International Journal of Progressive Sciences and Technologies (IJPSAT)
ISSN: 2509-0119.
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https://ijpsat.org/
Vol. 47 No. 2 November 2024, pp. 436-445

Guidance On Utilizing Appropriate Technology To Stimulate Maggot Product Productivity In Domestic Market Potential

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Abstract—The demand for maggot products in both national and international markets is quite high. Innovation is necessary to develop new export products, with dried larvae serving as an example of how domestic products have significant potential to meet global market demand. The rationale behind this innovation activity is based on the need to develop the organic waste management sector, which holds substantial potential to fulfill domestic market demand. Maggot, as the primary product derived from organic waste management at BSU Siliwangi, has significant economic value, especially as livestock feed. The efforts undertaken include: (1) Enhancing Production Capacity through Technology and Infrastructure, (2) Improving BSU Siliwangi members' Skills in Maggot Cultivation Empowerment, (3) Strengthening Resource Management, (4) Obtaining HACCP Certification, (5) Improving Marketing Strategies, and (6) Enhancing Business Partner Collaboration. The outcomes of the innovation program are as follows: (1) Enhancement of Production Capacity through Technology and Infrastructure by acquiring equipment: a) Bioponds for maggot breeding; b) Nets to cover bioponds and prevent pest invasion; c) Sieves to filter waste; d) Pellet extruder machines to produce floating pellets; e) Mixer machines to mill coarse pellet ingredients into flour, then mix the flour; f) Water sprayers; g) Stacking racks for bioponds; h) Sack sewing machines; (2) Skill Development for BSU Siliwangi Members in Maggot Cultivation Empowerment through maggot cultivation training and visits to larger maggot companies than BSU Siliwangi, such as PT Biomarg Sinergi Internasional; (3) Improvement of Resource Management through obtaining a Circular Economy Certification held by PPM IBIK and financial management certification in Excel-based financial reporting, organized by PPA IBIK; (4) HACCP (Hazard Analysis Critical Control Point) Certification Process in collaboration with PT Registra Indonesia; (5) Marketing Enhancement through the maximization of BSU Siliwangi's social media presence; (6) Expansion of Business Partner Collaboration through preliminary MOUs with suppliers of raw materials for maggots and recipients of maggot products. Collaborative efforts are underway with Koperasi Harapan Bogor as a raw material supplier and Safar Integrated Farm as a maggot product recipient.

Keywords—Appropriate Technology, Productivity, Maggot, Domestic Market Potential.

I. INTRODUCTION

Maggot, as an efficient system for waste decomposition, offers a solution to household waste accumulation problems. Bogor, with strong potential for maggot production, has many maggot cultivation groups, including Siliwangi Waste Bank Unit (BSU) (https://devdatakotabogor.go.id 2023). Maggot helps reduce organic waste in an eco-friendly manner, minimizes the use of chemicals in animal and fish feed, and maggot residue (Kasgot) can be used as solid and liquid fertilizer (Fahmi, 2018). Currently, waste processed at BSU Siliwangi is divided into two types: (1) Inorganic Waste, collected at the Waste Bank and sorted by the management, then packaged and sold/taken by Basiba Waste Bank under the supervision of DLHK Bogor City according to an agreed schedule and paid based on waste weighing results. Inorganic waste without economic value can be used as materials for recycled creative industry products such as tree replicas, flower replicas, flower vases, wall frames, lampshades, etc.; (2) Organic or

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ISSN: 2509-0119.
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https://ijpsat.org/
Vol. 47 No. 2 November 2024, pp. 436-445

kitchen waste, converted into compost (solid fertilizer) using composters made from used paint buckets or similar materials. MOL production for composting can also be used to make liquid fertilizer. Additionally, organic waste can serve as maggot feed in maggot cultivation (Siliwangi Waste Bank Unit, 2019).

In general, the demand for maggot products is high in both national and international markets. According to data from the Ministry of Foreign Affairs, maggot has been successfully exported to various countries such as the Netherlands, the United States, the United Kingdom, India, and China (https://kemlu.go.id , 2021). The export potential of maggot to Europe is significant; however, Indonesia's export volume for this commodity remains limited. The opportunities are vast, but strict requirements exist, such as ensuring the larval feed source and obtaining HACCP/food safety certification (https://ekonomi.republika.co.id , 2022). Innovation is needed to develop new export products, and dried larvae are an example of how domestic products hold great potential to meet global market demand (Nurendah, Y., 2023).

Maggots are exported as dried larvae, and in addition, the product can also be exported as larval flour and animal oil. Maggot and its derivatives are typically used as pet and livestock feed due to their high protein content (https://www.medcom.id, 2022). Larval flour exported to the U.S. offers various benefits as an additive to improve growth, nutrition, feed conversion efficiency, and health of animals such as dogs, cats, fish, shrimp, chickens, birds, and other poultry (https://www.rri.co.id , 2023). In the local market, demand for maggot products is still very high, including: 1) In July 2024, demand from fish and poultry farmers in Bogor City and Regency reached 2 tons per day; 2) demand from Taman Safari reached 1 ton per day. However, BSU Siliwangi's production capacity remains limited at 10 kg per day.

Referring to the description above, this Innovation activity is based on the need to develop the organic waste management sector, which has great potential to meet domestic market demand. Maggot, as the primary product from organic waste management at BSU Siliwangi, holds significant economic value, especially as animal feed. However, to achieve optimal productivity, more efficient and sustainable technology is needed. Currently, BSU Siliwangi's equipment cannot meet the high market demand for maggot production. Additionally, raw material supply remains limited, necessitating partnerships with parties that can serve as raw material sources. With increased production processes, there is also a need to enhance BSU Siliwangi members' skills in maggot production processes. Furthermore, improving resource management and management skills among BSU Siliwangi members is necessary. Another area that requires attention is the improvement of product marketing. On the other hand, if BSU Siliwangi's maggot products aim to compete in international markets, HACCP Certification is required. This program is expected to provide guidance to BSU Siliwangi regarding technology that can increase maggot production scale, reduce organic waste, and open up market expansion opportunities. With this innovation activity, BSU Siliwangi can not only improve its product quality but also contribute to supporting the circular economy in the Bogor area.

The general objective of the Creative Vocational Partner Innovation Program is to increase the production, income, and skills of the Siliwangi Waste Bank Unit. The specific objectives are as follows: (1) Increasing Production Capacity through Technology and Infrastructure, (2) Improving BSU Siliwangi Members' Skills in Maggot Cultivation Empowerment, (3) Improving Resource Management, (4) Obtaining HACCP Certification, (5) Enhancing Marketing, (6) Strengthening Business Partner Collaboration. Achieving these objectives is expected to create a more sustainable, competitive, and environmentally friendly BSU in Bogor City

II. IMPLEMENTATION METHODOLOGY

A. Activity Implementation Stages

1) Enhancing Production Capacity through Technology and Infrastructure: This first stage involves purchasing necessary equipment to scale up maggot production. The equipment will be selected based on efficiency and relevance to BSU Siliwangi's production needs. This step aims to maximize the use of appropriate technology that can significantly increase both the quantity and quality of maggot production.

2) Improving BSU Siliwangi Members' Skills in Maggot Farming Empowerment: Intensive training for BSU Siliwangi members on maggot farming practices. In addition to training, this activity includes field visits to larger maggot farming

companies. These visits will provide members with insights into more advanced farming techniques and how larger companies efficiently manage maggot production.

3) Enhancing Resource Management and Organization: In this phase, BSU Siliwangi members will acquire two key certifications. First, the Circular Economy Certification organized by PPM IBIK to strengthen the circular economy. Second, a Financial Management Certification through Excel-based financial report training provided by PPA IBIK. These certifications will improve members' managerial skills and accountability in managing the business.

4) HACCP Certification Process: To meet international food safety standards, the HACCP certification process will be undertaken. This certification is essential to allow maggot products to be marketed more broadly and accepted in more formal and regular markets.

5) Marketing Enhancement: To expand market reach, BSU Siliwangi will maximize the use of social media. The marketing strategy will focus on creating engaging content, including videos and photos, to increase public awareness and interest in the maggot products produced by BSU Siliwangi.

6) Strengthening Business Partner Collaboration: The final stage of this activity is exploring business partnerships through the creation of MOUs with various partners. This collaboration includes raw material suppliers for maggot production as well as companies or entities that will become recipients of maggot products. These partnerships are crucial for reinforcing the supply chain and ensuring the sustainability of BSU Siliwangi's business.

B. Forms of Collaboration Between Program Implementers and Partners

1) IBIK, as the program implementer, plays a role in providing new supporting equipment and guidance, as well as being responsible for designing and implementing a structured mentoring method.

2) BSU Siliwangi acts as the implementation site and provides local resources, such as cultivation land and organic waste as raw material for maggot production, as well as supplying human resources.

With this close synergy, the collaboration between IBIK and BSU Siliwangi ensures the success of the program, not only in terms of productivity enhancement but also in community empowerment and the development of more sustainable market potential

III. PROGRAM IMPLEMENTATION AND ACHIEVEMENTS

A. Main Activities Conducted with Micro Business Partners

1) Production Capacity Improvement through Technology and Infrastructure. The first main activity is the purchase of necessary equipment to support the increase in Maggot production capacity at BSU Siliwangi. The equipment purchased will be selected based on technology that can optimize the process of efficiently converting organic waste into Maggots. This equipment is expected to accelerate the production process and enhance the scale of high-quality Maggot production, allowing BSU Siliwangi to meet domestic market demand.

2) Enhancement of the Skills of BSU Siliwangi Members in Maggot Cultivation Empowerment. Training in Maggot cultivation will be a primary activity focused on improving the skills and knowledge of BSU Siliwangi members in managing Maggot production. This training will cover efficient cultivation techniques, waste management, and the use of technology. Additionally, visits to larger Maggot companies will be conducted. These visits aim to learn best practices in large-scale cultivation while establishing networks with these companies as potential business partners.

3) Improvement of Management and Resource Management through Circular Economy Certification from PPM IBIK and financial management certification related to the preparation of Excel-based financial reports by PPA IBIK. This activity includes two important certifications. First, BSU Siliwangi will participate in the Circular Economy Certification organized by PPM IBIK. This certification will provide in-depth understanding of the application of circular economy principles. Second, BSU Siliwangi members will undergo training in financial management related to the preparation of

Excel-based financial reports conducted by PPA IBIK. This aims to enhance accountability and managerial skills among members in managing business finances.

4) Obtaining HACCP (Hazard Analysis Critical Control Point) Certification. The process of obtaining HACCP certification will be one of the key activities in this program. HACCP is an international standard for food safety, and with this certification, the Maggot products produced by BSU Siliwangi will meet the requirements for broader markets, including formal markets. This process includes audits, training on food safety, and the implementation of quality control in the Maggot production process.

5) Marketing Improvement. Marketing enhancement will be achieved by maximizing the use of social media. The BSU Siliwangi team will receive assistance in creating engaging and relevant content, as well as social media marketing strategies. This attractive content aims to raise consumer awareness of Maggot products and expand market reach.

6) Strengthening Business Partner Collaboration. The final activity involves exploring MOUs with various business partners, both as suppliers of raw materials and as buyers of Maggot products. This activity will focus on building a strong business network between BSU Siliwangi and partners to ensure the sustainability of raw material supply and market absorption of Maggot products. This collaboration is also expected to strengthen BSU Siliwangi's position in the Maggot industry value chain in Indonesia

B. Stages Involved During Program Implementation

1) Production Capacity Improvement through Technology and Infrastructure

Equipment purchases include: (a) Biopon for breeding Maggot; (b) Nets to cover Biopon to prevent pests; (c) Screening sieve for filtering waste; (d) Pellet Extruder machine for shaping floating pellets; (e) Mixer machine for grinding coarse pellet materials into flour, after which all materials are mixed; (f) Water sprayer; (g) Shelving units for Biopon; (h) Sack sewing machine.

2) Enhancing the Skills of BSU Siliwangi Members in Maggot Cultivation

This includes training on Maggot cultivation and visits to larger Maggot companies than BSU Siliwangi. A visit was made to PT Biomarg Sinergi Internasional.

3) Improvement of Management and Resource Management

This includes Circular Economy Certification conducted by PPM IBIK and financial management certification related to the preparation of Excel-based financial reports by PPA IBIK.

4) HACCP Certification (Hazard Analysis Critical Control Point)

This certification process is carried out in collaboration with PT Registra Indonesia.

5) Marketing Enhancement

This involves maximizing the use of social media for BSU Siliwangi.

6) Enhancing Business Partner Collaboration

This includes exploring MOU collaborations with sources of raw materials for Maggot and recipients of Maggot products. Collaboration is being explored with Koperasi Harapan Bogor as one of the raw material sources and Safar Integrated Farm as a recipient of Maggot products.

International Journal of Progressive Sciences and Technologies (IJPSAT)
ISSN: 2509-0119.
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C. Program Output Achievements

1) Production Capacity Improvement through Technology and Infrastructure

To support the increase in production capacity, BSU Siliwangi received several important pieces of equipment delivered as part of the circular economy development program. With this equipment, BSU Siliwangi is expected to enhance the efficiency of Maggot production processes, which are increasingly in demand in both domestic and international markets. The delivery of this equipment aligns with efforts to adopt appropriate technology in Maggot production. This equipment will assist BSU members in maximizing the utilization of organic waste, which serves as the main feed source for Maggot, while still adhering to environmentally friendly principles. With the addition of this equipment, BSU Siliwangi has the opportunity to increase production volume to meet the growing market demand. Furthermore, this step also demonstrates BSU Siliwangi's commitment to supporting the circular economy and creating sustainable solutions for organic waste management. It is hoped that this support will not only enhance Maggot production capacity but also strengthen BSU Siliwangi's role as a pioneer in innovative and sustainable waste management in Bogor.

2) Enhancement of BSU Siliwangi Members' Capacities in Empowering Maggot Cultivation

To improve the capabilities of BSU Siliwangi members in empowering Maggot cultivation, intensive training was conducted through a visit to PT. Biomag Sinergi Internasional. This company is a pioneer in Maggot cultivation and organic waste management in Indonesia. The visit took place on Friday, October 4, 2024, at Jl. Jatijajar 1, Danau Jatijajar, Tapos District, Depok City.

This activity aims to provide practical insights and a deep understanding of more efficient and sustainable Maggot cultivation techniques. This benchmarking activity is part of a larger effort to empower communities through appropriate technology. It is hoped that, through this training, BSU Siliwangi members can apply the knowledge they acquire to increase Maggot production in their areas. Additionally, this new knowledge opens opportunities for BSU Siliwangi to expand the Maggot market, particularly to meet the growing local and international demand.

During the visit, BSU Siliwangi members had the opportunity to learn directly from experts at PT. Biomag Sinergi Internasional. They learned about the important stages in Maggot cultivation, from selecting the appropriate organic waste as feed to optimal production cycle management. Members were also taught how to utilize appropriate technology to enhance productivity and maintain the quality of the Maggot produced. This knowledge is essential for improving BSU Siliwangi's capacity to develop their Maggot cultivation business independently and sustainably.

3) Improvement of Management and Resource Management

The improvement of management and resource management among BSU Siliwangi members was carried out through two strategic certification programs: the Circular Economy Certification held by PPM IBIK and the Excel-Based Financial Reporting Certification from PPA IBIK. The Circular Economy Certification aims to provide in-depth understanding of the concepts and practices of the circular economy, where BSU members can learn how to manage waste more efficiently and transform it into valuable resources. By understanding these principles, members are expected to optimize the waste management they handle and create positive impacts on the environment. Meanwhile, the Excel-Based Financial Reporting Certification from PPA IBIK focuses on enhancing members' skills in preparing accurate and transparent financial reports. In resource management, good financial reporting is crucial for making informed decisions and efficient financial management. Through this training, BSU Siliwangi members acquire the necessary skills to effectively use Excel, allowing them to produce informative and useful financial reports in planning and evaluating their operational activities. The certification was conducted on Thursday, October 3, 2024, at IBIK.

With these two certification programs, BSU Siliwangi not only strengthens its members' managerial capabilities but also contributes to creating a more sustainable and professional waste management system. The enhancement of skills in the circular economy and financial reporting will help BSU members manage resources better, improve their competitiveness in

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the market, and build trust with stakeholders. Thus, BSU Siliwangi is committed to being a pioneer in innovative and sustainable waste management in the Bogor region.

4) Obtaining HACCP Certification

The HACCP certification issued by PT Registra Indonesia for BSU Siliwangi on September 30 represents a significant step in improving the quality and safety of the Maggot products produced. As part of the Creative Innovation Program of Vocational Partners, this certification aims to ensure that the Maggot production process at BSU Siliwangi meets internationally recognized food safety standards. By applying the Hazard Analysis and Critical Control Points (HACCP) principles, BSU members are trained to identify and control risks that may occur during the production process, thus producing high-quality and safe products for consumption.

The issuance of this certification is also part of the effort to leverage technology in Maggot cultivation. To obtain HACCP certification, BSU Siliwangi members underwent intensive training and mentoring from PT Registra Indonesia. They learned how to implement good production practices, manage sanitation, and the importance of accurate documentation to ensure that every stage of production meets the established standards. With a better understanding of food safety, BSU members are expected to enhance consumer confidence in the Maggot products they produce.

Through HACCP certification, BSU Siliwangi not only strengthens its position in the local market but also opens opportunities to reach broader markets, including exports. With certified Maggot products, they can demonstrate a commitment to quality and safety, thus attracting a larger consumer interest. This also aligns with the goals of the creative innovation program initiated by IBIK to create sustainable solutions in organic waste management and enhance productivity. It is hoped that with this certification, BSU Siliwangi can serve as a model for other institutions in implementing food safety and sustainability standards..


Date of issue : 30 September 2024
Revision date :
Expiry date : 29 September 2027

Certificate of Registration

Menyatakan bahwa
This is to certify that

E-LING
(BANK SAMPAH UNIT SILIWANGI)
Sukamulya RT 07/RW 03 Kel. Sukasari Kec. Bogor Timur

Telah memenuhi penilaian persyaratan sertifikasi
dari Lembaga Sertifikasi Registra Indonesia
untuk Implementasi Standard:
Has been assessed and certified by Registra Indonesia Certification Services.
As the comply to the requirement standard:

HACCP (Hazard Analysis Critical Control Point)
Based on Codex Alimentarius General Principle of
Food Hygiene CXC 1-1969 Revised in 2022

dengan ruang lingkup ,
for following scope of activities ,

Produksi Maggot dari Pengolahan Sampah Organik
(Proses memilah sampah,Proses Biokonversi Maggot,Proses turunan dari Maggot)
Maggot Production From Organic Waste Processing
(Processing of Waste Sorting, Maggot Bioconversion and Maggot Derivative Product)
Sector : 18

Certificate Number :
240190902

Sertifikat ini valid dan berlaku dengan ketentuan bahwa organisasi senantiasa
memenuhi kriteria dan pengawasan berkala yang ditetapkan
oleh REGISTRA INDONESIA
Validity this certificate is successful Annual Surveilance audits to be done .
Subject to company maintaining its system to the required standard.

Dr. Ir. Hermawan Thaheer
Commissioner

Legis Tsaniyah, SPt., M.Si.
Director

Graha Syaamil Agency Takaful Jl.Ahmad Adnawijaya C1 No.8 Kota Bogor
This certificate is property of Registra Indonesia, and shall be returned immediately upon request.

Figure 1. HACCP Certification Certificate

5) Marketing Enhancement

The enhancement of BSU Siliwangi's product marketing has become a primary focus in efforts to optimize the economic potential of the waste being managed. Through marketing strategies, BSU Siliwangi aims to introduce various processed maggot products to the wider community. By utilizing social media, BSU can reach more consumers and raise awareness about the importance of sustainable waste management. In addition, collaboration with various parties, such as local

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ISSN: 2509-0119.
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government and local entrepreneurs, has also been strengthened to expand distribution networks and create better market opportunities. With these steps, it is hoped that products from BSU Siliwangi can be more widely recognized and accepted in the market, while also providing a positive impact on the environment and the local economy. BSU Siliwangi has established several social media platforms. Through these platforms, BSU Siliwangi has successfully promoted its products. The consumers of BSU Siliwangi come from various cities in Indonesia, as shown in the image.

6) Enhancement of Business Partner Collaboration

In order to enhance collaboration with partners, BSU Siliwangi has signed Memoranda of Understanding (MOUs) with several relevant parties. First, this MOU includes cooperation with sources of raw materials, namely waste management, which will be used for maggot production. Through this agreement, BSU Siliwangi hopes to ensure a sustainable and quality supply of raw materials for the maggot cultivation process. In this regard, BSU Siliwangi has successfully established a partnership with Koperasi Harapan Bogor, as shown in the image. Additionally, an MOU has been made with the recipients or consumers of maggot, in order to establish closer and more transparent relationships in the distribution of products. With this collaboration, it is hoped that BSU Siliwangi can increase production efficiency and expand market reach, while also benefiting all parties involved in the value chain. In this regard, BSU Siliwangi has successfully established cooperation with Safar Integrated Farm.

7) Publication on YouTube:

The Creative Innovation Program for Vocational Partners, titled "Guidance on the Use of Appropriate Technology to Stimulate Maggot Product Productivity in Meeting Market Potential at the Siliwangi Unit Waste Bank in Bogor," has also been published on YouTube at https://www.youtube.com/@ibikesatuan.

Figure 2 Publication on YouTube uploaded on Monday, October 7, 2024, with the link https://youtu.be/FzuXzN7AsRo?si=E0wt1pkq9ES3Vhva. This publication achieved 384 views, 154 likes, and 130 comments within a span of 3 days since upload (October 7, 2024 – October 9, 2024).

8) Draft Teaching Material in the form of a Book titled "Strategies for the Management and Development of Maggot Business." The book will have an ISBN and is targeted for publication in December 2024. It is aimed at obtaining Intellectual Property Rights (IPR). This book will be used for courses in Technopreneurship (3 credits), Business Feasibility Studies (3 credits), Entrepreneurship and Innovation (3 credits), and Introduction to Management and Business (3 credits)

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ISSN: 2509-0119.
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Figure 3. Draft Teaching Material in the form of a Book titled "Strategies for the Management and Development of Maggot Business." The ISBN and Intellectual Property Rights (IPR) are still in the process of being arranged.

D. Achievements in Empowering the BSU Siliwangi Business, Both in Terms of Quantity and Quality

1) Increase in Production Volume

With the new equipment, the quantity of production before and after the Innovation Grant has increased. In July, the production of Maggot was 10 kg per day, which increased to 20 kg per day in August. In September, it further increased to 50 kg per day. Meanwhile, for October, as of October 20, 2024, the production of Maggot reached 100 kg per day, as shown in Figure 4 and Table 1.

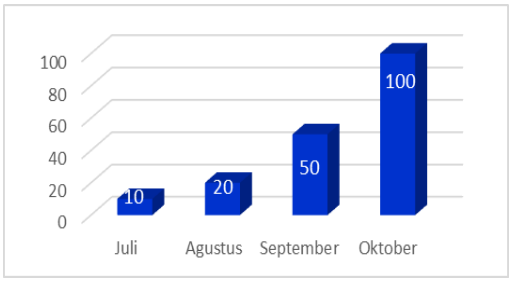

Figure 4. Maggot Production Produced (kg/day) as of October 20, 2024

2) Increased Understanding of Maggot Cultivation Empowerment

The understanding of the management and members regarding the empowerment of maggot cultivation has improved.

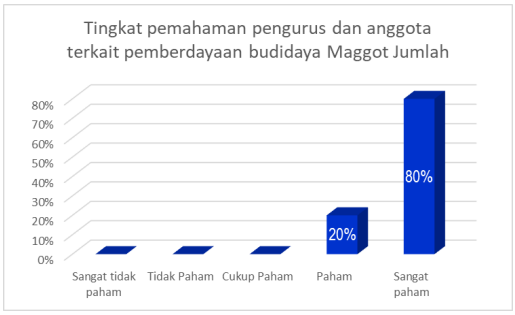

Figure 5. Level of Understanding of Management and Members Regarding Maggot Cultivation Empowerment

1) Increased Understanding of Management and Members Regarding Management and Resource Management of BSU Siliwangi Members in Circular Economy Certification

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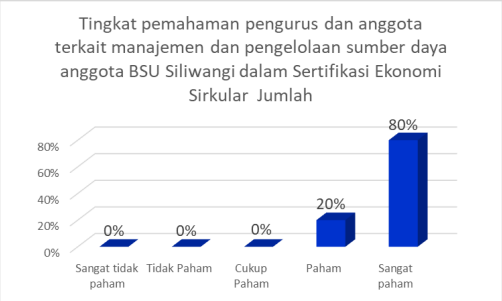

Figure 6. Level of Understanding of Management and Members Regarding Management an

d Resource Management of BSU Siliwangi Members in Circular Economy Certification

3) Increased Understanding of Management and Members Regarding Management and Resource Management of BSU Siliwangi Members in Excel-Based Financial Reporting Certification from PPA IBIK.

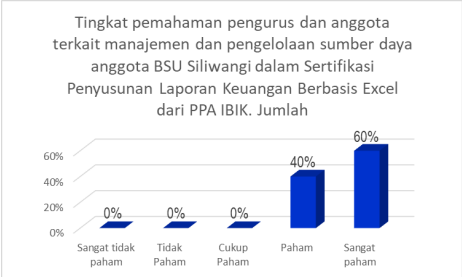

Figure 7. Level of Understanding of Management and Members Regarding Management and Resource Management of BSU Siliwangi Members in Excel-Based Financial Reporting Certification from PPA IBIK

4) If viewed from an economic aspect, the impact is reflected in the increase in revenue from BSU Siliwangi. BSU Siliwangi has experienced a rise in income during and after the training, which can be seen from the increase in the sales graph, as shown in Figure 8.

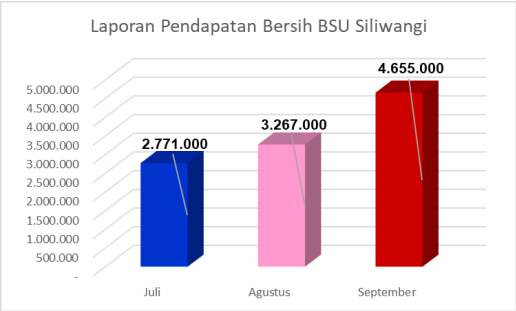

Figure 8. Partner Revenue Data After Training

IV. CONSTRAINTS AND RESOLUTION PLANS

A. Constraints:

1) Limited knowledge and technical skills of the BSU Siliwangi managers in producing Maggot on a large scale.

2) The availability of raw materials in the form of organic waste, which sometimes fluctuates in both quantity and quality. This is due to uncertainty in the supply of organic waste from the surrounding community.

3) Limited market access, where the produced Maggot products are not yet fully recognized by related industries, such as livestock and fisheries.

B. Next Steps:

1) Publish in the International Journal of Progressive Science and Technologies indexed by Copernicus.
2) Publish in several mass media outlets, where each activity is covered by one media outlet. The target mass media for publication includes https://bogor.pojoksatu.id/; https://radarbogor.jawapos.com/; https://www.jpnn.com/; https://bogor.tribunnews.com/; https://www.metropolitan.id/.
3) Prepare teaching materials in the form of a book titled "Strategies for Managing and Developing Maggot Business." It will have an ISBN and a target publication date of December 2024. The book is aimed at obtaining intellectual property rights (HKI) and will be used for courses: Technopreneurship (3 credits), Business Feasibility Study (3 credits), Entrepreneurship and Innovation (3 credits), and Introduction to Management and Business (3 credits).

C. Breakthrough Solutions to Challenges Faced:

1) To address the limitations of knowledge and technical skills of BSU Siliwangi managers in producing Maggot on a large scale, breakthroughs include providing training and direct visits to PT. Biomag Sinergi Internasional, which produces Maggot on a large scale.
2) To address the issue of fluctuating availability of raw materials in the form of organic waste, efforts are made to strengthen coordination with the local community and government to ensure a more stable supply of raw materials while educating residents about the importance of waste segregation at the household level. Additionally, an MOU has been established with Koperasi Pemuda Harapan, which will channel waste to BSU Siliwangi.
3) To address the limited market access where the produced Maggot products are not yet fully recognized by related industries, such as livestock and fisheries, breakthroughs include further collaboration programs with industry partners and expanding the marketing network. Through this program, an MOU was established with Safar Integrated Farm.

REFERENCES

[1] Bank Sampah Unit Siliwangi. 2019. SK Pendirian
[2] Fahmi. 2018. Magot. Penerbit Penebar Swadaya. Jakarta
[3] Nurendah, Y. Et all. 2023. Optimalisasi Hilirisasi Bisnis Maggot Melalui Peningkatan Sarana Dan Prasarana, Tata Kelola Dan Strategi Pemasaran Berbasis Digital Pada Bank Sampah Unit Siliwangi Bogor. Jurnal Abdimas Dedikasi Kesatuan Vol. 5 No.1, 2024 page 1-10 IBI KESATUAN E-ISSN 2745 – 7508 DOI: 10.37641/jadkes.v5i1.2273
[4] Nurendah, Y. 2023. Pemasaran Terpadu. Get Press Indonesia. Padang.
[5] https://devdatakotabogor.go.id , 2023
[6] https://kemlu.go.id/madrid/id/news/17433/budidaya-Maggot-untuk-ekspor
[7] https://ekonomi.republika.co.id/berita/rj194u354/kementan-peluang-ekspor-Maggot-ke-eropa-terbuka-lebar#google_vignette
[8] https://www.medcom.id/ekonomi/bisnis/ybDDraRb-lagi-booming-ceruk-pasar-ekspor-maggot-ke-eropa-masih-luas
[9] https://www.rri.co.id/index.php/bisnis/213648/belasan-ton-magot-ekspor-perdana-ke-amerika-serikat