

International Proceeding Community Services

Transforming Environmental Awareness Through Waste Education Tourism: A Community Engagement Approach in Situsari Village

Rizki Yuniarti¹, Pratiwi², Wilfridus B. Elu³, Markonah Markonah⁴,
Fathul Safwan W⁵, Dinda Zaskia⁶

¹²³⁴⁵Faculty of Information Technology, Perbanas Institute, Jakarta, Indonesia

²Data Science Systems Study Program, Perbanas Institute, Indonesia

Email: rizki.yuniarti@perbanas.id ; pratiwi@perbanas.id ; wilfridus@perbanas.id ;
markonah@perbanas.id

ABSTRACT

Keyword:

Waste Education Tourism,
Environmental Awareness,
Community Participation,
Circular Economy,
Sustainable Development

Accepted : 30 May 2026

Approved : 3 June 2026

Published : 29 June 2026

Publisher:

Perbanas Institute

International. To view a
copy of this license, visit
[http://creativecommons.org/
licenses/by-nc-sa/4.0/](http://creativecommons.org/licenses/by-nc-sa/4.0/)

Waste management remains one of the major environmental challenges in rural areas of Indonesia due to limited public awareness and inadequate waste handling practices. This community service program aimed to enhance environmental awareness through a waste education tourism initiative implemented in Situsari Village, Bogor Regency. The program adopted a participatory educational approach consisting of educational seminars, interactive discussions, waste segregation demonstrations, and the introduction of best practices from Kamikatsu, Japan, and Sweden's circular economy-based waste management system. Data were collected through direct observation, participant engagement, and qualitative evaluations conducted during the implementation of the program. The findings indicate an improvement in participants' understanding of waste classification, waste segregation techniques, recycling opportunities, and the economic value of waste. Furthermore, the program encouraged a shift in community perceptions, leading residents to view waste not merely as an environmental burden but as a valuable resource with economic potential. The integration of educational tourism and community participation proved to be an effective strategy for promoting sustainable environmental behavior in rural communities. The program demonstrates that waste education tourism can serve as a community-based environmental education model that supports sustainable village development while strengthening local capacity for environmental stewardship.

I. INTRODUCTION

Environmental degradation resulting from inadequate waste management has become one of the most pressing challenges faced by developing countries, including Indonesia. According to the United Nations Environment Programme (UNEP, 2024), the world generates more than 2.24 billion tons of municipal solid waste annually, and this figure is projected to increase significantly due to population growth, urbanization, and changing consumption patterns. In Indonesia, waste-related problems are not limited to urban areas but have also become a major concern in rural communities. Practices such as open burning, illegal dumping into rivers, and the lack of household waste segregation remain common. These conditions contribute to environmental pollution, public health risks, and obstacles to sustainable development.

Numerous studies have highlighted the importance of environmental education in fostering environmentally responsible behavior. Ardoin et al. (2020) argue that environmental education programs play a significant role in improving environmental literacy, ecological awareness, and long-term behavioral change. Therefore, educational approaches should not only provide theoretical knowledge but also offer practical experiences that enable communities to better understand environmental issues. One innovative approach that can be adopted is waste education tourism. This concept integrates environmental learning with experiential activities related to waste management, allowing participants to gain a comprehensive understanding of both the environmental impacts of waste and the benefits of sustainable waste management practices.

Previous studies have demonstrated the effectiveness of educational approaches in shaping community behavior toward waste management. Yuniarti et al. (2025) found that upcycling education programs in Situsari Village enhanced community understanding of the economic value of waste while encouraging residents to participate in sustainable waste management practices. Their study highlighted that community-based educational interventions play a crucial role in fostering environmental awareness in rural areas. Similarly, Ritha et al. (2025) reported that the Eco-Craft Education Program implemented in Ligarmukti Village successfully improved recycling literacy and creativity among participants through hands-on learning activities that utilized waste materials as resources for creative products. The study demonstrated that environmental education can contribute not only to knowledge enhancement but also to skill development and innovation. Furthermore, Pratiwi et al. (2025) emphasized that family-based environmental education significantly contributes to promoting sustainable household waste segregation practices. Their findings suggest that families can serve as effective agents of change in establishing sustainable waste management behaviors and supporting the principles of a circular economy at the community level.

International experiences also provide valuable insights into successful waste management practices. Kamikatsu, Japan, is globally recognized as a pioneer of the Zero Waste movement. Through active community participation and a highly structured waste segregation system, Kamikatsu has transformed waste management into both an environmental education platform and a globally recognized educational tourism destination. Likewise, Sweden has become a model for circular economy implementation, where waste is viewed as a valuable resource and transformed into energy and industrial raw materials through advanced recycling systems. (Markonah, et.al., 2024).

Inspired by these successful examples, the Community Service Team of Perbanas Institute implemented a waste education tourism program in Situsari Village, Cileungsi District, Bogor Regency. Unlike conventional environmental awareness campaigns, this initiative employed a participatory learning approach designed to enhance environmental awareness and encourage active community involvement in sustainable waste management practices.

This Community Service aims to analyze how waste education tourism contributes to improving environmental awareness and community participation in community-based waste management in Sitisari Village.

II. METHODS

This activity employed a descriptive qualitative approach within a community service framework. The program was conducted on May 13, 2026, in Sitisari Village, Cileungsi District, Bogor Regency, West Java, Indonesia. Participants consisted of village residents, village officials, community leaders, and stakeholders concerned with environmental sustainability and waste management issues. The program was implemented through four main stages:

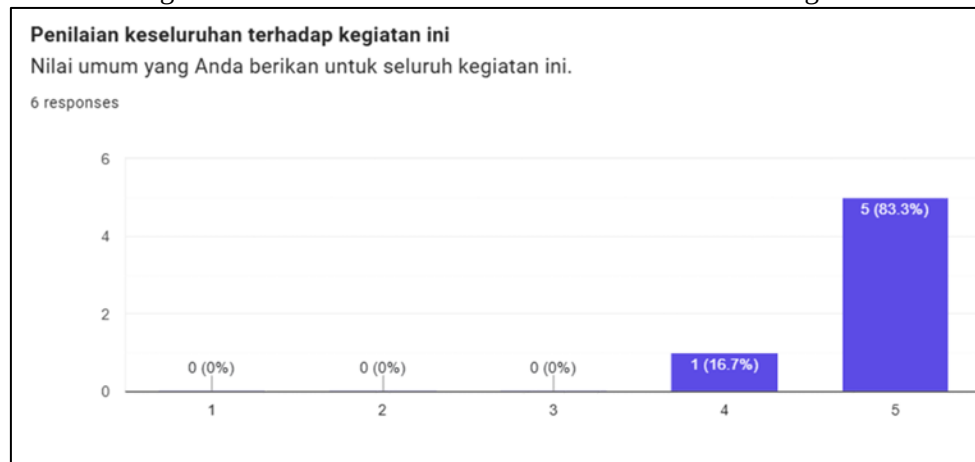
1. Problem Identification and Preliminary Observation
An initial assessment was conducted to identify waste management issues and evaluate existing waste handling practices within the community.
2. Environmental Education Sessions
Educational materials were delivered regarding waste classification, environmental impacts of improper waste disposal, recycling practices, and the economic potential of waste utilization.
3. Introduction to International Best Practices
Participants were introduced to successful waste management models from Kamikatsu, Japan, and Sweden, focusing on waste education tourism, recycling systems, and circular economy principles.
4. Interactive Discussion and Community Reflection
Participants engaged in discussions and reflection sessions to explore opportunities for implementing waste education tourism initiatives in Sitisari Village.

Data were collected through direct observation during program implementation, field documentation, discussion notes, and participants' responses to the educational activities. The collected data were analyzed using descriptive qualitative analysis. Participants' responses were categorized into several themes, including environmental awareness, waste management knowledge, behavioral intentions, and community participation. The analysis aimed to evaluate the effectiveness of the waste education tourism program in promoting sustainable environmental practices and strengthening community engagement in waste management activities.

III. RESULTS AND DISCUSSION

The implementation of the waste education tourism program received a highly positive response from the residents of Sitisari Village. Participants actively engaged in educational sessions, discussions, and experience-sharing activities related to household waste management practices. Based on observations conducted throughout the program, participants demonstrated increased awareness of the importance of waste segregation at the source, the benefits of recycling, and the potential for converting waste into value-added products with economic benefits.

Figure 1. Outcomes of the Waste Education Tourism Program



Source : DP2M Perbanas Institute (2026)

The overall evaluation of the Community Service Program conducted in Sitisari Village indicates a very high level of participant satisfaction. Based on the survey results consist of : 83.3% rated the activity with the highest score of 5, while 16.7% gave a score of 4. No respondents provided ratings between 1 and 3, demonstrating that all participants viewed the program positively.

These results suggest that the Community Service activities were successfully implemented and well-received by the community. The overwhelmingly positive feedback reflects the program’s relevance, effectiveness, and contribution to addressing local needs in Sitisari Village. Overall, the findings indicate that the initiative achieved its intended objectives and generated meaningful benefits for the participants and the community. In addition to gaining knowledge about local waste management practices, participants were introduced to successful waste management models from Kamikatsu, Japan, and Sweden, where waste has been transformed into a valuable resource through sustainable management systems. The development of waste education tourism in Sitisari Village was inspired by successful waste management practices implemented in Kamikatsu, Japan, and Sweden. These two models demonstrate that effective waste management depends not only on technological advancement but also on behavioral change, continuous environmental education, and the integration of circular economy principles.

Kamikatsu is widely recognized as the first municipality in Japan to declare a Zero Waste Policy in 2003. One of the key characteristics of its waste management system is the implementation of detailed waste separation into more than 45 categories, carried out directly by community members. Instead of relying on conventional waste collection services, residents bring their waste to the Kamikatsu Zero Waste Center, where materials are sorted and distributed according to their categories. This system has enabled Kamikatsu to achieve a recycling rate exceeding 80 percent and has transformed the town into a renowned destination for environmental education and sustainable tourism (Government of Japan, 2021). Beyond serving as a waste management facility, the Kamikatsu Zero Waste Center has evolved

into an educational tourism destination that includes learning spaces, recycling centers, reuse shops, community collaboration areas, and even educational accommodations that allow visitors to experience a low-waste lifestyle firsthand. This model illustrates how environmental education can be integrated with tourism activities to generate economic benefits while simultaneously enhancing public awareness of environmental sustainability (Japan National Tourism Organization, 2025; Kamikatsu Zero Waste Town, 2025).

Figure 2. Waste management practices implemented in Kamikatsu, Japan



Source: Processed by the Community Service Team (2026)

In contrast, Sweden adopts a technology-driven approach by integrating modern waste processing technologies into a national circular economy framework. Household waste is separated at the source and subsequently processed through automated sorting facilities, recycling industries, and Waste-to-Energy (WTE) plants. Materials that retain economic value are recycled into industrial raw materials, while non-recyclable residues are converted into electricity and district heating energy. This approach positions waste as an economic resource that contributes to resource efficiency and reduces dependence on landfills (Mihai & Grozavu, 2019).

Figure 3. Waste management practices implemented in Sweden



Source: Processed by the Community Service Team (2026)

Figure 3. Waste management practices implemented in Sweden



Source: Processed by the Community Service Team (2026)

When compared to the current conditions in Situari Village, these international models provide several important lessons. First, successful waste management begins with increasing public awareness and participation in household-level waste segregation. Second, educational facilities that provide direct learning experiences regarding waste management processes are essential. Third, the development of recycling-based products and waste-related creative economic activities can generate additional economic value for local communities. Finally, waste education tourism can function not only as a promotional tool for villages but also as a sustainable environmental learning platform.

These findings are consistent with the study conducted by Yuniarti et al. (2025), which demonstrated that upcycling education in Situsari Village significantly improved community understanding of the economic value of waste and encouraged greater participation in sustainable environmental management. Similarly, Ritha et al. (2025) found that the Eco-Craft program enhanced participants' creativity and environmental literacy through hands-on recycling activities. Furthermore, Pratiwi et al. (2025) emphasized that family involvement in household waste segregation is a critical factor in fostering a sustainable waste management culture. The findings also support the work of Ardoin et al. (2020), who argued that experiential environmental education can effectively enhance environmental understanding and encourage long-term behavioral change. The success of this program can be explained through Kolb's (2015) Experiential Learning Theory, which suggests that learning becomes more effective when individuals engage directly in practical experiences and connect those experiences with their daily lives.

Figure 4. Photo Session with all Keynote Speaker



Source: Documentation by the Community Service Team (2026)

Throughout the program, participants were exposed not only to theoretical knowledge but also to real-world examples of successful waste management systems from other countries. This approach helped participants recognize that waste management is not solely the responsibility of government institutions but requires active community participation. Moreover, the program supports the concept of community-based environmental management, which emphasizes the active involvement of local communities in environmental decision-making and implementation processes. According to Asteria and Heruman (2016), the success of community-based waste management initiatives largely depends on the level of public participation at every stage of program implementation. Another notable finding was the emergence of community interest in developing waste-based economic activities, including waste banks, compost production, and recycling enterprises. This indicates that participants increasingly understand the principles of the circular economy, which views waste as a resource that can be reused to create economic value.

Figure 5. All The Participants in Community Services Program Situsari Village



Source: Documentation by the Community Service Team (2026)

Therefore, the waste education tourism model developed in Situsari Village can be considered a localized adaptation of international best practices that integrate environmental education, community participation, and circular economy principles. This approach has strong potential to serve as a community-based waste management model that can be replicated in other rural areas across Indonesia.

IV. CONCLUSION

The waste education tourism program implemented in Situsari Village successfully enhanced community awareness and understanding of sustainable waste management practices. Through an educational and participatory approach, community members gained new knowledge regarding waste segregation, recycling processes, and opportunities to transform waste into economic resources.

The findings indicate that waste education tourism can serve as an effective community-based environmental education model for rural areas. Furthermore, the program has the potential to support sustainable village development by increasing community participation in maintaining environmental cleanliness and preservation.

The results also reinforce previous studies conducted in Situsari Village and other assisted villages, which concluded that participatory educational approaches are effective strategies for improving environmental awareness, recycling literacy, and community engagement in sustainable waste management. Waste education tourism can therefore be viewed as a continuation and enhancement of previous educational models, including upcycling education, Eco-Craft initiatives, and family-based waste segregation programs implemented within villages supported by Perbanas Institute.

For future development, greater integration of digital technologies, strengthened waste bank institutions, and sustainable monitoring systems are recommended to ensure the long-term impact and sustainability of the program.

THANK-YOU NOTE

The authors would like to express their sincere gratitude to Perbanas Institute, the Government of Situsari Village, all program participants, and all stakeholders who contributed to the successful implementation of this Community Service Program.

LIST OF PARTICIPANTS

The attendance list contains the participants and speakers who attended

DAFTAR HADIR PESERTA KEGIATAN PKM PERBANAS INSTITUTE DAN DESA SITUSARI RABU, 13 MEI 2026

1	NAMA LENGKAP	ALAMAT	NOMER HP	PARAF
1	Ade .nm	Kp. Karet	085211969888	
2	Dahworo	Bukit Putra	085779619328	
3	Dede Ransydh	Kp. Karet	088101009888	
4	MILJAN	Kp. Karet	08095756226	
5	Rudi .y	Kp. Karet	082122924245	
6	SOMA	Kp. Karet	081287819511	
7	Asep Hadriansyah	Permata Puri Harmoni	081313235051	
8	Herban Pradha	— 11 —	085513400306	
9	Mega Ishana	Permata Puri Harmoni	082384830830	
10	NOVIRIYADI	Permata Puri Harmoni	08127700927	
11	Zi Wijaya	Kp. Cimekar	081395871409	
12	Muhammad Nurul	8821-1	081808852986	
13	Edas	Kp. Karet		
14	Eriana	Kp. Karet		
15	Asep / Asro -	Kp. Karet		
16				
17				
18				
19				
20				

DAFTAR ABSENSI KEGIATAN PKM
PERBANAS INSTITUTE DAN DESA SITUSARI

KELOMPOK : 9

JUDUL : Pelatihan Media Informasi Wisata Edukasi Sampah

NO	NAMA LENGKAP	DOSEN / MAHASISWA	NIDN / NIM	PRODI	PARAF
1	Dr. Wilfridus B. Elu, S.E., M.Si	Dosen	0317076202		
2	Rizki Yuniarti, S.E., M.M.	Dosen	0314068704	Manajemen	
3	Dr. Pratiwi, S.Si., M.Si.	Dosen	0319077001	Sain Data	
4	Dr. Ir. Markonah ASAI, M.M	Dosen	0315106303	Manajemen	
5	Fahri Sarwan W	Mahasiswa	2912000088	Manajemen	
6	Dinda Zalia	Mahasiswa	2912000049	Manajemen	
7	Rizky Azwan	Mahasiswa	2914000026	Teknik Informatika	
8	Desmar Pansi S	Mahasiswa	2512000021	Manajemen	
9	Siti Rosmah	Mahasiswa	2516090002	Ekonomi Syariah	
10					

REFERENCES

- Ardoin, N. M., Bowers, A. W., & Gaillard, E. (2020). Environmental education outcomes for conservation: A systematic review. *Biological Conservation*, 241, 108224. <https://doi.org/10.1016/j.biocon.2019.108224>
- Asteria, D., & Heruman, H. (2016). Bank Sampah as an alternative of community-based waste management strategy in Indonesia. *Humaniora*, 28(2), 136–146. <https://doi.org/10.22146/jh.v28i2.18783>
- Government of Japan. (2021). A Small Town Asks “Why?”: Toward a Zero-Waste World. Retrieved from https://www.japan.go.jp/kizuna/2021/04/zero-waste_world.html
- Japan National Tourism Organization. (2025). Tour the Future of Zero-Waste Sustainability. Retrieved from <https://www.japan.travel/en/experiences-in-japan/5874/>
- Kamikatsu Zero Waste Town. (2025). Zero Waste Policy and Waste Separation System. Retrieved from <https://zwtk.jp/en/>
- Kolb, D. A. (2015). *Experiential Learning: Experience as the Source of Learning and Development* (2nd ed.). Pearson Education.
- Markonah, M., Saripudin, S., & Suryanto, S. (2024). Effectiveness Processing Rubbish into handicraft goods. *Dinasti International Journal of Management Science*, 5(4), 876-880. DOI: <https://doi.org/10.31933/dijms.v5i4.2435>
- Mihai, F. C., & Grozavu, A. (2019). Role of waste management in sustainable development. *Sustainability*, 11(24), 6986. <https://doi.org/10.3390/su11246986>
- Pratiwi., Atmodjo, D. W. P., Istiyowati, L. S., Rizky, A. F., & Daryl, J. (2025). Education Election Household Waste Based on Environment and Family in Situsari Village, Cileungsi, Bogor Regency, West Java. Prosiding Seminar Nasional PKM Perbanas Institute. <https://journal.perbanas.id/index.php/pcs/article/view/1045>
- Ritha, H., Yuniarti, R., Slamet, T., Ernawati, D., & Widyatmoko, F. S. (2025). Peningkatan literasi daur ulang dan kreativitas anak melalui program edukasi Eco Craft di Desa Ligarmukti. Prosiding Seminar Nasional PKM Perbanas Institute. <https://journal.perbanas.id/index.php/pkm/article/view/1132>
- United Nations Environment Programme. (2024). Global Waste Management Outlook 2024. <https://www.unep.org/resources/report/global-waste-management-outlook-2024>
- Wilson, D. C., Velis, C., & Cheeseman, C. (2018). Role of informal sector recycling in waste management. *Habitat International*, 72, 1–9. <https://doi.org/10.1016/j.habitatint.2017.11.005>
- Yukalang, N., Clarke, B., & Ross, K. (2018). Barriers to effective municipal solid waste management in developing countries. *Waste Management*, 69, 104–116. <https://doi.org/10.1016/j.wasman.2017.08.036>
- Yuniarti, R., et al. (2025). Sustainable waste management practices through upcycling in rural communities. *PROFICIENT Conference Proceedings*, 1(1), 45–53. <https://journal.perbanas.id/index.php/pcs/article/view/981>