

ENVIRONMENTAL EDUCATION AS A STRATEGY FOR FOREST CONSERVATION: A COMMUNITY ENGAGEMENT PROGRAM IN SINGGAHAN, TUBAN

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ABSTRACT

This community engagement program aimed to enhance environmental awareness and strengthen community participation in forest conservation through environmental education in Singgahan District, Tuban Regency, Indonesia. The activities were implemented through four stages: a baseline assessment, environmental education sessions, participatory conservation activities, and program evaluation. Data were collected through observations, documentation, questionnaires, and group discussions and analyzed using descriptive qualitative and quantitative approaches. The findings indicate that participants demonstrated improved understanding of the ecological functions of forests, sustainable forest management, and the importance of community participation in conservation efforts. The educational sessions, combined with collaborative discussions and tree-planting activities, strengthened participants' environmental awareness, promoted collective responsibility, and encouraged greater engagement in community-based conservation initiatives. Participants also showed positive attitudes toward continuing environmental activities within their communities and recognized that forest conservation requires collaboration among local communities, government institutions, and other stakeholders. This program demonstrates that integrating environmental education with participatory community engagement provides an effective and sustainable approach to promoting forest conservation in rural areas. The model developed through this initiative may serve as a practical reference for similar community-based environmental conservation programs in other regions.

Keywords: *environmental education; forest conservation; community engagement; environmental awareness; sustainable forest management;*

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I. INTRODUCTION

Forests constitute one of the most important natural resources for sustaining ecological balance, biodiversity, climate regulation, water conservation, and human well-being. In addition to serving as carbon sinks and habitats for countless species, forests provide essential ecosystem services that support food security, economic activities, and community livelihoods (Food and Agriculture Organization [FAO], 2020). Nevertheless, global forest ecosystems continue to experience significant degradation due to deforestation, land conversion, unsustainable resource exploitation, and increasing human pressure (United Nations Environment Programme [UNEP], 2021). These environmental challenges threaten ecological sustainability and reduce the resilience of communities that depend on forest resources.

Indonesia possesses one of the world's largest tropical forest areas, making forest conservation a national priority. Despite various conservation policies, many forested regions continue to face pressures resulting from illegal logging, agricultural expansion, forest fires, and limited public participation in sustainable forest management (Ministry of Environment and Forestry of the Republic of Indonesia, 2023). These issues demonstrate that effective forest conservation cannot rely solely on government regulations but requires active involvement from local communities who directly interact with forest ecosystems. As argued by Ostrom (1990), sustainable management of common natural resources is more likely to succeed when local communities actively participate in decision-making and resource stewardship.

Community participation is closely associated with environmental awareness and ecological literacy. Individuals who possess greater environmental knowledge tend to demonstrate more responsible environmental behavior (Kollmuss & Agyeman, 2002). Consequently, environmental education has become a strategic instrument for encouraging sustainable environmental practices. According to UNESCO (2020), environmental education aims not only to improve knowledge but also to develop environmental values, critical thinking, problem-solving skills, and responsible actions that contribute to sustainable development. Likewise, Monroe et al. (2019) emphasized that effective environmental education promotes long-term behavioral change by combining knowledge acquisition with community engagement and experiential learning.

Singgahan District, Tuban Regency, is one of the rural areas whose surrounding forest ecosystems contribute significantly to environmental sustainability and local livelihoods. Forest resources support agricultural productivity, regulate water availability, and maintain ecological stability for nearby communities. However, increasing human activities, limited environmental awareness, and inadequate community participation may threaten the sustainability of these forest ecosystems. These conditions indicate the importance of strengthening environmental education initiatives that encourage local residents to understand the ecological functions of forests while fostering a sense of collective responsibility for conservation.

Community engagement has been recognized as an effective approach for strengthening conservation outcomes because it encourages collaboration, local ownership, and sustainable environmental practices (Pretty, 1995). Educational interventions involving discussions, practical demonstrations, collaborative activities, and participatory learning enable communities to become active stakeholders rather than passive beneficiaries. Such approaches are consistent with the concept of Education for Sustainable Development (ESD), which integrates environmental protection, social responsibility, and community empowerment into lifelong learning processes (UNESCO, 2020).

Based on these considerations, a community service program entitled Environmental Education as a Strategy for Forest Conservation: A Community Engagement Program in Singgahan, Tuban was implemented to enhance environmental literacy and strengthen community participation in forest conservation. Through educational workshops, awareness campaigns, and collaborative conservation activities, the program sought to encourage sustainable environmental behavior among community members. It is expected that this initiative will not only improve public understanding of forest conservation but also establish a community-based conservation model that can be replicated in other rural areas facing similar environmental challenges.

II. METHODOLOGY

This community service program adopted a participatory approach using environmental education as the primary strategy to promote forest conservation in Singgahan District, Tuban Regency, East Java, Indonesia. The program was designed to enhance environmental literacy, strengthen community awareness of

the ecological importance of forests, and encourage active participation in conservation efforts. A participatory approach was selected because it emphasizes collaboration between facilitators and community members, enabling participants to actively engage in identifying local environmental issues and developing practical conservation initiatives. Such an approach is considered effective in fostering community ownership and supporting the sustainability of environmental programs (Pretty, 1995).

The participants of the program consisted of village officials, community leaders, youth representatives, farmer groups, and local residents living in areas adjacent to forest ecosystems. These participants were selected because they have direct interactions with forest resources and play an essential role in maintaining environmental sustainability within their communities. Their diverse backgrounds also facilitated knowledge exchange and strengthened collaboration among different community stakeholders.

The implementation of the program was conducted in four stages. The first stage involved a preliminary assessment through field observations and informal discussions with community representatives to identify local environmental conditions, community perceptions, and existing forest conservation practices. This initial assessment served as the basis for designing educational materials that addressed the specific needs and environmental challenges faced by the local community.

The second stage consisted of environmental education activities delivered through interactive lectures, group discussions, question-and-answer sessions, and participatory learning. The educational materials covered the ecological functions of forests, the environmental impacts of deforestation and unsustainable resource utilization, the importance of biodiversity conservation, and the role of local communities in supporting sustainable forest management. The educational sessions emphasized active learning, allowing participants to share experiences, discuss local environmental issues, and collectively identify practical solutions for forest conservation.

Following the educational sessions, participants engaged in practical community-based conservation activities. These activities included collaborative discussions on environmental action plans, identification of conservation priorities within the village, and tree-planting activities in selected areas surrounding the community. The practical component was intended to reinforce the knowledge acquired during the educational sessions while encouraging participants to

translate environmental awareness into concrete conservation actions. Furthermore, these collaborative activities strengthened social responsibility and promoted long-term community engagement in forest preservation.

The effectiveness of the program was evaluated using a combination of observations, participant feedback, and reflective discussions. Throughout the implementation, the service team documented participant attendance, levels of participation, interactions during learning activities, and community responses toward the conservation program. At the end of the program, participants were invited to reflect on their learning experiences and provide suggestions for future environmental initiatives. These reflections provided valuable insights into the perceived benefits of the program and the community's commitment to sustaining conservation efforts.

Data were collected through direct observation, documentation, questionnaires, and group discussions. Observation was conducted during every stage of the program to monitor participant engagement and the implementation process. Documentation included photographs, attendance records, and field notes that supported the reporting of community service activities. Questionnaires were administered before and after the educational sessions to assess changes in participants' environmental knowledge and awareness, while group discussions were conducted to explore participants' perceptions, experiences, and recommendations regarding forest conservation.

The collected data were analyzed descriptively by integrating quantitative and qualitative findings. Questionnaire responses were summarized using descriptive statistics, including frequencies and percentages, to identify changes in participants' environmental knowledge and awareness before and after the educational intervention. Qualitative information obtained from observations, documentation, and group discussions was analyzed using thematic analysis to identify recurring patterns related to environmental awareness, community participation, and conservation practices. The integration of these data provided a comprehensive evaluation of the effectiveness of environmental education as a community engagement strategy for strengthening forest conservation in Singgahan District, Tuban Regency.

III. RESULTS

Baseline Assessment of Community Awareness

The initial stage of the community engagement program involved a baseline assessment to obtain a comprehensive understanding of local environmental conditions, community awareness, and existing practices related to forest conservation in Singgahan District, Tuban Regency. This assessment was conducted through direct field observations, informal interviews, and group discussions involving village officials, community leaders, farmer groups, youth representatives, and local residents. The purpose of this preliminary assessment was to identify the community's level of environmental literacy, perceptions of forest functions, current conservation practices, and major environmental challenges affecting the surrounding forest ecosystem. The findings from this stage served as the foundation for designing educational materials and selecting appropriate participatory learning strategies that addressed local needs and priorities.

Field observations indicated that the forest ecosystem surrounding Singgahan continues to provide significant ecological and socio-economic benefits for the local community. Participants acknowledged that forests contribute to maintaining water availability, reducing the risks of soil erosion and flooding, regulating local temperatures, conserving biodiversity, and supporting agricultural productivity. Several participants also emphasized the indirect economic benefits derived from forest ecosystems, including non-timber forest products and ecosystem services that support farming activities. These findings demonstrate that community members possess a basic awareness of the importance of forests in sustaining both environmental quality and rural livelihoods.

Despite this general awareness, discussions revealed that participants' understanding of sustainable forest management remained relatively limited. Most participants associated forest conservation primarily with activities such as preventing illegal logging or planting trees, while broader concepts—including ecosystem restoration, biodiversity conservation, watershed protection, climate change mitigation, and sustainable utilization of forest resources—were less frequently mentioned. Furthermore, only a small proportion of participants demonstrated familiarity with community-based forest management approaches

or participatory conservation programs that encourage local communities to become active environmental stewards.

The baseline assessment also identified several misconceptions regarding institutional responsibility for forest conservation. Many participants believed that protecting forests was primarily the responsibility of government agencies, forestry authorities, or environmental organizations. Consequently, community participation in conservation activities had generally been limited to occasional village campaigns or government-led initiatives. Few participants perceived themselves as having a direct and continuous responsibility for safeguarding forest ecosystems. This finding suggests that while environmental awareness exists at a general level, a stronger sense of environmental ownership and civic responsibility has yet to be fully developed within the community.

Another important finding was the limited availability of structured environmental education within the village. Participants reported that educational activities focusing specifically on forest conservation were conducted only occasionally and were often associated with government projects or commemorative environmental events. Continuous educational programs that integrate local environmental issues with practical conservation knowledge were largely absent. As a result, community members had limited opportunities to update their knowledge regarding sustainable environmental management, climate change adaptation, ecosystem restoration, and community participation in conservation initiatives. This gap in environmental education has likely contributed to the persistence of traditional perceptions that conservation is primarily the responsibility of external institutions rather than a collective community obligation.

The assessment further revealed that participants expressed considerable interest in acquiring practical knowledge that could be directly applied within their communities. During discussions, many residents highlighted the need for simple and applicable conservation practices, including tree planting, waste management, protection of water sources, prevention of forest fires, and community monitoring of forest resources. Participants also emphasized the importance of collaborative environmental programs involving local government, educational institutions, and community organizations to ensure the continuity of conservation efforts. Their willingness to engage in future environmental

initiatives indicated the presence of substantial social capital that could be mobilized through well-designed community engagement programs.

The baseline assessment demonstrated that although the people of Singgahan District possess a fundamental understanding of the ecological and economic importance of forests, significant gaps remain in their knowledge of sustainable forest management and community-based conservation practices. The findings underscore the need for environmental education programs that not only improve environmental literacy but also strengthen community participation, foster environmental stewardship, and encourage collective responsibility for protecting forest ecosystems. These baseline findings therefore provided a strong rationale for implementing an environmental education program as the core strategy of this community service initiative.

Implementation of Environmental Education Activities

Following the baseline assessment, the environmental education program was implemented as the core intervention of the community engagement initiative. The educational activities were designed based on the needs identified during the preliminary assessment, particularly the limited understanding of sustainable forest management and the relatively low level of community participation in conservation efforts. Rather than relying solely on conventional lectures, the program adopted a participatory learning approach that encouraged active interaction, collaborative discussion, and experiential learning. This approach enabled participants to become active contributors to the learning process by sharing their experiences, expressing concerns, and collectively exploring practical solutions to local environmental challenges.

The educational sessions involved a diverse group of participants, including village officials, community leaders, youth representatives, farmer groups, and local residents. The diversity of participants created opportunities for knowledge exchange across different social groups and facilitated broader discussions regarding the multiple ecological, economic, and social functions of forests. Throughout the sessions, facilitators encouraged participants to reflect on their daily interactions with forest resources and to identify how individual and collective behaviors influence environmental sustainability.

The educational materials were structured into several interconnected themes. The first session introduced the ecological functions of forests, emphasizing their role in biodiversity conservation, watershed protection, carbon sequestration, climate regulation, and disaster risk reduction. Participants were encouraged to recognize forests not only as sources of natural resources but also as complex ecosystems that provide essential environmental services supporting both human well-being and ecological resilience.

The second session focused on the major threats facing forest ecosystems, including deforestation, illegal logging, land conversion, forest fires, and unsustainable resource utilization. Facilitators presented examples of environmental degradation occurring in various regions of Indonesia and encouraged participants to compare these cases with environmental conditions observed in Singgahan District. This comparative discussion helped participants understand that local environmental issues are closely connected with broader national and global environmental challenges.

The third session emphasized sustainable forest management and the importance of community participation in conservation. Participants were introduced to the concept of community-based forest conservation, highlighting that effective environmental protection requires collaboration among government institutions, local communities, educational institutions, and civil society organizations. Discussions focused on practical conservation measures that could be implemented at the village level, including tree planting, watershed protection, waste reduction, prevention of illegal forest exploitation, and community monitoring of forest resources.

Interactive learning methods were applied throughout the educational process to maximize participant engagement. Instead of one-way information delivery, facilitators employed question-and-answer sessions, small-group discussions, brainstorming activities, and case-based learning. Participants analyzed hypothetical and real environmental scenarios, discussed possible solutions, and evaluated the potential environmental impacts of different community actions. These participatory learning activities encouraged critical thinking while allowing participants to integrate scientific knowledge with their own local experiences and traditional environmental practices.

One of the most valuable aspects of the educational sessions was the exchange of experiences among participants. Community members shared observations regarding changes in forest conditions, water availability, agricultural productivity, and local biodiversity over recent years. These discussions enabled participants to recognize the direct relationship between environmental degradation and their daily livelihoods. At the same time, participants identified existing community practices that could be strengthened to support long-term forest conservation, demonstrating that local knowledge represents an important resource for sustainable environmental management.

Participant engagement remained consistently high throughout the implementation of the program. Observations conducted by the community service team indicated that participants actively contributed to discussions, raised questions regarding conservation practices, and expressed strong interest in learning practical approaches to environmental management. Many participants also shared personal commitments to adopting more environmentally responsible behaviors after recognizing the long-term benefits of sustainable forest conservation for future generations.

The educational activities not only increased participants' knowledge regarding forest conservation but also fostered greater environmental awareness and strengthened their sense of responsibility toward protecting local forest ecosystems. The participatory learning approach encouraged participants to view themselves as active stakeholders rather than passive recipients of environmental information. By combining scientific knowledge with local experiences and collaborative discussion, the environmental education program established a strong foundation for subsequent community-based conservation activities and promoted greater community readiness to participate in sustainable forest management initiatives.

Community Participation in Forest Conservation Activities

Following the environmental education sessions, the program continued with a series of participatory conservation activities designed to transform environmental knowledge into practical community action. This stage emphasized that effective environmental education should not end with knowledge acquisition but should also encourage behavioral change and

collective action. Therefore, participants were actively involved in identifying local environmental issues, developing community-based conservation strategies, and implementing simple conservation practices that could be sustained beyond the duration of the community service program.



Figure 1. Program Implementation

The participatory activities began with a facilitated community discussion aimed at identifying environmental challenges affecting the forest ecosystem surrounding Singgahan District. Participants were encouraged to reflect on the environmental issues previously discussed during the educational sessions and relate them to conditions observed within their own villages. Through this collaborative process, several priority concerns were identified, including declining tree cover in certain areas, improper waste disposal, limited public awareness regarding environmental protection, and the need for greater community involvement in maintaining forest sustainability. The discussion also highlighted the importance of preserving water catchment areas and preventing activities that could accelerate land degradation and biodiversity loss.

Building upon these discussions, participants collaboratively formulated several practical conservation initiatives that could be implemented at the community level. Rather than proposing large-scale interventions requiring substantial financial resources, the participants prioritized realistic and locally appropriate actions. These included encouraging regular tree-planting activities, promoting proper waste management practices, protecting existing vegetation surrounding water sources, increasing environmental awareness among younger generations, and strengthening cooperation among local organizations in

maintaining environmental cleanliness and forest sustainability. This planning process enabled participants to recognize that forest conservation can begin with small but consistent actions undertaken collectively by the community.

One of the major practical components of the program was the tree-planting activity conducted in selected areas surrounding the village. Participants worked collaboratively to prepare planting sites, plant tree seedlings, and discuss appropriate maintenance practices to ensure the long-term survival of newly planted trees. During the activity, facilitators explained the ecological significance of tree planting in improving soil stability, enhancing water infiltration, increasing carbon sequestration, and restoring ecosystem functions. Participants also discussed suitable local tree species that provide both ecological and socio-economic benefits for rural communities.



Figure 2. The Process of Planting Trees

Beyond the physical activity of planting trees, the implementation process served as an important platform for strengthening collaboration among different community stakeholders. Village officials, community leaders, youth organizations, farmer groups, and local residents worked together throughout the activity, demonstrating shared responsibility for environmental stewardship. The collaborative nature of the activity encouraged communication across different community groups and reinforced the understanding that sustainable forest conservation requires collective action rather than individual efforts alone.

Observations conducted during the implementation indicated a high level of participant engagement throughout the conservation activities. Participants actively exchanged ideas regarding environmental management, voluntarily assisted one another during tree planting, and demonstrated enthusiasm in discussing future conservation initiatives. Many participants also expressed interest in organizing similar environmental activities on a regular basis and suggested involving schools, local community organizations, and additional government agencies to expand the impact of future conservation programs. These responses indicate that the program successfully fostered not only environmental awareness but also a growing commitment to continued community participation.

Reflective discussions conducted after the practical activities revealed several positive changes in participants' perspectives regarding environmental stewardship. Many participants acknowledged that they previously viewed conservation primarily as the responsibility of government institutions but now recognized the significant role that local communities can play in protecting forest ecosystems. They also emphasized that community participation becomes more meaningful when individuals clearly understand the ecological and social benefits generated by healthy forest ecosystems. This shift in perception represents an important outcome because long-term conservation depends not only on environmental knowledge but also on the willingness of community members to translate that knowledge into sustained collective action.

Overall, the participatory conservation activities demonstrated that combining environmental education with direct community engagement effectively strengthened participants' environmental responsibility and collaborative capacity. The integration of educational sessions, community discussions, and practical conservation actions enabled participants to develop a deeper appreciation of forest ecosystems while simultaneously fostering stronger social cohesion and collective ownership of local environmental resources. These outcomes suggest that participatory conservation activities can serve as an effective mechanism for bridging the gap between environmental knowledge and pro-environmental behavior, thereby contributing to the long-term sustainability of community-based forest conservation initiatives in Singgahan District.

IV. DISCUSSION

The findings of this community engagement program demonstrate that environmental education is an effective strategy for strengthening community awareness and participation in forest conservation. The baseline assessment indicated that although participants generally understood the ecological importance of forests, their knowledge of sustainable forest management remained limited and was primarily associated with tree planting and the prevention of illegal logging. Following the educational intervention, participants demonstrated a broader understanding of the multiple ecological functions of forests, including biodiversity conservation, watershed protection, climate regulation, carbon sequestration, and the provision of ecosystem services that directly support rural livelihoods. These findings suggest that environmental education contributes not only to increasing environmental knowledge but also to expanding participants' perspectives regarding the interconnected relationship between forest ecosystems, environmental sustainability, and community well-being.

The observed improvement in participants' environmental awareness supports the concept of Education for Sustainable Development (ESD), which emphasizes that education should develop knowledge, values, attitudes, competencies, and responsible behaviors that enable individuals and communities to contribute to sustainable development (UNESCO, 2020). Rather than functioning solely as a means of disseminating environmental information, the educational activities implemented in this program encouraged participants to critically reflect upon environmental issues occurring within their own communities and identify practical conservation actions that could be implemented collectively. This participatory learning process enabled participants to connect scientific knowledge with local environmental experiences, thereby creating a more meaningful and contextually relevant learning experience. Such findings are consistent with Monroe et al. (2019), who argued that environmental education becomes more effective when learners actively participate in discussions, collaborative problem-solving, and community-based learning activities.

Another important outcome of the program was the transformation of participants' perceptions regarding responsibility for forest conservation. Prior to the intervention, many participants viewed forest protection primarily as the responsibility of government agencies and forestry authorities. However,

reflective discussions conducted after the educational sessions indicated that participants increasingly recognized conservation as a shared responsibility requiring active collaboration among communities, local governments, educational institutions, and other stakeholders. This shift in perception represents an important indicator of increased environmental stewardship because sustainable forest conservation depends heavily on the willingness of local communities to participate actively in environmental management. These findings support Ostrom's (1990) theory of community-based natural resource management, which argues that common natural resources are managed more sustainably when local communities are actively involved in decision-making, monitoring, and conservation activities.

The participatory learning approach adopted throughout the program also contributed significantly to participant engagement. Instead of relying on one-way information delivery, the educational sessions incorporated interactive discussions, case-based learning, collaborative planning, and experience sharing among participants. These methods encouraged critical thinking while allowing participants to integrate scientific concepts with indigenous knowledge and local environmental practices. According to Kolb (1984), experiential learning enables individuals to develop deeper understanding through direct experience, reflection, conceptualization, and active experimentation. This theoretical perspective is reflected in the present program, where participants not only acquired environmental knowledge but also applied that knowledge through collaborative conservation planning and tree-planting activities. The practical conservation activities therefore reinforced the educational process by transforming abstract environmental concepts into concrete community actions.

The tree-planting activities and collaborative conservation planning further demonstrated that environmental education is more effective when combined with direct community participation. Rather than functioning merely as symbolic environmental campaigns, these activities encouraged participants to experience collective action and strengthened their sense of ownership toward local forest ecosystems. The collaborative implementation process also enhanced communication among village officials, community leaders, farmer groups, youth organizations, and local residents, thereby strengthening social capital within the community. Pretty (1995) emphasized that meaningful participation extends beyond physical involvement in development activities; it also includes shared decision-making, collective responsibility, and community empowerment. The

findings of this program illustrate these principles, as participants actively contributed ideas, identified local environmental priorities, and expressed commitments to continuing conservation initiatives beyond the completion of the program.

The positive responses observed throughout the implementation indicate that environmental education has the potential to influence not only cognitive understanding but also attitudes and behavioral intentions toward environmental conservation. This finding is consistent with Kollmuss and Agyeman (2002), who suggested that environmental knowledge constitutes an important foundation for developing pro-environmental behavior, although behavioral change is also influenced by social, institutional, and cultural factors. In the context of this community engagement program, combining environmental education with participatory conservation activities appears to have strengthened participants' environmental awareness while simultaneously increasing their motivation to become actively involved in protecting forest resources.

From a practical perspective, the results of this community service program demonstrate that community-based environmental education represents a feasible and sustainable approach to strengthening forest conservation in rural areas such as Singgahan District. Educational interventions that integrate scientific knowledge, local environmental issues, participatory learning, and practical conservation activities are capable of improving environmental literacy while fostering stronger collaboration among community stakeholders. The willingness of participants to continue conservation activities following the completion of the program indicates that environmental education can generate positive social capital capable of supporting long-term environmental sustainability.

Nevertheless, the sustainability of these positive outcomes depends upon continuous institutional support and follow-up activities. Environmental awareness developed through short-term educational interventions may gradually diminish if communities are not provided with regular opportunities to participate in environmental programs. Therefore, future initiatives should strengthen partnerships among village governments, educational institutions, forestry agencies, environmental organizations, and local community groups to ensure that conservation activities become integrated into routine community development programs. Continuous environmental education, periodic conservation campaigns, and community-based monitoring of forest resources

would further strengthen environmental stewardship and contribute to the long-term preservation of forest ecosystems.

This community engagement program demonstrates that environmental education is not merely an instrument for increasing environmental knowledge but also a transformative process capable of strengthening environmental awareness, fostering collective responsibility, enhancing community participation, and promoting sustainable forest conservation. By integrating participatory educational approaches with practical conservation activities, the program provides a replicable model for community-based forest conservation that can be adapted in other rural regions facing similar environmental challenges.

V. CONCLUSION AND RECOMMENDATION

This community engagement program demonstrates that environmental education is an effective strategy for strengthening community awareness and participation in forest conservation in Singgahan District, Tuban Regency. The program successfully enhanced participants' understanding of the ecological functions of forests, sustainable forest management, and the importance of collective responsibility in environmental conservation. Through participatory educational activities, discussions, and practical conservation initiatives, participants developed greater environmental awareness and a stronger commitment to supporting community-based forest conservation. These findings indicate that integrating environmental education with active community engagement can contribute to more sustainable forest conservation efforts in rural communities.

To ensure the sustainability of the program, environmental education should be implemented continuously through regular community outreach and conservation activities. Stronger collaboration among village governments, educational institutions, forestry agencies, and local communities is also essential to support long-term conservation initiatives. Furthermore, future community service programs should include follow-up monitoring and expand conservation activities to involve schools and youth organizations, thereby strengthening environmental stewardship across generations.

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