

PROFICIENT Community Service

Utilization of Kitchen Waste and Compost for Family Gardens in Sitisari Village, Cileungsi, Bogor Regency, West Java

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ABSTRACT

Keyword:

Food Security, Community Empowerment, Zero Waste

Accepted : July 28, 2025
Approved: July 30, 2025
Published: August 13, 2025

Publisher:

Perbanas Institute

This Community Service (PKM) activity aims to increase the awareness and skills of Sitisari Village residents, especially households, in managing kitchen waste into organic compost as part of a food security and environmental conservation strategy. The activity, carried out by lecturers and students of Perbanas Institute, integrates an educational and participatory approach through theoretical training and direct practice in the use of maggot media, and the utilization of home gardens. By applying the Zero Waste principle, this activity successfully encourages changes in community behavior in sorting and utilizing household waste. The results of the training are expected to increase the knowledge, enthusiasm of participants, and initiatives to form a yard farmer group. In addition to having a positive impact on the environment, this activity also opens up opportunities for local economic empowerment through the development of compost products and sustainable family farming. Therefore, this program is recommended for replication in other areas with similar characteristics as part of efforts to achieve community-based sustainable development.

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I. INTRODUCTION

The problem of household organic waste is a strategic issue in many regions of Indonesia. According to the Ministry of Environment and Forestry (KLHK), approximately 60% of total national waste is organic, with kitchens being the primary contributor [1]. One emerging solution is the use of kitchen waste as compost, which is not only environmentally friendly but also has the potential to support local family food security.

Situsari Village, which is developing as a digital village in Bogor Regency, faces environmental challenges in the form of increasing waste volume and seasonal flooding due to poor drainage systems and low environmental awareness [2].

However, given its geographical location, which still has ample yard space, composting has significant potential. The Zero Waste theory, popularized by Johnson, emphasizes the 5R principle – Refuse, Reduce, Reuse, Recycle, and Rot – with composting (Rot) being the essential final stage in organic waste management [3]. In addition to environmental aspects, research shows that compost can significantly improve soil physical properties and plant growth [4].

The Community Service program by the Perbanas Institute aims to equip the residents of Situsari Village with the knowledge and skills to implement IBF through an urban farming approach. Techniques taught include vertical farming, simple hydroponics, hanging pots, small livestock farming, and organic waste processing using compost and maggots.

II. IMPLEMENTATION METHOD

The activity took place on June 20, 2025, at the Situsari Village Office. The implementation method used a participatory and demonstrative approach. The activity began with a pre-test session, presentation of material on kitchen waste management, a simple composting practice using maggots, and an open discussion.

Place and Program Implementation

1. Place of implementation of the training program

The place for implementing this community service is in Desa Siteari, Jl. Swadarma Kp. Karet RT 004/001, Cileungsi, Kab. Bogor, West Java

2. Time of Program Implementation

The activities held on Friday, June 20th 2025 at 02.30 – 04.30 PM

Tabel 1. Susunan Kegiatan

Time	Activity
10.00 – 11.00	Preparations for Departure from Perbanas Jakarta
11.01 - 12.00	Arriving at the Situsari Village Hall Office and “Meet and Greet” with the Village Team
12.01 – 13.00	Ishoma
13.01 – 13.30	Event Preparation at the Village Hall
13.31 – 14.00	Participants arrive and complete the Attendance List. Welcoming Participants and conducting a Pre-Test
14.01 – 14.10	Opening remarks by the MC
14.11 – 14.25	Welcome speech from the Perbanas DP2M Welcome speech from the Head of Situsari Village

	ICE BREAKING
14.26 – 15.00	Environmental and Family-Based Household Waste Sorting Education
15.01 -15.45	Organic Waste Processing Practices Using Maggots
15.46 – 15.55	Q and A Session
15.56 – 16.00	Prizes were awarded to participants who asked questions.
16.01 – 16.15	Closing Ceremony and Group Photo Session.
16.16 – 16.30	Souvenirs were awarded to all participants.

III. DISCUSSION

The Community Service Activity (PKM) with the theme "Utilization of Kitchen Waste and Compost for Family Gardens" in Sitisari Village lasted for 1 day and had 34 training participants, dominated by men at 82% (Figure 1).

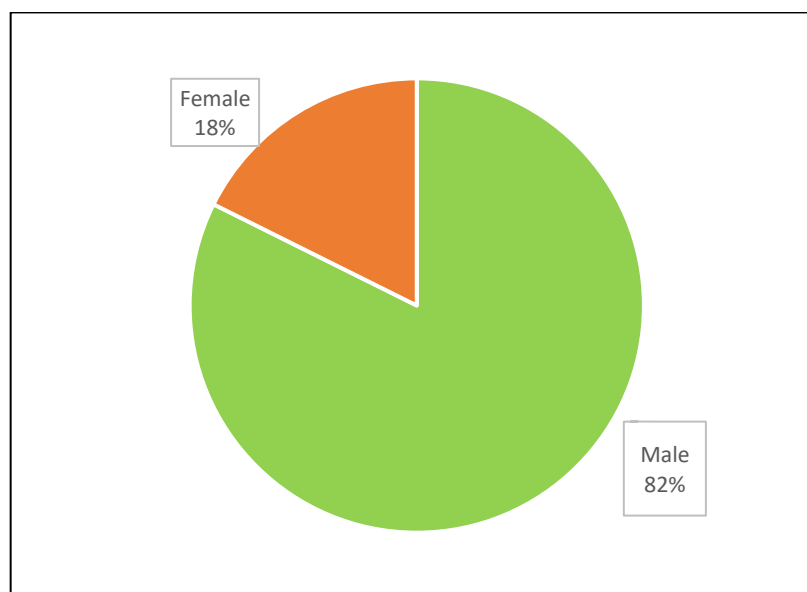


Figure 1. Training Participants
 Source : Result of Quisioner (2025)

This activity demonstrated that an educational and practical approach to household kitchen waste management can have a significant impact on increasing community awareness and involvement in environmental protection while supporting local food security. Sitisari Village has geographic and social characteristics that support the implementation of this program, including the availability of yards around residents' homes and the presence of active social groups such as housewives and youth groups. This potential is a key driving force in encouraging the implementation of Zero Waste principles, particularly in composting organic waste (rot) into a productive resource for household farming.

Community participation in the activity demonstrated a positive response. This was evident in the active participation of participants during the discussion, practical sessions, and Q&A sessions. The high level of participant interest indicates a need for concrete solutions to address household waste issues, which have been considered trivial but have significant impacts, such as clogged drains and seasonal flooding.

Data from training participants showed that 38% of participants routinely process waste, while 32% only occasionally, and 30% of participants did not process waste at all at home (Figure 2).

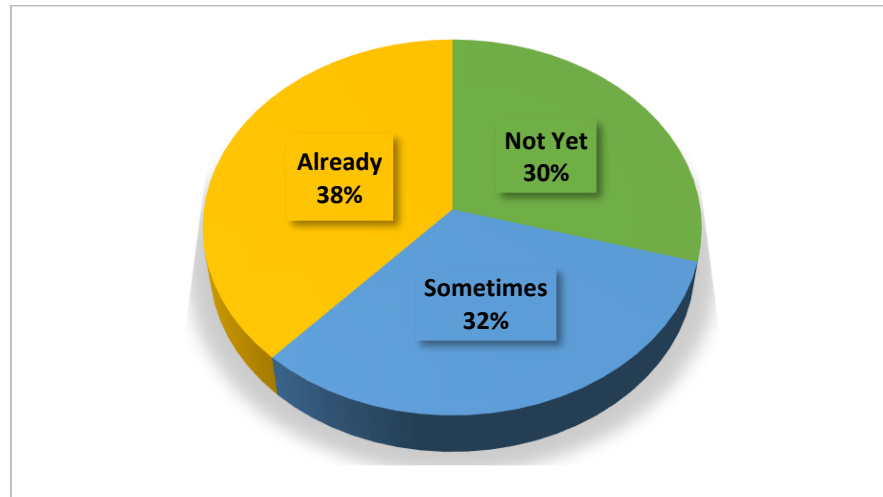


Figure 2. Training participants process waste at home
 Source : Result of Quisioner (2025)

The application of the Zero Waste-based waste management concept in this activity is able to bridge theory and practice directly. This emphasizes that the success of Zero Waste depends on changes in individual behavior and household consumption patterns, starting from awareness of the importance of reducing and reusing household waste [3]. In addition, community empowerment through training in processing waste into compost can be an effective socio-economic empowerment strategy [5]. Figure 3 shows the types of waste processing by participants. Waste processing carried out by Training Participants is still relatively small, including burning by 12%, making compost by 6% and making communal holes and biopores by 3%. While the remaining 49% only separate organic and inorganic waste and 30% have not processed waste at all.

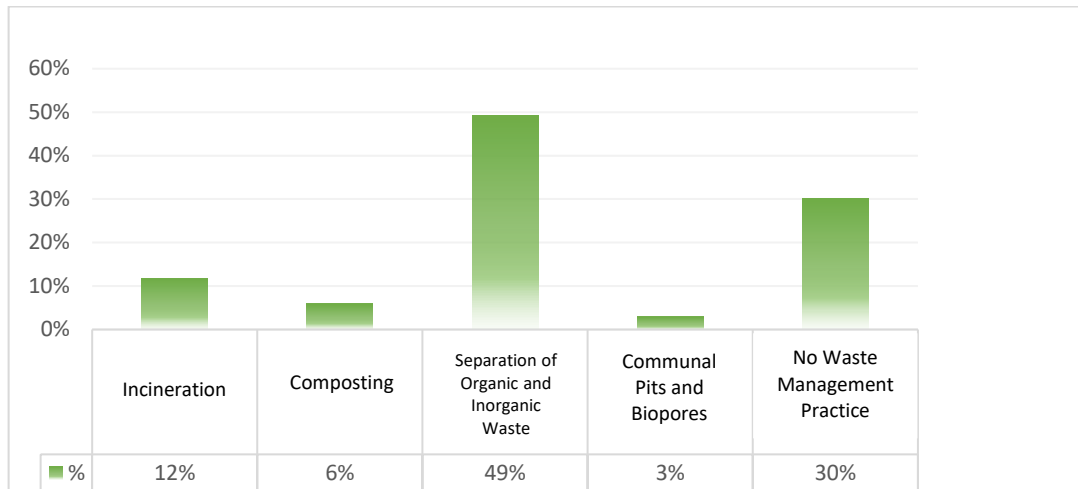


Figure 3. Types of waste processing carried out by training participants
 Source : Result of Quisioner (2025)

Environmentally, composting kitchen waste has a direct impact on reducing waste going to landfills (TPA). Organic waste, which has traditionally dominated household waste, can be recycled on-site, reducing transportation costs and extending the lifespan of landfills. Furthermore, the composting process also reduces methane emissions, a contributor to the greenhouse effect. Furthermore, the use of compost not only improves soil structure but also supports sustainable agricultural practices [4].

From a food security perspective, this training introduced the concept of utilizing yards as an alternative food source. Vegetables and medicinal plants grown with compost not only meet family food needs but also reduce dependence on market products. In the long term, this initiative can be developed into a small-scale urban farming system that supports family economies. The economic potential of compost utilization is also quite promising. If communities are able to produce consistent, high-quality compost, it can be marketed as an environmentally friendly product to local and online markets.

After participating in the Community Service Program (PKM) training, participants demonstrated increased enthusiasm for utilizing kitchen waste. Some began to understand the importance of managing vegetable scraps to use as compost for family gardens. Thus, it can be concluded that this training has successfully raised public awareness about the importance of utilizing kitchen waste, which is usually discarded, as a potential source of fertilizer for environmental management. The successful implementation of this PKM program opens up opportunities for further program development in the form of intensive mentoring within residents' households. This kitchen waste approach not only addresses the problem of food waste but also creates a healthier environment and fosters economic independence



Figure 4. Training Materials



Figure 5. Speakers from Perbanas Institute



Figure



6. Presentation of Material by Lecturer Elliana Gautama, S.Kom, M.Kom

Figure 7. Opening Speech by Mr. M. Dahlan as Head of Situsari Village



Figure 8. All Training Participants with speakers



Figure 9. Give away prizes to Participants Who Actively Ask Questions



Figure 10. Lecturers involved in community service in Sitisari Village

IV. CONCLUSION

The Community Service (PKM) activity held in Sitisari Village demonstrated that managing kitchen waste into compost can be a strategic solution to environmental problems while simultaneously supporting family food security. Through training that combined theory and hands-on practice, the community, particularly housewives, was empowered to better understand the potential of kitchen waste as a valuable and economical resource. The activity demonstrated increased awareness and skills among participants in sorting waste, making compost, and utilizing it for home-garden farming. This demonstrates that with the right approach, behavioral changes in environmental management can be realized. The enthusiasm of residents and the emergence of initiatives to form home-garden farming groups indicate that this activity has more than just a temporary impact but has the potential to have a lasting impact at the community level.

Beyond environmental aspects, this activity also opens up opportunities for local economic empowerment through the use of compost and family farming practices. Compost can be used as an environmentally friendly alternative product, while home-garden produce can increase food security and reduce household costs. Overall, this PKM activity demonstrates that integrated household waste management with education, simple technology, and active community participation can have broad social, economic, and ecological impacts. For this reason, it is recommended that similar programs continue to be developed and replicated in other villages to accelerate the achievement of community-based sustainable development.

LIST OF PARTICIPANTS

Figure 11. Participants List

DAFTAR ABSENSI KEGIATAN PKM PERBANAS INSTITUTE DAN DESA SITUSARI JUMAT, 20 JUNI 2025					
KELOMPOK: 2					
JUDUL: Pemanfaatan limbah dapur dan kompos untuk Pesona Keluarga					
NO	NAMA LENGKAP	DOSEN / MAHASISWA	NIDN / NIM	PRODI	PARAF
1	Nani Firdawati Tajhar	Dosen	0326057501	SI Teknik Informatika	<i>[Signature]</i>
2	Elhana Gautama	Dosen	0314096801	SI Sistem Data	<i>[Signature]</i>
3	Alcahidul Rahman	Dosen	0313109601	SI Sistem Data	<i>[Signature]</i>
4	Naura Savira	Mahasiswa	2312000060	SI Manajemen	<i>[Signature]</i>
5	Rosa Cahya Lestari	Mahasiswa	2312000065	SI Manajemen	<i>[Signature]</i>
6	Kayla Shafira	Mahasiswa	2312000028	SI Manajemen	<i>[Signature]</i>
7	Rafa Ramadani Audria	Mahasiswa	2312000048	SI Manajemen	<i>[Signature]</i>
8					
9					
10					

REFERENCE

- [1] Kementerian Lingkungan Hidup dan Kehutanan (KLHK). (2023). Statistik Pengelolaan Sampah Nasional. <https://www.menlhk.go.id>
- [2] Datanews8. (2025). Banjir Rendam Perumahan Pesona Situ Sari Sejahtera Desa Situsari Kecamatan Cileungsi. <https://www.datanews8.com/2025/03/banjir-rendam-perumahan-pesona-situ.html>
- [3] Johnson, B. (2020). Zero Waste Home: The Ultimate Guide to Simplifying Your Life. Scribner.
- [4] Rachmawati, H., & Putra, A. (2020). Pengaruh Penggunaan Kompos terhadap Sifat Fisik Tanah dan Pertumbuhan Tanaman. Jurnal Agroteknologi Tropika, 8(2), 80–89. <https://doi.org/10.24843/JAT.2020.v08.i02.p03>
- [5] Lestari, S., & Wibowo, T. (2021). Pemberdayaan Masyarakat Desa dalam Pengolahan Sampah Organik Menjadi Kompos. Jurnal Pengabdian Kepada Masyarakat, 4(3), 112–120. <https://doi.org/10.22146/jpkm.62350>
- [6] Setda Kab. Bogor. (2025). Desa Digital Situsari, Langkah Strategis Wujudkan Kabupaten Bogor Maju dan Berkelanjutan. <https://setda.bogorkab.go.id>