

The Implementation of Organic Snake Gourd Cultivation to Increase Income in Pondok Village

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Abstract

Purpose: This research focuses on transitioning snake gourd cultivation in Pondok Babadan Village from conventional to organic methods using polybag media to enhance production quality and quantity.

Method: Utilizing the ABCD (Asset Based Community Development) approach, this study involves training on organic bitter gourd cultivation in polybag containers, emphasizing knowledge dissemination, polybag utilization, and cost-effective bitter gourd seeds.

Practical Applications: Implementing organic farming techniques and polybag containers can optimize land use, reduce chemical pesticide reliance, and promote healthier vegetable production. These practices offer income potential for Pondok Babadan Village's MSMEs and support sustainable agriculture.

Conclusion: Transitioning to organic snake gourd cultivation using polybag media offers improved quality, increased yield, cost savings, and eco-friendly practices. This research provides valuable insights for small-scale farmers and contributes to sustainable agriculture in the region.



Introduction

Organic farming is currently gaining popularity among the local community for vegetable cultivation. To increase agricultural production that can meet the demand for healthy, safe, and nutritious vegetables for daily consumption, organic vegetable cultivation in polybag media is practiced, utilizing organic materials available around the home as fertilizers (Astina et al., 2022; Suyadi & Nugroho, 2017).

For now, the owner of the snake gourd cultivation business has been using conventional methods and chemical pesticides. They have never implemented organic farming using polybag media, which can improve the quality and quantity of snake gourd vegetable yields. The high-dose use of chemical pesticides is employed to combat pests that enter the cultivated land, causing plant damage (Iswahyudi et al., 2019; Widadi & Cahyani, 2018). This inevitably increases operational costs and compromises the healthiness of the vegetable products.

Implementing organic vegetable cultivation can increase community income. With higher income, consumption patterns shift towards safer products, free from the dangers of chemical use in agriculture. Consumer preferences align with increased income, moving from chemically contaminated goods to uncontaminated products. This encourages people to choose organic agricultural products for consumption. The advantages of consuming organic agricultural products include improved health and better product quality, including longer shelf life and increased nutritional value (Trianti, et. al., 2020).

Organic cultivation promotes a healthier lifestyle within the local community. It sets a new trend, leaving behind the old ways of using non-natural chemicals such as synthetic chemical fertilizers, pesticides, and plant hormones in vegetable cultivation. The snake gourds cultivation business in Pondok Village, Babadan Subdistrict, Ponorogo Regency, is conducted on a 1.5-hectare field. Mr. Yetno and Mrs. Sri Purwati, the owners and managers of the snake gourd cultivation business, are accustomed to planting, caring for, and harvesting vegetables independently without needing employees or farm laborers. Snake gourd cultivation takes about 8 to 10 weeks to be ready for harvest, depending on the weather.

By implementing organic snake gourd cultivation using polybag media, agricultural yields can be increased, and agricultural land can be conserved. Organic vegetables are currently the primary choice for cultivation due to high consumer demand, relatively easy maintenance, and higher selling prices than non-organic vegetables. Organic vegetables can be grown anywhere with a rapid growth cycle (Setiawati, et. al., 2021). Environmentally conscious businesses that value the balance of nature and operate in an eco-friendly manner significantly impact their long-term sustainability and directly benefit the local community (Purwanto, et. al., 2019).

The cultivation of snake gourd in Pondok Village is one of the endeavors owned by residents in a 1.5-hectare field. This cultivation yields substantial income, ranging from Rp 1,500,000 to Rp 3,000,000 per harvest. This has motivated Mr. Yetno to continue snake gourd cultivation instead of rice farming. Pondok Village has many micro, small, and medium-sized enterprises (UMKM), including quail processing, Amanda crackers, and pare chips. Snake gourd is a reasonably priced vegetable, and it is no wonder it offers numerous benefits when consumed regularly due to its comprehensive nutritional content. Snake gourd contains vitamins A, B, and C and is known to have medicinal properties for conditions such as diabetes, jaundice, and malaria. Snake gourd plants typically grow in lowland and highland areas, characterized by their elongated, eel-like shape and greenish-white spotted skin, with a length of approximately 30 - 100 cm.

Snake gourd cultivation is a profitable endeavor with easy maintenance and high demand in the community. Given the popularity of snake gourd in the local community, and its relatively straightforward care requirements, organic cultivation using polybag media and utilizing organic materials from around the home are suitable approaches.

Currently, the cost of snake gourd seeds for cultivation is high. Challenges in snake

gourd cultivation include limited knowledge of quality seed management, difficulty implementing organic cultivation, and the need to use polybag media. Through training, the owners of snake gourd cultivation gardens are expected to be able to develop organic snake gourd cultivation using high-quality seeds, allowing for a faster production cycle and higher profits.

The concept of community engagement through the implementation of organic cultivation to increase income for entrepreneurs has been widely explored in various community engagement activities conducted by State Islamic Institutes (PTKIN). The first research by Anam Suyadi and Bambang Nugroho focused on Training for Utilizing Narrow Land for Organic Vegetable Cultivation (Suyadi & Nugroho, 2017). Second, Fofa Arofi and Soleh Wahyudi discussed Organic Vegetable Cultivation in Home Gardens (Arofi & Wahyudi, 2017). Third, Gusti Ayu Kade Sutariati, La Ode Safuan, Muhidin, and Rachmawati Hasid explored the Development of Organic Vegetables in Home Gardens to Improve Public Health in the City of Kendari (Sutariati, et. al., 2018).

Fourth, there is research on Training for Hydroponic Organic Water Spinach Cultivation to Improve the Economy of Farmers in the Sirnoboyo Village during the COVID-19 Pandemic (Astuti, et. al., 2021). Fifth, Khoiriyah Trianti, Denny Febriyanto, and Zainal Abidin investigated Organic Vegetable Cultivation in Small lands during the Covid-19 Pandemic as a Food Security Enhancement (Trianti, et. al., 2020). The difference between this research and previous studies lies in focusing on snake gourd cultivation and implementing the ABCD method.

By enhancing awareness and knowledge about organic cultivation and selecting high-quality seedlings, entrepreneurs will be able to implement snake gourd cultivation organically using polybag media. As researchers, we guide the methods of organic cultivation using polybag media.

Method

Asset-based community development (ABCD) is the strategy employed by the author in this article. ABCD is a model of community development that prioritizes the utilization of assets and potential within the community's area (Bukido & Mushlihin, 2022; Fitrianto et al., 2020). This research-based mentoring activity was carried out by IAIN Ponorogo students under the KPM-DDR program from July 5, 2021, to August 13, 2021, in Pondok Village, Babadan Subdistrict, Ponorogo Regency. Pondok Village has a snake gourd garden, which is an asset. This garden is a livelihood for its owner and must be well-managed and developed to increase income.

The snake gourd garden has significant potential for rapid growth. Some of these potentials include: First, having a large garden suitable for cultivation; Second, suitability for organic cultivation using polybag media; Third, ineffective snake gourd seed management for use as seeds. There are five stages of activities carried out in this mentoring program, including:

1. Inculturation: This stage involves building trust between students and business owners through introductions and relationship-building. It is essential for establishing trust with business owners and understanding the goals of the mentoring program.
2. Discovery: The second stage is discovery, and activities during this phase include asset mapping, conducted using appreciative inquiry (AI) as a tool. AI is a strategy that promotes positive transformation by focusing on peak experiences and past victories, akin to positive psychology. In this research, interviews with snake gourd business owners were relied upon for information. At this point, one of the objectives is to encourage greater involvement of business owners in snake gourd cultivation.
3. Design: The third stage is design, and actions during this phase involve asset mobilization. This is necessary to determine the assets held by the cultivation company and to identify the opportunities available to the cultivation business. Using a priority scale, cultivation company owners and students collaborate to establish a snake gourd

- cultivation business, resulting in a production plan as the final product of this stage.
4. Define: The fourth stage is defining the existing problems and providing the best solutions for the future. Ongoing monitoring will be conducted to assess the outcomes of the changes.
 5. Reflection and Follow-up: The final step of this mentoring is reflection to determine the extent of ABCD's impact on developing the organic snake gourd cultivation industry. As a mentoring activity aimed at developing cultivation fishery products, it is essential to ensure that cultivation company owners can actively participate as change agenda setters develop collaboratively to achieve the program's sustainability.

Result

The community engagement activity, KPM-DDR, began by aligning activities with the snake gourd cultivation business owners. This alignment aimed to ensure that the community engagement activities would be well-structured, proceed smoothly, and enhance the income of the business owners. The snake gourd cultivation activities transitioned from non-organic to organic farming using organic materials available around the home. The primary goal of the community engagement activity was to promote organic snake gourd cultivation. By mapping the village's potential, researchers aimed to guide the planning of organic snake gourd cultivation activities. Generally, this cultivation system is a relatively successful technique that can be applied commercially or productively. Its implementation is relatively straightforward for local farmers, provided they deeply understand the cultivation system (Rasmikayati, et. al., 2020).

The community engagement activity took place from July 5, 2021, to August 13, 2021, and was coordinated with the owners and managers of the snake gourd cultivation in Pondok Village. Organic cultivation emerged as a viable solution to increase income and reduce the use of synthetic chemicals. Social, economic, technological, resource, institutional, and cultural factors also played crucial roles in improving farmers' income (Rasmikayati, 2018; Rasmikayati et al., 2019).

The economic impact of COVID-19 negatively affected the Pondok Village community. Optimization was needed to revive the economic condition of those affected by Covid-19. Organic cultivation led to reduced maintenance costs and increased the market value of organic vegetables, ultimately improving their quality and fetching higher prices than non-organic vegetables (Kusumo, 2018). The next step was to prepare a mentoring program with an agreed-upon agenda between the researchers and the business owners. This mentoring activity focused on the development of snake gourd cultivation results. Key aspects were emphasized at each stage to ensure that the business owners actively contributed to the jointly formulated change agenda. This approach aimed to ensure the sustainability of organic cultivation activities. The Mentoring Model was implemented over four weeks, with mentoring sessions conducted once a week. This ensured continuous support, allowing the established program to progress without interruption.

The mentoring stages followed the ABCD approach:

1. Inkulturasi Phase (Introduction)

In this phase, the researcher initiates an introduction by visiting the business owner's residence and building mutual trust between the researchers and the snake gourd cultivation business owners. The researcher facilitates training and imparts knowledge during the first week to ensure that the snake gourd cultivation business owners understand the purpose and goals of the researchers' presence and the 4-week community engagement activities. Activities in this phase are related to the introduction, approach, and cultivation process. During the enculturation phase, the snake gourd cultivation business owners clearly understand the purpose and objectives of the organic snake gourd cultivation community engagement activities to be carried out. They also understand that the business owners and researchers will work together in the cultivation activities.

The activities carried out during inculturation include:

- a. Building rapport with community leaders.
- b. Conducting surveys related to assets in Dukuh Pondok.

After surveying the assets in Pondok Village, we identified a significant issue that needed attention and resolution, namely, the snake gourds cultivation business, which had grown considerably but still used conventional methods and chemical fertilizers. The business owner had never implemented organic farming using polybag media, which could enhance the quality and quantity of snake gourd vegetable yields.

2. Discovery Phase (Revealing Information)

In the second week of this phase, assets, potential, and issues related to the snake gourd cultivation business are identified. To identify the assets and issues in the snake gourd cultivation business, the author held discussions with the business owner and uncovered various assets and challenges. The assets included the land used for snake gourd cultivation, its strategic location, and the minimal pest presence in the cultivation area. Activities involved mapping the assets available in the snake gourd cultivation business that could be utilized and developed.

During this stage, there was a shift in the cultivation process. Previously, snake gourd cultivation involved planting in fields using synthetic chemical fertilizers for plant maintenance. Now, it has transitioned to organic cultivation using polybag media and avoiding synthetic chemical fertilizers in favor of organic materials available around the home. This shift in approach reduced operational costs for snake gourd cultivation, resulting in increased income from the harvest.

3. Designing a Work Program Based on Assets and Potential (Design)

In the third week, during the design phase, a work program was designed to support the implementation of organic snake gourd cultivation using polybag media. After identification, it is only fitting that the snake gourd cultivation business owners and researchers obtain information about their assets and potential. Thus, the cultivation business owners will become aware of positive potentials they may not have previously known and applied to manage snake gourd cultivation.

Figure 1. Identification of Potential at the Location



The cultivation effort has an asset in the form of 1.5 square boxes of paddy fields. This land is highly suitable for snake gourd cultivation, and if the cultivation is done organically using polybag media, it will be more effective as it saves agricultural land. Apart from land conservation, organic cultivation using polybag media also accelerates the harvesting process and enhances the quality of vegetables, making them healthier thereby increasing their market value. The result of this stage is an activity based on what can be immediately implemented and developed at the outset based on the

assets owned, which is the implementation of organic snake gourd cultivation.

4. Training on Organic Cultivation Using Polybag Media (Define)

The activity in the fourth week is the "Define" phase, which involves realizing the prioritized work program selected jointly with the snake gourd cultivation business owners. Training and implementation activities for organic snake gourd cultivation are detailed and implemented by visiting the paddy fields accompanied by researchers and business owners. Consultations are also conducted via WhatsApp with the assistance of researchers.

During the initial visit, preliminary observations are made, focusing on the assets and potential and identifying existing problems. In the field implementation phase, the program is concentrated on addressing the main issues in snake gourd cultivation. The approach to overcoming them involves (1) Training, (2) Mentoring, and (3) Monitoring and Evaluation. Researchers surveyed the village's potential for development, which is essential for considering the planning of snake gourd cultivation.

The training program is executed by applying organic snake gourd cultivation using polybag media, with researchers providing knowledge to be applied in snake gourd cultivation. Using polybag planting containers for snake gourd plants can increase utilization and efficiently conserve agricultural land.

Figure 2. Selection of Quality Seeds



Utilizing mature snake gourd seeds for breeding is an appropriate solution to address the high cost of snake gourd seeds. The management approach involves selecting mature snake gourd seeds, a drying process that takes 1 to 3 days, followed by selecting quality snake gourd seeds for breeding.

Figure 3. Cultivation Using Polybag Media



The use of organic materials for fertilizer aims to avoid the use of synthetic chemical fertilizers. By utilizing organic materials available around the house, such as

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food scraps, sawdust, and livestock manure, not only can operational costs in plant maintenance be reduced, but it can also support the growth of snake gourd plants, reduce crop failures caused by insect infestations, and maintain the quality of the harvest.

Discussion

The evaluation of snake gourd cultivation activities aims to review the accuracy, effectiveness, and impact of the program being carried out and determine the extent of achieving the program's objectives. Monitoring and evaluation involve the process, which focuses on the business owner's role in carrying out snake gourd cultivation and overseeing developments by visiting the cultivation site.

Figure 4. Development of Cultivation Results



The implementation of organic snake gourd cultivation activities has been carried out comprehensively, covering all stages of cultivation, from seeding, planting, fertilizing, and monitoring. The development of organic snake gourd cultivation has progressed smoothly. The successful implementation of this cultivation activity and satisfactory results have increased the business owner's confidence to continue organic cultivation. Organic farming practices can be applied to other vegetable crops.

Based on the implementation evaluation, supporting and hindering factors in executing this community engagement program have been identified. In summary, the community engagement program faced several challenges on-site, including:

1. The availability of low-quality snake gourd seeds results in poor growth of snake gourd plants. High-quality seeds play a significant role in the success of cultivation.
2. Uneven growth of plants, affecting different harvest schedules.

In broad strokes, the supporting factors for the snake gourd cultivation program are the active participation of snake gourd cultivation business owners in organic cultivation training and the low presence of pests in the cultivation area, allowing for the successful implementation of organic snake gourd cultivation. The community engagement program for snake gourd cultivation conducted jointly by researchers and business owners for six weeks will continue and be sustained. This aims to increase the income of the snake gourd cultivation business during the pandemic. Furthermore, the business owner will actively continue organic snake gourd cultivation and maintain this program by the established work plan.

Conclusion

The results of this community engagement activity are used to increase the income of snake gourd cultivation entrepreneurs in Pondok Village by developing the potential within the snake gourd cultivation site. Initially, snake gourd cultivation took place in paddy fields using synthetic chemical fertilizers, but it has now transitioned to an organic approach using polybag

containers. Adopting polybag containers for snake gourd plants enhances land utilization and efficiency in agricultural land use.

Additionally, utilizing snake gourd seeds for propagation is a suitable solution to address the high cost of snake gourd seeds. The use of organic materials available around the home, such as food scraps, sawdust, and manure, not only helps reduce operational costs in plant care but also supports the growth of snake gourd plants and reduces crop failure due to pest attacks while maintaining the quality of the harvest. The implementation of organic snake gourd cultivation serves the dual purpose of increasing the income of snake gourd cultivation business owners and reducing the use of synthetic chemical fertilizers in snake gourd cultivation maintenance.

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