

IMPROVING RURAL ECONOMIC EMPOWERMENT THROUGH HERBAL PRODUCT DEVELOPMENT: A STUDY OF SANGGRAHAN WOMEN FARMER GROUP

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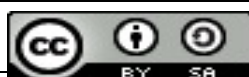
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ABSTRACT

Rural communities often face challenges in utilizing local resources for economic empowerment. The Sanggrahan Women Farmer Group (KWT) in Sukoharjo has potential in cultivating family medicinal plants (TOGA), yet knowledge and skills in processing, packaging, financial management, and marketing remain limited. This study employed a participatory approach involving training, mentoring, and hands-on practice. The program included product innovation (jaselore, golor tea, moringa-based snacks), packaging design, financial literacy, and digital marketing. Pre-test and post-test assessments were conducted, supported by observation and documentation, with descriptive statistics and paired t-tests applied to measure changes. Findings revealed significant improvement in participants' knowledge and skills. The proportion of members in the "good" knowledge category increased from 10% before training to 72% after training, while production skills improved from 12% to 73%. In addition, KWT successfully promoted products through social media and the village MSME Expo, gaining wider market exposure. Several products also obtained P-IRT certification, enhancing legitimacy and distribution potential. The results demonstrate that integrated empowerment—combining training, digital marketing, and certification—effectively strengthens women's economic capacity and market readiness. This model is replicable in other rural settings and provides valuable insights for policymakers and development practitioners to foster sustainable, women-led economic empowerment.

KEYWORDS

Empowerment, Women Farmer Group, Herbal Products, Digital Marketing, Rural Economy



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INTRODUCTION

Community empowerment has become one of the most effective strategies to improve rural economic resilience, particularly in developing countries where agricultural communities remain dominant. Villages often have underutilized natural and human resources that, when managed strategically, can contribute significantly to sustainable livelihoods. One of these resources is family medicinal plants also called tanaman obat keluarga (TOGA), which not only serve as traditional health remedies but also hold potential as economic commodities when processed into value-added products. Studies have shown that the global demand for herbal-based functional foods and beverages has increased steadily due to consumer preferences for natural, safe, and healthy alternatives (Fatmawati, E. W., Agustin, F., & Yulianto, 2022). This trend provides opportunities for rural communities to diversify income sources while preserving local biodiversity. Empowering villagers to transform these resources into marketable products is therefore a crucial pathway to strengthen both economic and social resilience.

In Sanggrahan Village, Sukoharjo, the Women Farmer Group (Kelompok Wanita Tani/KWT) plays a central role in mobilizing agricultural resources and managing local production initiatives. As a community-based organization, KWT is often regarded as the backbone of grassroots economic activity, especially in supporting women's participation in rural entrepreneurship. However, several challenges remain unresolved. An initial needs assessment revealed that the majority of members lacked adequate knowledge and skills in product development, packaging, financial recording, and marketing. Specifically, 70% of members demonstrated low knowledge in these areas, while 73% had limited skills in processing local herbs such as ginger, lemongrass, and moringa into standardized products. Without proper intervention, such constraints may hinder the group's ability to compete in the local and regional markets. This situation highlights the urgent need for structured capacity-building programs tailored to the conditions of rural women farmer groups.

At the same time, market trends present favorable opportunities for Sanggrahan Village. The demand for herbal and functional food products has been increasing, supported by consumer awareness of preventive health and wellness practices. Local commodities such as ginger, lemongrass, and moringa are recognized not only for their nutritional benefits but also for their medicinal properties, making them highly suitable for developing innovative products. Previous studies have underlined that transforming local herbal resources into commercial products can significantly improve household income, empower women's economic roles, and strengthen village identity (D. Rahmawati et al., 2020). Moreover, the integration of attractive packaging and financial literacy can further enhance the competitiveness of rural products in both local and broader markets. These dynamics suggest that a comprehensive empowerment strategy could bridge the gap between potential resources and practical market readiness.

Against this backdrop, the present study explores an empowerment program in Sanggrahan Village with a focus on herbal product development as a strategy to improve the economic independence of the Women Farmer Group. The intervention combined training in product innovation, packaging, marketing, and financial management, supported by participatory mentoring. The main objective was to evaluate the effectiveness of the program in improving knowledge, skills, and the ability to promote TOGA-based products at community-level exhibitions. By examining both the process and outcomes, this study provides empirical evidence on how rural empowerment initiatives can be designed to foster economic resilience, particularly for women-led groups in agricultural villages.

Furthermore, the findings are expected to contribute to the broader discourse on sustainable rural development and community-based entrepreneurship models.

Literature Review

Community empowerment has been widely recognized as an essential approach for enhancing rural resilience and fostering sustainable development. Empowerment involves building capacities, improving access to resources, and strengthening decision-making among marginalized groups, particularly women. In rural areas, women are often positioned at the forefront of household and agricultural activities, making them strategic actors in initiatives aimed at improving local livelihoods. Studies have shown that rural women's involvement in micro-enterprises and community-based activities contributes directly to poverty reduction, family welfare, and community resilience (Ahenkan & Boon, 2011)

One potential resource that has attracted increasing attention is the utilization of family medicinal plants (TOGA). Traditionally used for household health care, these plants—such as ginger, lemongrass, and moringa—have significant potential when developed into value-added products. Herbal products are part of a global trend toward natural and functional foods, reflecting consumer preferences for healthier lifestyles (D. Rahmawati et al., 2020). In Indonesia, TOGA has been promoted not only as a health initiative but also as a community empowerment tool, enabling local groups to diversify income sources while preserving cultural heritage (Pudjowati et al., 2021)

Women Farmer Groups (Kelompok Wanita Tani/KWT) in Indonesia have become one of the primary agents in managing TOGA-based initiatives. Through collective action, KWTs play an important role in mobilizing resources, developing entrepreneurial skills, and introducing innovation in rural communities (Fibriana et al., 2020). However, their potential is often limited by constraints such as low knowledge in processing techniques, poor packaging design, weak financial literacy, and limited market access. To overcome these challenges, participatory training and mentoring have been identified as effective methods to strengthen women's capacity and ensure sustainable outcomes (Suryaneta et al., 2022).

Product development and packaging innovations are critical in increasing the competitiveness of rural herbal products (Liana Mangifera, Farid Wajdi, Farah Amalia, 2022). Attractive packaging not only improves market appeal but also helps products meet industry standards and consumer expectations (Maryatun, 2022). Fibriana et al., (2020) found that empowering women farmer groups in packaging and branding significantly enhanced product acceptance in local markets. Similarly, financial management training is equally important, as it provides community members with the ability to track income and expenses, thereby supporting better decision-making in small-scale enterprises (Susilawati et al., 2024).

Several studies further emphasize the importance of integrating empowerment programs with broader marketing strategies. The introduction of herbal-based products at community expos and trade fairs, for example, has been shown to increase visibility and create new business opportunities for rural entrepreneurs (A. F. Rahmawati et al., 2022). Moreover, the acquisition of product certifications such as P-IRT is crucial to legitimizing small-scale production and expanding distribution channels (Kencana, 2022). These findings collectively suggest that empowerment programs should adopt a holistic approach, combining production skills, packaging, financial literacy, and marketing exposure to achieve long-term sustainability.

Taken together, the literature highlights the strong potential of TOGA-based product development as a vehicle for rural economic empowerment. Empowering women farmer groups through participatory training and innovation does not only generate direct

economic benefits but also fosters community pride, local identity, and sustainable rural development. This study builds on these insights by examining the empowerment of the Sanggrahan Women Farmer Group through herbal product innovation, packaging, financial management, and digital marketing promotion.

RESEARCH METHOD

This study was conducted in Sanggrahan Village, Sukoharjo, in 2024 with participants from the Women Farmer Group (KWT). The method used was participatory training, direct practice, and intensive mentoring.

The activities included:

1. Pre-test to assess initial knowledge and skills in production, packaging, and financial reporting.
2. Production training on powdered herbal drinks (jaselor: ginger, lemongrass, moringa), golor tea (moringa leaf tea), and other products such as lemongrass sponge cake, moringa nuggets, and snacks.
3. Packaging training to develop more attractive and market-oriented product designs.
4. Financial training on simple cash flow and record keeping.
5. Digital marketing training covering basic online promotion through social media platforms, product branding, and strategies for reaching wider markets beyond the local community.
6. Post-test to evaluate knowledge and skills after training.

Data Collection

Data were collected through questionnaires (pre-test and post-test), observation, and documentation of training and product promotion activities.

Data Analysis

The data were analyzed using both quantitative and qualitative approaches:

- a. Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to measure changes in participants' knowledge and skills before and after training. Microsoft Excel and SPSS software were applied to generate tables and graphs for comparison.
- b. Paired sample t-test was conducted to determine the statistical significance of differences between pre-test and post-test results.
- c. Qualitative analysis from observation notes and documentation was performed using a thematic approach to identify changes in participants' attitudes, creativity in product design, and marketing initiatives.

By combining quantitative and qualitative data, the study provided a more comprehensive understanding of the effectiveness of the empowerment program in Sanggrahan Village.

RESULT AND DISCUSSION

Knowledge Improvement

The results of the pre-test and post-test demonstrated a significant improvement in participants' knowledge regarding production, packaging, and financial reporting. Before the intervention, most members were categorized in the low knowledge level (70%), while only 10% were categorized as good. After the training, the percentage of participants in the good category increased to 72%, reflecting the effectiveness of participatory training methods. This result is consistent with previous studies which found that community-based participatory learning can improve not only knowledge but also long-term retention of

skills in rural settings (Ahenkan & Boon, 2011). The structured sessions on production processes, packaging design, and bookkeeping provided members with hands-on experience, which facilitated better understanding compared to traditional lecture-based training. Furthermore, similar findings were reported by A. F. Rahmawati et al., (2022), who emphasized that herbal product training significantly increased community knowledge about processing and hygiene standards. Therefore, the present study strengthens the argument that targeted training interventions are highly effective in addressing knowledge gaps among rural women farmer groups.

Table 1. Knowledge Levels Before and After Training

Category	Before (%)	After (%)
Low	70	8
Moderate	20	20
Good	10	72



Figure 1. Presentation of materials to the Sanggrahan Women Farmer Group (KWT)

Skills Improvement

Participants also demonstrated remarkable improvements in practical skills, especially in product processing and innovation. Before the program, 73% of members were in the low category for production skills, with only 12% in the good category. After the training, 73% reached the good category, highlighting substantial progress in their ability to transform raw ingredients into marketable products. These findings are aligned with the study of (Suryaneta et al., 2022), which showed that participatory action research is effective in improving practical skills of rural women in developing herbal-based household products. The introduction of powdered herbal drinks (jaselor), moringa leaf tea (golor tea), and derivative products such as sponge cake and nuggets provided creative alternatives for income generation. In addition, the use of practical demonstration methods made it easier for participants to internalize the knowledge and translate it into practice. This supports the conclusion of Fibriana et al., (2020) that empowerment initiatives which integrate practice-oriented sessions are more effective than purely theoretical approaches. Hence, the improvement observed in Sanggrahan Village illustrates how structured, hands-on training can successfully enhance women's entrepreneurial skills in rural contexts.

Table 2. Production Skills Before and After Training

Category	Before (%)	After (%)
Low	73	18
Moderate	15	15
Good	12	73



Figure 2. Training session with the Sanggrahan Women Farmer Group (KWT)



Figure 3. The product of Sanggrahan Women Farmer Group (KWT) "JASELOR"

Product Promotion through Digital Marketing

In addition to improvements in knowledge and skills, the program also focused on digital marketing as a strategy to expand market access. Before the program, KWT Sanggrahan had never introduced its products through structured marketing channels and relied solely on local word-of-mouth promotion. After the intervention, members were trained to use social media platforms such as WhatsApp, Instagram, and Facebook to promote products, supported by attractive packaging and branding. This approach significantly enhanced product visibility and complemented the annual MSME Expo, where products such as jaselor, golor tea, and moringa-based snacks were successfully introduced to a wider audience. Research has shown that social media-based marketing plays a crucial role in helping rural micro-entrepreneurs reach broader markets at low cost (Ali et al., 2021). Furthermore, digital marketing strategies are particularly effective for women-led enterprises because they reduce barriers to entry while enabling flexible business practices that align with household responsibilities (Dwivedi et al., 2021). Therefore, the combination of digital marketing training and expo participation created a dual promotion strategy that maximized both local and external market opportunities.

Discussion of Findings

The overall findings of this study demonstrate that community-based empowerment through herbal product development can serve as an effective strategy to improve rural economic resilience. The significant improvement in participants' knowledge and skills indicates that participatory approaches such as hands-on training and mentoring are highly effective in addressing capacity gaps among rural women. This is in line with the work of Suryaneta et al., (2022), who showed that participatory action research in herbal product processing enhanced both technical capacity and self-confidence among rural women. Beyond skills acquisition, the success of KWT Sanggrahan in promoting their products through digital marketing and MSME expos illustrates that empowerment programs must link production with market access. This observation is supported by Dwivedi et al., (2021), who emphasized that digital platforms are now indispensable for micro-entrepreneurs to expand customer reach and enhance competitiveness.

Another critical finding is the role of product certification in legitimizing rural enterprises. The fact that some of the products obtained P-IRT certification reflects institutional recognition and provides assurance of safety and quality to consumers. This aligns with the study of Kencana, (2022), which revealed that certification acts as a catalyst for building consumer trust and entering broader markets. Moreover, the empowerment program in Sanggrahan resonates with Sulaiman et al., (2025), who argued that the

integration of TOGA-based enterprises with local wisdom supports not only income generation but also ecological sustainability through green economy practices. The dual benefit of economic empowerment and ecological preservation is crucial, especially in rural Indonesia where agricultural practices and herbal plant cultivation are intertwined with community culture.

The discussion also highlights the gender dimension of empowerment. Women in rural areas often face multiple barriers to economic participation, including limited access to capital, markets, and training opportunities. By focusing on women farmer groups, the program provided a platform for them to actively engage in entrepreneurial activities, thereby enhancing their role in household decision-making and community development. This finding is consistent with Ahenkan & Boon, (2011), who noted that non-timber forest product initiatives significantly enhanced the social and economic position of rural women in Ghana. Similarly, Ali et al., (2021) demonstrated that social media marketing initiatives enabled women entrepreneurs in developing countries to overcome market barriers and achieve business growth.

Taken together, these findings confirm that empowerment programs are most successful when they adopt a holistic approach that combines skill-building, product innovation, digital marketing, financial literacy, and institutional support. Such a model not only improves the immediate economic capacity of women farmer groups but also fosters long-term sustainability by integrating market competitiveness with cultural and ecological values. For Sanggrahan Village, the empowerment of KWT has set a foundation for building a more resilient and independent rural economy, while providing insights for replication in other communities with similar socio-economic conditions.

CONCLUSION

This study confirmed that community empowerment through herbal product development can significantly improve the economic capacity of rural women farmer groups. The findings revealed a remarkable increase in knowledge, with participants categorized as good rising from 10% before training to 72% after training, and a similar improvement in production skills from 12% to 73%. These outcomes demonstrate that participatory training, hands-on practice, and mentoring are effective approaches to enhance women's capabilities in processing local resources into marketable products. The combination of production innovation, attractive packaging, and financial literacy training provided a holistic foundation for small-scale enterprises to grow sustainably.

Beyond knowledge and skills, the program also successfully introduced digital marketing strategies and facilitated the participation of KWT Sanggrahan in the MSME Expo. This exposure enabled women to present their products to both local and external markets, demonstrating the potential of combining offline and online promotional channels. Moreover, the acquisition of P-IRT certification for selected products marked an important milestone, as it not only validated product quality but also expanded opportunities for broader market distribution. These results suggest that empowerment programs should move beyond training alone and incorporate market readiness strategies, including certification, branding, and digital promotion, to ensure sustainability.

The implications of this study extend to practice, policy, and future research. Practically, the empowerment model implemented in Sanggrahan can be replicated in other rural areas with similar resource potentials, especially where women farmer groups serve as key community actors. From a policy perspective, government and stakeholders should strengthen support systems for micro-enterprises by providing easier access to certification, packaging technology, and digital platforms. For future research, it is recommended to

measure the long-term impact of such empowerment programs on household income, community resilience, and women's decision-making roles, as well as to explore the scalability of TOGA-based enterprises in different socio-economic contexts. Overall, the study reinforces the importance of integrated empowerment strategies that combine local resource utilization with modern entrepreneurial skills to foster sustainable rural economic development.

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