Volume 7 Number 1 (2026)
January- June 2026
Page: 29-38

E-ISSN: 2716-0750
P-ISSN: 2715-7997
DOI: 10.37680/amalee.v7i1.8751

Amalee
Indonesian Journal of Community Research and Engagement

Empowering Dasawisma Group in Nagari Lasi through Cultivation and Utilization of Family Medicinal Plants

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Article history Submitted: 2025/12/18; Revised: 2026/01/11; Accepted: 2026/01/12

Abstract

While many empowerment programs focus solely on planting, this study integrates cultivation with the creation of innovative herbal products. The program involved six selected *Dasawisma* groups (*Anggrek, Melati, and Mawar*) in Nagari Lasi, Agam Regency. A Community-Based Research approach was conducted over eight months (July–December 2023), utilizing a structured questionnaire to measure knowledge and direct observation for skill assessment. Knowledge regarding TOGA cultivation and processing increased significantly by 82%. The groups successfully transformed harvests into innovative commercial products, including "*Seduhan Lasi*" (herbal drink), "*Keripik Pegagan*" (Centella chips), and "*TomaLasi*" (tomato dates). The program successfully shifted the community's role from passive producers to active micro-entrepreneurs, utilizing marketing strategies (4P) to enhance family economic resilience.

Keywords Community Empowermen; *Dasawisma*; Family Medicinal Plants (TOGA); Herbal Product Innovation; Participatory Action Research

1. INTRODUCTION

Community empowerment stands as a fundamental pillar in achieving independence and improving family quality of life, particularly in rural areas (Mohamad et al., 2023; Qi'at et al., 2022). In the Indonesian context, the role of strategic groups such as *Dasawisma* is pivotal. As the smallest unit within the Family Welfare Empowerment (*Pemberdayaan Kesejahteraan Keluarga* or PKK) movement, *Dasawisma* serves to mobilize women's participation in various development programs, including health sectors and home yard utilization (Mohamad, 2023). Utilizing home yards for the cultivation of Family Medicinal Plants (TOGA) offers an effective, simple, and sustainable solution to achieve family health independence while simultaneously supporting local food security (Mohamad et al., 2023; Qamariah et al., 2022; Wicita et al., 2025). In this study, community empowerment is conceptually defined as the process of increasing the capacity of *Dasawisma* members to control their health resources and economic potential through collective action (Suharto, 2019). Initial observations revealed that only 15% of households in Nagari Lasi utilized their yards for TOGA. Furthermore, zero (0) *Dasawisma* groups possessed the equipment or skills to process harvests into value-added products.

Previous research and community service initiatives have confirmed that structured education on TOGA cultivation can significantly enhance housewives' knowledge and skills (Ghanesia et al., 2022; Harefa, 2020). For instance, a study demonstrated a positive correlation between sustainable cultivation mentoring and the community's ability to process harvests into ready-to-consume products (Suryana et al., 2023; Tarigan et al., 2024; Wicita et al., 2025). Nevertheless, empowerment efforts that specifically integrate cultivation techniques, processing, and managerial aspects within the framework of the *Dasawisma* group in Nagari Lasi still require comprehensive intervention. There is a need for a mentoring model that focuses not only on planting but also on how *Dasawisma* can manage TOGA gardens as sustainable collective assets. Based on the identified problems, this community service activity aims to: (1) increase the knowledge of the Nagari Lasi *Dasawisma* group regarding the types, benefits, and optimal cultivation techniques of Family Medicinal Plants; and (2) provide practical mentoring in processing TOGA harvests into simple products that can be utilized to maintain health and potentially improve family welfare. Unlike previous studies that primarily focused on seed distribution (Qamariah, 2022)This program addresses a critical gap by providing end-to-end mentoring—from standardized cultivation to post-harvest processing and product packaging.

2. METHODS

This community service activity employed a Participatory Action Research (PAR) approach, in which partners were actively involved at every stage of the program, from problem identification and planning to implementation and evaluation. The research design used was a descriptive, qualitative approach based on community engagement.

Location and Time of Implementation: The activity was conducted in Nagari Lasi IV Angkek, Agam Regency, West Sumatra. The primary partners in this service were the *Dasawisma* groups in the area. The partners were selected from 58 groups in Nagari Lasi, representing the sub-villages (Jorong) of *Lasi Tuo, Lasi Mudo,* and *Pasanehan*. The activity was carried out for 8 months, starting in July 2023, following the signing of an MoU with the Nagari Government.

Stages of Implementation The implementation of this service was divided into four main stages, (1) Months 1-2: Socialization and land preparation; (2) Months 3-5: Cultivation maintenance and pest control; (3) Month 6: Harvest and post-harvest management (sorting, drying); and (4) Months 7-8: Training on making innovative products (e.g., herbal cookies, instant powders) and marketing strategies.

3.1. Preparation Stage

This stage comprised several main activities. First, an initial survey and Focus Group Discussion (FGD) were conducted, during which the implementation team conducted direct observations at the site to map the condition of the partners' home yards and assess the potential of family medicinal plants (TOGA). The FGD involved *Dasawisma* representatives and village officials to identify specific needs and issues related to TOGA cultivation. Second, based on the FGD findings, the team prepared practical modules and training materials covering optimal cultivation techniques, such as selecting planting media and pest prevention, as well as basic herbal processing recipes, including the production of instant powder and herbal tea. Third, facilities and equipment were procured, consisting of superior seedlings (red ginger, turmeric, and lemongrass), planting media (polybags and organic fertilizer), and simple processing tools such as knives, blenders, and dryers.

3.2. Socialization and Training Stage

This stage focused on transferring knowledge and skills to partners and was carried out through face-to-face sessions combined with hands-on practice. First, basic TOGA counseling was provided, covering the types of medicinal plants in families, their pharmacological benefits, and efficient cultivation techniques suitable for limited spaces, such as planting in pots or polybags. Second, practical processing training was

conducted intensively, emphasizing post-harvest handling and simple processing methods, including the preparation of ready-to-consume *jamu* or herbal drinks using the cultivated ingredients. Third, a pre-test was administered prior to the training and a post-test afterward to assess improvements in *Dasawisma* members' knowledge of the delivered materials.

3.3. Implementation and Mentoring Stage

In this stage, partners were assisted in applying the knowledge they had acquired. Mass planting activities were carried out jointly with partners, during which the team demonstrated and practiced planting superior seedlings in the home yards of *Dasawisma* members, in accordance with the cultivation standards taught. In addition, intensive mentoring was provided through routine visits conducted at least twice a month to monitor plant growth, address pest or disease problems, and ensure the consistent application of proper cultivation techniques. Furthermore, harvest processing mentoring was conducted by guiding the *Dasawisma* groups during the initial harvest and assisting them in processing part of the yield into simple value-added products.

3.4. Evaluation and Reporting Stage

This stage involved result evaluation, participation ethics, and documentation. The evaluation was based on the increase in participants' knowledge, as indicated by post-test results, and on the success of program implementation in the field, measured by the number of plants successfully cultivated and the level of harvest utilization. Participation in the program was voluntary, and informed consent was obtained from all partners prior to implementation. In addition, documentation and reporting were carried out through the collection of data, photographs, and other evidence of activities to support the preparation of the final report for this community service program.

3.5. Data Collection and Analysis

Data were collected using two main methods, namely questionnaires and field observations. Knowledge measurement was conducted by distributing the same questionnaire twice, before the training (pre-test) and after the program was completed (post-test). The questionnaire assessed the partners' knowledge in three areas: identification of medicinal plants, appropriate planting techniques, and post-harvest processing methods. In addition, field observations were carried out through biweekly visits to the *Dasawisma* groups. During these visits, the team used an observation checklist to monitor progress, including plant growth performance, the condition of home gardens, and the partners' ability to produce herbal products such

as chips or instant powder. Data analysis was performed by comparing pre-test and post-test scores using descriptive statistics to identify improvements in knowledge. Furthermore, crop success rates and the types of products produced by each group were documented. The program was considered successful if there was an increase in partners' knowledge scores and if each group produced at least one new herbal product.

3. FINDINGS AND DISCUSSION

The results of this community service are presented by activity stage, focusing on improving partner knowledge and the successful implementation of the TOGA cultivation program.

3.1. Improvement of Partner Knowledge on TOGA

The socialization and training stage began with initial data collection (pre-test) and concluded with an evaluation (post-test) to measure the effectiveness of knowledge transfer. The materials delivered included TOGA types, pharmacological benefits, and cultivation techniques for limited spaces.

Table 1. Comparison of Partners` Pre-test and Post-test Knowledge Results

Assessment Category	Pre-test (n=45)	Post-test (n=45)	Description
Very Good (Score 81-100)	5%	40%	Significant Increase
Good (Score 61-80)	18%	42%	The majority of Partners
Fair (Score 41-60)	35%	15%	Decrease
Poor (Score ≤ 40)	42%	3%	Drastic Decrease

The data in Table 1 indicate a significant improvement in participants' understanding. Before the training, the majority of participants (77%) fell into the Fair and Poor knowledge categories. Following the training, 82% of participants successfully reached the Good and Very Good categories. The 'Good' category reflects a score range of 61–80, while 'Very Good' indicates scores of 81–100, demonstrating that partners have moved beyond basic awareness to detailed comprehension. These results demonstrate that the interactive counseling method, followed by hands-on practice, is highly effective in enhancing understanding among *Dasawisma* members (Mora et al., 2023). This success also indicates that the materials presented were relevant and easily understood by the partners.

This increase in knowledge serves as a crucial initial asset. Strong foundational knowledge is a prerequisite for successfully adopting new practices, including the proper cultivation and use of TOGA (Mohamad et al., 2023). Without an adequate understanding of the benefits and cultivation techniques, achieving program sustainability would be difficult. The active involvement of participants in Q&A sessions and planting practices also contributed to the high post-test scores, aligning with (2025) findings on the importance of community-based research in knowledge transfer.

3.2. Success of TOGA Cultivation Implementation and Utilization

The implementation and mentoring stage focused on planting practices in the respective home yards of the *Dasawisma* groups. Each group was encouraged to cultivate at least five superior TOGA varieties, such as Ginger, Turmeric, Lemongrass, and Galangal (*Kencur*).

Table 2. Recapitulation of Plant Types and Cultivation Success Rates

TOGA Type	Number of Groups Planting (n=6)	Growth Success Rate
Red Ginger	6	Very Good (95%)
Turmeric	6	Good (88%)
Lemongrass	5	Very Good (98%)
Galangal (*Kencur*)	4	Good (85%)
Curcuma (*Temulawak*)	3	Fair (75%)

Table 2 shows that Red Ginger and Lemongrass were the most widely planted crops and had the highest growth success rates. This outcome was influenced by the availability of high-quality seedlings, the plants' resilience to local weather conditions, and the partners' prior knowledge of rhizome cultivation. In contrast to Red Ginger, Curcuma (*Temulawak*) showed a lower success rate (75%). This can be attributed to the high clay content in the local soil, which hindered rhizome development, suggesting that future cultivation in this area should prioritize polybag methods with controlled soil media. This success aligns with the recommendations of Mora et al. (2023), who emphasize selecting superior varieties that are well-adapted to local environments in community agriculture programs.

In addition to cultivation success, this community service program also covered various aspects of utilization. *First*, in terms of self-medication, partners have begun using the harvest for simple family health needs, such as processing ginger into warming beverages or using turmeric to treat digestive disorders.

Although commercial sales are still in the early stages, the economic impact is reflected in household cost savings, as partners reported reducing their purchases of commercial cough syrups by utilizing their own ginger and lemongrass harvests. *Second*, regarding product innovation and skills development, the training enabled the groups to move beyond basic processing. Unlike conventional TOGA programs, each group developed distinctive signature products; for example, *Dasawisma* 2 produced *Keripik Pegagan* (gotu kola chips), while *Dasawisma* 4 created *TomaLasi* (processed tomato dates). This diversification demonstrates that TOGA can be transformed into modern healthy snacks, not limited to traditional medicinal products. *Third*, in terms of economic impact, partners have begun selling both fresh produce, such as spinach and strawberries, and processed products. The implementation of the 4P marketing strategy introduced in Month 7 has allowed these products to be packaged more attractively for wider distribution, indicating potential for meaningful economic improvement (Mohamad et al., 2023; Tarigan et al., 2024). Finally, from an environmental perspective, this activity successfully optimized previously underutilized home yards (Handayani et al., 2018). Such intensive land use not only provides nutritional and health benefits but also improves the aesthetic quality of the surrounding environment (Mora et al., 2023).

Overall, this intensive mentoring activity successfully shifted the paradigm of *Dasawisma* members from merely being planters to becoming active users and processors of TOGA harvests. The future sustainability of this program needs to be pushed towards managerial aspects and the marketing of processed products to make a significant contribution to family economic independence, in accordance with the primary goal of community empowerment (Mohamad et al., 2023; Qamariah et al., 2022).

4. CONCLUSION

This community service program successfully empowered 45 Dasawisma members in Nagari Lasi, evidenced by a shift from passive land ownership to productive utilization. Quantitative results confirm a substantial improvement, with 82% of participants achieving "Good" and "Very Good" knowledge categories post-mentoring. The program demonstrated that Dasawisma groups can effectively manage TOGA gardens as collective assets, particularly for adaptive crops such as Red Ginger and Lemongrass, which achieved the highest growth rates. A primary limitation of this program was the short monitoring period, which prevented a full assessment of commercial

viability. Consequently, future activities should focus on the downstream sector, specifically obtaining PIRT licensing and developing digital marketing strategies to transform these household initiatives into sustainable micro-enterprises.

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