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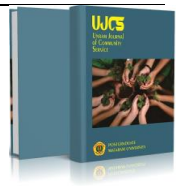

Improving Community Economy Through Innovation in Soft Ice Cream Machine and Food Dehydrator Technology and the Development of Local Wisdom in Sambibulu Village

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Abstract: Empowering Assisted Villages with the title "Improving Community Economy through Innovation in Soft Ice Cream Machine and Food Dehydrator Technology and Developing Local Wisdom in Sambibulu Village." The goal of the Mentored Village Program is to increase income, quality, and production capacity so that the target partner products can be competitive in the market. The problems faced by target partners 1 and 2 are that the types of products are still limited, namely: red guava, crystal guava, duck water tourism, cafes, and children's swimming pools. The solution to solve the partners' problems is the implementation of innovative ice cream machine technology, food dehydrator machines, and skills development to cultivate a local wisdom-based culture. The methods used to implement the proposed solutions are through training, mentoring, and practical operation and maintenance of innovative machine technologies and local wisdom culture. The target GDP achievement shows an increase in income for the target partner 2 of Rp. 6,000,000 per month for the ice cream business, an increase in income for target partner 1 of Rp. 7,000,000 per month for the flour, juice, and red guava chips business, and an increase in 3 types of product diversification. The external outputs of GDP are articles in Sinta 4 community service journals, videos, publications in mass media, posters, and the Unitomo YouTube channel.

Keywords: Diversification, Food Dehydrator, Ice Cream, Local Wisdom.

Introduction

According to Law Number 6 of 2014 concerning villages, villages have been given flexibility, freedom, and independence to manage and regulate community interests based on community initiative, ancestral rights, and local customs (Suhrowardi et al., 2024; Wibowo et al., 2021). Villages must have a well-developed plan for governance and development, which is outlined in the Village Medium-Term Development Plan (RPJM Desa). This RPJM Desa serves as a guide for village governments/institutions in preparing the Village or Institution Strategic Plan (Renstra Pemdes) and is a consideration for village governments in formulating or adjusting the Village Development Plan to achieve national development goals.

The PDB program considers the problems, their causes, and the potential of the village, as outlined in the RPJMDes. Mitra-1 in GDP is the Karang Taruna Group, which manages the business units within the Sambi Madu Village-Owned Enterprise (BUMDes) located in Sambibulu Village, Taman District, Sidoarjo Regency, in accordance with Sambibulu Village Regulation Number: 03 of 2018 concerning the Sambibulu Village-Owned Enterprise (BUMDes). Mitra-2 is the Sambi Horti Farmers Group that manages agriculture and is a member of the Sambi Horti Self-Supporting Agricultural and Rural Training Center (P4S), located in Sambibulu village, Taman sub-district, Sidoarjo district.

Developing businesses based on local potential, particularly utilizing red guava and crystal guava, has excellent potential to improve community welfare.

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However, in practice, there are still various obstacles in the fields of production, management, and marketing. From a production perspective, the products produced are still limited to fresh red guava harvests, so the added value is not yet maximized. The quality of processed products, especially chips, is still low because the packaging system is not sound and does not meet market standards. Additionally, the number of crystal guava plants available is not yet maximized, so the harvest capacity is also limited, which hinders production sustainability (Nowacka et al., 2023; Pérez-González et al., 2023).

In terms of management, the limitations of the partners' capabilities are evident in the lack of training materials and teaching aids on cultivation techniques, including propagation methods, care, the use of organic fertilizers, and the production of botanical pesticides. This condition impacts the low knowledge and skills of partners in effectively managing their businesses. Financial record-keeping or accounting has also not been implemented according to standards, making business management less transparent. In addition, tourist service skills are still low, despite the village's excellent prospects for increasing community income through ecotourism (Harfoush et al., 2024; Tampubolon et al., 2024).

From a marketing perspective, the lack of promotional strategies means that processed products and the village's tourism potential are not widely known. BUMDes Sambi Muda and its partner groups have not yet been able to reach a larger market. Additionally, the potential of local wisdom such as kolintang music has not been optimally utilized as a cultural attraction. In fact, if showcased at certain events, this local wisdom has a great chance of increasing tourist interest and opening up new economic opportunities for the community (Rahman et al., 2024; Sharma, 2023).

Based on these problems, comprehensive research and mentoring are needed through the application of appropriate technologies such as food dehydrators, business management training, accounting system development, and local wisdom-based marketing strategies. This research aims to increase production capacity through the diversification of red guava and crystal guava processed products, improve partner management skills in cultivation, accounting, and tourist services, and develop effective marketing strategies that utilize local wisdom. Thus, this research is expected to boost the income and welfare of partner communities by strengthening sustainable local potential-based businesses.

Method

The methods used in implementing the Mentored Village Empowerment are:

1. Socialization
   Socialization of the PDB program implementation to target partners 1 & 2 regarding schedule determination, program implementation, machine investment, and partner involvement and roles.
2. Training
   Training and mentoring for the PDB program, including making ice cream, various flavored juices from guava fruit, and chips, innovative food dehydrator technology, and a cultural festival based on local wisdom.
3. Technology Application
   Designing and creating technological innovations: ice cream machines, food dehydrator machines, and the production of healthy food products, including diversification based on red guava (Munambar et al., 2024).
4. Mentoring and Evaluation
   After all training programs are completed, the proposing team provides mentoring and evaluates the effectiveness of the training provided, and assesses the program's success rate by comparing the situation before and after the training (Yuniarsih & Risdayah, 2023).
5. Program Sustainability
   After the PDB program is completed, the proposing team continues to provide mentoring to partners, and there is certainty that partners can ensure the PDB program that has been implemented can be continued by partner-1 and partner-2 by maintaining and preserving all technology investments provided to the partners.

Result and Discussion

As for the stages of implementing the Mentored Village Empowerment, they are:

1. Socialization.
   Socialization with partners is carried out 3 days before the training, so that partners can coordinate with the craft groups who will be participating in the training. Partner 1 and Partner 2 prepared the training venue facilities and materials.

Figure 1. Socialization Activities

2. Training, mentoring, and practice in making ice cream, various flavored juices from guava fruit, and chips.
   Training, mentoring, and practice in making ice cream, various flavored juices from guava fruit, and chips is a PDB activity for partner 2: Sambi Horti Farmers Group, and innovative food dehydrator technology was provided. In the first year, partner 1 received investment for local wisdom-based patrol music technology from the Sambibulu Village community. The patrol music technology innovation has received many job offers to perform at events such as the 17th of August Independence Day celebrations at DR. Soetomo University, the Surabaya City Mayor's office, wedding ceremonies, and special events at the D'Ganjaran Sambibulu swimming pool (Amin & Ritonga, 2024; Siradjuddin et al., 2018).

Figure 2. Guava Juice Making Practice

Figure 3. Guava Juice Making Practice

Figure 4. Guava Juice Making Practice

Figure 5. Guava Juice Making Practice

3. Training, Mentoring, and Practice of Innovative Food Dehydrator Technology.
   Training, mentoring, and practice sessions on innovative food dehydrator technology were conducted for partners 1 and 2, the Karang Taruna Sambibulu Group and the Sambi Horti Community Group, to enhance the knowledge and skills of these partners in diversifying red guava flour products. The resulting red guava flour will be sold to Partner Two and to stores in Sidoarjo, specifically. Red guava flour is available in small and medium packages, making it an affordable option for consumers. Red guava flour can be processed into red guava porridge and red guava ice cream (Lai et al., 2024; Sakti et al., 2024).

Figure 6. Food Dehydrator

Figure 7. Drying Guava Fruit with a Drying Machine

Figure 8. Practice of Drying Guava Fruit with a Drying Machine

Figure 9. Practice of Drying Guava Fruit with a Drying Machine

4. Training, Mentoring, and Practice in Organizing Local Wisdom-Based Cultural Festivals.
   Training, mentoring, and practice in organizing local wisdom-based cultural festivals are conducted to increase understanding of the importance of local culture, festival implementation, and to build collaborative networks among art practitioners in the community. In the global era, the challenges of local wisdom-based cultural festivals are needed for modernization because the younger generation is starting to be more interested in global popular culture than local traditions (Lestari et al., 2024; Subekti et al., 2020).

Figure 10. Local Culture Festival Mentoring

Figure 11. Local Culture Festival Mentoring

Figure 12. Local Culture Festival Mentoring

Conclusion

The achievement indicators from the training, mentoring, and operational and maintenance practices of the business show significant results. In the management of the ice cream business, there was an increase in the income of target partner two by Rp6,000,000 per month. Meanwhile, through training, mentoring, and practical operation and maintenance of the Food Dehydrator machine, target partner 1 experienced an increase in income of Rp7,000,000 per month, accompanied by the creation of three guava-based diversification products: bottled juice, red guava flour, and chips. In addition, training, mentoring, and local wisdom-based practices such as Kolintang successfully increased community knowledge and skills in playing the instrument by up to 80%. Also, it opened up opportunities for it to be developed as a source of income for the village community.

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