

Environmental Awareness Movement through Beach Clean-Up and Greening Actions at Tanjung Bayang Beach Makassar

Feriska Ananda Fittalia¹, Rice², Maharani Yusuf³, Agustina Violita Wulan Dari⁴, Suarlin^{5*}

^{1,2} Department of Law, Universitas Terbuka, Indonesia

^{3,4} Department of Management, Universitas Terbuka, Indonesia

⁵ Department of Public Administration, Universitas Negeri Makassar, Makassar, Indonesia

Corresponding Email*: suarlin@unm.ac.id

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Abstract

Coastal environmental protection requires active community participation in maintaining cleanliness and promoting sustainable environmental practices. This community service program aimed to promote environmental awareness and collective responsibility through beach clean-up and greening activities at Tanjung Bayang Beach, Makassar, Indonesia. The program was conducted on May 9, 2026, from 6:00 to 8:30 a.m., involving local community members, students, and local representatives. The activities included environmental clean-up, waste collection and sorting, planting activities, and environmental education. The outcomes were evaluated descriptively based on activity documentation and participant reflections reported by the organizing group. The activity report indicated several positive outcomes, including a cleaner and more comfortable surrounding environment, cooperation among participants, and increased awareness of the importance of environmental protection. The program also allocated 30 plant seedlings for the greening activity. However, implementation faced several challenges, including limited cleaning equipment, uneven community participation, and hot weather. Since no quantitative measurements or systematic follow-up assessments were reported, the extent of changes in environmental awareness and long-term environmental conditions could not be determined. The program highlights the potential of collaborative environmental activities to encourage community engagement in coastal protection. Continued implementation, environmental education, adequate facilities, and systematic monitoring are recommended to support the sustainability of the outcomes.

I. INTRODUCTION

Coastal areas play a vital role in maintaining ecological balance, supporting biodiversity, and sustaining the social and economic activities of coastal communities. However, coastal ecosystems face increasing environmental pressures, particularly from marine litter and plastic pollution. According to the United Nations Environment Programme (UNEP, 2021), plastic accounts for at least 85% of total marine litter, making it one of the most persistent and harmful forms of marine pollution. Marine litter and plastic pollution pose significant threats to marine ecosystems, wildlife, human health, and socioeconomic well-being. These environmental

challenges highlight the urgent need for integrated and sustainable approaches to coastal conservation.

Marine pollution is closely associated with inadequate waste management systems, human activities, and the uncontrolled disposal of waste into the environment (Abubakar et al., 2022; Lestari & Trihadiningrum, 2019). UNEP (2021) reported that a substantial proportion of marine litter originates from land-based sources, where improperly managed waste can enter rivers and eventually reach coastal and marine ecosystems. The accumulation of plastic waste can disrupt marine habitats, threaten marine organisms through ingestion and entanglement, and reduce the environmental quality of coastal areas. In addition to its ecological consequences, marine litter can negatively affect the aesthetic value of coastal tourism destinations and the well-being of surrounding communities. Therefore, addressing marine pollution requires not only waste collection initiatives but also preventive measures, effective waste management, and active community participation.

In Indonesia, coastal areas are particularly important for biodiversity conservation, tourism, and local economic development. Nevertheless, plastic pollution remains a significant challenge in many coastal destinations (Akmarul Putera et al., 2024). In Makassar, Tanjung Bayang Beach is one of the coastal areas associated with recreational and tourism activities. A recent study by Putri et al. (2026) identified scattered plastic waste along the Tanjung Bayang coastline, associated with human activities and environmental conditions, including the rainy season. The study also highlighted the potential impacts of plastic waste on coastal ecosystems and local economic activities. These findings indicate the importance of strengthening environmental management efforts in Tanjung Bayang Beach. However, the specific environmental conditions at the community service site should also be established through direct field observations to identify the most relevant intervention needs (Mutiarra et al., 2025; A. E. Putri et al., 2025).

Addressing coastal environmental problems requires collective action and active participation from local communities, academic institutions, students, and other stakeholders. Community participation plays an important role in promoting sustainable waste management practices and strengthening environmental responsibility. Karnowati & Jayanti (2021), in their study of community participation in coastal waste management at Teluk Penyu Beach, Cilacap, found that community understanding, willingness, and government support were positively associated with participation in waste management. Similarly, Suryawan et al. (2024) demonstrated that community engagement strategies, including cultural recycling education and digital engagement, can encourage greater willingness to participate in beach clean-up initiatives. These findings emphasize that environmental conservation efforts should extend beyond temporary clean-up activities by fostering shared responsibility and sustained community engagement.

Beach clean-up and greening activities represent practical approaches to addressing coastal environmental challenges. Beach clean-up initiatives can help remove accumulated waste, improve the cleanliness of coastal areas, and encourage responsible environmental behavior among participants (Assauri et al., 2024; Nurdiansyah & Helena, 2023; Pratama et al., 2024; Wyles et al., 2017). Meanwhile, greening activities, when implemented using plant species appropriate to local coastal conditions, can contribute to environmental improvement and support ecological functions. The integration of these activities offers an opportunity to combine direct environmental action with community engagement. Such initiatives should be accompanied by appropriate waste management practices, suitable plant selection, and continued maintenance to ensure that the benefits of the activities can be sustained over time (Adeswastoto et al., 2023).

Although previous studies have examined coastal waste management and community participation in environmental conservation, there remains a need for locally contextualized community service initiatives that integrate beach clean-up and greening activities within a single program. This community service initiative focuses on combining practical environmental action with active participant involvement at Tanjung Bayang Beach, Makassar. Its contribution lies in implementing an integrated approach to coastal cleanliness and greening while encouraging collective environmental responsibility. The program is designed to address local environmental needs through direct participation and to support ongoing efforts toward sustainable coastal management.

Therefore, this community service program aims to support environmental cleanliness and greening at Tanjung Bayang Beach, Makassar, through an environmental awareness movement involving beach clean-up and greening activities. Specifically, the program seeks to contribute to improving the cleanliness of the coastal environment, promoting appropriate greening practices, and encouraging participants to develop a greater sense of environmental awareness and collective responsibility. Through these activities, the program is expected to provide practical contributions to coastal conservation and support continued efforts to maintain a cleaner, greener, and more sustainable coastal environment.

II. METHODS

2.1. Activity Description

The community service program, entitled "Environmental Awareness Movement for a Clean and Green Environment," was conducted under the theme "Creating a Clean, Healthy, and Green Environment." The activity took place on Saturday, May 9, 2026, from 6:00 a.m. to 8:30 a.m. at Tanjung Bayang Beach, Makassar, Indonesia. The program was designed as an environmental awareness initiative focusing on coastal cleanliness and greening through direct community involvement.

2.2. Participants

The activity involved three main groups of participants: local community members, students, and village or subdistrict officials. The involvement of these groups was intended to encourage collaboration and shared responsibility in supporting environmental cleanliness and sustainability in the coastal area. Their participation provided an opportunity to engage different community stakeholders in the environmental awareness movement.

2.3. Implementation Approach

The program was conducted through a community-based participatory approach, emphasizing the involvement of local stakeholders in environmental conservation activities. The initiative focused on promoting a clean, healthy, and green coastal environment through collective participation in the environmental awareness movement at Tanjung Bayang Beach.

III. RESULT AND DISCUSSION

3.1. Implementation of Activities

The *Environmental Awareness Movement through Beach Clean-Up and Greening Actions* was conducted on Saturday, 9 May 2026, from 6:00 to 8:30 a.m. at Tanjung Bayang Beach, Makassar, Indonesia. The activity was organized under the theme “Creating a Clean, Healthy, and Green Environment” and involved local community members, students, and local government representatives. The program aimed to encourage environmental awareness and shared responsibility for maintaining coastal cleanliness and environmental sustainability. The implementation followed a scheduled series of activities. It began with preparation from 6:00 to 6:10 a.m., followed by an opening session, remarks from the committee and local representatives, and a briefing on the planned activities. The main activities were carried out collectively and included cleaning the surrounding area, collecting and sorting waste, planting trees and other green plants, and providing environmental education. After a short break, participants continued the activities before collecting the results of their work, cleaning the equipment, conducting a brief evaluation, and closing the program.

The activities emphasized direct involvement and cooperation among participants. Community members, students, and local representatives were encouraged to contribute to the clean-up and greening activities. This collaborative arrangement provided an opportunity for participants to take part in practical environmental action and strengthen a sense of collective responsibility. However, the implementation also encountered several challenges, including limited cleaning equipment, uneven community participation, hot weather, and some activities that did not proceed entirely according to the initial schedule.



Figure 1. Environmental Clean-Up and Greening Activities at Tanjung Bayang Beach

3.2. Achievement of Activity Objectives

The program was designed to increase environmental awareness, encourage community responsibility, improve coastal cleanliness, expand green areas, and strengthen cooperation among participants. Based on the activity report, the program produced several qualitative outputs and outcomes, including a cleaner and more comfortable surrounding environment, waste collection and sorting, tree planting, and cooperation among participants. The report also described increased awareness of the importance of environmental protection. Nevertheless, these outcomes were not measured using quantitative instruments or before-and-after assessments.

Table 1. Summary of Reported Activity Outputs and Outcomes

No.	Indicator	Reported Results
1	Environmental clean-up	Participants carried out collective cleaning activities in the surrounding area of Tanjung Bayang Beach.
2	Waste management	Waste was collected and sorted into organic and inorganic categories.
3	Greening activities	A total of 30 plant seedlings were allocated for the greening activity.
4	Environmental awareness	The activity provided environmental education on cleanliness, proper waste disposal, and healthy living.
5	Community participation	Local community members, students, and local representatives were involved in the activity.
6	Cooperation and collective responsibility	The activity encouraged cooperation and mutual assistance among participants.
7	Environmental conditions	The report described the surrounding environment as cleaner and more comfortable after the activity.

The reported outputs indicate that the program addressed its main objectives through practical environmental activities. The allocation of 30 seedlings represents a tangible output of the greening component, while collective cleaning and waste sorting provided direct opportunities for participants to contribute to environmental management. The involvement of different community groups also supported the objective of promoting shared responsibility. However, the available report does not specify the number of seedlings successfully planted and surviving after the activity, the amount or composition of waste collected, or the number of participants involved. Therefore, the achievements can be described as reported activity outputs and qualitative outcomes, rather than evidence of measured long-term environmental improvement.

3.3. Evaluation of Activity Outcomes

The evaluation was conducted as a simple reflection involving the committee and participants at the end of the activity. The activity report described positive experiences, including cooperation, community support, and participant enthusiasm during the clean-up and greening activities. It also identified several constraints that affected implementation, particularly the limited availability of cleaning equipment, the participation of only some community members, hot weather, and adjustments to the planned schedule.

Table 2. Evaluation of Activity Implementation

No.	Evaluation Aspect	Evaluation Findings
1	Participant involvement	Participants from the community, student groups, and local representatives took part, although participation among residents was not uniform.
2	Implementation of activities	Clean-up, waste sorting, greening, and environmental education were included in the program. Some activities required adjustments to the initial plan.
3	Availability of equipment	Cleaning equipment was limited, requiring some participants to take turns using it.
4	Environmental conditions	Hot weather contributed to participant fatigue during the activity.

5	Cooperation	Teamwork and mutual assistance were identified as supporting factors during implementation.
6	Achievement of objectives	The report described positive qualitative outcomes related to cleanliness, awareness, greening, and cooperation, but did not provide quantitative measurements.
7	Follow-up evaluation	A brief evaluation was conducted at the end of the activity; no formal questionnaire or systematic before-and-after assessment was reported.

The evaluation suggests that the program was implemented and generated the intended types of activities, while operational limitations affected the distribution and efficiency of participation. Cooperation among the committee and participants helped the activity continue despite equipment constraints and differences in residents' availability. The reflection also indicates that the activity provided participants with direct experience in community engagement and environmental action.

The evaluation was primarily descriptive and reflective. Since no structured questionnaire, interview protocol, waste measurement, or follow-up monitoring results were provided, the extent of change in environmental knowledge, attitudes, or long-term behavior cannot be determined. Future activities would benefit from simple evaluation instruments, such as participant attendance records, waste-volume measurements, short knowledge or awareness questionnaires, and monitoring of planted seedlings.

3.4. Discussion of Findings

The activity illustrates how practical environmental action can provide a setting for community participation and collective responsibility. Through beach cleaning, waste sorting, planting, and environmental education, participants were able to engage directly with environmental issues rather than relying solely on information or instruction. These activities are consistent with the program's objective of encouraging awareness and responsibility for maintaining a clean, healthy, and green environment. The involvement of local community members, students, and local representatives was an important feature of the program. Bringing together participants from different groups created opportunities for cooperation and mutual assistance. The report's reflection identified community support, teamwork, and participant enthusiasm as strengths of the activity. These observations suggest that collaborative action can help facilitate community-based environmental initiatives, although the report does not provide comparative data to establish how much participation contributed to the observed outcomes.

The combination of clean-up and greening activities also addressed more than one aspect of the environmental concerns identified in the report. Waste collection and sorting focused on immediate cleanliness and basic waste management, while planting seedlings was intended to support the development of greener surroundings. Environmental education complemented these practical activities by communicating the importance of proper waste disposal, cleanliness, and healthy living. Taken together, these components offered a broad approach to environmental awareness at the activity site. Nevertheless, the findings should be interpreted in light of the program's limitations. Limited equipment, uneven participation, hot weather, and adjustments to the schedule affected the implementation process. In addition, the reported improvements in cleanliness and awareness were qualitative observations rather than outcomes established through systematic measurement. The activity therefore demonstrates the feasibility of

organizing a short community-based environmental initiative, but it does not establish the persistence of behavioral change or long-term ecological benefits.

The program's practical contribution lies in providing participants with an opportunity to work together on visible environmental activities and in highlighting the importance of continued community involvement. To strengthen future programs, organizers could improve advance coordination with local stakeholders, ensure sufficient equipment, assign clear responsibilities, and establish measurable indicators for evaluating environmental and social outcomes. The sustainability of the program depends on continued involvement from community members, students, and local representatives beyond the initial activity. The report recommends conducting environmental activities regularly, improving access to cleaning facilities, encouraging proper waste disposal, providing periodic environmental education, and strengthening cooperation among residents. These recommendations provide a basis for developing follow-up initiatives at Tanjung Bayang Beach.

Potential follow-up actions include organizing periodic beach clean-ups, encouraging residents and students to participate in waste sorting, and monitoring the condition of the planted seedlings. Coordination with local representatives could help establish a practical schedule, clarify responsibilities, and support the provision and maintenance of cleaning equipment. Environmental education could also be continued through community discussions and activities involving students and residents. These measures are proposed follow-up strategies; the available report does not confirm that a recurring program or post-activity monitoring system has already been established. In particular, monitoring seedling survival, tracking participation in subsequent activities, and recording changes in waste conditions would help determine whether the initial outputs are being maintained. A clear division of responsibilities among community members, students, and local representatives could further support continuity. Overall, the activity provided a foundation for ongoing environmental cooperation at Tanjung Bayang Beach. Its longer-term contribution will depend on whether the initial collective action can be translated into regular practices, supported by adequate resources, community commitment, and simple but consistent monitoring.

IV. CONCLUSION

The Environmental Awareness Movement through Beach Clean-Up and Greening Actions at Tanjung Bayang Beach, Makassar, provided an opportunity to promote environmental awareness and collective responsibility through practical community-based activities. The program involved local community members, students, and local representatives in environmental clean-up, waste collection and sorting, planting activities, and environmental education. The activity report described positive outcomes, including a cleaner and more comfortable surrounding environment, cooperation among participants, and increased awareness of the importance of environmental protection.

Despite these positive outcomes, implementation was affected by limited cleaning equipment, uneven community participation, hot weather, and adjustments to the planned schedule. Furthermore, the absence of quantitative measurements and systematic follow-up monitoring limits the assessment of changes in environmental awareness, waste reduction, and the long-term survival of planted seedlings. Therefore, the reported outcomes should be interpreted as qualitative findings from the activity rather than evidence of sustained environmental improvement.

To strengthen the program's sustainability, future initiatives should include regular beach-cleaning activities, continued environmental education, adequate equipment provision, and collaboration among community members, students, and local representatives. Monitoring indicators, such as the amount of waste collected, participant involvement, and seedling survival, should also be established to evaluate progress more systematically. Overall, the activity represents a practical initial step toward strengthening community participation in coastal environmental protection, with its long-term benefits depending on continued engagement, coordinated follow-up, and consistent evaluation.

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