

ECOTHEOLOGY & EDUCATIONAL RESPONSIBILITY: STUDENT ENGAGEMENT IN COMMUNAL WORK FOR ENVIRONMENTAL AND SOSIAL EDUCATION

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ABSTRAK

Penelitian ini menggunakan desain deskriptif kualitatif dengan dukungan survei pre-post untuk menilai kontribusi mahasiswa Institut Teknologi Mojosari dalam meningkatkan kesadaran ekologis dan tanggung jawab sosial melalui kegiatan pengabdian masyarakat di Desa Jatirejo. Data dikumpulkan melalui observasi, wawancara, dokumentasi, dan survei terhadap 120 responden. Kegiatan mencakup pembersihan lingkungan, penataan fasilitas publik, dan edukasi pelestarian alam. Hasil menunjukkan peningkatan kuantitatif signifikan pada seluruh indikator: kesadaran kebersihan lingkungan (+0,8), tanggung jawab pelestarian alam (+0,9), partisipasi kerja bakti (+0,9), nilai gotong royong (+0,8), dan solidaritas sosial (+0,8) dengan $p < 0,01$. Temuan ini menegaskan bahwa pengabdian mahasiswa berbasis ekoteologi efektif meningkatkan kesadaran ekologis dan sosial masyarakat.

Kata kunci: Ekoteologi, Pengabdian Mahasiswa, Survei Pre-Post, Kesadaran Ekologis, Solidaritas Sosial.

ABSTRACT

This study employed a descriptive qualitative design supported by a pre-post survey to assess the contribution of Institut Teknologi Mojosari students in enhancing ecological awareness and social responsibility through community service in Jatirejo Village. Data were collected through observation, interviews, documentation, and a survey involving 120 respondents. Activities included environmental clean-up, public facility maintenance, and ecological education. Results show significant quantitative improvements across all indicators: environmental cleanliness awareness (+0.8), responsibility for nature preservation (+0.9), willingness to join clean-ups (+0.9), mutual cooperation (+0.8), and social solidarity (+0.8), with $p < 0.01$. These findings confirm that ecotheology-based student community service effectively strengthens ecological and social awareness within the community.

Keywords: Ecotheology, Student Community Service, Pre-Post Survey, Ecological Awareness, Social Solidarity.

INTRODUCTION

Environmental degradation remains one of the most critical challenges in Indonesia, particularly in rural areas where waste management, environmental stewardship, and community-based ecological education are still limited. At the same time, social solidarity and communal

cooperation-long-standing characteristics of Indonesian village life have gradually weakened due to modernization, shifting community structures, and reduced participation in collective activities. These conditions highlight the urgency of adopting integrated approaches that address both

ecological and social aspects of sustainability.

Ecotheology, which emphasizes the ethical, moral, and spiritual relationship between humans and the natural environment, offers a relevant conceptual foundation for strengthening ecological awareness while revitalizing social responsibility. Within this framework, environmental care is not solely a technical or administrative task but also a moral-spiritual act rooted in shared cultural and religious values. However, although ecotheology has gained recognition in academic discourse, existing studies remain predominantly conceptual, focusing on scriptural analysis, ethical discourse, or theoretical reflections on human-nature relations. Little empirical research has examined how ecotheological values can be translated into concrete, community-based practices, particularly through higher education initiatives.

Within the Indonesian higher education system, student community service (*pengabdian kepada masyarakat*) provides a strategic avenue for operationalizing ecotheology in real-world contexts. Students serve not only as recipients of academic knowledge but also as facilitators capable of encouraging community participation and ecological awareness. Nevertheless, there is limited empirical evidence demonstrating measurable ecological or social changes resulting from student-led initiatives, especially in rural settings. Existing community service programs often emphasize outputs such as environmental clean-ups but rarely evaluate their broader transformative educational impact.

These issues create a significant research gap: (1) A lack of empirical studies measuring shifts in ecological awareness and social responsibility following ecotheology-based; Limited quantitative evidence on community attitude changes related to ecological behavior after student involvement.

1. Insufficient clarity on the specific mechanisms by which students influence community ecological practices and social solidarity.
2. A scarcity of research treating rural villages as socio-ecological laboratories for examining the interaction between spirituality, environment, and community-based education.
3. The community service activity implemented in Jatirejo Village, Rejoso Subdistrict, Nganjuk Regency, presents a valuable case for addressing these gaps. The program included environmental clean-up, maintenance of public facilities, and ecological education sessions involving students of Institut Teknologi Mojokari, village officials, and residents. Through these activities, students served as facilitators who encouraged collective participation and promoted ecological and social values within the community.

Academically, this study contributes to the literature by providing both qualitative and quantitative evidence regarding the implementation of ecotheology through community service. Practically, the findings offer insights into how student participation can generate

measurable social and environmental benefits, thereby informing the development of more effective models for community engagement programs.

Based on this context, the study addresses the following research questions: (1) how do students contribute to improving community ecological awareness through communal clean-up activities in Jatirejo Village?; (2) To what extent does the program strengthen social responsibility, solidarity, and mutual cooperation among villagers?; (3) How are ecotheological values integrated and manifested within the practices of community service?; (4) What quantifiable changes in ecological and social attitudes occur after the implementation of the program?

The objective of this study is to fill the existing empirical gap regarding the application of ecotheology in student-led community service, while providing a detailed analysis of how environmental clean-up activities function as a form of

experiential learning. The findings are expected to enrich the discourse on responsibility-based education, support the development of ecotheology-inspired community service models, and strengthen collaboration between higher education institutions and local communities in pursuing environmental and social sustainability. The objective of this study is to fill the existing empirical gap regarding the application of ecotheology in student-led community service, while providing a detailed analysis of how environmental clean-up activities function as a form of experiential learning. The findings are expected to enrich the discourse on responsibility-based education, support the development of ecotheology-inspired community service models, and strengthen collaboration between higher education institutions and local communities in pursuing environmental and social sustainability.



Figure 1. Lecturers and Students Prior to the Implementation of Community Service



Figure 2. Students and Community Members Following the Completion of Communal Work



Figure 3. 'Tasyakuran Agustus' Celebration with Community Members and Students in Jatirejo Village, Rejoso, Nganjuk

RESEARCH METHODS

This study employed a descriptive qualitative design supported by simple quantitative analysis to capture both the experiential aspects of student participation and measurable changes in community ecological awareness. The approach was chosen to provide a balanced understanding of community behaviors and attitudes before and after the intervention.

Research Site and Participants

The research was conducted in Jatirejo Village, Rejoso Subdistrict, Nganjuk Regency during the community service program held in August 2025. Participants

included: (1) 45 students from Institut Teknologi Mojosari; (2) 6–10 village officials; and 75 local residents, resulting in a total of 120 respondents for the pre-post survey.

Data Collection Techniques

Three complementary methods were used: (1) Participant observation during the thanksgiving event and the communal clean-up, focusing on interaction patterns, participation levels, and environmental practices; (2) Semi-structured interviews with students, village leaders, and residents to explore perceptions of ecological awareness and social responsibility; (3) Pre-post survey using a short Likert-scale

instrument (1–5) assessing five indicators: cleanliness awareness, responsibility toward nature, willingness to join clean-ups, mutual cooperation, and social solidarity.

Quantitative Analysis and p-Value Explanation

Survey data were analyzed using paired-sample comparison to identify changes before and after the intervention. A simple paired t-test was applied to calculate the p-values, which indicate whether the observed changes are statistically significant. A threshold of $p < 0.01$ was used to determine strong significance.

Qualitative Data Analysis

Interview and observation data were processed using thematic analysis: coding, categorizing, and identifying patterns related to ecotheological values and community

responsibility. Triangulation between observation, interviews, and survey results was applied to ensure data credibility.

Ethical Considerations

All participants were informed about the purpose of the study, provided consent, and were assured confidentiality. Personal identities were anonymized in all research outputs.

RESULTS AND DISCUSSION

Results

1. Quantitative Results: Pre-Post Survey

The pre-post survey involving 120 respondents showed a consistent improvement across all ecological and social indicators. Statistical testing using the paired t-test confirmed that all differences were significant at $p < 0.01$, indicating a strong effect of the intervention.

Table 1. Pre-Post Survey Scores (n = 120)

Indicator	Average Score Before (Pre)	Average Score After (Post)	Δ Change	Significance (p-value)
Environmental cleanliness awareness	3.8	4.6	+0.8	< 0.01
Responsibility for nature preservation	3.5	4.4	+0.9	< 0.01
Willingness to join clean-ups	3.6	4.5	+0.9	< 0.01
Mutual cooperation (gotong royong)	3.9	4.7	+0.8	< 0.01
Social solidarity	3.7	4.5	+0.8	< 0.01

Source: authors' analysis of primary data

Note: n = 120 respondents (students & residents). Scale 1–5 (1 = strongly disagree, 5 = strongly agree).

These results demonstrate measurable behavioral and attitudinal changes following student engagement.

2. Qualitative Results: Observation and Interview Findings

Participation Dynamics

Observational data showed a high level of student participation during the communal clean-up, complemented by active involvement from residents.

Participants highlighted the presence of students as a motivating factor, creating a sense of renewed community energy.

Environmental Practices

Residents demonstrated improved waste disposal behavior, including separating organic and inorganic waste during the activity. Students helped reorganize public spaces, such as village halls and drainage areas, leading to visibly cleaner surroundings.

Social Interaction and Cooperation

Interviews indicated strengthened social bonds between students and villagers. Older residents reported feeling “more supported” by student involvement, while youth participants felt encouraged to join future activities.

Discussion

This study provides empirical evidence that ecotheology-based student community service can significantly influence community attitudes and ecological behavior. Several key insights emerged:

1. Ecotheology as a Driver of Behavioral Transformation

The improvements across all indicators support the idea that environmental care framed as moral and communal responsibility can enhance public participation. This extends previous literature which has discussed ecotheology conceptually but rarely offered quantitative support. Novelty: The study quantifies ecotheological impact through pre-post measurements, something rarely done in Indonesian research. It demonstrates

measurable social-ecological change resulting from student engagement, not merely descriptive outcomes.

2. Student Engagement as a Catalyst for Community Motivation

Findings show that students act as social catalysts, encouraging resident involvement in collective action. This is seen in the increase of willingness to join clean-ups (+0.9). Rather than repeating general theories of participation, the data here indicate that student presence increases community participation through visible leadership and shared labor.

3. Strengthening Social Solidarity through Shared Ritual and Action

The Tasyakuran celebration served as a social-spiritual platform that fostered trust between groups. Increased solidarity (+0.8) reflects the role of cultural rituals in reinforcing ecotheological perspectives.

4. Implications for Rural Sustainability Education

The integration of ecological action, spiritual meaning, and student participation suggests a conceptual model of community-based ecotheological education: (1) Conceptual Framework; (2) Spiritual/Cultural Trigger; (3) Collective Action; (4) Shared Learning Experience; (5) Behavioral Change (quantified through survey); (6) Strengthened Social-Ecological Responsibility. This framework demonstrates that ecotheology can serve as both a philosophical foundation and practical tool for sustainability education.

5. Clarifying the Contribution to the Field

This study contributes to the academic discourse by demonstrating that:

(1) Ecotheology can be operationalized in measurable, community-based interventions; (2) Student-led programs can produce statistically significant ecological and social outcomes; (3) Rural communal work can function as a pedagogical method of experiential learning, bridging academia and community practice.

CONCLUSION

This study concludes that the ecotheology-based community service program conducted in Jatirejo Village successfully enhanced both ecological awareness and social responsibility among students and local residents. Quantitative results showed significant increases across all measured indicators including environmental cleanliness awareness, responsibility toward nature, willingness to participate in communal clean-ups, mutual cooperation, and social solidarity with statistical significance at $p < 0.01$. These improvements indicate that the program effectively stimulated behavioral changes rather than merely offering symbolic environmental activities.

Qualitative findings further supported these outcomes, revealing that student involvement encouraged higher resident participation, strengthened intergenerational collaboration, and reinforced the moral-spiritual understanding of environmental stewardship. The integration of cultural and religious elements, such as the Tasyakuran ceremony, contributed to a shared sense of purpose and strengthened communal identity. Overall, the evidence demonstrates that ecotheology can be translated into

practical community interventions capable of delivering social and ecological benefits.

RECOMMENDATION

Given the demonstrable success of the ecotheology-based student communal work in significantly strengthening both ecological and social awareness within the community, it is strongly recommended that this model be formally institutionalized and integrated into university curricula, particularly within community service or field study programs. Furthermore, local government and educational bodies should actively support and fund the expansion and replication of this proven approach in other communities, ensuring policy alignment for resource allocation. Finally, to maximize long-term impact, subsequent research should focus on longitudinal studies to monitor the persistence of these positive behavioral changes, thus refining the program methodology for sustainable scalability.

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