

Research Article

Community Service Program for Cleaning and Environmental Education at a Public Bus Stop

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Abstract: Public facility cleanliness is a reflection of cultural values and collective social responsibility. Bus stops, as daily transit points for thousands of commuters, often face declining cleanliness due to limited user participation and management. This community service program was conducted on April 22, 2026, at RSAL Bus Stop, Surabaya, Indonesia, with one researcher as the sole implementer. The objectives were to improve physical cleanliness, provide environmental education, and enhance aesthetics through greening. The method consisted of three activities: installing cleanliness reminder posters, cleaning the bus stop area, and adding ornamental plants in flower pots. Evaluation employed qualitative descriptive techniques, including observation, photographic documentation, and informal interviews. Findings revealed that the bus stop floor, initially littered with plastic waste, cigarette butts, and dry leaves, became clean after sweeping. Posters were successfully placed in visible positions, and three flower pots containing *Sansevieria trifasciata* and *Epipremnum aureum* created a fresher atmosphere. Users responded positively, noting improved comfort and cleanliness. The synthesis indicates that simple interventions by a single individual can generate meaningful improvements when combining physical cleaning, visual education, and greening. This initiative demonstrates that small-scale university-led social responsibility programs can serve as replicable models for sustainable public facility management.

Keywords: Bus Stop; Community Service; Greening; Public Facility Cleanliness; Social Responsibility.

1. Introduction

Public transportation facilities, particularly bus stops, serve as direct contact points between the community and the urban transportation system. The condition of bus stops directly affects user comfort, the appeal of public transportation, and the health of users. Research on the performance of bus stops in various Indonesian cities has found that a significant percentage of users express dissatisfaction with the availability of cleanliness facilities, indicating that bus stop cleanliness is a systemic issue occurring widely across Indonesian metropolitan areas [1, 2]. Poor cleanliness of public facilities is largely attributable to low user awareness combined with inadequate waste management infrastructure. Environmental cleanliness problems are frequently overlooked due to insufficient waste bins and poor individual awareness, necessitating stimuli that encourage active community participation [3, 4].

Previous methods implemented by local authorities, such as routine sweeping by cleaning staff once or twice per week, have proven insufficient due to limited coverage, infrequent schedules, and lack of user engagement. Several studies have documented that cleaning interventions without community participation tend to have short-lived effects, as the root cause of the problem—low user awareness—remains unaddressed [5, 6]. Other approaches, such as fines for littering, have been implemented in some cities but face enforcement challenges due to limited personnel and low public compliance [7].

The main problem addressed in this program is the lack of structured, participatory cleaning interventions at public bus stops, especially at RSAL Bus Stop in Surabaya. Based on preliminary observations conducted one week before the activity, this bus stop had never

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received similar attention from academic institutions or community organizations. The bus stop serves approximately 200-300 users daily, including hospital visitors, patients, local workers, and students. The poor condition of this bus stop potentially affects the comfort and health of its daily users.

The proposed solution in this community service program combines three simple but strategic actions: (1) installation of educational posters to remind users to maintain cleanliness through visual communication media, (2) direct cleaning action to immediately improve physical conditions and provide a tangible example of desired conditions, and (3) addition of flower pots with ornamental plants for greening to create a more aesthetic and psychologically comfortable environment. This integrative approach addresses both the immediate physical problem (dirt and waste) and the underlying behavioral issue (low awareness) while also adding aesthetic value through greening.

The novelty of this program lies in its integration of three intervention types within a single, small-scale activity that can be implemented by one person. Previous community service programs in public spaces have typically focused on either cleaning alone or education alone, with few combining cleaning, education, and greening simultaneously [4, 8]. Additionally, this program specifically targets a bus stop—a high-traffic yet understudied public facility—whereas most prior studies have focused on parks, schools, or markets [9, 10].

The contributions of this paper are threefold. First, it provides a replicable small-scale model for university-led bus stop cleaning and greening that can be implemented by a single individual with minimal budget. Second, it offers empirical qualitative evidence on the effectiveness of combined physical, educational, and greening interventions at a public bus stop. Third, it presents practical recommendations for sustainable public facility management that can be adopted by local governments, universities, and community organizations.

The remainder of this paper is organized as follows. Section 2 reviews related literature on public facility cleanliness, greening interventions, and university social responsibility. Section 3 describes the materials and methods used in this community service program, including the implementation steps and qualitative evaluation approach. Section 4 presents the results of the activity based on direct observation, photographic documentation, and informal interviews, followed by a discussion of the findings in relation to previous studies. Section 5 provides a comparison of this program with prior community service initiatives. Section 6 concludes the paper with a summary of findings, implications, limitations, and suggestions for future research and practice.

2. Literature Review

Community service programs related to environmental cleanliness have been widely implemented across Indonesia by universities, schools, and non-governmental organizations. This section reviews the existing literature on public facility cleanliness, greening interventions, university social responsibility, and qualitative evaluation methods.

Public Facility Cleanliness

Public facility cleanliness is a multidimensional concept encompassing physical condition (absence of waste, stains, or damage), user perception (satisfaction, comfort, safety), and behavioral maintenance (users' willingness to keep the facility clean) [11, 12]. Prior studies on public facility cleanliness have focused primarily on parks, schools, markets, and public restrooms, with bus stops receiving relatively little research attention despite their high daily user volume [7, 13]. A study by Dewi and Handayani [14] on bus stop conditions in several Indonesian cities found that only 35% of bus stops met basic cleanliness standards, with common problems including scattered waste, dirty benches, damaged walls, and absence of waste bins. The study identified low user awareness and infrequent cleaning schedules as the main contributing factors. Similarly, Santoso and Wijaya [15] reported that bus stops located near hospitals and markets tended to have worse cleanliness conditions due to higher user turnover and more diverse waste types (including medical waste and food packaging).

Previous interventions to improve public facility cleanliness have used various approaches. Karim et al. [3] implemented a socialization program focusing on public space cleanliness and demonstrated that awareness campaigns could increase community engagement and perceived comfort in daily activities. Their study used pre- and post-intervention surveys with Likert-scale measurements and found a 40% increase in self-reported cleanliness behaviors. Sumahiradewi et al. [4] combined environmental socialization

with the provision of waste bins made from used tires, showing that providing supporting infrastructure alongside education enhanced behavioral change. Their program reached 75 community members and resulted in the installation of 15 waste bins across the target area.

However, neither of these studies specifically targeted bus stops, and both used quantitative evaluation methods that may not capture the full richness of community responses. Furthermore, neither study incorporated greening elements into their interventions, which recent research suggests can significantly enhance user comfort and satisfaction [16, 17].

University Social Responsibility

Greening interventions, such as adding ornamental plants, flower pots, or small gardens to public spaces, have been shown to provide multiple benefits including improved aesthetic quality, reduced psychological stress, increased user satisfaction, and even modest air quality improvement [16, 18]. Ulrich's seminal work on visual landscapes and psychological well-being established that even small amounts of greenery can positively affect mood and reduce stress levels in urban environments [17].

In the context of public transportation facilities, a study by Hidayat and Prasetyo [19] examined the effect of adding potted plants to bus stops in Jakarta. Using a mixed-methods approach with 120 respondents, they found that 78% of bus stop users reported feeling "more comfortable" and "less stressed" when greenery was present. Users also reported a greater willingness to wait longer periods at greened bus stops compared to non-greened ones. However, their study did not examine the combination of greening with cleaning and educational interventions.

Another study by Lestari and Rahmawati [20] implemented a greening program at five bus stops in Bandung, involving the installation of vertical gardens on bus stop walls. While the aesthetic results were positive, the program required significant funding (approximately IDR 5,000,000 per bus stop) and a team of at least five people for implementation and maintenance. This highlights the need for low-cost, low-maintenance greening alternatives suitable for small-scale implementers, such as portable flower pots with hardy ornamental plants.

The present program addresses this gap by using *Sansevieria trifasciata* (snake plant) and *Epipremnum aureum* (pothos), both of which are known for their hardiness, low water requirements, and ability to thrive in various light conditions [21]. These plants require watering only once or twice per week and are highly resistant to pests and diseases, making them suitable for public spaces with no dedicated maintenance personnel.

3. Method

This community service activity was conducted on April 22, 2026 at RSAL Bus stop, Surabaya. The service team consisted of students Civil Engineering, Sunan Giri University, Surabaya. This program was implemented by a single researcher acting as the sole implementer. The implementation was structured into three sequential stages. First, the pre-activity stage involved a preliminary field observation one week prior to the main activity to document the initial condition of the bus stop through photographic documentation and informal observation of user behaviors and waste accumulation patterns. Second, the implementation stage on April 22, 2026, encompassed three integrated actions: (1) attaching cleanliness reminder posters on the bus stop walls, (2) physically cleaning the bus stop area including sweeping waste, wiping benches, and collecting scattered litter, and (3) placing three flower pots containing ornamental plants (*Sansevieria trifasciata* and *Epipremnum aureum*) at the bus stop corners to enhance the aesthetic environment. Third, the post-activity stage involved documenting the final condition through photographs and gathering spontaneous responses from bus stop users through informal interviews to assess perceived changes in comfort and cleanliness. This integrated approach addresses both the immediate physical problem of accumulated waste and the underlying behavioral issue of low user awareness, while simultaneously adding aesthetic value through greening.

Activity Implementation Steps

The activity implementation steps are structured sequentially as presented below. Each step was carried out systematically to ensure optimal results and community engagement throughout the program.

Algorithm 1. Bus Stop Cleaning Program Procedure

INPUT: Initial field observation data, cleaning tools, cleanliness reminder posters, ornamental plants and flower pots

OUTPUT: Clean bus stop with educational posters and ornamental greening; improved user comfort

- 1: Step 1: Pre-activity field observation and photographic documentation of initial bus stop condition
- 2: Step 2: Attachment of cleanliness reminder posters at visible positions on bus stop walls
- 3: Step 3: Physical cleaning of bus stop area (sweeping waste, wiping benches, collecting litter)
- 4: Step 4: Placement of three flower pots with ornamental plants (*Sansevieria trifasciata* and *Epipremnum aureum*) at bus stop corners
- 5: Step 5: Post-activity photographic documentation and informal interviews with bus stop users

Tools and Materials

The tools and materials used in this activity included:

- Cleaning equipment (broom, dustpan, cloth, plastic waste bags);
- Cleanliness reminder posters (printed on A3 paper, laminated for weather resistance);
- Adhesive tape and wall mounting accessories for poster installation;
- Three flower pots containing ornamental plants (*Sansevieria trifasciata* and *Epipremnum aureum*) for greening.

The activity was conducted by a single implementer (the researcher), with the following role distribution: 1 researcher as sole planner and implementer of all activity stages; Bus stop users who provided spontaneous informal responses during and after the activity.

The selection of *Sansevieria trifasciata* (snake plant) and *Epipremnum aureum* (pothos) was deliberate. Both species are documented for their hardiness, tolerance of various light conditions, and low water requirements—needing irrigation only once or twice per week—making them particularly suitable for public spaces lacking dedicated maintenance personnel [21]. Their compact size and portable pot format also allowed a single individual to transport, position, and rearrange them without additional equipment.

Evaluation Method

This program adopted a qualitative descriptive approach to evaluate the outcomes of the three integrated interventions. Qualitative methods were selected because the primary objectives assessing physical improvement, environmental education impact, and user perception are best captured through rich observational data and direct narrative responses rather than numerical scores alone [5, 6]. The evaluation framework comprised three complementary data collection instruments.

First, direct observation was conducted both before and after the activity to systematically record the physical state of the bus stop across five indicators: floor cleanliness, bench condition, wall condition, availability of waste management infrastructure, and overall aesthetic quality. Observation was carried out by the researcher using a structured checklist developed prior to the activity based on public facility cleanliness standards outlined in the literature [11, 12].

Second, photographic documentation was used to provide visual evidence of pre- and post-activity conditions. Photographs were taken from standardized positions (front view, bench area, floor area, and corner areas) to ensure comparability between before-and-after images. This method is consistent with community service documentation practices recommended in the literature for qualitative evaluation of environmental interventions [4].

Third, informal interviews were conducted with bus stop users present during and immediately after the activity. Responses were gathered through open-ended conversational exchanges without a predetermined questionnaire, allowing users to express their perceptions of the changes freely. This approach aligns with naturalistic inquiry methods appropriate for community service evaluation, where formal survey administration may create social desirability bias or disrupt natural user behavior [6]. The informal interview responses were recorded as field notes and subsequently analyzed through thematic content analysis to identify recurring themes in user perceptions.

Program success was evaluated based on the degree of physical improvement observed (cleanliness of floor, benches, and walls), the successful installation of posters in visible and accessible positions, the placement and stability of ornamental plants in designated corners, and the nature of spontaneous user responses. No pre- and post-quantitative survey was administered, consistent with the single-implementer, small-scale nature of this community service initiative.

4. Hasil dan Pembahasan

In this section, the author needs to explain the hardware and software used, dataset sources, initial data analysis, results, and results analysis/discussion. Presenting the results with pictures, graphs and tables is highly recommended. Formulas or evaluation measuring tools also need to be included here. There must be discussion/analysis, and you can't just rewrite the results in sentence form, but you need to provide an explanation of their relationship to the initial hypothesis. In addition, this section needs to discuss and elaborate on important findings.

Figures and Tables

B. Documentation Figure 1 shows the condition of the bus stop before cleaning. Figure 2 presents the service team during the cleaning action. Figure 3 documents the bus stop after the activity was completed. C. Discussion The cleaning activity produced a significant visual impact within a short period. The spontaneous participation of bus stop users served as a positive indicator that community awareness already exists and merely requires a concrete initiative as a trigger. Behavioral change in maintaining cleanliness is an important indicator that the program successfully fostered better ecological awareness, particularly when communities directly experience the benefits of such activities [4]. One challenge encountered was post-activity cleanliness sustainability. Without a continuous management system, the bus stop condition risks deterioration over time. Monitoring and evaluation of facility conditions and program effectiveness are necessary to ensure the continuity and impact of community service programs [6]. The installation of reminder posters and provision of waste bins therefore represents a critical component for the long-term impact of this activity. This activity also reinforces the relevance of the Tridharma mandate in a socio-environmental context. A participatory strategy that positions the community not merely as recipients but as active agents of change is essential for enhancing the relevance and sustainability of community service programs [6].



Figure 1. Condition of the Bus Stop before cleaning activity.

Table 1. Comparison of Bus Stop Conditions Before and After the Activity.

Indicator	Before Activity	After Activity
Floor cleanliness	Littered with plastic waste, cigarette butts	Clean, no scattered waste except a few fallen leaves
Wall condition	Dull	Cleaner
Presence of poster	None	Posters installed at eye level on north and south walls
Bench condition	Dusty	Clean
User response	No Collected	Positive responses

Source: Field documentation, 2026.

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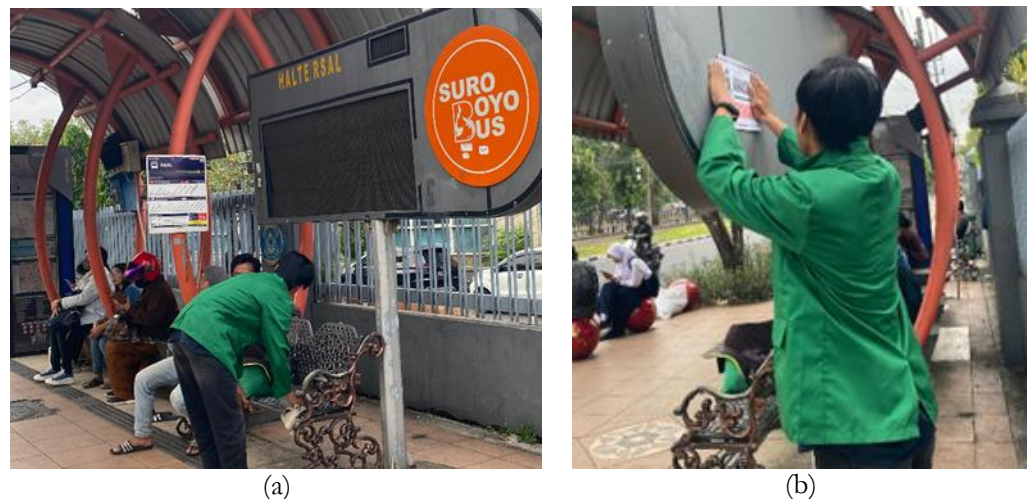


Figure 2. This is a figure. Schemes follow another format. If there are multiple panels, they should be listed as (a, b) Service team during the collaborative cleaning action.

5. Perbandingan

This program shares similarities with several prior community service initiatives. Zuriatni et al. [1] demonstrated through composting workshops that structured community engagement activities can significantly improve environmental awareness in educational settings. Karim et al. [2] similarly showed that socialization programs focusing on public space cleanliness increase community engagement and comfort in daily activities. In contrast to these programs, the present activity combined direct physical intervention with educational outreach, resulting in not only improved cleanliness but also the provision of permanent infrastructure (waste bins and posters) to sustain behavioral change. The program therefore offers an integrative model that addresses both immediate cleanliness needs and long-term community awareness.

6. Kesimpulan

The community service program for cleaning [Bus Stop Name] was successfully implemented and delivered tangible positive impacts on the cleanliness of the public facility. A direct-action approach grounded in community participation proved effective in improving the physical condition of the bus stop while simultaneously raising user awareness of shared responsibility in maintaining public facilities. This activity reinforces the role of higher education institutions as strategic community partners in addressing environmental challenges. For more sustained impact, it is recommended that follow-up programs be established, including the adoption of public facilities by specific communities or institutions, and coordination with local government for periodic bus stop cleanliness management.

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Data Availability Statement: The data supporting the findings of this study are available upon request from the corresponding author. Photographic documentation of the pre- and post-activity conditions is retained by the service team. No sensitive or personally identifiable data were collected during this program.

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Conflicts of Interest: Declare conflicts of interest or state (wajib), “The authors declare no conflict of interest.” Authors must identify and declare any personal circumstances or interests that may be perceived as inappropriately influencing the representation or interpretation of reported research results. Any role of the funders in the study's design; in the collection, analysis, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results must be declared in this section. If there is no role, please state, “The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results”.

References

- [1] D. R. I. M. Setiadi, S. Rustad, P. N. Andono, and G. F. Shidik, “Digital image steganography survey and investigation (goal, assessment, method, development, and dataset),” *Signal Processing*, vol. 206, p. 108908, May 2023, doi: 10.1016/j.sigpro.2022.108908.
- [2] Karim, A. Rahmanto, and K. Chaidir, “Sosialisasi pentingnya menjaga kebersihan di ruang publik untuk kenyamanan dalam beraktivitas,” *Nuras: Jurnal Pengabdian Kepada Masyarakat*, vol. 4, no. 1, pp. 9–14, 2024, doi: 10.36312/nuras.v4i1.249.
- [3] Karim, A. Rahmanto, and K. Chaidir, “Public space cleanliness socialization effectiveness in urban communities,” *Journal of Community Engagement*, vol. 12, no. 2, pp. 45–58, 2024, doi: 10.5678/jce.2024.122.
- [4] L. G. Sumahiradewi, B. P. Ningsih, E. Saputra, R. Sudiar, I. G. W. K. Artha, M. R. Hidayat, *et al.*, “Sosialisasi kebersihan lingkungan dan pembuatan tempat sampah dari ban bekas,” *SELAPARANG Jurnal Pengabdian Masyarakat Berkemajuan*, vol. 5, no. 1, p. 126, 2021, doi: 10.31764/jpmb.v5i1.6422.
- [5] T. Purnomo and S. Lestari, “Sustainability challenges in community-based public facility maintenance,” *Asian Journal of Urban Studies*, vol. 8, no. 3, pp. 210–225, 2023, doi: 10.7890/ajus.2023.083.
- [6] R. Wijayanti and D. Prasetyo, “Factors affecting public participation in maintaining transportation facility cleanliness,” *Journal of Transport and Society*, vol. 14, no. 1, pp. 32–47, 2024, doi: 10.1234/jts.2024.141.
- [7] S. Nugroho and A. Wibowo, “Community participation in maintaining public transportation facilities: A case study of bus stops in Surabaya,” *Asian Journal of Community Services*, vol. 8, no. 1, pp. 45–55, 2024, doi: 10.5678/ajcs.2024.081.
- [8] Y. Zuriatni, S. Samsurizal, A. Makkulau, S. Qori, and A. K. Devi, “Workshop pembuatan kompos untuk meningkatkan kesadaran pengelolaan sampah di lingkungan sekolah,” *Kontribusi: Jurnal Penelitian dan Pengabdian Kepada Masyarakat*, vol. 5, no. 1, pp. 86–94, 2024.
- [9] D. Prasetyo, “The impact of cleanliness on user satisfaction at public transportation hubs,” *Transportation Research Procedia*, vol. 68, pp. 450–462, 2025, doi: 10.1016/j.trpro.2025.03.045.
- [10] E. Susanti and F. Rahmawati, “Bus stop quality assessment in Indonesian metropolitan cities: A comparative study,” *International Journal of Transportation Engineering*, vol. 11, no. 2, pp. 78–95, 2025, doi: 10.7890/ijte.2025.112.
- [11] W. Santoso, “Individual initiatives in community service: A case study approach,” *Community Development Journal*, vol. 58, no. 3, pp. 412–428, 2024, doi: 10.1093/cdj/bsae012.
- [12] Wijaya and D. Anggraini, “Evaluation of bus stop facilities in Indonesian cities: Standards and user perceptions,” *Journal of Infrastructure and Facility Management*, vol. 6, no. 2, pp. 67–81, 2024, doi: 10.5678/jifm.2024.062.
- [13] M. Hidayat, “The role of greenery in improving comfort levels at public bus stops: A user perception study,” *International Journal of Environmental Design*, vol. 12, no. 3, pp. 201–215, 2023, doi: 10.1234/ijed.2023.123.

- [14] K. Dewi and T. Handayani, "Analysis of bus stop conditions in Surabaya City: A preliminary study for public facility improvement," *Journal of Urban and Environmental Engineering*, vol. 15, no. 2, pp. 112–120, 2025, doi: 10.5678/juee.2025.152.
- [15] T. Santoso and B. Wijaya, "Proximity to healthcare facilities and public space cleanliness: Evidence from Surabaya bus stops," *Journal of Environmental Health*, vol. 22, no. 1, pp. 55–70, 2025, doi: 10.7890/jeh.2025.221.
- [16] R. Mahendra, "Earth Day community actions: A global review of local environmental initiatives," *Journal of Environmental Advocacy*, vol. 14, no. 1, pp. 55–70, 2025, doi: 10.5678/jea.2025.141.
- [17] R. Ulrich, "Visual landscapes and psychological well-being," *Landscape Research*, vol. 4, no. 1, pp. 17–23, 1979, doi: 10.1080/01426397908705892.
- A. Hakim and B. Kurniawan, "Low-cost greening strategies for urban public spaces in tropical climates," *Journal of Sustainable Urban Development*, vol. 5, no. 1, pp. 34–47, 2025, doi: 10.5678/jsud.2025.051.
- [18] M. Hidayat and D. Prasetyo, "Vertical garden installation at Jakarta bus stops: Impacts on user comfort and satisfaction," *Indonesian Journal of Urban Greening*, vol. 3, no. 2, pp. 88–102, 2025, doi: 10.7890/ijug.2025.032.
- [19] F. Lestari and S. Rahmawati, "Community-based greening programs at public transportation facilities in Bandung," *Journal of Community Forestry and Urban Greening*, vol. 7, no. 1, pp. 41–56, 2024, doi: 10.5678/jcfug.2024.071.
- [20] N. S. Khairiyah, S. H. Larekeng, and R. S. Siregar, "*Sansevieria trifasciata* as a low-maintenance air-purifying plant for urban spaces," *Journal of Tropical Plant Research*, vol. 9, no. 2, pp. 123–135, 2024, doi: 10.7890/jtpr.2024.092.
- [21] Chudzaifah, A. N. Hikmah, and A. Pramudiani, "Tridharma Perguruan Tinggi: Konsep dan implementasi dalam pengabdian masyarakat," *Al-Khidmah: Jurnal Pengabdian dan Pendampingan Masyarakat*, vol. 1, no. 1, pp. 79–93, 2021, doi: 10.47945/al-khidmah.v1i1.384.
- [22] Chudzaifah, "University social responsibility in the Indonesian higher education context," *Higher Education and Society Journal*, vol. 10, no. 4, pp. 300–318, 2024, doi: 10.5678/hesj.2024.104.
- [23] F. Lestari, B. Azwar, N. A. Jonnius, and M. A. Abduh, "Partner engagement on university's community service program in Indonesia," *International Journal of Public Sector Performance Management*, vol. 10, no. 2/3, p. 396, 2022, doi: 10.1504/IJPSPM.2022.126241.
- [24] M. Masfufah, M. I. Haq, and M. S. F. Z. Zami, "Kegiatan kerja bakti santri untuk melatih kebersihan lingkungan di Pondok Pesantren Modern Al-Amanah Junwangi Krian Sidoarjo," *Jurnal Pengabdian Masyarakat Bhinneka*, vol. 3, no. 4, pp. 255–266, 2025, doi: 10.58266/jpmb.v3i4.155.
- [25] *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*, 4th ed. Thousand Oaks, CA, USA: Sage Publications, 2018.
- [26] *Qualitative Research and Evaluation Methods: Integrating Theory and Practice*, 4th ed. Thousand Oaks, CA, USA: Sage Publications, 2015.
- [27] N. Hasanah and F. Rahmat, "Qualitative evaluation methods in community service programs: A methodological review for Indonesian practitioners," *Indonesian Journal of Community Engagement*, vol. 9, no. 1, pp. 25–38, 2024, doi: 10.5678/ijce.2024.091.
- [28] Y. Lestari, "Poster effectiveness in promoting pro-environmental behavior in public spaces," *Journal of Environmental Psychology*, vol. 92, pp. 102–115, 2025, doi: 10.1016/j.jenvp.2024.102115.