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Sustainable Organic Waste Management through Black Soldier Fly (*Hermetia illucens*) Larvae Farming in Neglasari Village

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Abstract The Maggot Farming Information Dissemination Program in Neglasari Village aimed to help community members understand how to manage organic waste through black soldier fly (BSF) (*Hermetia illucens*) farming and how to utilize BSF products, including larvae as high-protein animal feed and cultivation residue as organic fertilizer. This approach not only benefits the environment but also creates local economic opportunities. The program included theory sessions, hands-on maggot-farming practice, and interactive discussions on farming techniques and marketing strategies. It was conducted on January 12, 2025, at Saung Giwangkara River Tubing and was attended by 15 participants, including farmers and village youth. The program received a positive response, as evidenced by the formation of a maggot-farming group committed to independently developing this business. In addition to reducing organic waste, this initiative also provides a new source of high-nutrition animal feed. However, several challenges were identified, including limited pre-event promotion, which resulted in fewer participants at the beginning of the activity, and limited participant knowledge of marketing strategies. Despite these constraints, with stronger support from the village government and business partners, the program has the potential to develop into a sustainable enterprise. To ensure success, further technical guidance, improved access to funding, and the establishment of a village business unit or a maggot-farming cooperative are needed. These steps will help maximize the benefits of maggot farming for the people of Neglasari Village.

1. INTRODUCTION

Waste identified to address them comprehensively (Larasati & Fitria, 2020). According to data from the National Waste Management Information System (SIPSN), compiled by the Ministry of Environment and Forestry (KLHK) from 2023 to July 24, 2024 (KLHK, 2024), total accumulated waste reached 31.9 million tons across 290 regencies and cities in Indonesia. Of this amount, 63.3% (20.5 million tons) is managed, whereas 35.67% (11.3 million tons) is not properly managed (Badan Riset dan Inovasi Nasional, 2024). Referring to the Ministerial Regulation of Environment and Forestry (Permen LHK) Number 6 of 2022 on Waste Management, managed waste is defined as waste handled through facilities such as waste banks, organic processing centers (POO), recycling centers (PDU),

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integrated waste processing sites (TPST), or other facilities provided by the central or regional government (KLHK, 2022b). By contrast, unmanaged waste includes waste that is not appropriately sorted, waste that accumulates in unsuitable locations, and waste that is disposed of or processed using environmentally harmful practices.

By type, national waste accumulation in 2024 consisted of 39.2% food waste, 19.74% plastic, 12.45% wood, 11.12% paper, 3.43% metal, 2.51% fabric, 2.43% glass, 2.15% rubber/leather, and 6.97% other types. SIPSN data also indicate that food waste, as an organic waste stream, consistently ranked first from 2018 to 2024. This pattern is supported by Saraswati (2022) and Haryanto et al. (2023), who reported that food waste contributes substantially to high organic waste generation, with household waste as the largest contributor. Organic waste originates from household residues and biological remnants that can be processed into more beneficial forms when properly managed (Puger, 2018). However, household organic waste is often not effectively managed, which leads to serious environmental problems (Erika & Gusmira, 2024).

Several key factors contribute to the mismanagement of household organic waste, including poor habits and low public awareness, inadequate landfill capacity or waste processing facilities, ineffective government policies and oversight, limited education and public knowledge, barriers to the application of technology and innovation for organic waste management, and population growth accompanied by increased consumption patterns, which intensify the volume of organic waste generated (Adriyanto et al., 2023; Tampuyak et al., 2019; Waluyo, 2023).

Consequently, communities often rely on improper waste disposal practices, including open dumping, waste burning, and discarding waste into rivers. According to Yusmawan et al. (2023), open dumping is a commonly used waste management method in major cities in Indonesia. This practice contributes to greenhouse gas accumulation, particularly methane (CH_4), thereby causing environmental pollution, public health problems, and increased global warming potential. In rural areas, waste burning, often without prior sorting, is frequently used due to limited landfill facilities or the absence of waste collection services. Smoke from burning waste can have long-term health effects because emitted gases, including carbon monoxide (CO) and carbon dioxide (CO_2), may be inhaled and contribute to acute respiratory infections (ISPA) (Faridawati & Sudarti, 2021). Discharging waste into rivers is another common practice among communities located near water sources, despite its well-documented environmental consequences. Organic waste in rivers undergoes decomposition and can contribute to sedimentation, water pollution, degradation of aquatic ecosystems, and increased public health risks due to contaminated water sources (Farhan et al., 2023). These impacts underscore the need for environmentally friendly solutions to manage organic waste across Indonesia, particularly through the utilization and processing of household organic waste.

In response to these challenges, various national and local institutions have pursued solutions through programs such as waste-reduction initiatives, public awareness campaigns, and waste banks. A promising approach is community-based waste management, which provides a more focused scope by directly involving local residents and enabling the targeted utilization of organic waste that is aligned with specific regional conditions. Through the Community Service Program, known as Thematic Community Service (KKN-T/Thematic Community Service Program), our team in Neglasari Village initiated a program to address waste management by emphasizing environmental sustainability, economic empowerment, and long-term continuity.

Neglasari Village is located in Dramaga Subdistrict, Bogor Regency, West Java. The village covered an area of 164.16 hectares in 2020 and comprised six neighborhood units (RWs): RW 01 (26.31 ha), RW 02 (12.91 ha), RW 03 (33.71 ha), RW 04 (19.91 ha), RW 05 (28.70 ha), and RW 06 (42.62 ha) (Sjaf et al., 2020). Waste management in Neglasari Village remains limited, and the village has no temporary waste disposal facilities (TPS). Through initiatives led by local residents and village officials, some waste is managed through waste collection services, in which workers collect waste from each RW on a weekly basis. However, constraints such as limited access to waste collection services, time limitations, high collection fees, and road inaccessibility for waste transport vehicles contribute to waste accumulation, improper disposal into rivers, open burning, and related problems. These conditions indicate the need for a practical solution for household organic waste management in Neglasari Village, particularly through organic waste processing. One potential approach is the cultivation of black soldier fly (BSF) (*Hermetia illucens*) larvae using insect-based bioconversion, which may also provide economic benefits.

Prior to this program, organic waste management in Neglasari Village was primarily conducted through conventional disposal practices. Households typically managed organic waste through weekly waste collection services (where available), open dumping in vacant lots, open burning, or direct disposal into nearby rivers. The village generated an estimated 200 to 250 kg of household organic waste per day, primarily consisting of food scraps, vegetable peels, and yard waste. However, limited infrastructure, geographic constraints, and economic limitations resulted in only partial coverage of waste collection services, leaving a substantial proportion of organic waste improperly managed.

Black soldier fly (*Hermetia illucens*) is classified in the order Diptera, family Stratiomyidae, and genus *Hermetia*. Originally from the Americas, this species has become widely distributed between 45° N and 40° S (Salman et al., 2020). According to the Energy and Waste Management Team of UGM (PIAT, 2021), bioconversion refers to the process by which insect larvae absorb nutrients from organic waste and transform them into insect biomass. BSF larvae serve as a protein- and fat-rich feed source for

livestock. As decomposers, BSF larvae can effectively degrade organic waste, and their application has been reported in developed countries, including the United States, Russia, China, Canada, and several European nations. BSF larvae can consume a wide range of organic materials, including food scraps, vegetable waste, fruit, meat, and soft animal bones. In addition, larvae may tolerate challenging conditions, including relatively high levels of alcohol, salt, acid, and ammonia. Under optimal conditions, larvae typically develop for 12 to 13 days, and the full life cycle from egg to prepupa requires approximately 22 to 24 days at 27°C (Salman et al., 2020). The cultivation of BSF larvae has expanded in recent years, driven by increasing demand for efficient livestock feed and sustainable waste management. BSF larvae can convert diverse organic waste streams into high-protein livestock feed and compost (Cammack & Tomberlin, 2017), thereby offering potential market value while reducing the environmental impacts of waste.

Based on the considerations above, an outreach program on BSF larvae cultivation for residents of Neglasari Village is needed to address household organic waste while supporting local economic development as part of a sustainable village initiative. The objective of this outreach activity is to increase community knowledge of the benefits and techniques of BSF larvae cultivation. Residents are expected to learn about the BSF life cycle, cultivation methods, potential products, marketing opportunities, and the role of BSF larvae in reducing organic waste in the local environment. In addition to its environmental advantages, BSF larvae cultivation may provide financial benefits because BSF larvae are valued as feed for poultry and fish. Therefore, through this outreach program, the community is expected to begin cultivating BSF larvae independently or in groups, thereby providing a sustainable approach to organic waste management while strengthening local economic prospects through BSF-related business opportunities.

2. METHOD

2.1 Location and schedule of implementation

The Maggot Farming Outreach and Practical Training Program was conducted on January 12, 2025, at Saung Giwangkara River Tubing, RT 05/RW 06, Neglasari Village, Bogor Regency, West Java. The program encompassed several key activities, including preparation and coordination, collaboration with partner organizations as resource speakers, logistical arrangements, and the delivery of the training sessions.

2.2 Activity participants

The Maggot Farming Outreach and Practical Training Program was attended by 15 participants from diverse community groups, including youth, farmers, and local residents interested in learning sustainable BSF (*Hermetia illucens*) larvae farming techniques using household organic waste. This initiative promoted environmental sustainability while also offering a potential economic opportunity for the community.

The event was also attended by Mr. Kosasih Irfan, the Secretary of Neglasari Village, who expressed support for the program. Information about the event was shared through digital invitations distributed via tiered WhatsApp groups involving neighborhood and community leaders (RT/RW) and other village officials. These messages were subsequently forwarded to Neglasari Village residents at least two days before the event. In addition, direct invitations were delivered through door-to-door outreach to help ensure that the targeted number of participants was achieved. Table 1 shows the stages of program implementation.

2.3 Tools and materials

The tools and materials used in the outreach and practical activities for BSF (*Hermetia illucens*) larvae cultivation are presented in Table 2, Table 3,Table 4.

2.4 Activity implementation method

The BSF Larvae Cultivation Outreach and Practical Program was implemented through a knowledge-sharing session led by the speaker, followed by a hands-on practice session that demonstrated basic techniques for BSF larvae cultivation. The program aimed to provide participants with both theoretical understanding and practical experience in utilizing household organic waste as feed for BSF larvae, which can serve as a high-quality alternative animal feed. This approach was intended to strengthen participants' comprehension and skills in BSF larvae farming. The program was organized into three main stages.

The first stage comprised outreach and knowledge dissemination delivered by Muhammad Iqbal Nasution, an

Table 1 . Stages of program implementation

Activity	December		January				February		
	3	4	1	2	3	4	1	2	3
Coordination with village officials regarding program potential									
Identifying potential partners									
Administrative preparation									
Discussion and coordination with partners									
Coordination with village officials regarding program implementation									
Preparation of equipment and materials									
Program implementation									
Discussion on budget plan (RAB) for the maggot farming group									
Preparation of publication output and final program report									

undergraduate student in the Agronomy and Horticulture (AGH) study program at the Faculty of Agriculture (Faperta), IPB University. The speaker is an active member of the plantr.id community, which focuses on organic waste management and the development of marketing and distribution networks for commercially viable BSF larvae. The topics covered included key issues related to organic waste and its environmental impacts; solutions for processing organic waste using BSF larvae and the associated advantages; practical guidance for BSF larvae farming; and the utilization of outputs from BSF larvae cultivation. The knowledge-sharing session was followed by an interactive question-and-answer discussion.

The second stage consisted of hands-on BSF larvae farming practice, in which participants actively fed organic waste into rearing media containing BSF larvae. In addition, participants transferred larvae into designated enclosures to observe the life cycle, particularly the transition toward the BSF stage for reproduction, which included the prepupal maintenance phase. Furthermore, participants prepared cooked larvae (oseng maggot/stir-fried maggot), which were suitable for use as animal feed. Throughout the session, interactive discussions addressed participants' questions and practical insights.

The final evaluation stage was conducted before the program concluded. This stage included participants' reviews and feedback on specific aspects of BSF larvae farming techniques and marketing strategies. In addition, Mr. Kosasih Irfan, the Secretary of Neglasari Village, shared his impressions and recommendations on how the program could be further developed into a more structured economic sector in Neglasari Village.

During the outreach session, participants were informed that BSF larvae actively consume and decompose organic

Table 2 . Tools and materials for building a BSF (Black Soldier Fly) cage

Tools and Materials	Usage
Wooden beams	Main frame of the cage
Saw	Cutting tool for wooden beams
Nails and hammer	Fastening tool to connect wooden parts of the cage frame
Scissors and large knife	Cutting tool for mesh fabric and banana leaves
Mesh	Protects the cage from pests and insects and serves as ventilation
Hinges and lock	Provides ease and security for maggot access in and out
Binding tape	Fastener to reinforce joints in certain areas
Measuring tape	Measuring tool to ensure dimensions match the design
Banana leaves	A place for BSF to lay eggs, helps maintain humidity, and accelerates feed decomposition

Table 3 . Tools and materials for the socialization and practical training on maggot (*Hermetia illucens*)

Tools and Materials	Usage
Maggot farming flyer	Provides key information related to maggot farming
Maggots (BSF larvae)	Used for hands-on practice throughout the program
Pan, stove, and spatula	Tools for cooking maggot stir-fry
Grated coconut	Absorbs liquid, enhances aroma, and adds flavor in maggot stir-fry preparation
Eco enzyme	Used as a demonstration material, accelerates organic waste fermentation, and reduces unpleasant odors
Maggot-based processed products	Showcases various processed maggot products ready for sale
Maggot box	Media for maggot farming practice
Organic waste	Feed for maggot farming
Maggot eggs	Used in demonstrations on the maggot life cycle
Consumption for speakers and participants	Operational needs during the program
Attendance sheet and stationery	Records participant attendance
Mat	Used as seating during the program

Table 4 . Supporting tools for the delivery of socialization and practical training on maggot farming

Tools	Usage
Mobile phone camera and tripod	Program documentation
Laptop	Displaying presentation materials
Power socket	Electrical power supply
Web-based software Canva	Designing presentation materials
Projector	A tool to display presentation materials to participants
Sound system and microphone	Audio amplifier during the program
Banner	Used for final program documentation

waste for approximately 12 to 14 days under optimal conditions. The complete life cycle from egg to the prepupal stage requires approximately 22 to 24 days at temperatures around 27°C. For maximum nutritional value as animal feed, larvae should be harvested after at least 2 weeks of feeding. The speaker explained that under these conditions, BSF larvae can reduce the volume of organic waste by 50% to 60%, whereas the remaining material is converted into valuable compost.

3. RESULT AND DISCUSSION

3.1 Community acceptability of BSF technology

The outreach program indicated strong community acceptance of black soldier fly (BSF) (*Hermetia illucens*) technology in Neglasari Village. Several indicators demonstrated this positive reception.

1. Immediate engagement
   Participants demonstrated high enthusiasm during the hands-on demonstration, with 14 of 15 attendees actively participating in the practical session and asking detailed questions about cultivation techniques and business prospects.

2. Post-program commitment
   The most prominent indicator of acceptability was the spontaneous formation of a BSF larvae farming group immediately after the program. This group, comprising eight active members, expressed commitment to establishing a collective BSF cultivation operation, which reflected interest extending beyond curiosity.

3. Factors influencing acceptance

   - Economic motivation: The speaker's assurance of a market for BSF larvae products addressed participants' primary concern and substantially increased acceptance.
   - Environmental awareness: Participants recognized BSF larvae farming as an environmentally friendly solution to the local organic waste problem.
   - Technical simplicity: The perception that BSF larvae cultivation requires limited technical expertise and can be managed alongside existing livelihood activities supported acceptability.
   - Social proof: The speaker's demonstration of successful BSF larvae farming and existing market networks provided credible evidence of the approach's feasibility.

4. Challenges to full adoption: Despite the positive response, several barriers to broader adoption were identified, including initial capital requirements for cage construction and starter colonies, limited knowledge of marketing channels beyond the speaker's network, concerns about scalability and long-term continuity, and cultural unfamiliarity with insect-based agriculture.

5. Sustained interest: Follow-up discussions with village officials indicated continued interest, with three additional households expressing willingness to participate in BSF cultivation, contingent on successful outcomes demonstrated by the initial group.

This high level of acceptability is consistent with findings from similar community-based BSF programs in Indonesia, in which economic benefits combined with environmental awareness have supported successful technology adoption.

3.2 Pre-outreach discussion

The Outreach and BSF Larvae Cultivation Practice Program was a work program of the KKN-T IPB University Team in Neglasari Village 2024 to 2025. This initiative aimed to provide practical knowledge on BSF larvae cultivation, including production techniques and marketing strategies, to residents of Neglasari Village, particularly those in RW 06.

This outreach program was developed in response to persistent waste management problems in Neglasari Village. Residents often disposed of waste by dumping it into the river or by burning it. These practices can damage the surrounding environment, which makes improved waste management approaches necessary. Organic waste, for example, can be used as feed for BSF larvae. BSF larvae aged 12 to 18 days can consume large quantities of organic material. Approximately 1 kg of BSF larvae can process 15 to 20 kg of organic waste per hour. At 7 to 15 days of age, these larvae can be used as feed for fish, poultry, and other livestock.

Dried BSF larvae have relatively high market value, selling for approximately Rp. 95,000 per kilogram. In addition, BSF larvae derivative products, such as fish feed, poultry feed, and fishing bait, may be priced at approximately Rp. 325,000 per kilogram (Purwono et al., 2021).

According to local community members, a similar activity had previously been conducted by students from IPB University. However, it received a less-than-positive response because the students demonstrated cultivation procedures but did not provide guidance on marketing strategies or potential buyers for the larvae. Drawing on this prior experience, the current outreach program was designed to address this gap. It featured speakers with expertise in both BSF larvae cultivation and direct marketing, thereby enabling the community to gain a more comprehensive understanding of the process, from production to sales.

3.3 Preparation stage

The BSF Larvae Cultivation Outreach Program was conducted in January 2025 in Neglasari Village, Dramaga District, Bogor Regency. The program began with a visit

to Neglasari Village, during which the team met with the Village Head to seek approval for the outreach program. During this meeting, the location, date, and time of the activity were determined.

This program actively involved village officials and residents of Neglasari Village, particularly farmers and livestock breeders, who could benefit from BSF larvae cultivation as a sustainable and potentially profitable practice.

During the meeting, it was agreed that the BSF Larvae Cultivation Outreach Program would be held on January 12, 2025. In addition, a key challenge for the community in initiating BSF larvae cultivation was identified, namely marketing. Residents expressed concern about the absence of a broad market to support BSF larvae cultivation in Neglasari Village.

Therefore, it was determined that the outreach program would emphasize not only cultivation techniques but also marketing strategies to support the development of a sustainable enterprise. Figure 1 shows the preparation of media for maggot cultivation.

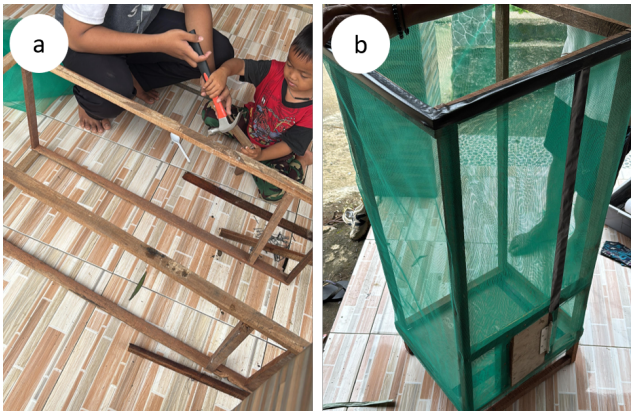

Figure 1 . Preparation of media for maggot cultivation. (a) Construction of the BSF fly cage framework, (b) Fully assembled BSF fly cage

All preparations were arranged, including venue selection, coordination with speakers, guest list preparation, and participant registration (Umayrra & Herawati, 2022). Necessary tools and materials, such as BSF larvae cultivation containers, BSF fly cages, and informational flyers, were also prepared.

With the assistance of Pak Yanto, a resident of RW 06, Neglasari Village, the BSF larvae cultivation setup and BSF fly cages were completed on schedule. The construction of these cages plays a key role in BSF larvae cultivation. According to Pangestu & Hidayat (2022), farmers design BSF cultivation media to simplify breeding procedures while also addressing land limitations. In addition, the event division prepared the program flow and assigned hosts, whereas the design division developed flyers for distribution to residents expected to attend.

3.4 Implementation stage

The BSF Larvae Cultivation Practice was conducted on January 12, 2025, at Saung Giwangkara River Tubing, RT 05/RW 06, Neglasari Village, Bogor Regency, West Java. The outreach session lasted 2 hours, from 10:30 to 12:30 WIB.

The event was attended by 14 participants, including the village secretary, local youth, and community members. The outreach program was organized into three sessions. The first session consisted of a presentation by the speaker (Figure 2), followed by a question-and-answer discussion, and then a practical session on producing BSF larvae derivative products. In accordance with the schedule agreed upon by the KKN-T team and Iqbal, Iqbal served as the main presenter. The material was delivered orally using a projector and PowerPoint slides to support participant understanding.

Figure 2 . Presentation of the material by the speaker

The presentation began with a discussion of organic waste, which has become a major environmental challenge that requires collective action. According to KLHK (2022a), organic waste generation in Bogor Regency can reach 450 tons per day, of which 180 tons are food waste. Limited waste management facilities are a key reason that many people remain reluctant to dispose of waste appropriately. One of the main constraints on waste management in Bogor Regency is insufficient waste-handling infrastructure. Although efforts have been made to optimize waste management, including separate collection systems for organic and inorganic waste (Suryana & Tjenreng, 2025), substantial challenges persist.

Iqbal introduced BSF larvae cultivation as a strategy for managing organic waste. BSF larvae function as organic waste processors that transform waste into usable products while supporting a healthier environment (Kusumaningsih, 2024). According to the Tim BSF Indonesia Raya (2019), during their life cycle, BSF larvae do not generate foul odors and are not disease vectors.

The process of BSF larvae cultivation, from larvae to the adult BSF stage, was described in detail. BSF larvae can be harvested after at least 2 weeks of cultivation. The BSF life cycle lasts approximately 37 days before transformation into adult flies. Therefore, larvae intended for animal feed should be harvested before they develop into flies. Harvesting involves separating larvae from the growth medium, after which they can be used as livestock feed, including fish feed. Individuals allowed to mature into adult flies serve as breeders for continued cultivation, which

reduces the need for externally sourced BSF eggs (Johan et al., 2023).

In addition to cultivation techniques, Iqbal emphasized marketing strategies for BSF larvae. He informed residents that once they successfully cultivated BSF larvae, his team would facilitate purchase and distribution, thereby supporting a stable market for their products.

After the presentation, the activity continued with hands-on BSF larvae cultivation practice using the prepared tools and materials, including BSF larvae rearing containers and BSF fly enclosures. Participants fed the larvae chopped organic waste and introduced prepupal larvae into the BSF cage. The session also included a demonstration of producing BSF larvae derivative products, specifically roasted premium-grade larvae (Grade A). Figure 3 shows the drying or roasting process of BSF.

Grade A larvae were produced by roasting them with shredded coconut until they developed a fragrant aroma and a brownish color. Alternatively, oven drying can be used for preservation. According to Htoo et al. (2023), oven drying is more effective in maintaining BSF larvae nutritional value and improving protein digestibility in animal feed than several other drying methods.

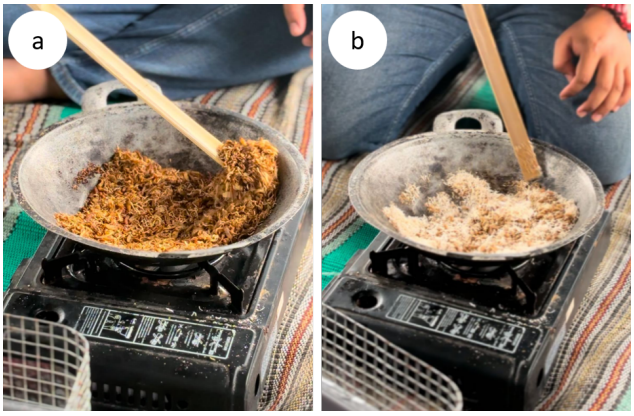

Figure 3 . The drying or roasting process of BSF. (a) Production of maggot-based derivative products, (b) Roasting process of dried maggots

3.5 Sustainability stage

The BSF larvae cultivation initiative yielded positive outcomes for residents of Neglasari Village. This progress was reflected in the formation of a 10-member community group, led by Mr. Yayat and represented by Mr. Yanto. Residents expressed strong interest in scaling up BSF larvae farming to support community economic empowerment and to provide a potential source of future village income.

On January 23, 2025, a BSF Larvae Farming Group Meeting was held at the KKN-T post in Neglasari Village to discuss sustainability (Figure 4). The discussion resulted in agreement on the group's structure, a work plan, and a memorandum of understanding (MOU) to formalize the initiative's long-term objectives.

The BSF larvae farming outreach program in Neglasari Village encountered several challenges that affected implementation. One major constraint was scheduling, which contributed to low attendance at the planned start time. As a result, the organizing team waited approximately 1.5 hours before beginning the activity.

In addition, limited outreach constrained community awareness of the program. Because publicity was insufficient, many residents were unaware of the event and therefore did not attend. This condition required the organizers to invite participants directly on the day of the event through door-to-door outreach, which was time-consuming and physically demanding.

Despite these challenges, the outreach program had a positive effect on the local community by increasing awareness and expanding knowledge of BSF larvae farming as a business opportunity. As a result, village authorities became more motivated to support and facilitate the development of BSF larvae farming in the area.

Figure 4 . Discussion at the KKN-T post with the BSF larvae farming group

Figure 5 . Land clearing for BSF larvae cultivation

As an initial step, a BSF larvae farming group was established, followed by the allocation of land for BSF larvae cultivation (Figure 5). Furthermore, the sustainability of this initiative was strengthened by the identification of a clear target market through partnerships with business collaborators. This progress generated optimism among both residents and village authorities regarding the expansion and continuation of BSF larvae farming as a long-term economic activity.

4. CONCLUSION

The BSF larvae outreach program in Neglasari Village successfully improved community understanding and skills in managing organic waste while creating environmentally friendly business opportunities through black soldier fly (BSF) (*Hermetia illucens*) farming. This initiative incorporated educational activities, hands-on practice, and interactive discussions on cultivation techniques and marketing strategies, which resulted in the formation of a BSF larvae farming group committed to continuing the business independently. Despite initial constraints related to limited publicity and marketing capacity, a more strategic and sustainable approach can further strengthen community engagement and participation. To support continuity, assistance from the village government and relevant institutions is needed, including technical guidance, access to funding, and collaboration with business partners. Establishing a village enterprise unit or a BSF larvae farming cooperative could also serve as a practical step toward more organized production and distribution. With appropriate strategies, BSF larvae farming not only supports organic waste management but also contributes to the sustainable economic well-being of the Neglasari Village community.

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CONFLICT OF INTERESTS

The authors declare no conflicts of interest. This study was conducted independently, and no financial, professional, or personal relationships influenced the results or interpretation. Funding provided by the Directorate of Agromaritime Community Development (DPMA) through the Thematic Community Service Program (KKN-T) Innovation did not affect the study design, data collection and analysis, manuscript preparation, or the decision to submit the article for publication. The publication fee for this article was supported by Dr. M. Syukur Sarfat, S.T.P., M.Si., as the field supervisor; however, this support did not influence the study design, data collection, analysis, or interpretation of the results.

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