the partner was assisted in choosing the packaging and labelling design. "Sambel Pecel Mbak Nur" has chosen to maintain the use of primary packaging polypropylene plastic, but a thicker one, and change the use of secondary packaging to mica plastic and a standing pouch plastic.

The usage of polypropylene plastic as primary packaging is still suitable for *sambel pecel* produced by the partner. It is cheap and permeable to gases and vapors (Díaz-Montes & Castro-Muñoz, 2021). The thickness of this polypropylene plastic has been upgraded from 0.02 mm to 0.05 mm with a dimension size of 7 × 10 cm^2. Polypropylene plastic has a high density, is resistant to gas, water, and odors, has a low water vapor transmission rate, is flexible, transparent, and relatively inexpensive. Its melting temperature is around 150˚C (Furqon et al., 2016). Polypropylene's resistance to gas and water vapor is suitable for extending the shelf life of *sambel pecel* because its main ingredient

Copyright © 2025 PRIMA: *Journal of Community Empowering and Services*

is deep-fried peanuts. Peanuts have high fat content (especially in the form of unsaturated fatty acids), which makes peanuts and their derivative products vulnerable to rancidity (Zhou et al., 2025).

Table 1. Improvement on partner's performance and its product quality after community service activity

Parameter	Before	After
Number of spinner (unit)	0	1
Number of chopper (unit)	1 small capacity	1 large capacity, 1 small capacity
Production capacity/day	5 kgs	20 kgs
Production capacity/month	20 kgs	80 kgs
Time to grind (hours)/kg ingredients	5 hours	2.5 hours
Product quality		
- Excess oil	- More	- Less
- Particle size uniformity	- Less	- More
Number of sales per month	100 pcs	500 pcs
Marketing reach	Sukoharjo	Sukoharjo, Surakarta, Karanganyar, Wonogiri, Sragen, Klaten

The application of mica plastic and standing pouch plastic as secondary packaging has made a better appearance as well as increased the shelf life of the product. Secondary packaging is packaging that is not in direct contact with the product but wraps the product that has been packaged by primary packaging. Labels have been attached to the surface of this secondary packaging. Labels were made from glossy paper and contained mandatory information according to regulation (Regulation Agency of Drug and Food Control Number 20 of 2021 About Amendment to The Regulation of The Drug and Food Control Agency Number 31 of 2018 Concerning Processed Food Labels) and product illustration. Attractive and informative labels can increase product attractiveness, increase consumer confidence, while protecting consumer rights (Febriyanti & Qomariyah, 2020; Ishartani et al., 2021; Jamrianti, 2021; Priyandoko et al., 2021; Sari & Sari, 2022).

Product composition, net weight, production date and code, halal label, and also method of presentation information were added to complete the product brand, choice of spiciness level, product image, expiration date, manufacturer's mobile number, and address information in the previous label. Partner is satisfied with mastering better packaging and labeling techniques so that the products become more attractive. The appearance of the new packaging and labelling for *sambel pecel* product from "Sambel Pecel Mbak Nur" is shown in Figure 7.

Figure 7. Appearance of "Sambel Pecel Mbak Nur" product using new packaging and labelling. standing pouch plastic for secondary packaging (a), mica plastic for secondary packaging (b)

Improving Marketing Technique and Market Reach through Digital Marketing Training

The focus of digital marketing training was socializing online-based marketing or digital marketing, practicing create account in market place, and also practicing manage the digital market that has been created. Partner "Sambel Pecel Mbak Nur" who was previously less active promoting on social media, are now active promoting the products via Facebook, WhatsApp, and Instagram. "Sambel Pecel Mbak Nur" has created and managed account on a

Copyright © 2025 PRIMA: *Journal of Community Empowering and Services*

market place, i.e Sophee. As result, a significant improvement has been reached by partner, i.e. increasing in number of sales and marketing reach (Table 1). The same approach of digital marketing training and assistance also work in improving market reach and demand in teams' previous activities (Ariviani et al., 2022). A screenshot of promotions on social media that have been carried out by partner can be seen in Figure 8.

Figure 8. Product ads via Facebook

CONCLUSION

Introduction of spinner and larger capacity chopper as well as training and assistance on packaging and labelling at "Sambel Pecel Mbak Nur" was able to increase the production capacity of *sambel pecel* and improve product quality. Training and assistance on digital marketing was able to increase the number of sales and expand marketing reach.

ACKNOWLEDGEMENT

Thank you to Universitas Sebelas Maret for the funds provided through the PKM-HGR Non-APBN Fund Program, Year 2022 with contract number: 255/UN27.22/PM.01.01/2022.

REFERENCES

Ariviani, S., Ishartani, D., Atmaka, W., & Umi Khasanah, L. (2022). The Appropriate Technology Introduction for Tempeh Brownies Diversification in BROWNIESTA SMEs. *PRIMA: Journal of Community Empowering and Services*, *6*(2), 119–125.

Díaz-Montes, E., & Castro-Muñoz, R. (2021). Edible films and coatings as food-quality preservers: An overview. In *Foods 10*(2), 1–26.

Febriyanti, R., & Qomariyah, O. N. (2020). Diversifikasi Produk Olahan Berbahan Sambal Desa Kedungrawan Kecamatan Krembung Kabupaten Sidoarjo. *Jurnal Pengabdian Masyarakat Berkemajuan Selaparang*, *4*(1), 451–454.

Furqon, A., Maflahah, I., & Rahman, A. (2016). Pengaruh Jenis Pengemas dan Lama Penyimpanan Terhadap Mutu Produk Nugget Gembus. *AGROINTEK*, *10*(2), 70–75.

Ishartani, D., Atmaka, W., Khasanah, L. U., Ariviani, S., & Siswanti, S. (2021). Peningkatan Kapasitas dan Mutu Produk Brownies Tempe di Industri Rumah Tangga (IRT) "Browniesta" melalui Introduksi Teknologi Tepat Guna. *AgriHealth: Journal of Agri-Food, Nutrition and Public Health*, *2*(1), 23–31.

Jamrianti, R. (2021). *Pengemasan dan Pelabelan Pangan*. AE Publishing.

Juliyarsi, I., Melia, S., Sukma, A., Setiawan, R. D., Indrapriyatna, A. S., & Anggraini, T. (2022). Penerapan Mesin Peniris Minyak (Spinner) untuk Meningkatkan Efisiensi Produksi dan Kualitas dari Kerupuk Kulit pada IKM RIZKY di Kota Padang. *Jurnal Hilirisasi IPTEKS*, *5*(4), 180–188.

Kadeni, & Srijani, N. (2020). Peran UMKM (Usaha Mikro Kecil Menengah) dalam Meningkatkan Kesejahteraan Masyarakat. *Equilibrium*, *8*(2), 191–200.

Kusnandar, K., Harisudin, Mohd., Riptanti, E. W., Khomah, I., Setyowati, N., & Qonita, Rr. A. (2023). Peningkatan Kualitas Produk UKM "Peyek Bunder" Melalui Introduksi Teknologi Tepat Guna Spinner. *Jurnal Pengabdian UNDIKMA*, *4*(1), 44–55.

Priyandoko, G., Nugraha, A. D., Laksana, W. A. D., Hardiana, L., & Puspitarini, F. A. N. (2021). Peningkatan Produktivitas Usaha Bumbu Sambal Pecel di Kelurahan Blimbing, Malang. *Proceeding The 4th Conference on Innovation and Application of Science and Technology*, 627–632.

Pujiono. (2016). Akselerasi Peningkatan Usaha Mikro, Kecil dan Menengah Melalui Pendidikan. *Proceeding Seminar Nasional*

Copyright © 2025 PRIMA: *Journal of Community Empowering and Services*

5th UNS SME's Summit&Awards 2016 "Peningkatan Kapabilitas UMKM Dalam Mewujudkan UMKM Naik Kelas," 319–326.

Sari, S. L., & Sari, P. O. (2022). Pemberian Merek dan Kemasan pada Produk Sambal Pecel Khas Madiun Bu Windarti. *Jurnal Pengabdian Masyarakat Wiryakarya*, *1*, 21–30.

Setianingsih, N. A., Asmoro, W. K., & Rahmad, H. (2021). Peningkatan Produksi dan Managemen Sambel Kacang. *Prosiding Seminar Nasional Hasil Penelitian Dan Pengabdian Masyarakat "Teknologi Informasi Dan Komunikasi Yang Berkesinambungan Dan Berorientasi Layanan*, 433–442.

Surya, R., & Tedjakusuma, F. (2022). Diversity of sambals, traditional Indonesian chili pastes. In *Journal of Ethnic Foods 9*(1), 1–19.

Zhou, J., Yan, F., Bi, Y., & Li, J. (2025). Nuts: An overview on oxidation, affecting factors, inhibiting measures, and prospects. In *Journal of Food Composition and Analysis 139*(107134), 1-12.

Copyright © 2025 PRIMA: *Journal of Community Empowering and Services*