FINAL REPORT COMMUNITY INVOLVEMENT PROJECT
Avoy Farm: Strategic Land Utilization for Multi-Crop Agricultural Development

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A CIP (Community Involvement Project)
Submitted partial fulfillment of the requirements for the degree of Bachelor of Business Administration

CERTIFICATE OF APPROVAL

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Topic:
Avoy Farm: Strategic Land Utilization for Multi-Crop Agricultural Development

We hereby declare that this CIP is from student's own work, has been read and presented to Institute IPMI Board of Examiners, and has been accepted as part of the requirements needed to obtain a Bachelor of Business Administration Degree and has been found to be satisfactory.

Jakarta, 22 September 2025

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NON-PLAGIARISM DECLARATION FORM

This CIP is a presentation of our original research work. Wherever contribution of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions.

Also, this work is being submitted in partial fulfillment of the requirements for the Bachelor of Business Administration degree and has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Jakarta, 22 Sptember 2025

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ABSTRACT

This Community Involvement Project intervened in the critical agricultural and environmental problems of Avoy Farm in Rawajati, Pancoran, following severe flooding on March 4, 2025. The flood devastated 150m² of urban agriculture land, damaging soil fertility, crops, and waste management systems and leaving behind vast amounts of debris. The project used a three-pronged approach: flood-resistant multi-crop farming, Black Soldier Fly (BSF) composting for organic waste management, and community-based environmental cleanup. In an 18-day implementation period during May 2025, the team managed to rehabilitate the entire farm area, establish a functional BSF composting system processing 5-10kg of organic waste weekly, and engage 12 community members in environmental-friendly activities. The project achieved 85% survival rate of seedlings, produced 25kg of organic fertilizer, and removed all visible flood trash within the budget of Rp 250,000. Results demonstrated that low-cost, scientifically based solutions could effectively restore post-disaster agricultural productivity while enhancing community resilience in the long term. The composite model created a replicable model of urban farm recovery through the incorporation of agricultural rehabilitation, environmental management, and community empowerment.

Keywords: urban agriculture, flood recovery, community development, waste management, sustainable agriculture

CHAPTER I
INTRODUCTION

Urban farming plays an essential role in ensuring food security and local resilience, especially in the densely populated urban areas such as Jakarta. On March 4, 2025, Pancoran's Rawajati neighborhood was swept by huge floods, with water levels rising between 20 centimeters and 3 meters, impacting 1,445 residents of four different neighborhood units (Kompas.com, 2025). This tragedy had a great effect on Avoy Farm, a communal urban farming project that was also a food production facility and educational demonstration zone under Rawajati's Sustainable Edu-Wisata Kampung program (Riaupdate.co, 2024).

The flooding created two interrelated issues that needed to be addressed urgently. First, agricultural production was greatly impaired due to soil degradation, loss of soil nutrients, and crop damage. Literature shows that flooding has a negative impact on soil biota through the destruction of beneficial microorganisms and insects with important roles in nutrient cycling (Ngumbi, 2023). Second, large quantities of garbage and organic waste were left at the farm area, posing health risks and slowing down restoration activities while highlighting Jakarta's perennial waste management issue (Syahdinar, 2023).

The overall objective of this Community Involvement Project was to restore the agricultural productivity of Avoy Farm through sustainable, flood-resilient approaches and create effective waste management systems. Objectives were: (1) restoring 150m² of land to multi-crop farming, (2) implementing a Black Soldier Fly composting system for organic waste management, and (3) engaging the surrounding community in sustainable environmental management.

The project addressed the urgent post-disaster agricultural recovery need while contributing to the long-term resilience of communities. The effects extended from on-farm rehabilitation to include knowledge transfer, community empowerment, and the development of a replicable model for urban agriculture recovery in flood-prone areas.

CHAPTER II
METHODS

The project employed a participatory action research design, combining scientific farming technologies and community participation approaches. The project implementation staggered in five phases within 18 days in May 2025, to accommodate the workload of the three-member student team and maximize community participation.

- Phase 1: Socialization and Survey (May 2, 2025)

  The first site visit encompassed detailed damage observation, analysis of soil conditions, and inventory of resources. Meetings with the key stakeholders, like Mr. Avoy (RT leader) and farm volunteers, were conducted to seek local knowledge and confirm project relevance to community needs. The phase set the stage for collaborative implementation.
- Phase 2: Land Clearing and Soil Preparation (May 9, 2025)

  Organized waste sorting and debris removal were carried out with the help of community labor and one paid assistant. Organic trash was separated out for composting, and recyclable materials were channeled to the already established Rawajati Waste Bank. Soil rehabilitation included the removal of compacted sediment layers, the disruption of hardpan through manual tools, and the building of raised beds from locally sourced materials.

- Phase 3: Diversification and planting several crops (May 16, 2025)

  The cropping plan adopted was scientifically established intercropping methods using eggplants as the primary crop alongside quick-maturing leafy vegetables. The strategy was informed by evidence that mixed cropping systems boost soil nitrogen levels, minimize pest attack, and stabilize yield (Innovative Farmers, 2025). Raised bed setup was done according to flood-resistant design concepts to ensure drainage and avert waterlogging (WorldVeg, 2021).
- Phase 4: Roll-out of Composting and Waste Management Systems (May 9-16, 2025)

  Black Soldier Fly composting was kick-started using an inexpensive container design that traps naturally occurring BSF flies dominant in the Jakarta area. This was done after successful Indonesian uses showing BSF larvae capable of decomposing organic waste within 14 days, which was significantly shorter than traditional composting methods (GovInsider Asia, 2024). Waste collection bins for the community were fitted with appropriate signage for ongoing organic and inorganic waste separation.
- Phase 5: Monitoring and Documentation (May 20, 2025)

  The final assessment consisted of quantifying crop establishment success, BSF system function, and levels of community engagement. Recording photographic documentation, quantitative measurements, and collection of community feedback to determine project sustainability and impact.

The evaluation strategy comprised both quantitative indicators (seeding survival rate, waste processing units, fertilizer production) and qualitative assessments (community engagement, knowledge transfer effectiveness). Indicators of success were identified in relation to the project target outputs and aligned with university Key Performance Indicators for community service engagement.

CHAPTER III
RESULT AND DISCUSSION

1.1 Agricultural Rehabilitation Outcomes

The multi-crop farming element was very successful in reviving farm productivity. 150m² of agricultural land was successfully restored, with the removal of all flood debris, improvement of soil structure by incorporating organic matter and constructing raised beds. The planting
phase saw the establishment of 105 seedlings, comprising 55 eggplant seedlings intercropped with 50 fast-growing vegetable seedlings (spinach and kangkung).

Table 1 Agricultural Rehabilitation Results

Metric	Target	Achieved	Success Rate
Land area rehabilitated	150 m²	150 m²	100%
Seedlings planted	100	105	105%
First-month survival rate	>80%	85%	106%
Raised beds constructed	6 units	6 units	100%

85% seedling survival rate exceeded the target of 80%, which guaranteed good soil preparation and correct crop selection. Intercropping worked well in terms of optimized land utilization and providing natural pest control benefits. The raised bed structure successfully addressed the problem of waterlogging, as no such incidents were observed during follow-up rain showers in late May 2025.

Improvements in soil health were evident within a period of three weeks, as shown by earthworm activity increase and visual soil structure enhancement. The application of organic compost generated from the BSF system significantly enhanced soil fertility, hence developing a sustainable nutrient cycling process.

1.2 Black Soldier Fly Composting System Performance

The BSF composting system exceeded expectations regarding waste processing rate and fertilizer yield. The unit installed was able to attract wild BSF flies within 48 hours of installation, with active larvae colonies observed on day 5. The system processes 7kg of organic waste on average each week, slightly above the target range of 5-10kg.

Fertilizer production amounted to 25kg of quality compost during the project period, meeting the target of 20-30kg a month output. The compost had good quality characteristics like neutral pH, dark rich color, and absence of offensive odor. Members of the community were highly satisfied with the effectiveness of the system and low maintenance requirements.

The benefits of the circular economy were particularly evident. Organic waste that would
otherwise landfilled or incinerated was converted into valuable inputs for agriculture, thus reducing waste treatment costs while providing free fertilizer for continued agricultural production. The protein-rich larvae harvested served as additional feed for local chickens, adding economic value in the waste processing system.

1.3 Waste Management and Public Involvement

Community participation exceeded expectations, with 12 residents involved in cleanup and system maintenance activities compared to the target of 10 participants. The community cleanup activity managed to remove an estimated 15 cubic meters of flood trash, with 100% of visible trash removed from the farm section.

Table 2 Community Engagement Metrics

Indicator	Target	Achieved
Active participants	≥10	12
Flood debris removed	100%	100%
Waste bins installed	2	2
Community training sessions	2	3

Table 2. Community Engagement Metrics

The waste management system was implemented very successfully. Regularly used organic and inorganic bins, which were clearly marked, were in place. Coordination with the Rawajati Waste Bank guaranteed the recycling of recyclable materials, and approximately 50kg of recyclable material was gathered and processed throughout the cleanup exercise.

Knowledge exchange activities included three community training sessions in BSF system maintenance, composting techniques, and sustainable agriculture. Feedback from the community was extremely positive with confidence and satisfaction expressed to manage the systems on their own. Mr. Avoy reported that residents had already begun implementing similar practices in their home gardens.

1.4 Economic and Environmental Implications

The program was extremely cost-effective, meeting all goals within the budget of Rp 250,000. The total cost amounted to Rp 250,000 for hired labor support during the intensive cleanup campaign, with all other work being performed by community volunteer labor and donated materials.

The environmental benefits extended beyond the direct rehabilitation of agricultural fields. Improved drainage systems in the farm area reduced the potential for localized flooding during subsequent rainfalls. Sustainable waste management practices replaced the burning of organic waste, thus reducing air pollution and greenhouse gas emissions.

Economic benefits to the community were obtained from free organic fertilizer valued at approximately Rp 400,000 in the local market and sustainable food production capacity that is estimated at 75-100kg of vegetables per cycle. The protein from BSF larvae harvested also provided nutritional as well as economic value.

1.5 Sustainability and Replication Potential

Three months post-implementation, the systems continue to function well with minimal external support. The residents have managed to maintain the BSF composting system, with continuous processing of waste and production of fertilizer. The planted crops matured to their first harvest in July 2025, with a yield of 82kg of mixed vegetables and demonstrating the restoration of pre-flood productivity levels.

The success of the project has garnered the interest of neighboring communities and local government officials. The Jakarta Environmental Agency is interested in duplicating the model in other flood-prone communities, highlighting the project's applicability on a larger scale. Being near IPMI campus has facilitated easy ongoing monitoring and technical assistance, long-term sustainability.

CHAPTER IV
CONCLUSION AND RECOMMENDATION

1.1 Conclusion

The Strategic Land Use for Multi-Crop Agricultural Development project demonstrated an integrated approach as a strategy to address the post flood challenges of Avoy Farm through agricultural rehabilitation, waste management and community engagement. All primary objectives were achieved within the specified time and budget and showed that post-disaster recovery can be effectively accomplished through scientifically informed, community-led initiatives.

The project was successful in re-establishing full agricultural production from 150m² of land that had previously been flood-damaged, and developed a model for an ongoing sustainable organic waste processing system, as well as developing a lasting community capacity to engage in environmental management. The 85% survival rate of the seedlings and successful first harvest indisputably demonstrated the usefulness of resilient practices for flood-centric farming, while the BSF composting system represented a solution for ongoing sustainable waste management and long-term soil fertility.

Community engagement surpassed expectations, with 12 active participants with a clear sense of local ownership and feeling of commitment to sustainability. The tangible improvements to community welfare as a consequence of economic gains, including the zero-cost fertilizer production and restored food security were tangible. The project's ultimate total cost of 250,000Rp was also demonstrated to be an extremely cost-effective solution for a community post-disaster agricultural recovery model and an example that can be replicated in other circumstances.

1.2 Recommendation

Following the outcome and lessons learned from the project, several recommendations arise for possible future implementation within:

For Community Development:

1. Regular monitoring visits should take place as part of ensuring systems are maintained and sustained technical assistance is made available.

2. Building community leadership in sustainable agriculture and waste management should be done through either advanced training.
3. Accountable partnerships established with government agencies to include the model in local disaster preparedness planning.

For Academic Institutions:

1. Academic institutions should include other community-based projects in their curriculum to enhance practical learning through participation.
2. There should be partnership agreements in place to support long-term academic research for evaluating environmental and social outcomes.
3. Academic institutions should develop consistent and systematic methods for conducting assessments and facilitating immediate agricultural rehabilitation post-natural disaster.

For Policy Development:

1. Advocate for municipalities to incorporate urban agriculture into disaster response planning.
2. Encourage municipalities to use community-based waste management systems as cost-effective alternatives to centralize systems.
3. Encourage adequate policy frameworks that support the establishment and protection of urban farming initiatives.

For Project Replication:

1. Develop detailed implementation guides and training materials to assist other communities in their implementation.
2. Develop a network of communities to facilitate knowledge sharing between urban farming communities.
3. Establish partnerships with NGOs and government organizations to replicate key interventions.

The project's limitations included the relatively short implementation timeframe and dependence on favorable weather conditions. Future projects should incorporate longer monitoring periods and develop contingency plans for adverse conditions. Additionally, expanding the model to include aquaculture or livestock components could further enhance food security and economic benefits.

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