Journal of Social Community Service
Homepage : https://journal.antispublisher.com/index.php/jscs
Email : admin@antispublisher.com

e-ISSN : 3031-0849
JSCS, Vol. 2, No. 3, September 2025
Page 211-225

Quality and Halal Urban Farming Assistance as an Effort to Make the MBG (Free Nutritious Meals) Program and Food Security a Success for the Aisyiyah Regional Leadership of East Nusa Tenggara Achieving Goals 2 of SDGs 2030 Indonesia

Intan Rohma Nurmalasari[1], A. Miftakhurohmat[2], Syarifa Ramadhani Nurbaya[3], Siti Halijah[4], Fauziyah Lamaya[5]
[1,2,3,4,5]Muhammadiyah University of Sidoarjo, Indonesia

DOI : https://doi.org/10.61796/jscs.v2i3.343

Sections Info

Article history:
Submitted: April 30, 2025
Final Revised: May 16, 2025
Accepted: May 31, 2025
Published: June 10, 2025

Keywords:
Hybrid mentoring
Integrated urban farming
Nutritional formulation
Community empowerment
Halal quality
Oebobo district
Aisyiyah regional leadership of East Nusa Tenggara

ABSTRACT

Objective: *This study addresses Goal 2 of the Sustainable Development Goals (SDGs) 2030, emphasizing food security and safety by enhancing integrated agricultural information and awareness among Aisyiyah female activists, particularly women farmers and MSME drivers. The focus is on improving knowledge regarding food safety in the Free Nutritious Food (MBG) program targeting Indonesian youth.* ***Method:*** *A hybrid approach, combining online and offline activities, was employed. The program included two main interventions: online assistance on halal and healthy food quality assurance, and offline training on formulating hydroponic nutrient solutions and tea compost bag techniques.* ***Results:*** *The program successfully raised awareness about the prevalence of food poisoning—nearly 20%—in the MBG program and addressed the low horticultural production in NTT due to the high cost and health risks of chemical hydroponic nutrients. Participants, particularly from Aisyiyah leadership in Oebobo, Kupang, showed improved knowledge and skills in producing safe and independent hydroponic nutrients.* ***Novelty:*** *The integration of halal food quality training with sustainable urban farming practices through customized hydroponic nutrient formulation represents an innovative community empowerment model that strengthens food security and public health resilience among women-led groups in Eastern Indonesia.*

INTRODUCTION

Based on the Regional Regulation (PERDA) of the Province of East Nusa Tenggara Number 8 of 2021 concerning the guarantee of the safety and quality of fresh food of plant origin as an indicator of the success of the Free Nutritious Food (MBG) government program which is currently still ongoing. The target of sustainable development in the new era of government development begins with the principle of zero hunger which is Goal 2 SDGs (Sustainable Development Goals) as part of early human resource investment. This regional regulation must of course be implemented in every element, especially in the agricultural element [1], [2], [3]. This regulation is what then encouraged the Aisyiyah Regional Leadership of East Nusa Tenggara to partner to increase educational insight related to production, food security which is precisely carried out in a hybrid manner in several stages. Partners hope to process in improving the welfare of the lives of Aisyiyah residents in NTT. The concept of dry land geographic areas, coupled with climate change, water crises that often occur in Oebobo District, Kupang Regency, East Nusa Tenggara still often occur, this means that partners need assistance that is carried out 2 times, namely on March 6 and June 2, 2025 involving Aisyiyah women who

are mostly active farmers, have MSMEs, and become educators. The NTT Aisyiyah Regional Leadership was chosen as a partner because East Nusa Tenggara (NTT) has not had any halal food quality training and integrated urban farming before. Partners really hope and always communicate intensively with us to get the opportunity to get training and assistance that has never been done before

Based on the Need Assessment Results of the problems of women driving the East Nusa Tenggara Aisyiyah Regional Leadership, it stated 6 main cases, including: The conversion of agricultural land to improve regional infrastructure, water crisis during the dry season caused by dry land and prolonged drought (collapse change effect) resulting in irrigation difficulties. This has an impact on the problem of low agricultural production, especially horticulture, which is the highest problem. The second highest problem is the low level of education about Halal Quality and food safety which is directly related to the low level of human resources (HR) [4].

This makes special locations (loci) and partners really need support in the form of hybrid assistance from related parties to be able to reduce and even overcome women's problems in the area. Community service "Hybrid Assistance - Integrated Urban Farming that is Halal and Quality" is a form of implementation of efforts to make the Free Nutritious Meal (MBG) government program a success which is being implemented this year, regarding the handling of food quality and safety vulnerabilities, as well as increasing agricultural production based on Integrated Urban Farming in the form of Racik Hidroekonutrisi training. Hidroekonutrisi is an alternative hydroponic nutrient made from environmentally friendly natural ingredients and is safe to use as a substitute for chemical hydroponic nutrients which are quite expensive on the market.

The low level of education related to urban farming has an impact on decreasing production, also caused by extreme geographical and climatic conditions in the area, so that special assistance is needed for education and efforts to increase agricultural production with an integrated agricultural system in accordance with the regional regulations above. The demands of regional government regulations like this of course need to be supported by competent human resources in their fields so that they can increase the production figures of farmers that occur in the local community to manage the resolution of problems that may be faced by residents. Professionals are needed to provide education and monitoring and halal quality control. Based on its geographical location with a tropical climate with dry land and located in an island area, this community relies heavily on the biological sector, this is due to the supporting natural sector. Based on the remote location, we provide hybrid assistance. Assistance is carried out 2 times. The first is virtually related to halal and healthy food assistance. Second, we carry out Integrated-Urban Farming-Hydroeconutrition Training and assistance offline in partner areas [5], [6].

We previously conducted Integrated Urban Farming assistance in August 2024 with partners of Women Activists, members of the Aisyiyah branch, Candi District, Sidoarjo. Regarding halal assistance, we have also done it in several industries. The results of these

activities received a positive response and even enthusiasm from women activists of Aisyiyah in the District.

The Aisyiyah NTT Regional Leadership was chosen as a partner because East Nusa Tenggara (NTT) has not had any halal food quality training and integrated urban farming before. Partners are very hopeful and always communicate intensively with us to get the opportunity to get training and mentoring that has never been done before.

RESEARCH METHOD

There are three stages in the community service activity method to address the partners' problems. These three stages are broadly illustrated in Figure 6.

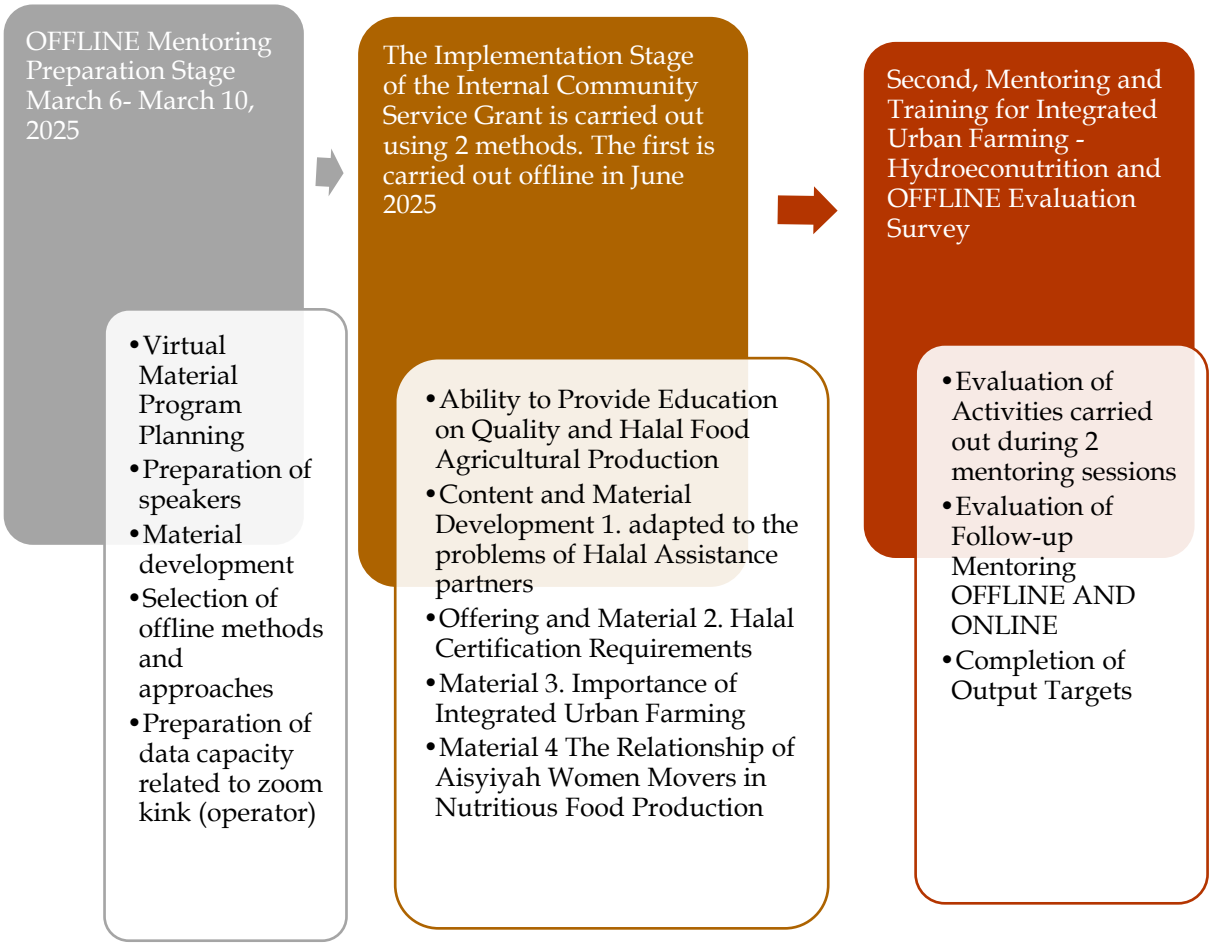


Figure 1. Stages of activity method.

Each stage of the activities in Figure 4 is explained in detail as follows:

1. **Preparation Stage**
   a. **Program Planning**: This activity involves identifying the objectives of the program, the target villages, the time required, and the necessary resources for implementing the community service activities.
   b. **Development of Virtual Materials**: This aims to prepare materials on High-Quality and Halal Integrated Urban Farming.

   c. **Chosen Approach**: The selected approach is training and mentoring based on Virtual High-Quality and Halal Integrated Urban Farming. The materials are designed to be engaging and contemporary, enabling the community to better understand counseling and mentoring from a theoretical perspective for problem-solving.

2. **Implementation Stage (March 6–10, 2025)**
3. **Selection of Methods and Approaches**: The program is conducted in two stages through a Hybrid mentoring model.
   a. **Stage 1**: Offline mentoring on Halal Quality, divided into four modules submitted for an internal community service grant. This stage also includes direct education for women in the surrounding community on stunting and the dangers of early marriage. The aim is to reduce the stunting rate in Kupang Regency and raise public awareness about halal quality, food safety, and urban farming.
   b. **Stage 2**: Offline mentoring on Integrated Urban Farming, focusing on Nutrient Formulation, with the approach tailored to the specific problems faced by the partners.
4. **Development of Modules**: The role of the partners in this stage is as users or testers to evaluate the effectiveness of the procedures outlined in the modules, providing feedback for improving the educational implementation.
5. **Evaluation Stage**: Pre- and post-mentoring evaluations are conducted, and the results are recorded through surveys assessing the social, economic, and agricultural production impacts before and after the community service activities. The results of the mentoring program, carried out by the community service team in collaboration with the partners, are to be tabulated and used for preparing reports, news articles, evaluation notes, and proposed solutions to the partners' problems.

RESULTS AND DISCUSSION

The mentoring activities on halal quality and tea compost bag training as part of the Integrated Urban Farming mentoring program were conducted offline in two sessions on March 6 and June 2, 2025, at the PW Aisyiyah NTT Office in collaboration with Universitas Muhammadiyah Kupang. The program targeted the women leaders of Aisyiyah in East Nusa Tenggara, located in Kupang Regency, and also included a campaign on the "Halal Quality Awareness Movement" as a fundamental effort to improve the human resources (HR) capacity of Aisyiyah women leaders in the area.

(a1) (a2) (b)

Figure 1. (a) Initial exploration meeting and first offline mentoring session of integrated urban farming phase 1.
(b) Documentation of virtual mentoring on halal quality by Umsida halal center for industry and MSMEs.

Figure 2. Second meeting between PW Aisyiyah NTT and the dean of aquaculture, Universitas Muhammadiyah Kupang, discussing halal quality mentoring and integrated urban farming based on tea compost bags.

Due to the close proximity between the PW Aisyiyah NTT Office and Universitas Muhammadiyah Kupang, we held several meetings related to the implementation of community service programs as well as collaborative research and community engagement projects. The mentoring activities were conducted in a warm and welcoming atmosphere, well-received by both parties.

Source: Community Service Team 2025

Figure 3. Implementation of halal quality and integrated urban farming mentoring at Muhammadiyah University of Kupang.

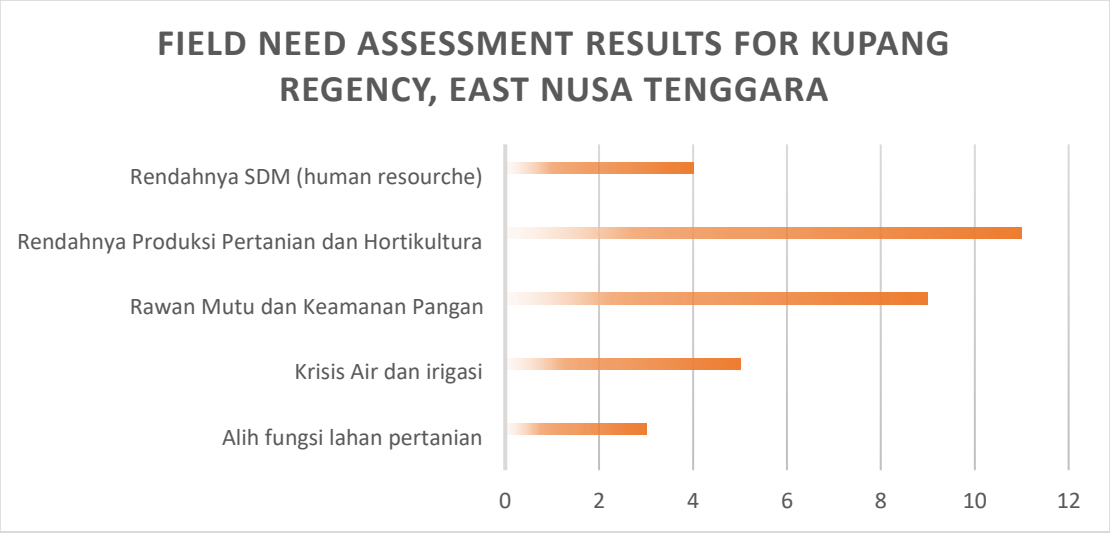
Food poisoning cases related to the government's Free Nutritious Meal (MBG) program in Indonesia, particularly in Kupang Regency, East Nusa Tenggara Province, have recently become a widely discussed issue among the public. This issue can be mitigated through socialization and halal quality and food safety auditing for suppliers or MSMEs involved in the MBG kitchen. According to data and reports on stunting cases in Oebobo District, there are 15 toddlers affected, with a stunting prevalence rate of 29.05% (Central Statistics Agency and NTT Health Office, 2023). The high prevalence of stunting and hunger remains a critical concern, designating the area as a special focus location (lokus). By collaborating with PW Aisyiyah NTT in Oebobo District, Kupang Regency, it is hoped that these issues can be addressed effectively.

The rise in food quality and safety vulnerabilities contributes to the increasing proportion of malnutrition. The success of Indonesia's ongoing MBG program heavily relies on comprehensive support, particularly in enhancing the knowledge of MSMEs and SMEs involved in the provision of nutritious food, ensuring they meet halal and safety standards [7], [8], [9], [10].

In selecting ingredients, it is crucial to apply integrated farming knowledge that is safe and accessible, such as the Integrated Farming System based on tea compost bags. Tea compost bags are liquid organic compost enriched with Trichoderma, making them highly nutritious and soil-enriching, and they can be produced at a household scale. This system is zero-waste, safe to implement, and environmentally friendly, prioritizing organic farming.

The women leaders of PW Aisyiyah NTT are mostly engaged in occupations such as educators, fisherfolk, and small-scale farmers. Indonesia faces significant food security challenges, as evidenced by its ranking of 69th out of 113 countries in the Global Food Security Index, particularly concerning affordability, availability, quality, and safety. The lack of information related to Integrated Urban Farming and Halal Quality remains a fundamental issue with broad impacts, contributing to recent food poisoning incidents

affecting the younger generation in Indonesia.



Source: PW Aisyiyah Nusa Tenggara Timur

Figure 4. Results of the needs assessment on the issues faced by women leaders of PW Aisyiyah Kupang Regency, East Nusa Tenggara, 2025.

Based on the needs assessment of the women leaders of PW Aisyiyah in East Nusa Tenggara, six major issues were identified, including: the conversion of agricultural land for regional infrastructure development, and water scarcity during the dry season due to prolonged drought and dry land (an effect of climate change), leading to irrigation difficulties. These challenges have resulted in low agricultural productivity, especially in horticulture, identified as the most critical issue. The second most pressing issue is the lack of education on halal quality and food safety, directly linked to low human resource capacity [11].

These conditions designate the area as a special focus location (lokus), and the partners urgently need offline mentoring from relevant parties to help mitigate and overcome these problems. The community service program, "Halal and High-Quality Integrated Urban Farming Mentoring," serves as an effort to support the government's Free Nutritious Meal (MBG) program launched this year, addressing food quality and safety vulnerabilities and improving agricultural production through integrated urban farming practices [12].

The lack of education regarding urban farming impacts production levels, exacerbated by the region's extreme geography and climate. Therefore, special assistance through education and efforts to enhance agricultural production using an integrated farming system is essential. Compliance with local government regulations requires competent human resources to increase farmers' productivity and help local communities manage emerging challenges. Professional educators and halal quality inspectors are needed to provide education, monitoring, and certification.

The primary goal of this program is to assist the partner community by providing hybrid mentoring to Aisyiyah women leaders in East Nusa Tenggara, who are mostly engaged as farmers, MSME actors, and educators. Community empowerment through knowledge of health, nutrition, and halal quality plays a crucial role in increasing the success rate of the MBG program in East Nusa Tenggara. This initiative focuses on raising awareness of the importance of nutritional intake, halal quality, food safety, and agricultural technology applications.

The Integrated Urban Farming - Hydro-Econutrition Tea Compost Bag system combines agriculture, livestock, fisheries, and waste management in urban areas. This agricultural trend is gaining popularity as a solution for farming and livestock production on limited land. The system addresses the issue of land conversion and promotes environmentally friendly, economical, and sustainable farming techniques. It generates no waste since all by-products are reused: agricultural waste becomes livestock feed, and livestock manure is processed into compost fertilizer. This significantly reduces production costs, as farmers can utilize by-products from plants and livestock, and the food produced is of higher quality, free from chemical fertilizers, optimizing household food production [13], [14].

The system also integrates aquaculture (fish farming) with hydroponics (soilless agriculture), making it ideal for communities with limited land and resources, such as those living in densely packed rental housing (row houses) in urban areas or small villages. It offers a sustainable alternative to conventional large-scale farming.

The aquaponics-hydro-econutrition plant cultivation system has many advantages over conventional methods. Through this technology, urban and rural communities with limited land can simultaneously farm vegetables and fish on the same plot, adaptable to various land conditions—providing a solution to the problem of urban land-use conversion.

As a follow-up, education on high-quality and halal-certified agricultural products will be delivered virtually. The team strives to facilitate this education for the women leaders of PW Aisyiyah NTT. The hybrid mentoring approach aims to achieve broader outreach. Education will focus on current community issues and serve as an effective platform for women's empowerment and health education. By offering a curriculum centered on health, nutrition, and life skills, these programs equip female students and their mothers with the knowledge and skills necessary to address stunting.

These initiatives not only promote individual health and well-being but also generate a lasting impact on communities.

Based on the identified conditions and needs discussions, the main goal of this activity is to empower the community through education on high-quality and halal agricultural production based on nutritional value while contributing to reducing stunting rates. The program focuses on raising women's awareness of food safety, quality, and the future importance of urban farming [15], [16], [17].

The virtual mentoring is expected to lead to further offline activities supported by BIMA grant funding. The general objective aligns with SDG Goal 2, targeting hunger eradication, health improvement, and overall well-being at the individual level, while fostering sustainable community impacts.

Based on the background presented in the previous chapter, the priority issues to be addressed in this Community Service Program are as follows:

1. Offline education on integrated urban farming

We have conducted Integrated Urban Farming education in 2024 and 2025, complemented by the production and mentoring of tea compost bag preparation using personal funding, due to the urgent and essential needs of the community. The conversion of agricultural land into non-agricultural land has become increasingly alarming, reaching approximately 100,000 hectares per year, while the government's and community's capacity to create new rice fields is less than 30,000 hectares per year. In light of this situation, efforts to ensure food security and sovereignty must include controlling the conversion of agricultural land. One solution is promoting urban farming through an integrated farming system that is effective, zero-waste, and environmentally friendly.

2. Follow-up mentoring on hydroponic nutrient formulation (offline)

The community in East Nusa Tenggara Province faces issues such as the high cost and environmental unfriendliness of hydroponic nutrients due to their high chemical content. There has been no prior mentoring or training on hydro-nutrient (hydro-econutrition) formulation and hydroponics for the partners. Additionally, the region is experiencing worsening clean water crises due to forest ecosystem damage and watershed (DAS) degradation. Forest fires in East Nusa Tenggara reached the highest number of hotspots in Indonesia in 2019, with 14,352 hotspots and 328,722 hectares burned. Moreover, environmental damage from the activities of nine mining companies operating within conservation forests affects around 16,457.88 hectares. These environmental issues, compounded by the lack of clean water in Kupang's 51 sub-districts, exacerbate public health problems. A sustainable solution linked to these challenges is to introduce Advanced Integrated Urban Farming Based on Hydroponics, which can be proposed for funding through the BIMA program.

3. Offline socialization of halal quality and food safety (already conducted)

Food safety criteria are mandatory for halal certification by LPPOM MUI, based on SNI ISO/IEC 17065:2012 and UAE 2055:2 standards for halal certification bodies, with food safety requirements being incorporated. These systems are essential to prevent fatal outcomes such as trade losses, public health risks (illness, poisoning, even death), and loss of trust in companies. A food safety management system identifies, evaluates, and controls food safety hazards. It has evolved to meet the demand for better protection, adapt to new processing technologies, emerging hazards, and changes in food supply logistics and international trade. Food safety audits must be applied to ensure safe consumption. In line with Law No. 18/2012 on

Food, food safety can be ensured through food sanitation, regulation of food additives (BTP), regulation of genetically modified food products, regulation of food irradiation, food packaging standards, assurance of food safety and quality, and provision of halal certification where required.

4. Offline education to enhance Human Resources (HR) related to agricultural production

Human resource development is crucial for agricultural development. It involves not only training and development but also career planning, organizational development, and performance management (Mondy, 2008). Human capital development aims to create a logical framework for people to learn and grow. Improving human resources in agriculture is essential to increase agricultural productivity, achieve food self-sufficiency, and boost national revenue. According to Human Capital theory, individuals can increase their earnings through education. Setiawan (2015) noted that farmers face many problems, including low knowledge, production tendencies, poor skills, and lack of motivation, often due to insufficient government support and limited access to training and extension services. The low quality of agricultural human resources, particularly farmers, in adopting knowledge and technology is a significant barrier to agribusiness development. As Sudiarditha (2009) emphasizes, human resource development is a prerequisite for successful agricultural development.

Proposed solutions include:

a. **Virtual Mentoring** to enhance knowledge on high-quality and halal food production;
b. **Offline Mentoring** through BIMA grant follow-up on Integrated Urban Farming;
c. **Involvement of MSME organizations** linked to MBG (Free Nutritious Meal) kitchens, prioritizing food safety and halal standards, to prevent food poisoning cases among student MBG recipients — starting from knowledge and proper understanding of the list of high-quality and halal foods from farm, kitchen, to table.

5. Evaluation of program implementation and sustainability before and after the implementation of integrated urban farming, healthy and halal food quality

a. Implementation Evaluation

As part of the program evaluation, we aim to assess and gather information on the principles of implementing Integrated Urban Farming - Hydro-Econutrition across several aspects, including: (1) the characteristics of the partners and farming practices of PW Aisyiyah NTT, (2) the extent to which the partners have adopted the Integrated Urban Farming process, (3) the mechanism for applying chemical nutrients in hydroponics, and (4) the cultivation of healthy and halal plants. The information obtained from the questionnaire data will serve as the basis for evaluating the agricultural conditions of the

partner villages and for providing more targeted and relevant training according to the partners' needs.

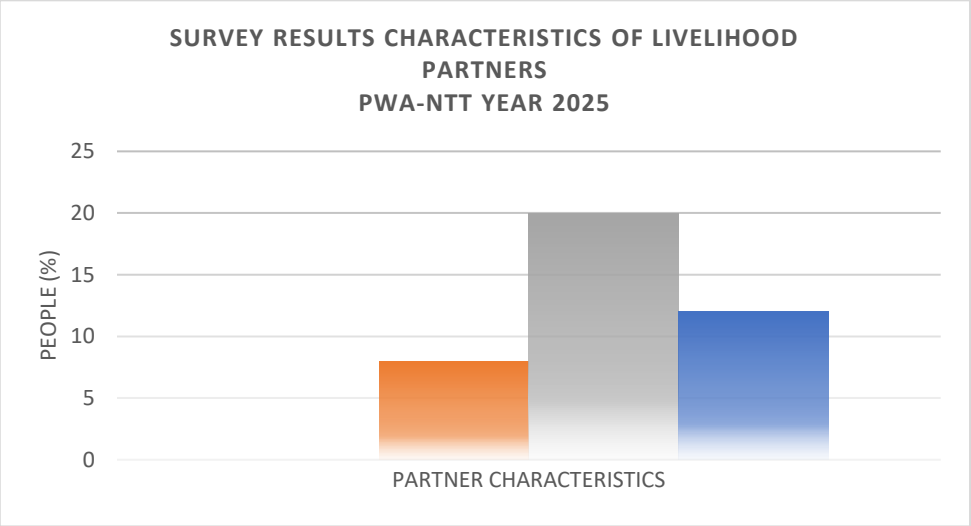


Figure 5. Characteristics of partners and farming practices of PW Aisyiyah NTT.

Based on the diagram above, the results show the characteristics of the farmers: 8% are original farmers, 20% are MSME entrepreneurs, and 12% are educators. The questionnaire data indicates that the majority of the women of PW Aisyiyah NTT are engaged in entrepreneurship by managing MSMEs, highlighting the urgent need for efforts to support and strengthen their capacities.

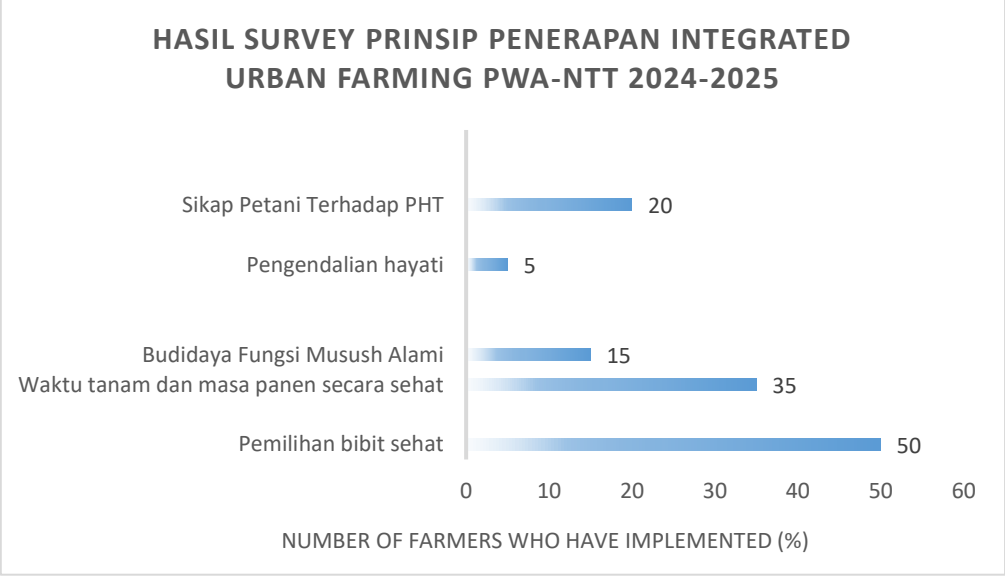


Figure 6. Principles of integrated urban farming and the cultivation of healthy and halal crops.

The implementation of Integrated Urban Farming principles is crucial for farmers. Although there are significant challenges associated with the concept, particularly the long implementation period, these challenges are outweighed by the benefits of

preserving the environment through organic farming practices. Promoted by the government, organic farming has become an essential practice to create a better environment for society and to minimize environmental damage and economic losses.

Currently, 20% of farmers under PW Aisyiyah NTT have applied Integrated Urban Farming principles. However, the information and application rates among farmers are still relatively low, indicating a lack of awareness and understanding about Integrated Urban Farming in these communities. This highlights the need for more education, training, and practical demonstrations to emphasize the importance and benefits of adopting Integrated Urban Farming on farmers' land.

Biological control methods using microbes, such as *Trichoderma* sp., have been introduced but are applied by only 5% of the participating farmers. This is concerning because many farmers are still unfamiliar with the concept of biological control and healthy cultivation practices. Therefore, continuous encouragement and positive engagement are essential to raise awareness among farmers about the importance of biological control and the risks associated with pesticide residues, emphasizing the need for careful and proper chemical application.

Moreover, information and application of natural enemy-based cultivation have been received by 15% of the farmers. Healthy planting and harvesting practices have been adopted by 35% of the farmers in Punggul Village, and 50% of the farmers have implemented the use of healthy seeds.

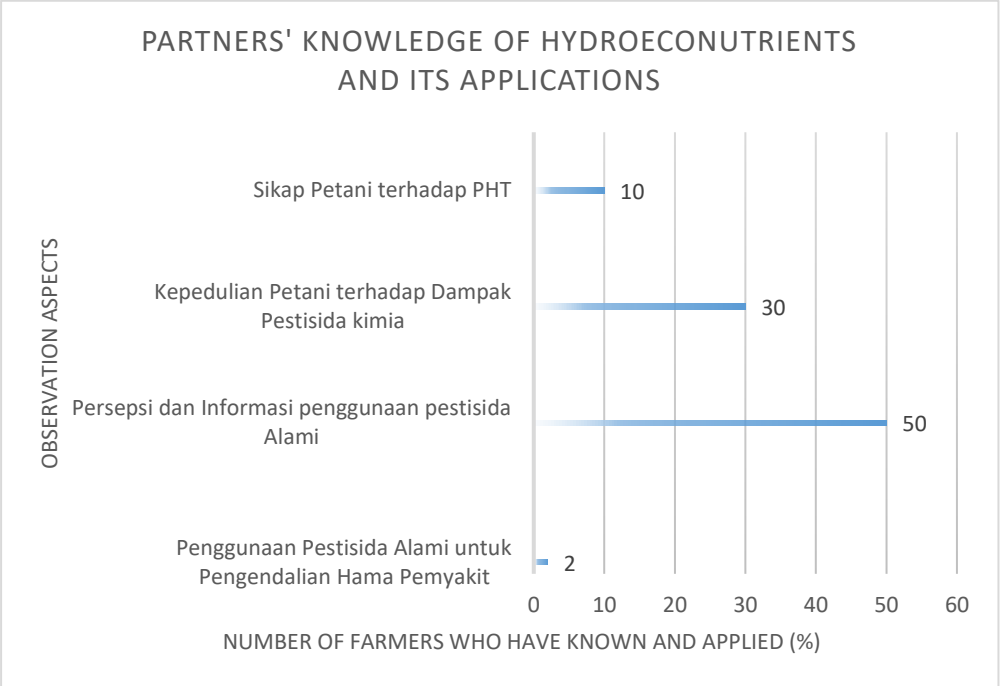


Figure 7. Knowledge and application of natural nutrients by PW Aisyiyah NTT.

Knowledge and application of natural pesticides were assessed based on several aspects gathered through the questionnaire, including: farmers' attitudes toward Integrated Pest Management (IPM) at 10%, farmers' awareness of the impact of chemical

pesticides at 30%, and perceptions and information obtained by researchers.

Program Sustainability

1. Establishing New Business Opportunities
2. Mentoring the Development of a High-Quality and Halal Organic Village in the PW Aisyiyah NTT community in accordance with the government's Free Nutritious Meal (MBG) Program.

a. Technology Implementation

The implementation of technology in this community service program is based on the fundamental problems faced by the partners. As previously outlined, the program addresses key issues, proposed solutions, and targeted outcomes. To achieve the stated targets, a structured method for implementing the community partnership program with PW Aisyiyah NTT has been developed, focusing on dissemination and implementation strategies.

b. Impact on Economy and Society

1) Social Impact

The community hopes that this program will continue beyond initial implementation to support ongoing mentoring and improvement of agricultural outcomes for PW Aisyiyah NTT. Partners also welcome the opportunity to collaborate with neighboring villages to establish organic villages and broaden community knowledge.

2) Economic Impact

There is a strong expectation among the partners that their products will become distinctive regional goods, boosting the agricultural output of PW Aisyiyah NTT. By promoting homemade, halal products, the program is anticipated to increase farmers' incomes and improve the economic conditions of the partner communities.

CONCLUSION

Fundamental Finding : This community service program successfully enhanced the knowledge and skills of Aisyiyah women leaders in East Nusa Tenggara in the fields of integrated agriculture and halal food quality. The hybrid implementation method effectively expanded educational access in geographically constrained areas, leading to improved participant understanding of urban farming, food safety, and sustainable agricultural practices. **Implication :** These outcomes contribute significantly to the achievement of SDG Goal 2 on food security and open new opportunities for community economic empowerment through environmentally friendly and sustainable agricultural initiatives. Practically, this suggests that hybrid learning models should be widely adopted in similar rural empowerment programs to overcome geographic barriers. **Limitation :** However, the study was limited by the relatively short intervention period and a small, localized sample, which may restrict the generalizability of the findings to broader populations. **Future Research :** Further studies are recommended to explore long-term impacts, scalability across diverse rural contexts, and the integration of digital

literacy training to enhance the effectiveness of hybrid learning in community development programs.

REFERENCES

[1] N. Qomariyah and I. U. Choiriyah, "Implementation of Direct Village Fund Cash Assistance (BLT DD) in Gelam Village Candi District Sidoarjo Regency: Implementasi Bantuan Langsung Tunai Dana Desa (BLT DD) di Desa Gelam Kecamatan Candi Kabupaten Sidoarjo," Aug. 2024, doi: 10.21070/ups.6232.

[2] B. Çalişkan and A. C. Çalişkan, "Potassium Nutrition in Plants and Its Interactions with Other Nutrients in Hydroponic Culture," in *Potassium - Improvement of Quality in Fruits and Vegetables Through Hydroponic Nutrient Management*, InTech, 2018. doi: 10.5772/intechopen.71951.

[3] S. Quaglioni, *Solving The Longstanding Problem Of Low-Energy Nuclear Reactions At the Highest Microscopic Level - Final Report*. 2016. doi: 10.2172/1330755.

[4] H. Halil, "A Technological Innovation Drip Irrigation for Dry Land Chile Farming in Rural Salut, Kayangan Sub-District, North Lombok Regency, West Nusa Tenggara, Indonesia: Technological Innovation Drip Irrigation for Dry Land Chile Farming in Rural Salut, Kayangan Sub-District, North Lombok Regency, West Nusa Tenggara, Indonesia," *AJARCDE (Asian Journal of Applied Research for Community Development and Empowerment)*, pp. 208–214, Jun. 2024, doi: 10.29165/ajarcde.v8i2.422.

[5] C. Antons, "The Regulation of Agricultural Knowledge, Seed Policies and the UN Sustainable Development Goal of 'Zero Hunger,'" 2024, *Hart Publishing*. doi: 10.5040/9781509963782.ch-009.

[6] M. Tiampo, "'Create what has never been done before!': Historicising Gutai Discourses of Originality," *Third Text*, vol. 21, no. 6, pp. 689–706, Nov. 2007, doi: 10.1080/09528820701761335.

[7] G. T. Pambekti, "Ensuring Halal Integrity and Food Safety in Sustainable Pesantren-Based SMEs: A Comprehensive HACCP and HGMP Approach," in *Ensuring Halal Integrity and Food Safety in Sustainable Pesantren-Based SMEs: A Comprehensive HACCP and HGMP Approach*, in IHSATEC 2024: 17th HASIB. Yayasan Sinergi Riset dan Edukasi, Dec. 2024, p. 1. doi: 10.31098/hst24115.

[8] S. N. A. J. Ahmaad and D. M. S. Henukh, "Difference in Length of Return Of Fertility after Contraception with 3-Month of Depo Medroxy Progesteron Acetate Injection and Hormonal Implant in Baumata Public Health Center, Kupang District," in *Childhood Stunting, Wasting, and Obesity, as the Critical Global Health Issues: Forging Cross-Sectoral Solutions*, in The 7th ICPH. Masters Program in Public Health, Universitas Sebelas Maret, 2020. doi: 10.26911/the7thicph.03.36.

[9] D. Suprayogi, A. Mu'afie, A. Putriana, D. R. Mawarda, I. Munawaroh, and I. Mustika, "Literature Review : Feeding Comfort With Stunting Problems in Toddlers," *Proceedings of International Conference on Halal Food and Health Nutrition*, vol. 1, no. 1, pp. 87–93, Feb. 2023, doi: 10.29080/ichafohn.v1i1.1129.

[10] I. Picauly, S. P Manongga, D. Adar, and F. CH Liufeto, "Stunting Determinant Analysis in the East Mainland Province of East Nusa Tenggara for the Period of 2017-2021," *Journal of Maternal and Child Health*, vol. 7, no. 6, pp. 711–719, 2022, doi: 10.26911/thejmch.2022.07.06.09.

[11] R. Ghorbani, "Reducing copper-based fungicide use in organic crop production systems," in *Handbook of Organic Food Safety and Quality*, Elsevier, 2007, pp. 392–412. doi: 10.1533/9781845693411.3.392.

[12] D. Hidayat, "Entrepreneurial Training-based Life Skills Education for Community Empowerment," in *2nd Asian Education Symposium*, SCITEPRESS - Science and Technology Publications, 2017, pp. 100–106. doi: 10.5220/0007299401000106.

[13] C. Liu, H. Huang, and J. Yang, "Can Land System Innovation Promote the Improvement of Green Land Use Efficiency in Urban Land—Evidence from China's Pilot Reform of the Approval System for Urban Construction Land," *Land (Basel)*, vol. 14, no. 4, p. 791, Apr. 2025, doi: 10.3390/land14040791.

[14] M. Lou Santovec, "Team Leaders Use Their Strengths, Manage Their Weaknesses," *Women in Higher Education*, vol. 21, no. 12, pp. 27–28, Dec. 2012, doi: 10.1002/whe.10404.

[15] E. O. Benjamin, O. Ola, and G. R. Buchenrieder, "Feasibility Study of a Small-Scale Recirculating Aquaculture System for Sustainable (Peri-)Urban Farming in Sub-Saharan Africa: A Nigerian Perspective," *Land (Basel)*, vol. 11, no. 11, p. 2063, Nov. 2022, doi: 10.3390/land11112063.

[16] M. A. Faust, "New feeds from genetically modified plants: the US approach to safety for animals and the food chain," *Livest Prod Sci*, vol. 74, no. 3, pp. 239–254, Apr. 2002, doi: 10.1016/s0301-6226(02)00017-9.

[17] A. M. Lupindu, "Public Health Aspect of Manure Management in Urban and Peri-Urban Livestock Farming in Developing Countries," in *Livestock Science*, InTech, 2017. doi: 10.5772/65346.

***Intan Rohma Nurmalasari (Corresponding Author)**
Muhammadiyah University of Sidoarjo, Indonesia
Email: intan.rohma@umsida.ac.id

A. Miftakhurohmat
Muhammadiyah University of Sidoarjo, Indonesia

Syarifa Ramadhani Nurbaya
Muhammadiyah University of Sidoarjo, Indonesia

Siti Halijah
Muhammadiyah University of Sidoarjo, Indonesia

Fauziyah Lamaya
Muhammadiyah University of Sidoarjo, Indonesia