

Socialization of Cayenne Pepper Plant Planting in the House Yard in Klambir Lima Village, Deli Serdang Regency

Desi Sri Pasca Sari Sembiring¹, Maimunah Siregar²

^{1,2} Program Studi Agroteknologi, Fakultas Sains dan Teknologi,

Universitas Pembangunan Pancabudi

Corresponding Email: desisripascasari@dosen.pancabudi.ac.id

Article history

Submitted: 2023/10/14; Revised: 2023/11/12; Accepted: 2023/12/30

Abstract

The yard of the house is one of the identities of a house. Yard land can be used for various purposes. In addition to beautifying the house, the yard can be used as a living pharmacy and nutrition garden. This service activity aims to educate and motivate the community to manage their yards effectively and efficiently, create a productive environment, and improve food security and the local economy. This method of service uses a Participatory Action Research (PAR) approach. This activity collaborates between the community and the service team of lecturers/students, where they must respect the leading role of the community. Lecturers/students and the community must work hand in hand in a participatory manner to make social change. The results of this service research show that the socialization of planting cayenne pepper plants in the yard can effectively improve community welfare and food security at the village level.

Keywords

cayenne pepper; house yard; plant planting; socialization



© 2023 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY SA) license, <https://creativecommons.org/licenses/by-sa/4.0/>.

INTRODUCTION

The village, the living entity of rural communities, is the main stage for various agricultural development and welfare initiatives. In this context, planting cayenne pepper plants in the yard of the house is a concrete step that has a significant impact on food security and the household economy (Alfiana et al., 2023). As the center of community life, the village offers great potential to expand gardening knowledge and practice, especially in cayenne pepper plants that have high adaptability and promising economic value. Planting cayenne pepper plants in the yard is a relevant and strategic effort to be introduced to the community (Irawan et al., 2023). Cayenne pepper plants have high economic value and can be one of the solutions to meet local food needs while contributing positively to community welfare. By maximizing the use of yard land, the community can get an adequate

supply of cayenne pepper for kitchen needs and increase income through the sale of the harvest.

The yard is an open land located around a residential house. The yard is not only to create beauty and coolness but to improve the economy of each family. If the yard is well arranged, the owner acquires a spiritual function. Both functions meet temporal and spiritual needs. The fulfillment of physical needs can be seen from the use as a source of food and nutrition. The yard can meet spiritual needs because the yard can be made into a garden with an impressive atmosphere (Ayuningtyas & Jatmika, 2019).

The yard of the house is one of the identities of a house. Yard land can be used for various purposes. In addition to beautifying the house, the yard can be used as a living pharmacy and nutrition garden (When & Sukwika, 2020; Nurlila & La Fua, 2020). This utilization is also inseparable from the narrowing of agricultural land. This utilization can also be used as a source of income to empower families and improve family food security to fulfill nutrition (Sukarma et al., 2023). Types of plants that can be planted in the yard include vegetables, fruits, and spice plants (Bulawan et al., 2022). The results harvested from the yard can be used for the family's daily food needs (Syawal, 2019).

Cayenne pepper, or *Capsicum frutescens* L., is an important vegetable commodity widely cultivated in Indonesia. Cayenne pepper contains capsaicin compounds, carotenoids, ascorbic acid, essential oils, resins, and flavonoids (Howard et al., 2000). Cayenne pepper is widely consumed in fresh and processed form, which is generally used as an additive and flavoring to improve the taste of food and is highly nutritious. In addition, cayenne pepper is widely used in the food industry as a raw material for sauces, chili powder, flavoring, and the pharmaceutical industry.

Some government efforts to overcome chili price fluctuations by increasing chili planting areas in the rainy season and regulating planting areas and chili production in the dry season (Nurhasanah & Hamzah, 2022). Efforts to intensify cayenne pepper cultivation clash with adequate land availability, both in quality and quantity (Heryani & Rejekiningrum, 2019). Therefore, alternatives that can be used are sub-optimal lands and urban areas in *urban farming* (Desembrianita et al., 2023). This option can also be used to cut the supply chain from production to consumption areas to reduce costs, energy, and pollution resulting from distribution activities.

Good use of home yards should be managed through an integrated approach by integrating various types of plants. This aims to ensure the continuous availability of food (Asfahani et al., 2023). Yard utilization activities have several objectives: increasing family income, creating a green environment, and increasing the family's ability to use the yard (Haslinah et al., 2023); (Moridu et al., 2023). One of the uses of yard land is planting cayenne pepper plants in the yard directly or planting chili in media such as pots, polybags, barrels, and planting media from used goods. The purpose of this community service is as follows: To socialize the planting of Cayenne Chili plants to the Klambir Lima Kebon village community so that the Klambir Lima Village Community can get information about the use of yard land and especially the use of home yard land with the planting of Cayenne Chili.

METHODS

The Community Service approach with Participatory Action Research (PAR) is an approach whose process aims to learn to overcome problems and meet the practical needs of the community, as well as the production of science. PKM, with this approach, is Transformative PKM. This is because it is a research process oriented towards empowerment and change.

Some of the principles of PKM work with an empowerment-oriented PAR approach must meet the elements of empowerment. The empowerment must always strive for three dimensions: meeting needs and solving practical problems, developing science and community religion, and the process of religious social change (Afandi, 2020; Salviana et al., 2022). Thus, the community is the main agent of religious and social change, so PKM-implementing lecturers/students are other parties who facilitate the change process. Therefore, lecturers/students must respect the leading role of society. Lecturers/students and the community must work hand in hand in a participatory manner to make social change.

FINDINGS AND DISCUSSION

Findings

Activities and results obtained in this activity are:

1. Preparation of cayenne pepper plant seeds and planting media (yard land and cow shed organic fertilizer).
2. Participants were given socialization of material delivery regarding the use of home yards with cayenne pepper plants. After finishing the lecture, discussion (question and answer) and direct practice in the field continued.
3. The lecture material is Information and Practice on Planting Cayenne Pepper

Plants in the House's Yard by Dr. Desi Sri Pasca Sari Sembiring S.P., M.Si.

The place for lectures and discussions is in one of the resident's houses, and the implementation time is approximately 2 hours. Then, distribute two (2) cayenne pepper plant seeds and cow manure and review to see the development of cayenne pepper plants.



Figure 1. Socialization and Presentation of Socialization Material for Cayenne Chili Planting in Yard Land in Kelambir V Village, Silver Expanse District, Deli Serdang Regency



Figure 2. Distribution of Cayenne Chili Seeds to the Community, in this case, the Women Farmer group in Kelambir Lima village, Kebon, Hamparan Perak District, Deli Serdang Regency

This PKM can be learned and practiced directly about cayenne pepper planting, pest and disease control of cayenne pepper with vegetable pesticides to succeed, fertilization and harvesting of cayenne pepper, how we convey information,

and how we socialize the use of land in the yard, and planting cayenne pepper plants in the yard. Techniques and methods of pest control of cayenne pepper plants with vegetable pesticides can be implemented into this community service activity.

Through a service activity entitled "Socialization of Planting Cayenne Chili Plants in Home Yards in Klambir Lima Village, Deli Serdang Regency," we succeeded in implementing a socialization program aimed at increasing people's understanding and skills in planting cayenne pepper plants in their yards. The socialization process is carried out through workshops, field training, and direct assistance in applying planting and care techniques.

In the implementation phase, we pay special attention to technical aspects, such as selecting high-yielding varieties, using organic fertilizers, pest and disease control, and efficient irrigation practices. In addition, we also provide an understanding of the economic benefits of cayenne pepper cultivation, including the potential for increasing income through the sale of the crop. The monitoring results during the service period showed a significant increase in community knowledge and skills related to cayenne pepper cultivation.

The positive impact can also be seen from the increase in the production and quality of cayenne pepper produced by the people of Klambir Lima Village. Most socialization participants reported an increase in the productivity of their crops, which in turn contributed positively to the availability of cayenne pepper at the local level. Improving household economics is also one indicator of success, with several participants able to make cayenne pepper cultivation a significant source of additional income.

The importance of the role of local community groups in adopting the practice of planting cayenne pepper can also be seen from the collaborative spirit that is built. Through this activity, a network of communities that support each other and exchange information is formed, creating a conducive environment for exchanging agricultural knowledge and experience.

Overall, the results of this service research show that the socialization of planting cayenne pepper plants in the yard can be an effective model to improve community welfare and food security at the village level. Implementing this practice is expected to be sustainable and positively impact local communities in Klambir Lima Village, Deli Serdang Regency.

Discussion

To improve the sustainability and effectiveness of service activities, it is very useful to juxtapose the results of this research with previous service research carried

out in similar contexts. Previous research provides useful insights into evaluating progress, identifying changes in community behavior, and measuring the long-term impact of socialization efforts to plant cayenne pepper plants in home yards (Nurhasanah & Hamzah, 2022); (Achnopha, 2021); (Bulawan et al., 2022).

In juxtaposing the results of this study with findings from previous studies, efforts to socialize the planting of cayenne pepper plants in Klambir Lima Village have undergone significant evolution. Previous research focused on introducing the concept of cayenne pepper planting (Helmi et al., 2023; Luta et al., 2020; Solihin, 2018), while in this study, further efforts were seen to deepen people's understanding and improve their technical skills.

In terms of participation, the results of previous studies show that the participation level may be less than optimal. Therefore, the latest research strategy has responded by designing socialization activities that are more interactive and actively involve the community, including workshops, field training, and direct mentoring. Thus, increased participation is a positive outcome of this discussion. In addition, recent research results highlight the key role of social learning and community networks in disseminating gardening knowledge and practices (Murcia et al., 2020). This indicates that approaches that leverage community attraction and cooperation among community members provide more positive results in improving community understanding and skills in cayenne pepper cultivation.

Long-term impacts also need to be evaluated through previous research results. If past research has identified challenges in maintaining sustainable agricultural practices, the results of this study may provide further understanding of more effective strategies to overcome these barriers. Economic improvement and community welfare are key indicators in proving the positive sustainability of this socialization activity. In developing further service activities, this research and previous research findings can be the basis for developing a more mature and sustainable strategy (Lukitaningsih et al., 2020; Wakchaure & Ganguly, 2018). Through pairing research results, we can identify positive trends, successes, and valuable lessons that can form guidelines for planning and implementing sustainable agriculture socialization activities in the future.

Considering the results of these two service studies, corrective steps or adjustments can be taken to increase the impact and sustainability of the socialization program for planting cayenne pepper plants in the yards of houses in Klambir Lima Village, Deli Serdang Regency. This thorough analysis will provide valuable insights for planning future service activities. It can be the basis for designing more effective

strategies to support sustainable agricultural development at the village level.

In detailing the results of this service research with a theoretical approach, we can use the concepts of social ecology and community empowerment theory to gain deeper insights. Social-ecological theory can help us understand the complex relationship between humans and the environment in the context of growing cayenne pepper plants in the yard of a house in Klambir Lima Village. The concept of social ecology emphasizes the importance of interaction between humans and the physical and social environment (Tumanggor, 2020). In this context, the socialization of cayenne pepper planting can be analyzed as an effort to create a more balanced relationship between humans and the local environment. Through cayenne pepper planting, communities can optimize their yard land, create productive micro-ecosystems, and, in turn, improve food security and economy at the household level.

Community empowerment theory is also applied to analyze the impact of these activities on the independence and active role of the community. Socialization provides technical knowledge and empowers communities to take an active role in managing local resources. Thus, the concept of empowerment can be applied to measure the extent to which the community can take the initiative in planting cayenne pepper, both in terms of production to meet food needs and as a source of income (Fitriawan et al., 2020; Subekti et al., 2018). Furthermore, social learning theory can describe how knowledge and skills related to cayenne pepper cultivation are exchanged and adopted within communities. Communities learn from each other through social interaction, field training, and shared experiences. In this case, the social learning process is the key to success in spreading sustainable agricultural practices at the village level. However, it is important to remember that this theory is not static, and its implementation may vary depending on the local context. Therefore, the results of this study can also contribute to developing more appropriate and relevant intervention theories and models in the context of sustainable agriculture in rural areas.

CONCLUSION

Based on the discussion of this service activity, it can be concluded that the people of Klambir Lima Kebon Village have received information about the use of their home yard land and information on planting cayenne pepper plants in the yard of their house. Socialization of planting cayenne pepper plants in the yard can be an effective model to improve community welfare and food security at the village level. Some Klambir Lima Kebun Village residents have received information about the use of home yard land and information on planting cayenne pepper plants in their yards.

Community empowerment opportunities can increase family nutritional adequacy and add aesthetic value to the home yard through the application of home yard land utilization in planting cayenne pepper plants, which will affect the household economy and the welfare of the Klambir Lima Kebon village community. Recommendations were conveyed regarding the use of yard land through the planting of cayenne pepper plants should continue to be carried out gradually so that all people in Klambir Lima Village, Hamlet can understand and understand to be practiced so that Klambir Lima Village, Hamlet can become one of the hamlets in the village producing cayenne pepper fruit and selling cayenne pepper plants in Deli Serdang Regency.

ACKNOWLEDGMENTS

The author would like to thank the Head of Dusun 1 Village, Kelambir V Village, Hamparan Perak District, Deli Serdang Regency, for facilitating this activity and the Pancabudi Development University for helping this Community Service activity lot to completion.

REFERENCES

- Achnopha, Y. (2021). Pemanfaatan Lahan Pekarangan Untuk Budidaya Sayuran Dengan Sistem Hidroponik Sederhana. *Jurnal Pengabdian ILUNG (Inovasi Lahan Basah Unggul)*, 1(2), 81–88.
- Afandi, A. (2020). Participatory Action Research (PAR) Metodologi Alternatif Riset dan Pengabdian Kepada Masyarakat Transformatif. *Workshop Pengabdian Berbasis Riset Di LP2M UIN Maulana Malik Ibrahim Malang*, 53(9), 1689–1699.
- Alfiana, A., Mulatsih, L. S., Kakaly, S., Rais, R., Husnita, L., & Asfahani, A. (2023). Pemberdayaan Masyarakat Dalam Mewujudkan Desa Edukasi Digital Di Era Teknologi. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4), 7113–7120.
- Asfahani, A., Tono, M., & Sain Zohaib Hassan. (2023). Land Optimization to Improve the Economy through Attractive Tourist Destinations in Smart City Indonesia. *International Assulta of Research and Engagement (IARE)*, 1(2), 87–98.
- Ayuningtyas, C. E., & Jatmika, S. E. D. (2019). Pemanfaatan Lahan Pekarangan untuk Meningkatkan Gizi Keluarga. *Yogyakarta: K-Media*.
- Bulawan, J. A., Hasbiadi, H., Mpia, L., & Handayani, F. (2022). Pemanfaatan Pekarangan untuk Budidaya Tanaman Olerikultura sebagai Pendukung Ketahanan Pangan Pada Era Pandemi Covid-19 di Desa Petudua. *Mitra Mahajana: Jurnal Pengabdian Masyarakat*, 3(1), 50–56.

- Desembrianita, E., Zulharman, Z., Masliardi, A., Asfahani, A., & Azis, A. A. (2023). Optimalisasi Taman Wisata Kelurahan Di Kota Gresik Dalam Menata Lingkungan Yang Menarik. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4), 7823–7830.
- Fitriawan, F., Rohmatulloh, D. M., Asfahani, A., & Ulfa, R. A. (2020). Pemberdayaan Ekonomi Pemuda Melalui Budidaya Jamur Tiram di Dusun Sidowayah, Kecamatan Jambon, Kabupaten Ponorogo. *Amalee: Indonesian Journal of Community Research and Engagement*, 1(1), 47–58.
- Haslinah, A., Tahir, U., Al Imran, H., Asfahani, A., & Larisu, Z. (2023). Pemberdayaan Masyarakat Dalam Program Lingkungan Hijau Bebas Polusi Di Kota Makassar. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4), 8906–8912.
- Helmi, D., Asep, A., Ansiska, P., Partini, D., & Barus, C. S. A. (2023). Pemanfaatan Limbah Bawang Merah Sebagai Pupuk Pada Pekarangan Rumah Bagi Buruh Pengupas Bawang Merah di Nagari Muaro Paneh. *Jurnal Pengabdian Arumbai*, 1(1), 57–62.
- Heryani, N., & Rejekiningrum, P. (2019). Pengembangan pertanian lahan kering iklim kering melalui implementasi panca kelola lahan. *Jurnal Sumberdaya Lahan*, 13(2), 63–71.
- Howard, L. R., Talcott, S. T., Brenes, C. H., & Villalon, B. (2000). Changes in phytochemical and antioxidant activity of selected pepper cultivars (*Capsicum* species) as influenced by maturity. *Journal of Agricultural and Food Chemistry*, 48(5), 1713–1720.
- Irawan, B., Rofiah, C., Asfahani, A., Sufyati, H. S., & Hasan, W. (2023). Empowering Micro Small and Medium Enterprises (MSMEs) to Improve Global Economic Welfare. *International Assulta of Research and Engagement (IARE)*, 1(2), 75–86.
- Lukitaningsih, E., Rohman, A., Rafi, M., Nurrulhidayah, A. F., & Windarsih, A. (2020). In vivo antioxidant activities of *Curcuma longa* and *Curcuma xanthorrhiza*: A review. *Food Research*, 4(1), 13–19. [https://doi.org/10.26656/fr.2017.4\(1\).172](https://doi.org/10.26656/fr.2017.4(1).172)
- Luta, D. A., Sitepu, S. M. B., & Harahap, A. S. (2020). Pemanfaatan Kompos Dalam Pembudidayaan Bawang Merah Pada Pekarangan Rumah Di Desa Tomuan Holbung Kecamatan Bandar Pasir Mandoge. *JURNAL PRODIKMAS Hasil Pengabdian Kepada Masyarakat*, 5(2), 100–104.
- Moridu, I., Purwanti, A., Melinda, M., Sidik, R. F., & Asfahani, A. (2023). Edukasi Keberlanjutan Lingkungan Melalui Program Komunitas Hijau Untuk Menginspirasi Aksi Bersama. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4), 7121–7128.
- Murcia, K., Pepper, C., Joubert, M., Cross, E., & Wilson, S. (2020). A framework for identifying and developing children's creative thinking while coding with digital technologies. *Issues in Educational Research*, 30(4), 1395–1417.

- Noviana, L., & Sukwika, T. (2020). Pemanfaatan Sampah Organik Sebagai Pupuk Kompos Ramah Lingkungan Di Kelurahan Bhaktijaya Depok. *Jurnal Pengabdian UntukMu NegeRI*, 4(21). <https://doi.org/10.37859/jpumri.v4i2.2155>
- Nurhasanah, N., & Hamzah, A. H. P. (2022). Evaluasi Kegiatan Budidaya Tanaman Cabai Dipekarangan Menggunakan Pupuk Cair Ekstrak Bawang Merah Di Desa Iwul Kabupaten Bogor. *Jurnal Tunas*, 3(2), 220–227.
- Nurlila, R. U., & La Fua, J. (2020). Jahe Peningkat Sistem Imun Tubuh di Era Pandemi Covid- 19 di Kelurahan Kadia Kota Kendari. *Jurnal Mandala Pengabdian Masyarakat*, 1(2), 54–61. <https://doi.org/10.35311/jmpm.v1i2.12>
- Salviana, V., Fuadiputra, I. R., Bustami, M. R., & Jha, G. K. (2022). Participatory Action Research (PAR) Model for Developing A Tourism Village in Indonesia. *Journal of Local Government Issues (LOGOS)*, 5(2), 193–207.
- Solihin, E. (2018). Pemanfaatan pekarangan rumah untuk budidaya sayuran sebagai penyedia gizi sehat keluarga. *Jurnal Pengabdian Kepada Masyarakat*, 2(8), 590–593.
- Subekti, P., Setianti, Y., & Hafiar, H. (2018). Pemberdayaan masyarakat berbasis lingkungan hidup di desa margalaksana kabupaten bandung barat. *Jurnal Kawistara*, 8(2), 148–159.
- Sukarma, I. K., Karyasa, T. B., Hasim, H., Asfahani, A., & Azis, A. A. (2023). Mengurangi Ketimpangan Sosial Melalui Program Bantuan Pendidikan Bagi Anak-Anak Kurang Mampu. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 4(4), 8440–8447.
- Tumanggor, B. J. M. (2020). Ekologi Akal Budi: Memahami Alam sebagai Kesatuan menurut Gregory Bateson. *Melintas*, 36(2), 212–237. <https://doi.org/10.26593/mel.v36i2.5378>
- Wakchaure, R., & Ganguly, S. (2018). Phytochemistry and Pharmacological Properties of Ginger (*Zingiber officinale*). In A. A. Mahdi, M. Abid, A. A. Khan, M. I. Ansair, & R. K. Maheshwari (Eds.), *Molucular Biology and Pharmacognosy and Beneficial Plants* (pp. 97–103). Lenin Media Private Limited.