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Human Resources Skills and Agricultural Product Selling Power Through A Workshop on Processing Tomatoes Into “Torakur” Sweets

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Abstract

The high volume of tomatoes during the peak harvest season often results in low selling prices and financial losses for farmers. This problem is exacerbated by the limited shelf life of tomatoes and the lack of skills in processing the harvest into high-value products. To address this problem, a leadership project was implemented to improve the skills of family welfare empowerment (FWE) mothers in the Dirgantara Asri Housing Complex in utilising tomato harvests to make products with high market value. The purpose of this workshop was to improve the skills of the community, especially among FWE mothers in the Dirgantara Asri Housing Complex, through training in processing tomatoes into a candied product called “Torakur” (Tomatoes with Date Flavour), which has significant market potential. Furthermore, participants are expected to market this processed product directly and through social media promotion efforts. The implementation method includes delivering educational materials, demonstrations of processing tomatoes into “Torakur,” and simple packaging and marketing techniques, both directly and digitally. This workshop aims to improve the skills of FWE mothers in producing and marketing “Torakur” independently, thereby creating sustainable local business opportunities. The measurement results were 100% very satisfied and 87.25% very useful. The results of this community service initiative show that the workshop has positively impacted community empowerment and strengthened interdisciplinary collaboration.

Keywords: Tomatoes; Workshop; Torakur; Skills; FWE Mothers

Abstrak



Tingginya volume tomat selama musim panen raya seringkali mengakibatkan harga jual yang rendah dan kerugian finansial bagi petani. Masalah ini diperparah oleh terbatasnya masa simpan tomat dan kurangnya keterampilan dalam mengolah hasil panen menjadi produk bernilai tinggi. Untuk mengatasi masalah ini, sebuah proyek kepemimpinan dilaksanakan untuk meningkatkan keterampilan ibu-ibu pemberdayaan kesejahteraan keluarga (PKK) di Perumahan Dirgantara Asri dalam memanfaatkan hasil panen tomat untuk menghasilkan produk bernilai pasar tinggi. Tujuan lokakarya ini adalah untuk meningkatkan keterampilan masyarakat, khususnya ibu-ibu PKK di Perumahan Dirgantara Asri, melalui pelatihan pengolahan tomat menjadi manisan “Torakur” (Tomat Rasa Kurma), yang memiliki potensi pasar yang signifikan. Selanjutnya, para peserta diharapkan dapat memasarkan produk olahan ini secara langsung dan melalui promosi di media sosial. Metode pelaksanaannya meliputi penyampaian materi edukasi, demonstrasi pengolahan tomat menjadi “Torakur”, serta teknik pengemasan dan pemasaran sederhana, baik secara langsung maupun digital. Lokakarya ini bertujuan untuk meningkatkan keterampilan ibu-ibu PKK dalam memproduksi dan memasarkan “Torakur” secara mandiri, sehingga menciptakan peluang usaha lokal yang berkelanjutan. Hasil pengukurannya adalah 100% sangat memuaskan dan 87,25% sangat bermanfaat. Hasil dari inisiatif pengabdian masyarakat ini menunjukkan bahwa lokakarya ini telah berdampak positif terhadap pemberdayaan masyarakat dan memperkuat kolaborasi interdisipliner.

Kata kunci: Tomat; Workshop; Torakur; Keterampilan; Ibu-ibu PKK

1. INTRODUCTION

Indonesia, as a tropical country, has great potential in the horticulture sector (Ruslan, 2021), including the cultivation of tomatoes (*Lycopersicon esculentum* Mill) (Saptana et al., 2023). Tomatoes are a strategic commodity that contributes to food security and the national agrarian economy. Tomatoes are one of the leading commodities in the horticulture subsector today. The demand for this commodity is relatively high for export purposes and domestic consumption (Elonard & Sembiring, 2020).

The highland areas of Indonesia with cool temperature conditions and sufficient rainfall provide an ideal environment for tomato growth, resulting in abundant production every year (Ahmad et al., 2023). Tomato farming in Indonesia is generally located in the highlands. The highlands have more optimal air temperatures, light intensity and humidity for the growth and development of tomato plants compared to the lowlands (Pratiwi et al., 2024).

Tomato plants can grow well in the highlands (more than 700 masl), medium plains (200-700 masl), and lowlands (Gelamona et al., 2022).

Although tomatoes have high economic value, farmers often face challenges during the main harvest, such as falling prices due to oversupply (Ali et al., 2023). In addition, tomatoes are a perishable food because of their high water content, so their shelf life is limited. As a fruit vegetable susceptible to damage, tomatoes require careful handling during harvest to prevent damage to the fruit (Breemer & Pattiruhu, 2024). This urgency causes wastage of harvest yields and economic losses for farmers, thus requiring innovative efforts to process tomatoes for longer shelf life.

To overcome this problem, innovation is needed in tomato processing to extend the shelf life and increase its selling value (Dalla Rosa, 2022). One innovation that can be developed is the manufacture of dried tomato sweets "Torakur" (Tomat Rasa

Kurma), which is processed through a drying technique without the addition of synthetic dyes or preservatives. Torakur processing uses the blanching and drying method to maintain vitamin C content up to 60.25% and extend its shelf life (Laga et al., 2018). Torakur is a tomato preservation method with semi-wet properties resembling dates with high vitamin content (Nisa et al., 2022). By processing into sweets, tomatoes can increase their sales incentives and extend their shelf life compared to fresh tomatoes (Widyasari et al., 2019). In addition, torakur processing also has the potential to be a new source of income for the community.

One community with the potential to process tomato-based products is the FWE mothers in the Dirgantara Asri Housing Complex, Jogotirto, Berbah District, Sleman Regency, Yogyakarta. Many FWE mothers in this area are interested in culinary-based home businesses, but still face obstacles to skills and innovation in processing food ingredients. Currently, most FWE mothers only process tomatoes as daily dishes, while the potential for utilising tomatoes as processed products with high selling value has not been maximised. In addition, many mothers want to increase family income through independent businesses but still need training and guidance in the production process and product marketing.

Therefore, training and guidance are needed to improve their skills in processing tomatoes into high-value products. One proposed solution is processing tomatoes into “Torakur”

(Tomat Rasa Kurma) sweets. Torakur is a food made from tomatoes that has been processed to increase the lycopene content (Putri et al., 2024a). Torakur also has high market potential, where 1 kg of dried tomato sweets will provide greater profits than 1 kg of fresh tomatoes (Harahap, 2020).

To support this innovation, a Workshop was held with the theme "Improving Human Resources Skills and Agricultural Product Marketability through the Tomato Fruit Processing Workshop into 'Torakur' Candy". This workshop was held to help FWE mothers improve their skills in processing tomato agricultural products and creating agricultural-based businesses that are competitive in the market. Through this training, it is hoped that FWE mothers can be more creative in utilising agrarian products, developing sustainable businesses, and overcoming the challenges of marketing processed tomato products. Thus, this program not only improves individual skills but also positively impacts the economic welfare of the community.

2. LITERATURE REVIEW

a. The Importance of Human Resources (HR) Skills in Agriculture

Human resource skills are a key factor in increasing productivity and efficiency in the agricultural sector. Training and developing farmer' skills can improve their knowledge of cultivation techniques, post-harvest management, and product marketing (Wibawa et al., 2023). This is very

relevant in this workshop, which aims to improve skills in processing agricultural products, especially tomatoes.

b. Tomato (*Solanum lycopersicum*)

Tomatoes (*Solanum lycopersicum*) are fruit plants belonging to the Solanaceae family. Tomatoes have various varieties that can be distinguished by shape, size, colour, and taste (Sie, 2021). Tomato varieties commonly cultivated in Indonesia include round, cherry, and vegetable tomatoes. Each variety has different characteristics, which affect its use and selling value.

Tomatoes are a rich source of nutrients, containing vitamin C, vitamin K, potassium, and folate. Consuming tomatoes can provide various health benefits, including reducing the risk of heart disease, cancer, and improving skin health (Nurrohman et al., 2024). The lycopene content in tomatoes, which gives them their red colour, also has antioxidant properties that benefit health (Zulfa et al., 2023).

c. Tomato Processing

Processing agricultural products creates value-added products. Processing agricultural products can also increase sales power and extend the shelf life of products. Processing tomatoes into 'Torakur' sweets can increase sales value and provide an attractive consumption alternative for the community (Prasetyo & Hujjatusnaini, 2022). Processing tomatoes into processed products such as sweets can benefit farmers significantly economically. Amelia et al. (2024) stated that processed products can open new

market opportunities and increase farmers' income.

3. IMPLEMENTATION METHOD

The research method in this PKM is carried out through several stages with the SMART approach aimed at empowering FWE mothers to process tomatoes into "Torakur" sweets with high selling value. The SMART approach is a framework used to set practical goals, consisting of five stages: Specific, Measurable, Achievable, Relevant, and Time-Bound (Adeoye & Adong, 2023).

This workshop was held at the Dirgantara Asri housing complex, Brebah, Sleman, Special Region of Yogyakarta and was attended by 16 local FWE mothers. The workshop began with a needs analysis and planning, where observations were made of the partner's condition and the preparation of training modules according to the partner's needs. Furthermore, socialisation was carried out to ensure optimal partner involvement. The workshop began with a presentation of material by the service team regarding the benefits and techniques of tomato processing, and continued with direct practice or demonstration of making "Torakur". After the training, participants were assisted in implementing business and marketing products through community networks and digital platforms. Evaluations are carried out periodically to measure the level of success of the program, both in improving participant skills and its impact on the partner's economy. The evaluation used a closed

questionnaire to measure satisfaction and the usefulness of the training. The PPG student team facilitates training and

program monitoring, while the FWE mothers act as the main partners who apply skills in independent businesses.

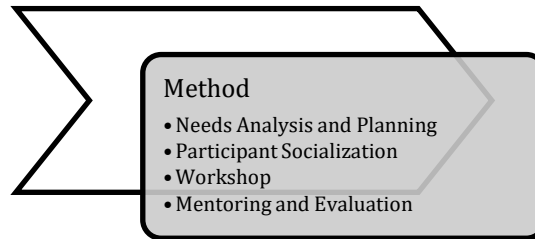


Figure 1. Steps for Implementing the *Torakur* Community Service Program

4. RESULTS AND DISCUSSION

The tomato processing program into "Torakur" sweets held together with FWE mothers at the Dirgantara Asri Housing Complex has shown a positive impact in improving the skills of FWE mothers.

The activity began with a socialisation in the form of a presentation to the mothers of the FWE group of Dirgantara Asri Housing about the importance of the benefits of tomatoes for human health. This is because tomatoes contain complete nutritional components, especially rich in vitamins and minerals.

The results of the program implementation show that FWE mothers at Perumahan Dirgantara Asri are very enthusiastic about participating in the program. This is evidenced by the mothers' enthusiasm for receiving the material, actively asking questions, and demonstrating with enthusiasm. This shows the importance of knowledge in increasing participants' awareness of the nutritional value of tomatoes as a nutritious and functional food ingredient. Consuming tomatoes can provide various

The vitamins and minerals in tomatoes are vitamin A, C, B, iron, and calcium. These components make tomatoes a nutritious and functional food ingredient. Previous research has shown that diversification of horticultural products can effectively increase the shelf life and selling value of agricultural commodities (Febtysiana et al., 2024). Meanwhile, innovation based on "Torakur" presents a new alternative that not only extends shelf life but also increases lycopene content, which is known to have health benefits as a potent antioxidant (Putri et al., 2024b).

health benefits, including reducing the risk of heart disease and cancer. (Tri, 2024).

After the socialisation, participants participated in a demonstration and direct tomato candied making, where they showed high enthusiasm and involvement. This active involvement is significant because research shows that active participation in learning can improve understanding and retention of information (Kasi, 2023). With the practical skills gained during the

workshop, participants learned how to make "Torakur" candied and gained he

confidence to produce it independently at home.



Figure 2. Presentation of Material in the *Torakur* Community Service Program. The Workshop Facilitator Delivering Educational Materials on the Benefits of Tomatoes and the Potential of Processing Them into *Torakur*.



Figure 3. Demonstration of *Torakur* Making during the Community Service Program. FWE Mothers Practicing The Process of Turning Tomatoes into Candied *Torakur* Under the Guidance of the Facilitators.



Figure 4. Collaboration and Group Photo of Participants in the *Torakur* Community Service Program

Practical skills gained through direct experience enable Torakur to increase individual confidence in applying the knowledge learned (Bait et al., 2024). It is hoped that this ability will open up opportunities for participants to make "Torakur" sweets as an additional

source of income, which in turn can improve the family's economic welfare. Thus, this program provides new skills and contributes to the economic empowerment of FWE mothers in Perumahan Dirgantara Asri.

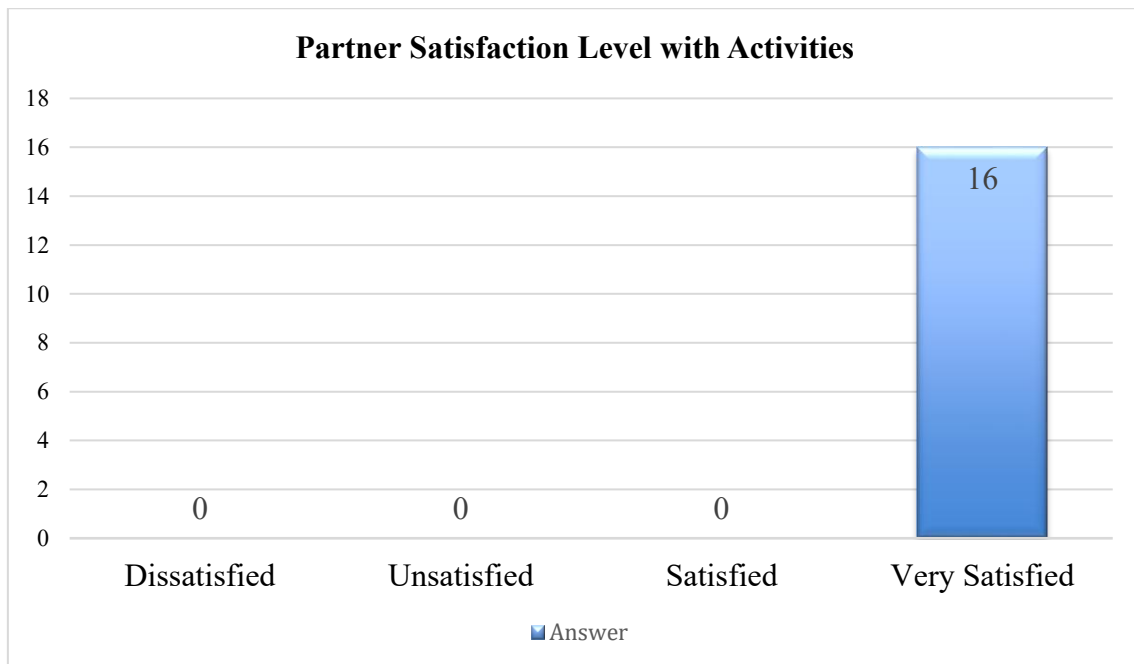


Figure 5. Partner Satisfaction Level with Activities

The implementation of this activity was well received by partners, as reflected in the survey results, which showed that all respondents (100%) were very satisfied with the workshop "Improving human resource (HR) skills and agricultural product sales through a workshop on processing tomatoes into Torakur sweets." This high level of satisfaction reflects that participants felt this workshop was relevant and valuable. This demonstrates that the material presented, along with the teaching methods employed, effectively met the

expectations and needs of the participants.

The high level of satisfaction also reflects the participants' enthusiasm for participating in the activity. Participants were not only interested in learning, but also actively participated in the process of making tomato sweets. This enthusiasm is crucial because it can encourage them to apply the skills they have acquired daily and utilise agricultural products, especially tomatoes, in processed products with high selling value. Thus, this workshop not only functions as a

means of education but also as a platform for entrepreneurial innovation.

Innovation in processing agricultural products, such as "Torakur" sweets, can open new opportunities for participants to create sustainable small businesses. This aligns with the view that innovation is the key to increasing

competitiveness and creating new economic opportunities (Lubis & Sinaga, 2024). Therefore, the success of this workshop lies not only in improving skills but also in the potential to drive economic growth through innovative entrepreneurship.

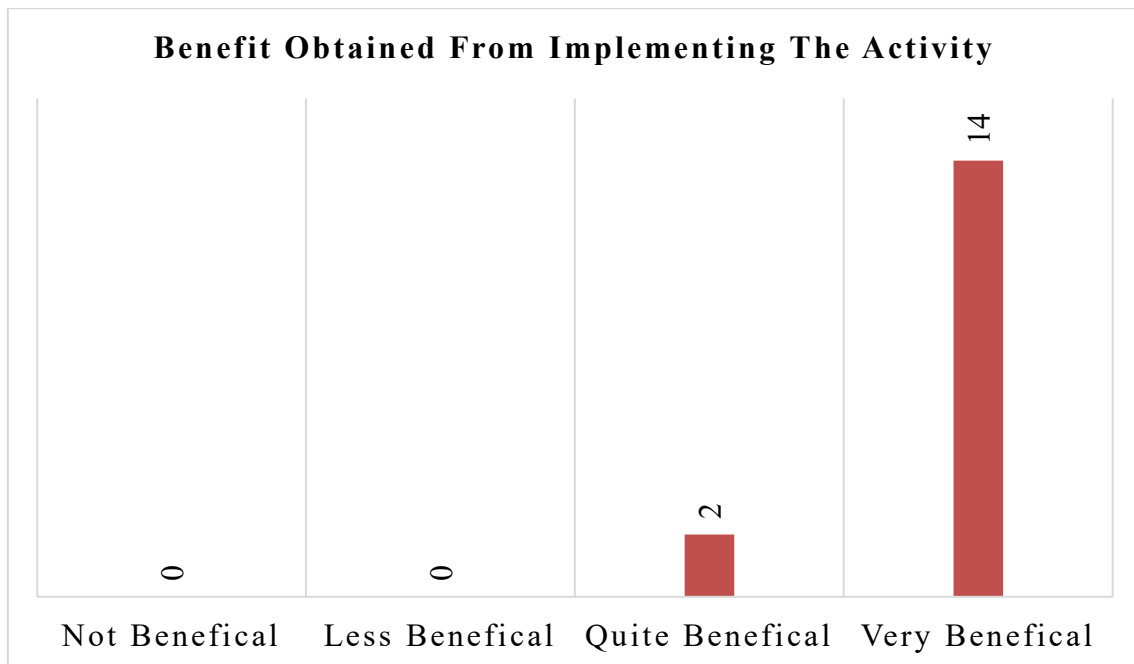


Figure 6. Level of Activity Benefit

In contrast, the other two respondents (12.5%) quite beneficial and 87.5% found it very beneficial. The survey results showed that the activities carried out succeeded in meeting and even exceeding the expectations of most participants. This high level of satisfaction indicates that the material presented, training methods, and demonstrations carried out in the workshop were beneficial for participants' skills in utilising tomato agricultural products into products with high selling value. In addition, the survey results also showed that this activity had

a positive impact, although there may still be aspects that can be improved to achieve maximum satisfaction. Overall, the results of this survey provide an overview of how the workshop has successfully delivered tangible benefits to participants while also being a basis for evaluating and developing similar activities in the future.

Compared to previous community service results, the sustainability factor of the business is primarily determined by the active involvement of the community and support from stakeholders. Several studies have noted that community-based

marketing and digital networks can be a solution for small-scale business actors in expanding product distribution (Kusuma et al., 2022).

In addition, the mentoring and evaluation approach of the program also proves that the sustainability of tomato processing businesses does not depend only on initial training but also requires support in the form of monitoring and business capacity development. Previous studies have emphasised that post-training business mentoring is more effective in increasing the sustainability of small businesses than just counselling without follow-up (Jana et al., 2023). In this program, mentoring allows FWE mothers not only to produce "Torakur" independently but also to build business networks with MSMEs and the agricultural office, which contributes to the sustainability of their businesses (Sdg, 2019; Zguir et al., 2021).

Previous devotion also shows that product diversification is the key to success in horticultural processing and the emergence of economic resilience (Wahyudi et al., 2019). Studies on agricultural product processing show that value-added products are more competitive than fresh products with a limited shelf life (Hukhairi et al., 2024). Therefore, the approach of processing tomatoes into "Torakur" aligns with the innovation strategy carried out in previous studies and shows that diversification can be a solution in dealing with fluctuations in agricultural commodity prices.

Collaboration between students, the FWE community, and stakeholders such

as MSMEs and the agricultural office is also a key factor in the success of this program. In this workshop, strategic collaboration with stakeholders allows FWE mothers wider access to the market and gets support in business management.

5. CLOSING

The tomato processing program into "Torakur" sweets with FWE mothers at the Dirgantara Asri Housing Complex has improved participants' skills in processing agricultural products into high-value products. The enthusiasm and active participation of FWE mothers during the workshop showed that practice-based and discussion-based training can improve participants' understanding and confidence in producing "Torakur" independently. Post-activity evaluation showed a high level of satisfaction and success of participants in applying the knowledge gained in their daily lives. The program's sustainability is supported by a mentoring approach and collaborative networks with stakeholders, enabling FWE mothers to build community-based businesses to improve their economic welfare. Previous studies have shown that innovation in horticultural products and digital-based marketing are essential for development. Thus, this program contributes not only in terms of skills, but also in empowering the community's economy. The success of this workshop shows that an innovation-based and collaboration approach can solve the challenges of managing agricultural products and improving the community-based economy.

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