

Development of a Family Medicinal Plant Garden (TOGA) as an Effort to Enhance Community Health Self-Reliance in Puguh Village, Boja District, Kendal Regency

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Abstract

*The utilization of Family Medicinal Plants (TOGA) serves as a community empowerment strategy to support health promotion and disease prevention efforts. TOGA gardens function not only as sources of traditional medicinal ingredients but also as educational tools to enhance public knowledge regarding the benefits of herbal plants. This community service initiative aimed to establish a Family Medicinal Plant (TOGA) garden as a learning resource while fostering community self-reliance in utilizing medicinal plants found in the local environment. The activity took place on November 15–16, 2025, in Puguh Village, Boja District, Kendal Regency. Implementation followed the Participatory Learning and Action (PLA) approach, comprising stages such as site preparation, soil cultivation, planting medicinal species, installing plant identification signs and educational banners, and providing community guidance. The plants cultivated included red and green betel, red and green *Binahong*, cat's whiskers (*Orthosiphon aristatus*), lemongrass, ginger, turmeric, aromatic ginger (*kencur*), Java ginger (*temulawak*), *Kitolod* flowers, aloe vera, guava, and butterfly pea flowers. The results indicate a positive community response to the TOGA garden, as it provides an accessible learning platform for understanding medicinal plant usage. Beyond beautifying the Village Hall grounds, the garden is expected to increase public knowledge of traditional medicine, support the conservation of herbal plants, and sustainably strengthen community health self-reliance.*

Keywords: Family Medicinal Plants, community empowerment, herbal plants, public health, community service

Introduction

Health is a crucial aspect of achieving a high quality of life for the community. Efforts to improve health standards are pursued not only through formal healthcare services but also through community empowerment, enabling individuals to manage their own health independently. One form of such empowerment is the utilization of Family Medicinal Plants (TOGA)—a source of traditional medicine that is easily accessible, affordable, and relatively safe when used correctly (Ministry of Health of the Republic of Indonesia, 2023).

Indonesia is renowned for possessing the world's greatest biodiversity, with thousands of plant species holding potential as medicinal plants. Many of these have been used for generations to maintain health and treat various minor ailments. The World Health Organization (WHO) also advocates for the use of scientifically evidenced-based traditional medicine as part of sustainable, complementary healthcare services (WHO, 2023).

The Family Medicinal Plant (TOGA) program represents a tangible implementation of community empowerment in the health sector. TOGA gardens serve not only as a source of raw materials for traditional medicine but also as a medium for education regarding herbal plant conservation, food security, and the preservation of local wisdom. According to the Ministry of Health of the Republic of Indonesia (2023), the presence of TOGA gardens enhances public knowledge about the benefits of herbal plants while reducing reliance on synthetic medicines for treating minor health issues.

Beyond health benefits, the development of TOGA gardens offers ecological and social advantages. Green spaces within the community improve environmental quality and beautify the area, while also serving as venues for social interaction and learning for both the general public and the younger generation. This approach aligns with the concept of sustainable development, which integrates health, environmental, and community empowerment aspects (United Nations, 2015).

Community participation is a vital factor in the successful development of TOGA gardens. A participatory approach enables the community to be actively involved from the planning and implementation stages through to maintenance, thereby fostering a sense of ownership over the program (Chambers, 1994). Consequently, the development of TOGA gardens requires collaboration among higher education institutions, village governments, and the community. Based on these conditions, a project to establish a Family Medicinal Plant Garden (TOGA) was carried out at the Puguh Village Hall in Boja District, Kendal Regency, on November 15–16, 2025. This initiative aimed to create an educational space focused on herbal plants, enhance public knowledge regarding the benefits of medicinal plants, and foster community health self-reliance through the utilization of herbal plants available in the local environment.

Methods

The community service activity was conducted on November 15–16, 2025, at the Puguh Village Hall in Boja District, Kendal Regency. The activity targeted the residents of Puguh Village, involving village officials, community leaders, and local citizens.

The implementation utilized the Participatory Learning and Action (PLA) approach, which emphasizes active community involvement at every stage of the activity (Chambers, 1994). This approach was selected because it fosters a sense of community ownership over the program, thereby facilitating the long-term sustainability of the medicinal plant garden (TOGA).

The activity was carried out in several stages. The first stage was preparation, which included a site survey, coordination with the village government, identification of plant requirements, and the procurement of tools and materials. The second stage involved land preparation, comprising area clearing, soil loosening, organic fertilization, and the arrangement of planting beds to suit the specific needs of various herbal plant species.

The subsequent stage involved planting a variety of medicinal plants, including red betel, green betel, red **binahong**, green **binahong**, cat's whiskers (**kumis kucing**), lemongrass, ginger, turmeric, aromatic ginger (**kencur**), Java ginger (**temulawak**), **kitolod** flowers, aloe vera, guava, and butterfly pea flowers. Following the planting, plant identification signs and educational banners detailing the benefits of each plant were installed, enabling the garden to serve as a learning resource for the community.

Activity evaluation was conducted through observations of community participation and the condition of the garden post-planting, as well as discussions with residents regarding the use of medicinal plants to support family health. The resulting data were analyzed using a descriptive-qualitative method (Sugiyono, 2023).

Results

The development of the TOGA garden was carried out through community cooperation, fostering a collaborative atmosphere from the very beginning. Residents participated in clearing the site, preparing the soil, constructing planting beds, and arranging the garden area. High levels of community participation demonstrate that a participatory approach can enhance the sense of ownership regarding the implemented program (Chambers, 1994). This situation serves as a vital asset for the sustainability of the TOGA garden once the community service activity concludes.

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Land preparation is carried out with consideration for the specific growth requirements of each plant. The soil is cleared of weeds, loosened, and enriched with organic fertilizer to improve its structure. The use of organic fertilizer aims to enhance soil fertility while supporting environmentally friendly cultivation practices. The layout of the planting area also prioritizes accessibility, making it easier for the community to identify each plant species.

Various medicinal plants were selected based on ease of cultivation, health benefits, and adaptability to local environmental conditions. Red and green betel plants are known for their antiseptic and antioxidant properties, which help maintain oral health and aid in healing minor wounds. Red and green *Binahong* are utilized as herbal plants believed to accelerate wound healing and boost the immune system. *Kumis kucing* (cat's whiskers) is a plant frequently used to support urinary tract and kidney health.

Rhizome plants—such as ginger, turmeric, *kencur* (aromatic ginger), and *temulawak* (Javanese ginger)—are also key components of the medicinal plant garden. Ginger is widely used to boost immunity and relieve symptoms of the common cold, while turmeric contains curcumin, which has potential anti-inflammatory and antioxidant properties. *Kencur* is often used as an ingredient in traditional herbal medicine (*jamu*), whereas *temulawak* is known for supporting liver function and stimulating appetite. The presence of these rhizome plants provides a practical example for the community of herbal plants that are easily cultivated in home gardens.

In addition to the primary herbal plants, the garden features *kitolod* flowers, aloe vera, guava, and butterfly pea flowers. Aloe vera is beneficial for skin and hair care and aids in healing minor wounds. Guava is known as a rich source of vitamin C and is often used to boost the immune system. Butterfly pea flowers contain anthocyanins—which act as natural antioxidants—and are widely used to make herbal drinks. This diversity of plants makes the medicinal plant garden a comprehensive learning resource

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regarding Indonesia's wealth of medicinal flora. One innovation in this initiative is the installation of nameplates for each plant, accompanied by educational banners detailing local names, scientific names, and the plants' benefits. These informational aids transform the medicinal plant garden into more than just a cultivation site; it becomes an open-air learning laboratory for the community, students, and visitors to the Village Hall. According to the WHO (2023), public education on the use of traditional medicine is a crucial step toward promoting the safe and rational use of herbal plants.

From a social perspective, the establishment of the medicinal plant garden has strengthened cooperation between the community and the village government. Collaborative efforts during the construction phase fostered positive community interaction and reinforced a shared sense of responsibility for maintaining public facilities. This demonstrates that community service initiatives yield not only a tangible asset—the garden itself—but also strengthen the village's social capital.

Environmentally, the garden contributes to increasing green space around the Village Hall. The planted vegetation improves environmental quality, enhances the area's aesthetics, and supports the conservation of local medicinal plant germplasm. These efforts align with sustainable development goals that emphasize the importance of biodiversity conservation and the wise management of natural resources (United Nations, 2015).

Overall, the medicinal plant garden project successfully achieved its objectives: providing an educational resource on herbal plants, increasing public knowledge regarding the benefits of medicinal plants, and fostering family health self-reliance. Moving forward, the garden could be developed into a village health education hub—offering training on *jamu* (traditional herbal medicine) preparation, medicinal plant cultivation, and the processing of herbal plants into value-added products—thereby expanding the benefits for the community.

Conclusion

The establishment of the Family Medicinal Plant Garden (TOGA) at the Puguh Village Hall on November 15–16, 2025, successfully served as a form of community empowerment in the health and environmental sectors. Through active community participation, the TOGA garden functions not only as a site for cultivating herbal plants but also as an educational resource regarding the benefits of medicinal plants and the importance of self-reliant health management. Plant signage and educational banners further reinforce the garden's role as a space for continuous learning. This program is expected to raise public awareness about the use of herbal plants, preserve local biodiversity, and foster a community that is healthy, self-reliant, and environmentally conscious.

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