

Utilization of Processed Biofarmaka Plants as an Effort to Improve Household Economy in Sidokumpul Village, Bangilan District

¹Kartika Wulandari*, ¹Kristiyoningsih, ¹Ahmad Fanani, ¹Hamzah Nata Siswara

¹Politeknik Pertanian dan Peternakan Mapena, Indonesia

*Corresponding author

Email: kartika.w21@gmail.com

Volume

5

Issue

2

Edition

November

Page

481-486

Year

2024

Article History

Submission: 01-02-2023

Review: 15-02-2023

Accepted: 12-10-2024

Keyword

Biofarmaka Plants;

Training;

Household Economy;

How to cite

Wulandari, K., Kristiyoningsih, Fanani, A., Siswara, H. N. (2024). Utilization of Processed Biofarmaka Plants as an Effort to Improve Household Economy in Sidokumpul Village, Bangilan District. *Jurnal Pengabdian Masyarakat*, 5(2), 481-486
<https://doi.org/10.32815/jpm.v5i1.16>
 20

Abstract

Purpose: The primary aim of this community service program is to educate residents of Sidokumpul Village, Bangilan District, Tuban Regency, about the benefits of biofarmaka plants. The initiative addresses the underutilization of household yard space by encouraging the cultivation of biofarmaka, significantly enhancing community welfare through sustainable agricultural practices.

Method: The study employs community education methods, including counseling, socialization, lectures, and discussions on biofarmaka utilization. Training sessions further facilitate technology diffusion, ensuring residents are well-informed about cultivation and processing techniques.

Practical Applications: The research findings enable community members to effectively utilize their yard space, increasing household productivity and fostering self-reliance. This leads to improved economic conditions, as residents can produce processed products with higher added value, enhancing their household economy.

Conclusion: The study concludes that the community understands the benefits of biofarmaka and has started cultivating them in their yards. Residents are also capable of creating higher-value processed products, contributing to a broader understanding of sustainable agriculture and improving household economies.



Introduction

482) Utilization of Processed Biofarmaka Plants as an Effort to Improve Household Economy in Sidokumpul Village, Bangilan District, Wulandari, K., Kristiyoningsih, Fanani, A., Siswara, H. N.

Indonesia is renowned for its numerous traditional beverages passed down through generations, one of which is herbal drinks known as jamu. Jamu, or traditional medicinal drinks, are concocted from bio-pharmaceutical plants that thrive in various regions of Indonesia (Gusman et al., 2023; Marzuki et al., 2023). These herbal drinks, consumed since the time of our ancestors, are recognized for their health benefits (Damayanti et al., 2022; Syaparman et al., 2022). With advancements in science, many studies have indicated that bio-pharmaceutical plants can cure various diseases. These plants have been developed and produced into herbal medicines for several ailments. (Mugniza et al., 2020) state that while Indonesia has developed modern healthcare services, the number of people utilizing traditional medicine remains high. The use of plants as medicine (biopharmaceuticals) has not been widely practiced due to limited knowledge and capabilities among the community regarding the utilization of bio-pharmaceutical plants.

Medicinal plants, also known as biopharmaceuticals, are types of plants that have therapeutic functions and properties as medicine, used for healing or preventing various diseases (Salatalohy et al., 2023; Sarno, 2019). The term "medicinal" refers to containing active substances that can treat specific diseases, or if they do not contain specific active ingredients, they may have a synergistic effect from various compounds that have healing effects. Medicinal plants can be used as medicine through consumption, application, or inhalation, thus fulfilling the concept of cellular receptor work in receiving chemical compounds or stimuli from medicinal plants (biopharmaceuticals) that can be used as medicine, whether cultivated intentionally or grown wild. These plants are utilized by the community to be prepared and served as remedies for healing illnesses (Nurchayati & As'ari, 2021; Safrina et al., 2022).

Medicinal plants or biopharmaceuticals are varieties of plants that serve as therapeutic agents for healing or preventing various diseases. Medicinal plants refer to the plants or parts of plants used as traditional or herbal medicine, with specific plant parts serving as raw materials for medicines. Communities knowledgeable about the benefits of medicinal plants (TOGA) and skilled in processing them can cultivate medicinal plants individually and utilize them, thus realizing the principle of independence in family healthcare (Loresa et al., 2023; Nurjanah et al., 2019).

Many plants fall under the category of biopharmaceuticals, such as turmeric, galangal, ginger, Laos, lemongrass, cardamom, pepper, and others. The high consumption of these plants presents a significant opportunity for the development of bio-pharmaceutical commodities. The demand comes not only from within the country but also from abroad. The utilization of bio-pharmaceutical plants is not limited to jamu drinks and herbal medicines; several Indonesian dishes incorporate these bio-pharmaceutical plants.

Sidokumpul Village in Bangilan District, Tuban Regency, is one of the villages located in the southern part of Tuban, East Java Province. Sidokumpul Village is inhabited by 1,248 families, with a total population of 4,522. Geographically, Sidokumpul Village is bordered to the north by Bangilan Village, to the south by Bate Village, to the east by Bangilan Village, and to the west by Sidotentrem Village. The majority of the residents of Sidokumpul Village work as farmers. Most residents still have spacious yards that can be utilized to grow various types of medicinal plants, and it is also possible for many medicinal plants to grow wild in these areas due to the extensive agricultural land available. As (Ambari et al., 2020) noted, family medicinal plants can be cultivated in pots and in the land around the house. If the cultivation area is sufficiently large, part of the harvest can be sold to supplement family income.

The community, whether they have small or large yards, still has opportunities to utilize their gardens to plant various consumable plants as well as family medicinal plants (TOGA). The opportunity for the development of medicinal plants/biopharmaceuticals should not only focus on optimizing the production of these commodities but also on how these bio-pharmaceutical plants can have economic value that can provide additional income for families. Agricultural products typically have low value during harvest seasons; therefore,

483) Utilization of Processed Biofarmaka Plants as an Effort to Improve Household Economy in Sidokumpul Village, Bangilan District, Wulandari, K., Kristiyoningsih, Fanani, A., Siswara, H. N.

post-harvest handling and processing are necessary to add value to these agricultural commodities (Mujiadi et al., 2023; Putra, 2021).

The goals of the bio-pharmaceutical plant utilization and development program are: first, to provide knowledge and information regarding the benefits of bio-pharmaceutical plants to the village community; second, for the community to adopt the cultivation of bio-pharmaceutical plants in their home gardens; third, for the community to process the harvest from bio-pharmaceutical plants, thereby improving their welfare from both cultivation and self-processing. The activities for the utilization and development of bio-pharmaceutical plants in Sidokumpul Village are motivated by the limited use of these plants by the community and the underutilization of home garden space for bio-pharmaceutical plants. The utilization of bio-pharmaceutical plants is expected to become a leading commodity of the village with high selling value and competitiveness. Therefore, the objective of community service activities is to enhance the community's knowledge and skills about the importance of utilizing bio-pharmaceutical plants as medicine for health and improving family economic welfare. Given the significance of utilizing medicinal plants (biopharmaceuticals), their presence must be prioritized and enhanced to support the improvement of community welfare and income.

Method

The target audience for the community service activities is housewives and women farmers in Sidokumpul Village, Bangilan District, Tuban Regency. The methods employed include community education activities through outreach/socialization, lectures, and direct discussions on the utilization of biopharmaceuticals. Additionally, technology diffusion activities are conducted through training on the utilization of bio-pharmaceutical plants. The lecture method is chosen to provide explanations or materials regarding the benefits of medicinal or bio-pharmaceutical plants.

Result

The implementation of this community service activity took place in Talok Hamlet, Sidokumpul Village, Bangilan District, Tuban Regency, targeting housewives and women farmers from the village. This service was conducted by both lecturers and students. The community service activities provided numerous benefits and information to the target community regarding the utilization of processed bio-pharmaceutical plants. Furthermore, students also implemented theories and honed their communication skills with the public. This community service activity aims to utilize bio-pharmaceutical plants to improve the household economy of the community, as detailed in Table 1.

Table 1. Profile of participants in the utilization of processed bio-pharmaceutical plants

Characteristics of Farmers	n (number of samples)	%
<i>Age (years)</i>		
< 30	9	31 %
30 – 55	15	52 %
> 55	5	17 %
<i>Education</i>		
No Schooling	2	7 %
Elementary School	4	14 %
Junior High School / equivalent	7	24 %
Senior High School / equivalent	13	45 %
Diploma	3	10 %
<i>Occupation</i>		
Housewife	15	52%
Agricultural laborer	10	34 %
Teacher	4	14%

484) Utilization of Processed Biofarmaka Plants as an Effort to Improve Household Economy in Sidokumpul Village, Bangilan District, Wulandari, K., Kristiyoningsih, Fanani, A., Siswara, H. N.

Table 1 presents the profile of the target community in the activities, with all participants being female. Therefore, the target audience plays a significant role in improving household economics through entrepreneurship as a side business by processing bio-pharmaceutical plants into products with high benefits and market value. In terms of age, the majority enthusiastic about participating in the activities are those between 30-55 years old, accounting for 52%, those under 30 years old at 31%, and those over 55 years old at 17%. This is influenced by curiosity and the desire to participate in activities to gain information on processing bio-pharmaceutical plants into instant drinks. The majority of the target participants have completed high school or its equivalent, reflecting that the participants come from a remote area where few individuals have higher education. Through community service activities focusing on the utilization of processed bio-pharmaceutical plants, it is hoped that the community will gain additional knowledge and skills to practice, thus creating businesses that can enhance their household economy. The target participants include 52% housewives, 34% agricultural laborers, and the remaining 14% are teachers.

Figure 1. Socialization of the Benefits of Bio-pharmaceutical Plants in Sidokumpul Village



Figure 2. Training on Planting Bio-pharmaceutical Plants in Polybags



Discussion

The implementation of this community service program involved several stages to address existing issues. It began with observation, a crucial step where the team conducted mapping and surveyed Sidokumpul Village to identify local problems, leading to the determination of the program's theme. This was followed by coordination with the target community to prepare for and execute the program, which included obtaining permission for

485) Utilization of Processed Biofarmaka Plants as an Effort to Improve Household Economy in Sidokumpul Village, Bangilan District, Wulandari, K., Kristiyoningsih, Fanani, A., Siswara, H. N.

activities and explaining their objectives. The next step involved socializing the program and providing outreach on the benefits of bio-pharmaceutical plants through lectures and discussions, which aimed to enhance community understanding and knowledge about utilizing these plants to improve health, especially during the pandemic. Participants were educated on commonly used plants such as temu lawak, ginger, turmeric, lemongrass, and kencur. Subsequently, training on cultivating bio-pharmaceutical plants and post-harvest handling was conducted to optimize the use of home gardens and to instruct participants on proper harvesting techniques to prevent damage.

The target community was taught to grow red ginger, lemongrass, Laos, temulawak, turmeric, and kunci, alongside harvesting techniques and seed selection for replanting. Following the cultivation training, participants received training on processing and packaging products derived from bio-pharmaceutical plants to enhance their economic value and prolong shelf life, enabling households to produce these products independently. After completing the community service activities, samples of instant red ginger products were provided to the participants, who responded enthusiastically, with 80% expressing interest in continuing this processing as a business. This excitement was reflected in their positive feedback after tasting the drink, as many noted it's refreshing flavor and reported relief from sore throats due to coughing after consumption.

Conclusion

Bio-pharmaceutical plants offer numerous benefits, particularly for herbal medicine and boosting the immune system. Through this community service activity, the community gained valuable information about the benefits of bio-pharmaceutical plants and their ability to treat diseases. With the availability of large yard spaces at their homes, the target community showed great enthusiasm for planting these bio-pharmaceutical plants in polybags. Additionally, processing bio-pharmaceutical plants into instant powdered beverages offers a promising opportunity to develop a business that can improve household income.

Acknowledgements

The authors would like to express their gratitude to the Head of Sidokumpul Village for granting permission, providing facilities, and supporting the smooth implementation of this community service activity. Further thanks go to the head and members of the PKK (Family Welfare Movement) of Sidokumpul Village for their enthusiasm and participation in the community service activities. We also extend our sincere thanks to the Research and Community Service Institute (LPPM) of the Agricultural and Animal Husbandry Polytechnic Mapena (Poltana Mapena) for providing financial support through the Community Service Strengthening Program (PPM) Grant for 2021/2022.

Reference

- Ambari, Y., Wahyuni, K. I., Lehana, Z. R., Syamsudin, M., & Fitri, S. (2020). Pengembangan Desa Wisata dengan Penanaman Tanaman Obat Keluarga (Toga) di Desa Jembul Kecamatan Jatirejo Kabupaten Mojokerto Propinsi Jawa Timur. *Jurnal KARINOV*, 3(1), 22. <https://doi.org/10.17977/um045v3i1p22-26>
- Damayanti, L., Wardani, T. Y., & Putra, C. A. (2022). Penerimaan Gula Stevia Sebagai Pengganti Gula Tebu dan Gula Jawa Pada Proses Pengolahan Jamu Tradisional Kunyit Asam. *Jurnal Teknologi Pangan Dan Industri Perkebunan (LIPIDA)*, 2(2), 166–172. <https://doi.org/10.58466/lipida.v2i2.456>
- Gusman, T. A., Sintha Prima Widowati Gunawan, Zakiyyah, Arif Nurudin, Dewiantika Azizah, & Susanti. (2023). Pelatihan Pembuatan Minuman Teh Herbal dari Limbah Kulit Bawang Merah sebagai Minuman Jamu Tradisional. *Jurnal SOLMA*, 12(1), 145–153. <https://doi.org/10.22236/solma.v12i1.11311>

486) Utilization of Processed Biofarmaka Plants as an Effort to Improve Household Economy in Sidokumpul Village, Bangilan District, Wulandari, K., Kristiyoningsih, Fanani, A., Siswara, H. N.

- Loresa, D., Yusro, F., & Mariani, Y. (2023). Pemanfaatan Tanaman Pekarangan Sebagai Bahan Obat Tradisional Oleh Battra Suku Melayu di Desa Samustida Kabupaten Sambas. *Jurnal Serambi Engineering*, 8(2). <https://doi.org/10.32672/jse.v8i2.5550>
- Marzuki, M., Vebyani, M., Wijayaningsih, D., Permatasari, N., Marisyah, P. S., & Sari Harahap, Y. (2023). Peningkatan Daya Immunitas Tubuh Melalui Konsumsi Minuman Jamu Tradisional Di Desa Pematang Kuala Dusun 1. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 4(4), 5030–5034. <https://doi.org/10.55338/jpkmn.v4i4.2143>
- Mugniza, N., Sulistianto, N., & Siswanto, R. (2020, August 1). *Perancangan Identitas Minuman Tradisional Minuman Jamu Gendong Untuk Meningkatkan Daya Minat Konsumen*. <https://www.semanticscholar.org/paper/Perancangan-Identitas-Minuman-Tradisional-Minuman-Mugniza-Sulistianto/78c01b3952bbaa99e0f543721ab8631b413f7350>
- Mujiadi, M., Hatmoko, D. R., & Fahmi, A. (2023). Penanganan Pasca Panen Komoditas Jagung Di Kecamatan Trowulan Kabupaten Mojokerto. *Jurnal Ilmu Pertanian Dan Perkebunan*, 5(1), 01–06. <https://doi.org/10.55542/jipp.v5i1.486>
- Nurchayati, N., & As'ari, H. (2021). Studi Inventarisasi Ragam Tanaman Obat Keluarga Di Dusun Umbulrejo Desa Bagorejo Kecamatan Srono Kabupaten Banyuwangi. *Jurnal Biosense*, 4(01), 1–10. <https://doi.org/10.36526/biosense.v4i01.1426>
- Nurjanah, S. R., Nurazizah, N. N., Septiana, F., & Shalikhah, N. D. (2019). Peningkatan Kesehatan Masyarakat Melalui Pemberdayaan Wanita dalam Pemanfaatan Pekarangan dengan Tanaman Obat Keluarga (TOGA) di Dusun Semawung. *Community Empowerment*, 4(1), Article 1. <https://doi.org/10.31603/ce.v4i1.3003>
- Putra, A. P. (2021, September 13). *Wapres: Pertanian Jadi Tulang Punggung Perekonomian di Tengah Pandemi*. Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi. <https://www.menpan.go.id/site/berita-terkini/dari-istana/wapres-pertanian-jadi-tulang-punggung-perekonomian-di-tengah-pandemi>
- Safrina, U., Cartika, H., & Setiawan, Y. (2022). Edukasi Pemanfaatan Tanaman Obat Sebagai Immunostimulan Pada Masa Pandemi Covid-19. *JMM (Jurnal Masyarakat Mandiri)*, 6(6), 4515. <https://doi.org/10.31764/jmm.v6i6.10892>
- Salatalohy, A., Nurhikmah, Marasabessy, Muh. H., & Tidore, M. F. (2023). Optimalisasi Pemberdayaan Masyarakat Melalui Pembibitan Tanaman Obat (Biofarmaka). *Jurnal Pengabdian Masyarakat Hutan*, 1(2), 67–74. <https://doi.org/10.33387/kehutanan.v1i2.97>
- Sarno, S. (2019). Pemanfaatan Tanaman Obat (Biofarmaka) Sebagai Produk Unggulan Masyarakat Desa Depok Banjarnegara. *Abdimas Unwahas*, 4(2). <https://doi.org/10.31942/abd.v4i2.3007>
- Syaparman, S., Austin, T., & Ibrahim, I. (2022). Inovasi Minuman Cendol Dan Jamu (Cenja) Era Milenial Di Kelurahan 20 Ilir D li Kecamatan Kemuning Kota Palembang. *Aktivasi: Jurnal Pemberdayaan Masyarakat*, 3(2), 1–8. <https://doi.org/10.37858/aktivasi.v3i2.407>